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**Identification of Quality attributes
for primary health care services
in Jeddah, Saudi Arabia**

AMINA ADAM BARGAWI

**Submitted to the University of Wales in
fulfilment of the requirements for the Degree of
Doctor of Philosophy of Health Science**

Swansea University

2007

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SUMMARY

In this study, the researcher attempts to identify special quality attributes in primary health care services in Saudi Arabia. Knowledge about these attributes will help in improving the quality of primary care services and enhance consumers' and providers' satisfaction. In addition, this study is trying to bridge the quality perception gap between PHC providers and consumers.

A descriptive survey design (questionnaire) was used as the research methodology. The researcher developed the questionnaire after extensive revision of related literatures, its validity and reliability was carefully addressed. The study was conducted at the selected 18 Ministry of Health PHC centres at Jeddah city, Saudi Arabia. Random stratified sampling process were used to select the PHC consumers while, available sampling was used to select the PHC providers. The data is analyzed by using the (SPSS) program. Frequency, percentage, weighted mean, t-test and ANOVA were used.

The result of the study indicated that PHC providers and consumers in Saudi Arabia perceived the four aspects of quality (structure, technical process, interpersonal process and outcomes) as very important, and they gave the structure aspect the higher importance rate among the others. The three most important PHC attributes are tangible, preventive services and staffing, whereas the least important attribute is the community participation. While a vaccination service is judged by both PHC providers and consumers as "Excellent" services, the Dental clinic, Community participation, Environmental health and Radiology service were judge as "Good" services. The general level of the quality of the PHC services was scored around 70%. "Deficiencies of medical equipments and materials" was the most frequent criteria against which the PHC providers judge the existence of poor quality, whereas, "provider show no courtesy and bad manner when dealing with the consumers" the most frequent criteria against which the PHC consumers judge the poor quality of PHC services. The implications of the findings were discussed, and recommendations were given to rectify certain problems.

DECLARATION

This work has not previously been accepted in substance for any degree and is not being concurrently submitted in candidature for any degree.

Signed _____ (candidate)

Date: 18th November 2006

STATEMENT 1

This thesis is the result of my own investigations, except where otherwise stated.

Other sources are acknowledged by footnotes giving explicit references. A bibliography is appended.

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PREFACE

Saudi Arabia has in general reoriented its health systems according to the Primary Health Care (PHC) approach, where first contact comprehensive health services are offered to all eligible individuals through PHC centres. This system has been in operation for several years. Throughout the history of the application of the PHC services in Saudi Arabia (since 1983 up till now), there has been tremendous progress and improvement in PHC services. The number of PHC centres increased from 1306 by year 1985 to 1766 by year 2000, the total of physicians in PHC increased from 3086 by year 1985 to 4192 by year 2000, the total number of nurses increased from 6002 by year 1985 to 9848 by year 2000, Total PHC assistant health personnel increased from 3154 by year 1985 to 5091 by year 2000. Assessing how this quantity is functioning and identifying strengths and weaknesses is an evaluation process which needs to be undertaken for corrective measures and for proper expansion of the services. However, the assessment of health services should not only consider the quantity, but also should address the quality of health resources, whether or not such resources meet the health needs of the people, and the extent and pattern of their utilization. It is true that the country did not achieve the optimistic goal of "health for all by year 2000", but it is moving toward achieving this goal in the coming years.

Saudi PHC personnel are keen to raise the standards of the PHC services, continuously searching for appropriate application of quality improvement activities, and consequently trying to satisfy both the PHC providers and consumers.

Dr. Abdul Rahman Al-Sweillem, Deputy Minister for Executive Affairs stated that:

"After experiencing a pace of planned development unparalleled in the history of Saudi Arabia in the past two decades, particularly in the field of national health services development, a time has come to consolidate the gains and strengthen the present system of delivery of health care, to make it more relevant and competent with the technological advancement and people's expectations. The acceptance of the system by the people could only be achieved by improving the image of the health delivery outlets through a better humanitarian approach of courtesy, professional dignity and decency. At the same time, through maximally utilizing the available facilities and limiting the use of inappropriate technology so as to wean the people toward the right perception about the quality of care." (Al -Mazrou, et al., 1990, page 5).

Such statements are frequently issued by the authorities in Saudi Arabia, encouraging researchers to search for all possible measures which insure delivery of high quality health services. Unfortunately, limited documented information on identifying the specific quality attributes of Saudi PHC services has prevented the challenge being met fully and there is still some way to go toward reaching the desired outcomes regarding designing and applying an effective PHC Continuous Quality Improvement (CQI) program.

The initiative processes for insuring quality in delivering the health care services in Saudi Arabia arising many questions need to be answered. One of these questions is: What are the consensus attributes which define the quality of Saudi PHC services? Searching for answers to this question was the incentive for the researcher to initiate this piece of work. The purpose and quality dimensions of PHC services are defined in several MOH publications (MOH, 1986; Al-Mazrou, et. al., 1990; Al-Mazrou, and Farag, 1994). The researcher found that there is a lack of assessment data, or it is not clearly determined which are supposed to be generated from the providers (PHC centre' staff) and from the consumers (PHC centre' users). Furthermore, previous literature studies which addressed the quality issue of PHC in Saudi Arabia did not answer this question. The majority of them focused on identification of consumer's satisfactions (such as Saeed, et. al., 1992; Ali and Mahmoud, 1993; Makhdoom, et. al. 1997; Al- Qatari & Haran, 1999; AL-Doghaither & Saeed, 2000; Saeed, et. al. 2001). While others assessed and evaluated the PHC centres (such as Sebai, 1981, 1982 and 1988; Sebai et. al., 1980, Banoub, 1982; Dodd, 1986; Kanan, 1989; Mansour & AL-Osimy, 1996), others identified the factors influencing the utilization (such as AL-Omar & Bin Saeed, 1999; Abu-Zeid, 1989, Saeed & Mohamed, 2002). Very few measured the satisfaction of PHC physicians (such as Mutbouly, 1998). In addition, the previous work of the researcher herself (Bargawi, 2001) indicates that Saudi PHC clients have high levels of expectations and they are demanding extra or better PHC services. Accordingly, through studying this issue, the researcher is attempting to contribute by exploring an original approach that would identify the background data necessary for designing an effective, efficient, and acceptable Continuous Quality Improvement (CQI) program.

Saudi PHC services should be planned to closely match both providers' and consumers' needs by studying their opinions and perceptions concerning what they think

about the quality of the services. In view of this perspective, this study contributes with an investigation of what attributes determine the quality of PHC services from the viewpoint of PHC providers (physicians, nurses, technicians, and others PHC employees) and PHC consumers (PHC clients or their accompanists such as mothers of clients children) at Jeddah's PHC centres. The value of this approach is to inform decision makers and managers of which aspects of the care process needs to be included and what needs to be excluded from their CQI agenda or action plan.

Although this study examines the present condition of PHC centres in Saudi Arabia and outlines the quality perceptions of their services from the respecting viewpoints of their customers (providers and consumers), this thesis is not designed to be an evaluative or a judgmental document. Nor does it aim to design a CQI program. It is rather designed as having an exploratory nature and to be an assessment step and to provide background data for planning and implementing an effective, efficient, and acceptable (CQI) program for the Saudi PHC centres.

The content of the thesis is arranged into seven chapters in addition to list of references which were reviewed and appendices which include the statistical health profile of Saudi Arabia and the two study's tools.

CHAPTER I: Introduction, provides background information for the reader to understand the context of the research, which is the assessment of quality in health care system; it also states the justification of selecting the research topic and its significant. In addition, the study's objectives and questions are spelled out simply and listed clearly in six points.

CHAPTER II: Literature review, examines different views on defining quality in health care, reviews what have been identified and measured as quality attributes, discusses the meaning of quality from the perspective of providers and consumers, points out the relation between consumers' satisfactions and their quality perceptions, conceptualizes the Primary Health Care PHC approach, and states in brief the quality of PHC services in developing countries and in more detail the quality of PHC services in Saudi Arabia.

CHAPTER III: Methodology, explains how the research was undertaken. In brief, the method used was a descriptive survey designed to gather data from PHC providers and consumers. The chapter demonstrates the rationale of the approach adopted and describes the theories considered, describes the two data collecting tools (1. *descriptive statistics about the PHC centres*, 2. *A Self-administered Questionnaire*) and method of ensuring of their validity and reliability, explains the method of selecting the study's setting (18 primary health care centres in Jeddah City), briefly explains the statistical analysis used, and outlines the limitations which limited the researcher's ability to gained some desired outcomes.

CHAPTER IV: Presentation of data. It analyzes the data of the 1517 respondents and presents it in 27 tables and 10 figures. In addition, there is a brief description of the data in the tables and figures, presented as written text. The presented data is categorized into four statistical sections: Descriptive statistical, Likert scale analyses, open question analysis and statistical correlation.

CHAPTER V: Discussion. The chapter discusses the results of the study within the framework of the six study's objectives and relates its findings to previous research which were identified in the literature review chapter.

CHAPTER VI: Conclusion. This highlights the main findings of the study and summaries their implication in clear statements. At the end of the chapter, some recommendations are listed.

CHAPTER VII: Recommendations, provides a list of practical recommendations, which were generated from the study's results.

Finally, the researcher hopes this study will prove helpful: to Saudi authorities in identifying the priority of the PHC quality improvement efforts, to Saudi PHC providers in matching their perception of quality services with their customers' perceptions, and to every reader who is seeking concrete knowledge and conceptual understanding of quality attributes in PHC services at Saudi Arabia.

ACKNOWLEDGMENTS

Initially I thank ALLAH (our God) who helped and guided me throughout my life, and to grant me the strength and courage to accomplish this study.

I am offering my sincere thanks and deep appreciation to my supervisor, Dr. David Rea, professor at Centre for Health Economics and Policy Studies, School of Health Science, University of Wales Swansea, for his professional guidance and I am greatly appreciate his valuable effort and time consuming in helping me in editing process. I would like also to express my cordial appreciation to my second supervisor, Dr. Shân Davies, professor at Centre for Health Economics and Policy Studies, School of Health Science, University of Wales Swansea, for all her guidance and efforts in revising the thesis.

Furthermore, I am extending my deep regards to the directors of the PHC centres, the nurses' supervisors and to all medical record personnel (the receptionists) who helped me in the data collection process and they are working at the PHC centres which were involved in my study. I would like also to thank the staff of King Abdulziz City for Science and Technology, at Riyadh, for their cooperation in supplying me with some related literature. Many thank as well to those who gave valuable comments and assistance during all the stages of the study.

Finally, my greatest and deepest gratitude to my friends and my family members for their continuous support, prayers and encouragement during my study period.

OPERATIONAL DEFINITION OF TERMS

- **PHC:** is an abbreviation of Primary Health Care. It is the essential basic health care based on practical, socially, acceptable methods and procedures, made universally accessible to individual and families in the community through their full participation to develop the spirit of self-reliance and self determination. It forms an integral part both of the country's health system and of the overall socio-economic development of the community. It is the first level of contact of individuals, the families and community with the health system bringing health care as close as possible to where people live and work and constitutes the initial step of a continuing health care process (**WHO, 1978**).
- **PHC services:** This concept describes comprehensive health services, comprised of promotion, preventive, curative and rehabilitative activities. In Saudi Arabia it is mainly provided by the Ministry of Health to cover all the Saudi population. There are some Saudi government agencies that provide PHC services for their own dependents only, such as the National Guard Health Affairs agency, Military Armed Force agency, and Saudi Airline agency.
- **MOH:** is a shortened abbreviation of Ministry of Health in Saudi Arabia.
- **Saudi PHC Centres:** refers to frontline facilities capable of providing free of charge health promotion and health protection, as well as treatment, rehabilitation services to all Saudi citizens and foreigners, according to Saudi community needs.
- **PHC Providers:** the health care personnel who are providing the Primary Health Care services and working at the PHC centers, they could be physicians, nurses, technicians, medical record personnel, and administrators, synonym used are professionals, workers, employees, physicians, and doctors.
- **PHC Consumers:** people who are attending the PHC centers and receiving the PHC services, they could be pregnant women, children, and adults with health problems, synonym used are patients, clients, and users, care-seekers.
- **Quality attributes:** specific features and characteristics that determine the quality of services.
- **Jeddah:** A city at the Kingdom of Saudi Arabia.

The seventeenth selected quality attributes:

1. **Tangible:** relate to the physical aspects of the practice service, and the décor and facilities of the practice premises, equipment & materials & drugs, general cleanliness, maintenance ...
2. **Accessibility:** the convenient of the location, the approachability of the premises, the easiness of contact, and the acceptability of the working hours.
3. **Staffing and Manpowered:** adequate numbers & specializations of doctors, nurses & other health personnel.
4. **Administration and Management:** availability of good management & administration system that support both the providers & the consumers.
5. **Range of services:** Provision of all essential PHC services as expected by the clients.
6. **Competency:** Ability to perform the promised service dependably and accurately.
7. **Time factor:** short waiting time, availability of appointment system, enough time for consultations, providing of quick services.
8. **Security & confidentiality:** freedom from danger, risk, or doubt & president of confidentiality.
9. **Continuity and follow-up:** Patient always seen by the same doctor each visit.
10. **Community participation:** sharing people in planning, implementation & evaluation of services.
11. **Courtesy:** Caring, politeness, respect, consideration & friendliness of staff.
12. **Consumer/provider Communication:** keeping customers informed in language they can understand and listening to them.
13. **Credibility & Responsiveness:** Trustworthiness, believability, honesty and willingness to help customers and provide prompt service.
14. **Team work:** effective coordination & communication between the health care personnel.
15. **Treatment services:** desired health outcomes.
16. **Prevention services:** effective preventive measures that lead to healthy community.
17. **Satisfaction:** Providers & consumers satisfactions.

CHAPTER I

INTRODUCTION

1. INTRODUCTION

1.1 Quality in Health care system

Because quality of health care can have life or death consequences, quality is more important for health care than for most other services that we purchase (**Kenyon, 2004**). Nevertheless, a recent survey of information on quality of health care in United States concluded that "more information is available on the quality of airlines, restaurants, carsthan on the quality of health care" (**Schuster, et. al., 2004**). As health care costs increase, and pressure increase to curtail those increases, there is a concern that cost control will be achieved at the expense of quality. In United States new institutions were born that focused on quality of health care; for example, the Federal Agency for Healthcare Research and Quality (AHTQ) added quality to its name and its agenda, the Leapfrog Group of Fortune 500 companies came together to use its purchasing power to improve quality and efficiency in health care (**Kenyon, 2004**).

Health care delivery systems are struggling with how to deal with "the quality issue". For years, quality was assumed. Now consumers, providers, administrators, and insurance companies are questioning it. Assessing and measuring the quality of service delivery of health care systems generates a great challenge for managers. Unlike a manufactured product, where quality can readily be assessed, service quality is an elusive and abstract construct that is somewhat difficult to define and measure (**Brown and Swartz, 1989; Parasuraman, et al., 1985; Carman, 1990; Garvin, 1987**). **Ross (1995)** has noted that services are not actions and behaviours in and of themselves, but the way customers perceive and interpret those actions. The subjective nature of service quality makes the measurement task more complex. The health care industry is no exception in relation to the problems of complexity and efficacy in the conceptualization and measurement of service quality. The complexity of measuring health care quality is evident through an examination of three well-documented features of services: intangibility, heterogeneity, and inseparability of production and consumption (**Parasuraman, et al., 1985**).

First, services are intangible because it is not possible to count, measure, inventory, test, or verify them in advance of sale. Health care services cannot be stored, inventoried, or tested for quality. Customer experience, measured either directly or

vicariously from outside sources, is frequently the only means of verifying whether health care services manifest quality. Second, the nature of service performance diverges from one transaction to another. This heterogeneity can occur because different physicians, nurses, and others deliver the service to a variety of patients with varying needs. Caregivers provide services differently because of variations in factors such as their specialty training, experience, and individual abilities and personalities. Patient needs frequently vary from person to person and from visit to visit. Needs and performance levels may also fluctuate according to the season, day of the week, and even time of day. Interactions among physicians, nurses, administrators, patients, and timing factors combine in an infinite number of ways to affect the quality of the health care service rendered (Jun, et al., 1998).

Finally, in health care, production and consumption are inseparable. The services are consumed when they are produced, which makes quality control difficult (DeSouza, 1989). In short, the management of health care quality cannot be separated from the management of its provision. The customers usually serve as participants in the delivery of services.

On that context, Bittle (1995) stated that:

Health care organizations will be challenged to improve the quality of care and service provided, and will need to adopt new ways to measure and demonstrate quality to their respective publics. New frameworks for delivery of health care will continue to emerge and test the ability of existing organizations to survive (Page 429).

No matter how elusive and difficult it is, as Ford, et al (1997) noted, service quality needs to be assessed in all health care organizations. This is the case since it is difficult to manage and improve that which is not defined and measured. Interest in the measurement of service quality is thus understandably high among the health care managers. Delivery of higher levels of service quality is the strategy that is increasingly being offered as a key to services providers' efforts to position themselves more effectively in the marketplace (Parasuraman, et al., 1988).

There is a growing interest in many countries in assessing and assuring quality of health care. The assessment of quality of care, which has long been based on the

application of professional standards, is now increasingly tending to integrate measurements of patient perception (**Wensing et al., 1994; Ellis and Whittington, 1994; and Palmer, 1991**). It is being increasingly recognized that patient or “consumer” views should be taken into account as part of a comprehensive assessment of quality of care (**Vuori, 1987, Calnan, 1988a**). Thus, it has been argued that evaluations of health care should not only focus upon measures of clinical effectiveness and economic efficiency but also upon measures of social acceptability to the consumers of health care. **Jain, et al (1992)** considers that "A programme of high quality is one that is client oriented and aims to help individuals achieve their intentions or goals". Also, consumer satisfaction may be important not only as outcome variable in its own right, but also as a “mediating” variable which may influence, amongst other things, not only illness behaviour but also treatment compliance, health status and medical outcomes (**Calnan, et al., 1994**). Assessment of Quality of Care from the Patient’s Perspective (QCPP) presents problems such as how to define quality of care and questions such as, what is the patient perspective? And how it can be measured?

Among the diverging interpretations of quality, the International Organization for Standardization (ISO) in 1990 has reached consensus regarding the definition of quality:

The totality of features and characteristics of a product or service that bears on its ability to satisfy stated or implied needs (**Van Campen, et, al., 1995**)
(page 110).

The consumer’s satisfaction with services and, among other things, his or her needs regarding health care are central in the theoretical framework of ISO standards. In health care research, however, quality assurance is developed mostly from the provider’s perspective (e.g., the audits and quality standards developed by physicians). Given the often-observed fact that the patient’s perspective differs substantially from the physician’s perspective regarding priorities in health services (**Smith and Armstrong, 1989; Potts, et. al., 1986; Batalden and Nelson, 1991**), scientific research has paid remarkably little attention to the assessment of QCPP (**Van Campen, et. al., 1995**).

Surveying the literature, the concept of QCPP has often been assessed and operationalized as patient satisfaction. Patient satisfaction has been a widely

investigated subject in health care research: several thousand articles have been published and dozens of measuring instruments have been developed. QCPP, however, has been investigated since around the end of the 1980s, and only a few measuring instruments have been developed explicitly for the assessment of QCPP (e.g., **Nelson, et. al., 1989; Meterko, et. al., 1990**).

While consumers and purchasers of health care are making decisions based on their perceptions of the quality and satisfaction with providers, health care managers need to understand how consumers evaluate health services. **Holbrook and Corfman (1985)** noted that consumers do not use the term quality in the same way as researchers. Researchers have conceptualised quality and satisfaction around a distinction made between mechanistic and humanistic quality: mechanistic quality involves an objective aspect or feature of a things or event; humanistic quality involves the subjective response of people to objects and is therefore a highly relativistic phenomenon that differs between judges. **Spiegel (1980)** discussed more factors, which could create differences in perception of service quality between health care consumers and providers. He indicated that quality perception is influenced by curing and caring factors. Curing refers to the technology and science of the healing arts – the effectiveness of the medical care – it is more a concern of health care providers. Caring refers to the art of medicine – the acceptability of health care to the consumers, the community and the provider. Obviously, curing and caring may be affected by broad factors such as cultural barriers or by a simpler item such as the colour of paint used in a hospital. This usually creates extra difficulties in determining definite standards for measuring the quality in health care.

The requirement for fundamental restructuring and reorientation of public sector services has been a constant refrain among policy makers in post-industrial economies over the past two decades (**Lynn, 1998**). Motivated by political and economic pressures to enhance the efficiency and effectiveness of public sector service provision, such reorientation was aimed at addressing what was seen as the essentially introverted and unresponsive nature of public sector service provision (**Collins et al., 1994**). These political and economic pressures were summarised by the WHO in 1985:

Political: There are strong political pressures at work to make services more like markets, and to construct patients as consumers. Ideas imported from business and commerce, including quality assurance, may be used to hide an actual fall in standards and in public resources

Economic: Resources cannot keep pace with rising demands for health care and expectations (**WHO, 1985**)

At the core of this reorientation has been a change in the relationship between service providers and users. From the service user being a passive, subordinate partner in the delivery of public sector services, successive governments have promoted the service user as an active and equal partner in the design and delivery of such services (**Keaney, 1999; Walsh, 1994**). This policy level commitment to the redesign of services has cascaded through the public sector, forming a key element of government policy relating to areas such as health and education. The placing of the public sector service user at the core of the service delivery process has forced public sector organizations to fundamentally reappraise the prevailing organization and management of service delivery (**Laing, 2002**).

Inevitably such policy initiatives have had major implications for public sector professionals in that the implementation of such policies falls to front-line professional staff. Specifically they have challenged the established dominance of public sector professionals in the design and delivery of services (**Gray and Jenkins, 1995**). Such challenges have engendered significant resistance from frontline professionals. Although such resistance to change may be attributable to narrow professional self interest (**Dawson, 1989; Pettigrew et al., 1992**) it may also be attributable to more fundamental questions regarding the appropriateness of such user-focused reorientation of the delivery of public sector services (**Brown, 1992; Graham, 1994**). This reflects a deep-seated unease with the potential consequences of the consumerization of public sector services given prevailing resource constraints and informational asymmetries between service users and professionals (**Hugman, 1994; Michael, 1997**).

Experience of the National Health Service (NHS) in the UK provides a relevant example of this sort of policy initiative. The successive reforms occurring from the late 1980s onwards should be viewed in the context of the broader commitment to a fundamental reorientation of public sector services. This transition process was addressed by **Laing (2002)** who pointed out that the objective of making the NHS more

responsive to service users can consequently be seen as a constant theme underpinning the reforms of the health service introduced over the past two decades. This promotion of a user focus or, albeit within different organizational frameworks, is evident from the proposals contained within both the 1989 and 1997 white papers, i.e. *Working for Patients* and, in Scotland, *Designed to Care*:

'We aim to extend patient choice.... All proposals in this white paper put the needs of patients first. ... The patients' needs will always be paramount.'
(Department of Health (DoH), 1989)

'Our starting point is that every aspect of the planning and delivery of services should be designed from the perspective of patients.'
(Scottish Office Home and Health Department (SOHD), 1997)

Such stated commitment to the development of user-focused service provision is supported by both the substantial proposals contained within these white papers and subsequent policy implementation initiatives. Together these documents provide a clear insight into policy makers' determination to achieve a fundamental reorientation of healthcare service delivery.

In promoting such a user orientation, there has been a consistent focus on the management of the service delivery process rather than on service, that is clinical, outcomes. In particular there has been an emphasis on the importance of what may be described as tangibles, responsiveness and assurance (**Parasuraman et al., 1991**) as both indicators of service quality and as measures by which users evaluate service provision. Perhaps nowhere is this more comprehensively illustrated than in *Working for Patients* as stated on **DoH (1989)**:

'At present the service provided on admission to hospital is sometimes too impersonal and inflexible. This is not what either the Government or those working in the Health Service want to see.... It wants a service which considers patients as people. It believes that each hospital should offer:

- * Appointments systems which give people individual appointment times that they can rely on. Waits of two to three hours in outpatient clinics are unacceptable.
- * Quiet and pleasant waiting and other public areas with proper facilities for parents with children and for counselling worried parents and relatives.
- * Clear information leaflets about the facilities available and what patients need to know when they come into hospital.

* Clearer, easier and more sensitive procedures for making suggestions for improvements and, if necessary, complaints.'

(DoH, 1989, p. 6)

This emphasis on the process aspects of the delivery of healthcare services, what **Gabbott and Hogg (1994)** and **Spiegel (1980)** termed the 'care' dimension of the delivery of health services, has subsequently remained the dominant focus in *Designed to Care*. This is reflected in the ongoing emphasis on the importance of the management of the 'patient pathway' or 'patient journey', i.e. the users' experience of the service delivery process, to the attainment of user-oriented service provision (**Laing, 2002**).

Unfortunately, from the researcher's perspective, health policy in Saudi Arabia up till now may be viewed as drawing heavily on the decision makers and providers' perceptions with no input from the consumers' perceptions (no documented evidence). While some argue that providers' perceptions are important indicators of quality (**Leatt, 1997**), others view such perceptions as suspect due to their potentially self-serving nature (**Roos, 1998**). However, this researcher believes that the entire Saudi healthcare system should be modernizing and reorganizing towards a more consumer-oriented approach. It should be focusing on care as well as cures.

'.. . would (a) put the individual at the centre of its policies and practices; (b) recognize and support diversity by striving to meet the widest possible range of needs; (c) seek to achieve the best "match" between provision and the needs of the individual' (**Scottish Executive Health Department, 1999, para. 2.7**)

Research has established that most health consumers have historically been relatively insensitive to price and value concerns (**Carson, et al. 1997**). When service delivery is perceived to be cost-effective, patients are content. But on the other hand, financial matters will not guarantee the feeling of pleasure. Saudi PHC service is provided completely free, but according to previous research measuring Saudi consumers' satisfaction, the service failed to fully satisfy its consumers. Thus, it is proposed that both tangible factors (such as accessibility and equipment) and value factors (such as patient/doctor communication) are having great impact on the perception of quality for the services' customers and providers.

Therefore, the managers of service providers need to know how to measure service quality, what particular aspects of service best define its quality, and whether consumers would actually purchase from firms with the highest level of perceived service quality or from those with which they are most satisfied (**Cronin and Taylor, 1992**). The concept of quality perception is based on a variety of arguments and embraces the desire to involve patients more in decisions that concern them and to better meet their expectations (**Calnan, 1998**),

However, the service literature has left confusion as to the relationship between consumer satisfaction and perception of service quality. **Calnan (1998)** argued that patients' evaluation of quality of care is not necessarily expressed in terms of satisfaction, and **Cleary (1998)** supported his view when he concluded that measurement of satisfaction does not necessarily reflect the perception that patients have of quality of care. **Epstein, et al. (1996)** suggested that satisfaction includes a highly affective dimension. In addition, **Rosenthal, and Shannon (1997)** indicated that satisfaction is considered more dependent on patient expectations than a perception of quality. As an explanation of this distinction, **Woodruff, et al (1983)** suggested that expectations should be based on experience norms. That is, what consumers should expect from a given service provider given their experience with that specific type of service organization. Within this context, **Wellbery (2005)** conducted a study to test whether there is a correlation between met or unmet expectations and patient satisfaction, she found that patient satisfaction was very high and was not related to expectation, even though one half of all patients who expected a test, referral, or new medication did not receive the service they expected. In addition, **Parasuraman et al (1988)** pointed out that in measuring perceived service quality, the level of comparison is what a consumer should expect, whereas in measures of satisfaction the appropriate comparison is what a consumer would expect.

Thus, this distinction is important to determine standards against which quality should be measured, because service providers need to know whether their objective should be to have consumers who are satisfied with their performance or to deliver the maximum level of perceived service quality. The importance of this issue has led to several efforts to clarify the relationship between satisfaction and service quality

(Bitner, 1990; Bolton and Drew, 1991; Taylor, 1994; John, 1992 and Cronin, and Taylor, 1992).

John (1992) first defines patient satisfaction as an attitude determined by the (dis)confirmation of patient expectations. Thus,

$$\text{Patient Satisfaction} = f(\{\text{dis}\})\text{confirmation of expectations}$$

John (1992) next conceptually distinguishes patient satisfaction from service quality by defining perceived quality as "the evaluation of a hospital experience as determined by perceptions of the hospital performance." **John (1992)** further argues that perceptions of hospital performance, when mediated by patient expectations coming into the service encounter, result in perceived quality. Thus, the patient's perceived quality of his or her current hospital experience can be modelled as follows:

$$\text{Perceived Quality} = f(\text{expectations, perceptions of current firm performance})$$

John (1992) also operationally distinguishes patient satisfaction from service quality. First, **John (1992)** appears to operationalize patient satisfaction by a single-item five-point Likert-type response scale. Service quality is operationalized by **John (1992)** using a modified version of the SERVQUAL scale. **John (1992)** ultimately concludes that patient satisfaction and service quality evaluations with the current episode of care are a function of the level of satisfaction a consumer carries into the service encounter (e.g., the previous level of patient satisfaction).

In summary, theories of quality assurance explain QCPP as a perception minus as expectation of aspects of care. By contrast, theories of patient satisfaction explain QCPP as the patient's attitude or general feeling with respect to aspects of care. Quality of care instruments require more factual knowledge on the part of the patient, whereas satisfaction instruments require a more general judgment from her or him. For purposes of quality improvement, a quality of care instrument offers more specific information based on the patient's perceptions. Despite the direct and indirect benefits of improving patient satisfaction, there has been growing criticism of its measurement. Satisfaction ratings have been criticized for not mirroring objective reality (**Ware et al., 1983**) and thus for not being useful measures of quality (**Drain, 2001**).

Despite the growing arguments about the usefulness of using patient satisfaction surveys, there is a growing pool of studies that measure patient satisfaction with PHC in Saudi Arabia (Saeed, et al., 1992; Ali and Mahmoud, 1993; Makhdoom, et al. 1997; Al-Qatari and Haran, 1999; Al-Doghaither and Saeed, 2000; Saeed, et al. 2001). Reviewing the methodological part of these studies indicates that patient satisfaction surveys have been developed with no input from patients about what constitutes PHC care quality. Their investigation instruments are mainly generated based on the PHC providers and researches' perceptions of quality of care. Larrabee, and Bolden (2001) indicated that many patient satisfaction instruments are not based on patient perceptions, theoretically limiting their validity (Williams, 1998), because patients and providers define health care quality differently (Backhouse and Brown 2000; Oermann and Templin 2000; Stickler and Weiss 2000; Oermann, 1999; Attree, 1996; Meterko, 1996; Williams 1998; Smith and Armstrong, 1989; Potts, et al., 1986; Batalden and Nelson, 1991, and Donabedian 1980), and rank importance of the health care quality dimensions differently (Vedsted, et al., 2002; Lynn and McMillen, 1999; Wensing et al., 1998; Young, et al., 1996; Larrabee, et al., 1995; Fletcher, et al., 1983; Weinberger, et al., 1981a). Furthermore, national and international studies have demonstrated little, if any, relationship between consumers' and providers' perceptions of PHC quality (Vedsted, et al., 2002; Jung, et al., 2002). Thus, content validity of a patient satisfaction instrument is questionable when item-generation is not based on qualitative patient data. When using such instruments, providers' quality improvement efforts may be directed toward improving care from their own perspective, while failing to address patient views of quality problems (Carr-Hill, 1992, and Hart, 1996). Quality improvement leaders and researchers need to use patient satisfaction instruments that include measurement of patient-defined dimensions of quality of PHC services.

Therefore, this study was not intended to be an expansion of existence of Saudi literature on patient satisfaction; it is rather, specifically and deliberately, intended to fill the gap existing in knowledge concerning the input from PHC consumers about what constitutes PHC quality and exploring their quality perception. This research is not intended to measure service quality; it is only exploratory and needs further validation to finally develop a reliable scale for measurement of service quality in PHC settings.

1.2 Quality in primary health care

In industrialized countries, quality of care is widely debated in the context of health sector reform (**Williamson, 1994**). A wealth of literature reflects the progress made in developing tools to monitor and improve the quality of health care. Assessing and improving the quality of health care was until recently, a low priority, for policy makers in developing countries. **Reerink and Sauerborn (1996)** reviewed the reasons for this long neglect of health care quality in developing countries, which include: (i) a perceived priority of extending coverage at the expense of quality; (ii) the view that quality is difficult to assess in the absence of reliable documentation and health information system; and (iii) the perception that improving quality is tantamount to increasing inputs, thus costly and not affordable for many countries.

The 1960s and early 1970s was, for many developing countries, an era of newly won independence from former colonial powers. This independence was accompanied by an enthusiasm to provide high-standard healthcare, education and other services for the people. Governments moved to establish teaching hospitals and medical and nursing schools, often with the assistance of donor nations. These tertiary services consumed the largest portion of the country's healthcare budget, and were available mostly in urban areas, creating access problems for the predominantly rural societies. There was a wide variety of services of varying standard and quality in the rural areas (**Bennett, 1979**). By the late 1970s, the morbidity and mortality for rural communities was not improving, and in some places they deteriorated. In places where people did have access to services, cultural beliefs about illness meant those services were not being accessed (**Benyoussef and Christian, 1977; Bennett, 1979**).

In this same era (1960s and 1970s), some countries (China, Tanzania, Sudan and Venezuela) initiated successful programmes to deliver a basic but comprehensive programme of primary care health services covering poor rural populations (**Benyoussef and Christian, 1977; Bennett, 1979**). From these programmes came the name "Primary Health Care" (PHC). This new methodology for healthcare service delivery incorporated a questioning of top-down approaches and the role of the medical profession in healthcare provision.

During the 1970s, a synthesis of these concepts was undertaken by the World Health Organization (WHO) and United Nations International Children's Emergency fund (UNICEF). It addressed the need for a fundamental change in the delivery of healthcare services in developing countries, with an emphasis on equity and access at affordable cost, and emphasizing prevention while still providing appropriate curative services (**Hall and Taylor, 2003**). In 1978, the Declaration of Alma-Ata formally adopted primary health care (PHC) as the means for providing a comprehensive, universal, equitable and affordable healthcare service for all countries. At that conference the "Health For All by the Year 2000" (HFA) goal was declared. All WHO member countries at Alma-Ata unanimously adopted it in the former Kazakh Soviet Republic in September 1978 (**WHO/UNICEF, 1978**).

The reality is that, in 2005, more than 30 years later, many people in resource-poor settings still do not have equitable access to even basic services. In many places this gap is widening (**Braveman and Tarimo, 2002**). The *World Health Report 2000, Health Systems: Improving Performance* marked the end of WHO's use of PHC as the means for the delivery of healthcare services in resource-poor countries (**WHO, 2000a**). This report explained the failure of Primary Health Care (PHC) to achieve its goal by saying there was inadequate funding and insufficient training and equipment for healthcare workers at all levels. WHO said this resulted in either a total lack of services at the community level, or services of such poor quality that people had no option but to bypass the primary-level providers, resulting in a failure of the referral system within the PHC hierarchy.

Gulf countries (Kingdom of Saudi Arabia, Bahrain, Kuwait, Qatar, Oman, and United Arab Emirates) are generally categorised as developing countries, but they should be able to manage the quality of their health system differently because of their relatively good economic status. They provide most health care services (including tertiary, secondary and primary care) free of charge for their citizens. But, the challenge of improving quality of health care services in those countries is beyond the matter of funding. Many other issues may be significant, such as their political systems, management capacity, organization and planning (including administrative corruption), and their respective cultural norms and beliefs.

PHC is a concept and strategy for providing community health services that has been accepted and adopted by all Gulf countries. The PHC approach has been well defined as a concept to provide a comprehensive system of basic health care, which meets the essential needs of the people. Since the essential needs of communities differ from one country to another and from one area to another depending on environmental, social, economical and cultural situations, the level of implementation and the process of delivering these comprehensive services will differ accordingly.

In 1980 the Saudi Ministry of Health (MOH) started implementing the PHC approach. The first step in this regard was the Ministerial decree No. 257/1459/50 dated 17/8/1400H (1980), which was intended to bring all services together. Accordingly, health offices, maternal and child health centres, and dispensaries were abolished, and their services were amalgamated into health centres that deliver PHC services. However, the PHC services has developed step by step according to a strategic long term plan in its efforts to achieve the Saudi Arabia's commitment to the goal of "Health for All by the Year 2000". Therefore, in early 1983, the first practical step was taken in that regard by developing 11 PHC centres (one centre in each of the health regions) to become a model PHC centre from which the PHC approach would be disseminated to involve all the existing health centres and those to be newly established. It was decided that each of the centres would deliver a package of comprehensive health services composed of promotive, preventive, curative and rehabilitative activities (MOH, 1986). At the end of year 1983 a total of 889 PHC centres were established. Whereas, in year 1985 the number of PHC centres became 1306 centres (MOH, 1986). By the year 1990 the numbers of PHC centres had increased to 1725 centres (AL-Mazrou, and Farag, 1994), and in year 2000 the number of PHC centres increased to 1766 centres. Recently, in May 2005 the number reached 1848 centres for all Saudi Arabia (MOH, 2005). As the result of increasing the centres, the number of attendances to those centres increased from 21.2 millions in year 1982 to 53.5 millions in year 2002, 88% of attendees are Saudi (MOH, 2002). The PHC centres in Saudi Arabia are organized to deliver a wide range of services included immunizations, well baby clinics, antenatal clinics, dental clinics, chronic disease clinics, provision of medications, health education, infection control, environmental health, laboratory service, radiology service, referral system, emergency service, treatment room, continuity and follow-up, and community

participation. Assessing how this services is functioning and identifying strengths and weakness is a continuous process, which needs to be undertaken for corrective measures and for proper expansion of services.

Because PHC service is provided completely free of charge in Saudi Arabia, they do not operate in a competitive environment. In addition, there is no private medical insurance coverage. This creates a heavy budgetary burden for the MOH. As a result, the Saudi government is now strongly encouraging the involvement of the private sector, to lessen this increasing burden. In fact, the concept of privatization was highlighted in the Sixth Developmental Plan (**Ministry of Planning (MOP), 1995**). The private sector responded well to this government initiative of privatization, and many private dispensaries are now operating. They provide some PHC services such as immunization, well-baby clinics, antenatal clinics and chronic disease clinics. However, their current role in tackling important public health problems is limited. The non-Saudi residents are the main users of these private dispensaries. In contrast with the free unlimited medical services, which are offered to the Saudi residents by the MOH PHC centres, up till March 2005, these centres were providing only limited services to the non-Saudi residents (such as immunization and antenatal services, but with exception of free medications). In March 2005, the accessing policy has changed, now the non-Saudi residents have to pay for accessing any MOH PHC services.

It is expected that Saudi citizens will not substitute charged dispensaries for the free MOH PHC centres. But the unavailability or poor quality of services provided by some of the MOH PHC centres could force them to use the private dispensaries. **Palmer, et al. (2003)** argued that encouraging the use of such clinics by those who can afford to pay for them might not help to improve care available for the poorest population groups, which are an important priority for the government. Encouraging such providers in Saudi Arabia to substitute free MOH PHC centres could, however, be desirable if the range of services presently offered, and those able to access them, could be broadened. A majority of Saudi people are not prepared to pay for private sector providers. **Saeed, and Mohamed (2002)** found that free service is the factor which most encourages utilization of MOH PHC centres. When they are not satisfied with the MOH PHC centres, they prefer instead to use the public hospitals either with or without referral. This situation has become obvious in the last few years with the reduced

economic status of the Saudi people (after the second Gulf war) and the unrestricted use of referral system. **Al-Yamamah (1992)** reported that in Saudi Arabia, PHC is primarily a gateway to other health services facilities (hospitals). Some are entering the PHC centre seeking only referral to hospitals. **Tarimo, and Webster (1997)** pointed out this issue when they discussed the various reasons why PHC did not achieve the “Health For All by the Year 2000” goal. They mentioned that many ordinary people felt PHC was a cheap form of healthcare and, if they were able to, they bypassed this level to attend secondary and tertiary centres because they felt there was a lack of staff and essential medicines at the PHC level.

This situation should encourage the MOH to meet the quality expectations for PHC that consumers and providers expect. Providing good quality PHC in Saudi Arabia would decrease the misuse and over utilization of hospitals (**Mufti, 2000**), decrease the high cost of health care delivery (**Sebai, et al., 2001**) and build trust in the relationship between the Saudi population and the PHC services (**Ali and Mahmoud, 1993**). This would be likely to increase the likelihood of proper utilization and improving the health status of Saudi citizens.

The lack of understanding the value of specific components of primary care (**Donaldson and Vanselow, 1996**) has been complicated in the past by a poor consensus on the definition and operationalization of its specific domains (**Starfield, 1992**). Progress has been made only recently in measuring the specific attributes of primary care comprehensively (e.g. **Safran, et. al., 1994; Bindman, et. al., 1996; Flocke, 1997; Flocke, et. al., 1998**), although refinement and evaluation of the different measurement approaches are warranted. As better measures of the delivery of PHC are developed, a more clear understanding of the association of the delivery of PHC with consumers’ outcomes may be realized.

There are different approaches that can be used in quality improvement programmes. All are aimed at establishing defined, international, and continuous systems for monitoring and improving the quality of care and utilization of resources for maximum benefit of the customer or community being serviced. A classical framework that has been successfully used is the Donabedian’s structure-process-outcome approach (**Donabedian, 1980**). Structure evaluation consists of measuring and evaluating

resources in terms of health care staffing, facilities and equipment. Process evaluation entails assessment of the way in which resources are being used. Outcome evaluation deals with services and health outcomes (e.g. recovery rates, morbidity and mortality rates and providers and consumers satisfaction). **Donabedian (1982)** pointed out that using structure and process parameters, as part of the quality assurance definition is valid to the extent that good structure results in good outcome. It is necessary therefore to have established such relationship before any particular component of structure, process or outcome can be used to assess quality. He also noted that individual expectations and evaluations could affect the definition of quality of care. In Saudi Arabia, this framework is adapted and it is used as a guide to implementing the continuous quality improvement programme in PHC system, according to the context in which Saudi PHC services are delivered.

The future of Saudi PHC programme is attracting greater concern and emphasis among the health planners and decision makers in Saudi Arabia. The Assistant Deputy Minister for Preventive Medicine Dr. Al-Mazrou, emphasised this issue (**Al-Mazrou, 2002**) when he stated that:

The future of PHC depends on a continuous revision and appraisal of all programmes implemented in PHC centres. In the course of this revision, certain priorities must be considered including: (1) significant changes in the morbidity patterns in the Saudi community. The definite shift from infectious to non-infectious diseases requires an emphasis on certain programmes, the most important of which is lifestyle, balanced nutrition and an extensive use of health education as an important component of the PHC programme implementation (2) The demographic changes in the Saudi community. The geriatric age group is increasing and therefore becoming an important section of the population. This means that their health needs must be reckoned with and satisfied (3) The implementation of the "health insurance" policy and the consequent decrease in certain sections of the community attending the PHC centres (4) The need to give priority to the establishment of PHC centres to enable them to offer decent services in all PHC elements (5) Rehabilitation and training of health workers in the PHC

centres to enable them cope with current methods of health care provision (page 15).

Despite the declared concern of the Saudi authorities, gaps still exist between the providers and consumers' expectations, and the policy intentions. This derives in part from lack of involvement of PHC practitioners in the organization and planning of PHC, plus the allocation of resource that remains in favour of secondary and tertiary rather than primary care level. **Bakhashwain (1995)** pointed out that the declared health policy of the Saudi MOH is to provide comprehensive health care through the extension of PHC centres to various urban and rural areas. However, the majority of PHC centres (either in urban and rural areas) are not provided with adequate facilities and staff, in order to support their activities. Although in theory, they are supposed to deliver comprehensive health care, in practice what is provided is not the comprehensive approach to the health care which government policy proclaims. **Jelley and Madeley (1984)** concluded that a dichotomy exists between the tasks ascribed to the health centre in the PHC framework, and the feasibility of their execution given existing personnel and material resources at most of developing countries.

Although the population distribution in Saudi Arabia is diffuse, because of the existence of travellers (Bedouin) in the Saudi desert, the Saudi MOH is keen to make PHC services accessible to all the people wherever they live (in big cities, towns, villages or hamlets). So, the PHC centres are, as much as possible, equally distributed to urban and rural areas. Saudi MOH functions as a centralised authority. Accordingly, healthcare services all over the kingdom are provided on the basis of unified health policies. It is clearly understood from the written document of strategies for implementation of PHC approach in Saudi Arabia (**MOH, 1986**) that all PHC centres are provided, as standard, with basic resources in terms of staff, facilities and equipment. However, the regional health authorities make staff, facilities and equipment available to PHC centres according to size, population to be served and workload. From this, one could estimate that Jeddah's PHC centres are providing the same services as other centres in Saudi urban areas. Therefore, the results of the research reported here can reasonably be generalised to the rest of PHC centres in the urban areas.

1.3 Statement of the problem:

The ongoing development of health care services in Saudi Arabia have influenced life in the Kingdom and changed the health map of the country in a very positive way. Previous health plans established most of the infrastructure for the health services with remarkable results. However, for successful implementation of a good health care system and for the system to provide adequate and high quality service to all citizens, a balance between preventive and curative services will have to be established. Managerial and administrative skills in health facilities have to be sharpened through the application of quality programmes, the quality and quantity of the training of Saudi health care staff should be properly developed.

The Kingdom of Saudi Arabia committed itself to Health For All (HFA) goals through implementing PHC in its totality since 1983. But after more than 20 years of their application, it can be seen that the impact of those centres is not adequate, and their contribution is still far from building the necessary trust between the Saudi population and PHC centre services. Most of the Saudi population still wishes to by-pass PHC centre services and go directly to the secondary care of hospitals.

Bryant (1988) pointed out that PHC is not only primary medical care; it is not only the first contact with medical or health services; it is not only health services for all; it is intended to reach everybody, particularly those in great need; it is intended to reach to the home and family level, and not be limited to health facilities; it is intended to promote health education as a measure for preventing diseases and increasing people's health awareness, as well as promoting healthy patterns of behaviour.

The implementation of PHC in many developing countries including Saudi Arabia, however, has taken another direction, which emphasizes the development of curative primary health care (**Sebai, 1988**). This direction of implementation emphasizes the gap between the PHC approach's theory and practice. Many developing countries still follow the conventional style of delivery of health care (curative approach) (**Reerink and Sauerborn, 1996**). In the past, Saudi Arabia presented a typical example of this practice. An old report, issued by the Ministry of Planning on

utilization of health services was conducted on the PHC level in 1984, documented that over 90% of PHC activities were directed toward curative individual care (MOP, 1995). This trend was noted in further studies in several regions of the country (Sebai, 1988). Health planners for the fifth national health plan (1990-1995), thus felt the need to emphasize preventive services in PHC centres and shift interest towards reducing endemic disease, combating community health problems, and raising the health level of the population through application of all curative and preventive elements and health promotion in PHC. The impact of these measures was evident in the extensive coverage of the children's immunization programme, a 29% reduction in hospital attendance, and a 42% increase in PHC visitors for all types of services during the five-year period (1989-1995) (MOP, 1995).

Regardless of these successful achievements, the Saudi PHC system is suffering from some weak points, which restrain its development and community acceptance. There is substantial variation in the quality of Saudi primary care services. In order to improve quality, there is a need to improve the management and organization of primary care services. Professional development strategies are also needed to improve the knowledge and skills of staff (AL-Ahmadi and Roland, 2005). A gap still exists between preventive and curative measures (Al-Shammari, et al., 1996) and there is still a need to improve on the control of chronic diseases, such as diabetes mellitus (Abu-Zeid and Al-Kassab, 1992) and other degenerative disorders (Al-Shammari, et. al., 1994) thought to be highly prevalent in community. Sebai (1981, 1982 and 1988) conducted several studies describing and evaluating PHC centres in different parts of Saudi Arabia. He recommended that in order to implement PHC successfully; there is a need to improve the utilization of physical and human resources. While, Banoub (1982) concluded that the expansion of PHC in Saudi Arabia needs to be studied concerning the equity of the distribution of the resources.

In addition, Dodd (1986) found that most of the health centres in Saudi Arabia were in rented accommodation, which means that they are not constructed or designed to be PHC centres. The staff were almost all expatriates and they had no training in PHC. Al-Osimy (1994) noted that there were differences in the staff and resources available in the PHC centres in Riyadh city. Furthermore, review of the statistical report published annually by the MOH confirms that the majority of the health staff of the

PHC centres is expatriate (**MOH, 1995**). They come from different countries and have diverse cultural and educational backgrounds. Therefore, identifying their quality perceptions and opinions of the health services provided by them is highly recommended.

The results of previous studies have demonstrated the economic advantages of strong primary care and the importance of the role of PHC physicians as "gatekeepers" who coordinate health services and serve as the primary caregivers for patients. In countries in which PHC physicians fulfil this role, health care expenditures are lower and comprise a smaller percentage of the gross national product than in countries where direct access to services is practiced (**Grevas, et al., 1994; Wachter, 1995**). However, giving PHC physicians the role of gatekeeper necessitates high-quality training so that they can provide quality care for their patients and reach appropriate decisions as to whom to refer to specialists (**Boerma & Fleming, 1998; Engel, et. al, 1989**). Although it is current policy in Saudi Arabia that the role of the PHC physicians is to act as "gatekeepers", there are several obstacles that negatively influence their performance of this role. **Mufti (2000)** reported that there is very minimal control of utilization in all sectors and this said to have led to abuse and over utilization in the public sector. Patients are able to ask/demand referral to a higher-level facility and there does not appear to be very strict guidelines for referral.

In Saudi Arabia, PHC centres are staffed by physicians who have training in different disciplines of medicine, have no postgraduate training at all or have minimal training in PHC (**Jarallah, et al., 1998**). There is no doubt that knowledge about the essentials of PHC is vital for all PHC providers if they are to provide quality service to the public. **WHO (1981)** indicated that orientation to PHC is essential for the PHC team to be effective in their provision of PHC service. A PHC team member cannot function properly if he/she lacks insight into what its aims are. The findings of **El-Zubier, et al (1995)**, show that almost half of the PHC workers in Saudi Arabia were ignorant of its meaning; about one third were ignorant if its elements and one quarter did not know what Alma Ata meant. These results imply that either the PHC providers lacked the proper orientation on PHC, or reverted to old practices. In either case, intervention programmes, such as orientations and refresher courses, are required. Moreover, some local studies showed that there is deficiency in continuing medical education (CME) activities provided for or attended by the PHC physicians in the Kingdom of Saudi

Arabia. More than half of the respondents did not attend any scientific meeting within the PHC centres, and about one third had no chance to attend any scientific activity in hospitals or postgraduate centres **Jarallah, et al., 1998; Al-Shammari, and Khoja, 1994; and Al-Sheri, and Stanley, 1993**). Although some reports have shown that the quality of CME activity or type, did not affect the quality of patient care (**Evans, et al., 1986; Dunn, et al., 1988**), there is evidence that it does change physicians behaviour, improve their performance (**Schwartzberg and Guttman, 1997; Haynes, et al., 1984**), and importantly, it improves health care outcome (**Starke and Wade, 2005; Davis, et al., 1992**). Thus, these facts, in addition to the emergence of evidence-based medicine, will provide more challenges for those planning PHC providers' improvement programmes.

Literature reviews of client satisfaction with the PHC services in Saudi Arabia clearly indicate that most clients are only moderately satisfied with the services provided to them by the PHC centres (**Saeed, et. al., 1992; Ali and Mahmoud, 1993; Makhdoom, et al. 1997; Al- Qatari and Haran, 1999; Al-Doghaither and Saeed, 2000; Saeed, et al. 2001**). These results point to the need for substantial improvement in the quality of services in these facilities, which could be achieved initially by identifying their quality expectations and perceptions of the health services they received. **Kanan (1989)** in a study of 3 PHC centres in Arar region found that 13.9% of the problems mentioned by the consumers were due to shortage of staff, overcrowding in the centres, and inadequate space in the buildings. A study conducted by **Mutbouly (1998)** found that the highest dissatisfaction scores among PHC physicians were due to insufficiency of materials, equipments, educational programmes, recreation activities, staff and time for consultations.

However, an extensive review of the literature on PHC customer satisfaction in Saudi Arabia revealed very few efforts to link satisfaction measurement with quality of care. Most studies use satisfaction data to document past success or show differences in satisfaction among different groups of consumers. While some studies focus on determinants or predictors of satisfaction, there is no study that uses client satisfaction data to design a quality improvement programme. However, all the studies have recommended some points for quality improvement. They have made recommendations

such as: developing of programmes by the MOH for its personnel to sensitize them to the different aspects of PHC (**Mansour and AL-Osimy, 1993**), expanding parking areas and laboratory services (**AL-Juhani, 1994**), making appointments by telephone (**Saeed, et. al., 1992**), general upgrading of MOH centre facilities and their resources (**Mansour and AL-Osimy, 1996**). Although, such studies help providers better understand the client's views and enable them to be used in planning, controlling, organizing and delivering PHC services, the researcher believes that these studies have missed the detailed information regarding what PHC clients actually want from PHC providers, or their perceptions about what constitute good PHC services.

Although, some of the PHC services could be described as high quality services that have high priority from the perspective of PHC consumers, it could be that PHC providers do not share the same level of priority or importance. **Bargawi (2001)** conducted a study for determination of PHC clients' expectations and perception of quality health services at one of the PHC centre in Jeddah, Saudi Arabia. She indicated that the Saudi PHC clients generally have high levels of expectation and they are demanding extra or better PHC services. Furthermore, she found that their expectations were a mix of all types of expectations that can be used to describe a subjective standard for judging the quality of the services: ideal, minimum, expected, and deserved. She concluded that the Saudi PHC clients are just as sensitive to aspects of the interpersonal relations they have with the professional as they are to the technical quality of the care provided. They recognized the importance a good doctor/client communication, good diagnosis, adequate treatments, as well as the need to receive sufficient information on the health problem and the treatment to follow.

Saudi PHC service is provided with limited background knowledge. There is a scarcity of published research dealing with Saudi PHC issues. The researcher claims that Saudi PHC system is suffering from insufficient documentation. Thus, with reference to the problems stated above affecting the PHC system currently in Saudi Arabia, the current study was conducted to contribute by attempting to fill the gap in knowledge about how Saudi PHC consumers perceive the quality of PHC centres and to identify both the matches and the discrepancies between the PHC client and provider regarding their quality perceptions. It should be noted that prior to this study no research has been done to specify this area. There is consequently a gap in the literature which this study aims to bridge, to some extent.

1.4 Significance of the study:

In this study, the researcher attempted to identify special quality attributes in primary health care services in Saudi Arabia. Knowledge about the quality attributes in primary care services will help in improving the quality of primary care services and enhance consumer satisfaction. The study will help also in identifying the gaps among the PHC providers (administrators, physicians, nurses, and other PHC personnel) and the PHC consumers (patients, user or clients) in perceived importance of the various quality attributes. It is hoped this will lead to the building of an organisation-wide consensus on what attributes to be most important for the PHC consumer and provider.

The studies on quality and patient satisfaction with PHC in Saudi Arabia revealed that the Saudi PHC centres need well-defined and specified Continuous Quality Improvement (CQI) programmes. However, it is critical, for successful implementation of CQI initiatives, to have a comprehensive understanding of what constitutes quality in health care services. Consequently, sensitivity and caution should be exerted, to adapt CQI methods to the prevailing Saudi cultural norms and values, the availability of resources and local priorities. The quality improvement imperative has placed a premium on customer perceptions. **Press, et al. (1992)** noted that it is impossible to perform CQI/TQM without asking patients' opinions and monitoring the impact of quality improvement activities upon patients' perceptions of care. Therefore, the present study could be considered as a background or initial step for constructing an effective, efficient, and acceptable CQI programme for the Saudi PHC centres.

If health care providers understand what attributes consumers use to judge quality, steps can be taken to monitor and enhance performance on those attributes and remedy patient-related problem. From the above-mentioned problems regarding quality of the PHC centres in Saudi Arabia, it is clearly desirable to increase the involvement of PHC consumers in health care quality services. In addition, the results of this study might help in developing strategies designed to enhance patient loyalty to Saudi PHC centres and an understanding of how to attract consumers who are prepared to consider alternative provision for whatever reason. Satisfied patients are more likely than unsatisfied ones to maintain their relationships with specific health care providers, and comply with care regimens (**Labarere and Francois, 1999**). Accordingly, Saudi PHC

decision makers, planners, and providers need to listen to the voice of their service's consumers in order to bridge that gap between the Saudi populations and the PHC centre services.

This study is concerned with the identification of various quality attributes of PHC services in a major city of Saudi Arabia, Jeddah city. Jeddah has an active programme for increasing the number of its PHC centres, in an attempt to provide the PHC services for all Jeddah's residents. The PHC centres are distributed widely over all Jeddah's districts. The PHC authorities at Jeddah are highly concerned about the quality of PHC services. They are encouraging research and all types of activities which may improve quality. In addition, Jeddah is considered the second populated city after Riyadh, and it has two medical systems for providing the PHC services; public and private sector. The private system offers attractive facilities and accommodation, and provides extra services, which are not usually available in the public sector. This is likely to have an impact on the utilization of the PHC centres. Therefore, it was important for this study to be conducted in this city.

A growing recognition among health care professionals, administrators and policy makers of the need for studying patient involvement in health care, has started since 1980s (**Donabedian, 1992**). Some of these studies have shown that patients may have specific priorities regarding technical, interpersonal and organizational aspects of care (**Donabedian, 1992, Fletcher, et. al., 1983**). Only very few studies have compared PHC providers and client's' priorities and evaluations of general practice care (**Vedsted, et. al., 2002; Jung, et. al., 1997; Rashid, et. al., 1989**), even though such knowledge is crucial to the organization of general care. Moreover, the ability to respond favourably to health care consumers' expectations and priorities requires knowledge of where these priorities match or clash with those of the caregivers, policy makers and administrations.

In spite of the fact that there is some published research which addressed the quality issues of the Saudi PHC system (such as **Al-Osimy, M. 1994; Al-Shahri, and Kinchin-White, 2000**), Saudi PHC services are provided with limited documented information regarding what and how the quality of services delights both their users and providers. However, PHC services can be planned to closely match the customers'

needs by studying their opinions and perceptions concerning what 'they want'. Therefore, the value of this research lies in the pioneering nature of the study approach to surveying both the PHC clients and providers. The study attempted to fill this knowledge gap by comparing PHC providers and consumers' priorities for general PHC services. It will serve well as the basis for further in-depth studies to collect complex data for planning action in PHC services.

The researcher, using her personal experience and judgmental observations, identified the following weakness that contribute to problems in the present functioning of some MOH PHC centres in Jeddah city:

- The management problems exist at two levels: within the PHC centre, where they are characterized by poor teamwork and difficulties in developing and implementing action plans; and at the district and national level, where technical and managerial support capability is generally inadequate.
- A limited understanding of the role of the PHC centre has frequently led to inadequate financial and material resources as well as a shortage of Saudi-born staff.
- Poorly skilled and demoralized staff, they feel isolated and always complaining of not given opportunity to involve in training courses and continuous medical education.

The researcher believes such problems undermine the credibility of the PHC centre as an essential health institution. Quality is not simply connected with sophisticated technologies and procedures. It has more to do with the reliability and effectiveness of the services, and their provision in ways that promote accessibility and continuity. Health providers need to show concern and understanding so that health consumers will feel secure and satisfied. They also need social skills to interact meaningfully with community members in addressing their health problems. These skills will contribute to the improved delivery of PHC quality services in Saudi Arabia.

Leebov and Ersoz (1991) stated that:

Quality and ongoing attention to continuous quality improvement are never accidental. They are always the result of deliberate effort - a matter of strategy. In health care especially, there is so much to do for the sake of our customers that management practices, employee involvement, and

organizational culture all need to change in order to meet the quality challenge (Page 13).

The literature suggests that in the health care industry, a sustainable competitive advantage for service organizations should be attained through the provision of *best-in-the-world* service quality and customer satisfaction (Cronin and Taylor, 1992; and Taylor, 1994; Eisenberg, 1997). Thus, the provision of service quality and customer satisfaction appears as critical objectives in the strategic planning processes of health care organizations (Woodruff, et al., 1983). Consequently, it is not surprising that the health services literature is replete with discussions on the importance of service quality and how service quality could be defined.

With reference to the literature which was reviewed by the researcher, it was noticeable that the concepts of quality attributes, quality dimensions, quality aspects and quality features were used interchangeably and given the same meaning. The researcher argues that it is acceptable to consider the dimensions, features, and aspects as having the same meaning; they are broad and vague concepts, but the attributes could be treated differently. From the viewpoint of the researcher, 'Quality attributes', while vague, does catch the meaning required better than any other phrase. Identifying quality attributes of health services means not just listing of all aspects that have important role in assuring the quality of the service, it also includes identification of any resources which have direct or indirect impact on the strength or weakness of the service. These may include cultural, political, demographical background, physical structure, scope of activities available, staffing, and materials supply. In addition, the identification of customers' (providers and consumers) opinions regarding existing levels of service quality should be included. Thus, the researcher specifically chose to investigate the quality attributes and not the quality 'aspects' or 'dimensions' of PHC services.

Moreover, it is important to state that throughout the thesis the reader will notice the terms consumer and provider. "Consumers" refers to patients, clients, and users, care-seekers. While "providers" refers to professionals, workers, employees, physicians, and doctors.

1.5 Study questions:

The aim of this study is to enhance comprehension of quality in PHC by answering the following questions:

1. What are the physical conditions of the Saudi PHC centres?
2. What do PHC consumers and providers perceive to be the important attributes in defining and measuring the quality of PHC services?
3. Do discrepancies exist between the PHC providers and consumers in the perceived importance of determinants of PHC quality?
4. What are the quality opinions of the PHC services as judged by the PHC consumers and providers?
5. What criteria PHC consumers and providers used to judge the poor quality of the PHC services?
6. Do some selected sociodemographic categories significantly influence the general level of satisfaction with the quality of the PHC services?

1.6 Specific Study Objectives:

1. To generally assess the structure of the selected PHC centres at Jeddah city.
2. To measure the level of importance of selected 17 PHC quality attributes in defining and measuring the quality of PHC services as perceived by PHC consumers and providers.
3. To reveal various discrepancies and similarities among the PHC providers and consumers in the perceived importance of determinants of PHC quality attributes.
4. To measure the level of quality opinions toward the 16 selected PHC services as judged by PHC consumers and providers.
5. To state the criteria used to judge the poor quality of PHC services as perceived by PHC consumers and providers.
6. To correlate the overall satisfactory level of the PHC quality services with the selected sociodemographic categories.
7. To provide some practical recommendations, which could be used as a guideline for improvement strategies.

CHAPTER II

LITERAURE REVIEW

2. LITERATURE REVIEW

Quality of health care services is a very large topic; thousands of authors from all over the world discuss it. This chapter provides a detailed review of several bodies of literature discussing this issue. Since the study is aimed at identifying the quality attributes of the PHC services at Saudi Arabia, the sequence of discussion is built up systematically from general to issues that are more specific. It starts with introductory information about the concept of quality in health care, its importance, definition, and measurement, then passing through the issue of quality in the global PHC service, and ending with more specific discussion of the quality in the Saudi PHC service.

2.1 IMPORTANCE OF QUALITY IN HEALTHCARE ORGANIZATIONS

Today's health care organizations are focusing on quality and continuous improvement to an unprecedented degree. Achieving and sustaining a reputation for quality and continuous improvement are both ethical and business necessities in our present health care environment. **Leebov and Ersoz (1991)** argue that this focus on quality is needed in today's health care organizations for these reasons:

- Turbulence and change threaten quality at the very time that consumers, purchasers of health care and health care professionals are demanding higher levels of quality and service than ever before. The organization that does not focus attention on quality improvement inevitably allows quality to slip, resulting in the dissatisfaction of customers, employees and physicians alike.
- Quality is the right and ethical thing. Health care is the business of caring. Anything less than a demonstrated commitment to high-quality performance by our organizations and ourselves is a disservice to all of our customers-particularly for the patients who place themselves in our hand.
- Quality helps patients achieve optimal health outcomes in an atmosphere of excellent service. When organisations excel in meeting and exceeding consumers' expectations, they spread the good word. Consumers value quality and look for the provider who will not only satisfy, but exceed their requirements.
- A commitment to quality reduces expenditures. Research on the cost of quality repeatedly shows that 20 to 30% of a typical organization's expenses are the result

of redundancy of effort, rework, error, inefficiency, recurrent problems, untrained personnel and cumbersome systems.

- The organization that eliminates quality problems spares its consumers and staff frustration.
- Attention to quality helps health care professionals to feel invested in their work and proud to be associated with their organization. Health care professionals want to be associated with an organization that stands for excellence in all it pursues, one that does not take quality for granted by falling back complacently on “the way we’ve always done things here”. An organization that can honestly boast about quality and maintain its commitment to continuous improvement will attract and retain talented staff.

Similarly, **Bittle (1995)** highlighted the necessity of quality in the health care environment. He summarized the major forces on health care organizations as follows:

- Intense scrutiny by the community, purchasers, payers, regulators, and the public.
- Budget cuts, benefit redesign, and increasing numbers of people who are not insured.
- Increasing sophistication in technology, equipment, and application.
- The thrust toward organizational transformation and new tools and methods.

One reason, perhaps the most important reason, for initiating quality in healthcare is to deter escalating health care costs. Many consider that better quality can control costs, and the relationship between expenditures or cost and quality has been studied extensively (**Crosby, 1979; AL-Assaf and Schmel, 1993; Binns, 1991; Suever, et al., 1992**). They concluded that this relationship is nonlinear and varies with different scenarios. Cost may have an indirect impact on quality if we look at the relationship from the standpoint of efficiency. High cost without regard to efficiency and appropriateness can produce a low-quality process and can eventually result in a poor product or outcome. This could be the case in fee-for-service medicine where, for example, a patient does not meet any clinical criteria for having a cholecystectomy, but the surgeon recommends it and the patient undergoes the procedure. The surgery is

inappropriate. All goes well during the surgery, and the patient is discharged in a timely fashion without complications or errors. Being in a position to evaluate outcomes better than appropriateness, the patient believes that the right things were done right. It is up to health care providers to apply their professional standards to ensure that the right things are being done for patient and being done right.

Efficiency, appropriateness and effectiveness are important dimensions of any quality process, and they must be measurable in a process if it is to qualify as a quality process. A direct relationship between cost and quality can exist especially if efficiency is not the objective. For example, when the cost of a product is increased, the quality of that product may be enhanced to meet the needs and expectations of certain consumers. But if we look at ideal quality processes, we tend to see a negative relationship with cost. The more efficient and effective processes are, the less the associated costs. In this scenario, there is less waste, less rework, and less duplication. Therefore, quality can be based on the principle of cost saving and, if applied correctly, should save money, not cost more. According to **Shetty (1987)** quality can advance profitability by reducing costs and improving the firm's competitive position.

However, we cannot deny the fact that there are costs associated with implementing quality measures (**Mclaughlin and Kaluzny, 1999; Leebov and Ersoz, 1991**). The costs of quality have typically fallen into four categories. Two are somewhat easy to determine: the cost of prevention (training, team activities, communication, etc.) and the cost of appraisal (testing and inspection). The other two are difficult to determine: the cost of internal failure (waste, rework, downtime, disruption, etc.) and the cost of external failure (patients go elsewhere, litigation, ill will, etc.). There is also the problem of determining when too much is being done.

Some authors, such as **Ellis and Whittington (1994)** argued that quality improvement can be regarded as successful when the cost of monitoring quality is less than the cost of poor quality. Quality improvement programs should be only introduced in areas where the costs of poor quality are relatively high. It has been suggested that we need to be much more concerned with achievable benefit not presently achieved. Thus it is only worth turning our attention to quality issue where, in present context, there is some prospect of change. **Donabedian (1986)** suggests that in order to improve quality,

the most critical need is to change actual practice. Yet the lack of change following a CQI project is a common complaint in medical quality improvement (**Taylor, 1994**). Various barriers from within or out with an organization can make the actual implementation of change a difficult task. This places great emphasis on the importance of having commitment from top management to CQI. The prospect of change is available in Saudi health care system, where, as mentioned before the most incentives for improvement are the desire of Saudi authorities for making positive change in the health care system and the persistence demand of the Saudi people for that change.

Regardless of the actual and potential quality cost, managers of many service firms have concluded that quality is one of the major contributors to their success (**Mefford, 1993**). Service quality has been shown to directly influence patient satisfaction, which improves patient retention, productivity, financial performance, and reduces staff turnover and malpractice suits (**O'Conner and Schewchuk, 1995**). In addition, **Leebov and Ersoz, 1991** emphasized that applying quality measures leads to satisfaction of all customers (internal and external customers), retention of talented staff, and financial viability. Moreover, the organization that is focused on quality, that has developed documentable and effective strategies for ensuring continuous quality improvement will more easily meet the standards of outside review organizations such as the International Organization for Standardization (ISO), National Committee for Quality Assurance (NCQA), and the Joint Commission on Accreditation of Healthcare Organization (JCAHO).

The following lines will provide a short history of JCAHO development, because it has made a significant contribution to the efforts made within the Saudi health care system. Saudi health authorities have tried to adhere to the health policies and standards that equate to JCAHO policies and standards. JCAHO is a non-federal US regulatory agency that continues to define standards of performance for health care organizations. Organized the early 1950s, its purpose was to certify the safety and quality hospital performance. In 1975, the JCAHO began to examine the systems that hospitals used to measure effectiveness and aligned itself with the Social Security Amendment (SSA), which addressed payment for unnecessary services. In the early 1980s, the Quality Assurance (QA) standard evolved particularly in concert with the medical malpractice crisis. Emphasis was placed on the governing body's responsibility for establishing

mechanisms for addressing quality, such as credentialing and privileging of the medical staff, peer review and application of findings to measure practitioner performance. In 1987, the *Agenda for Change* was established as a JCAHO attempt to refocus quality process from determining the capability of an organization to provide quality of care to broadening the scope of an organization's current activities to encompass refinement of the system, management philosophy, and ultimately to adapt a means for measuring performance. This focus from individual focus to organizational focus and the transition to performance measurement would become the basis for accreditation in the future. The JCAHO views 1997 as the transition point for establishing data elements to become a value-added adjunct to the accreditation process (JCAHO, 1993). Although JCAHO is an American accreditation body, its contributions are recognized worldwide. It has continually cooperated with health authorities in developing countries, in order to provide them with needed consultations in assessment, planning, intervention, and to provide feedback evaluations. Several Arabic countries (Jordan, Egypt, etc.) have achieved some successful quality projects as the result of this cooperation.

The Saudi MOH has been working with the JCAHO on several projects to introduce quality improvement measures in both hospitals and PHC centres. For example, 1990 Saudi MOH in cooperation with JCAHO implemented a project to introduce quality improvement methodologies in the inpatient sectors. This project has selected a number of hospitals as pilot sites for introducing the Joint Commission's hospital accreditation standards. Furthermore, in 1998 the Saudi MOH in collaboration with Joint Commission International, a partner of Quality Health Resources (a JCAHO subsidiary), developed a nine-month graduate diploma course in healthcare quality management. The objective of this course is to train a cadre of Saudi healthcare professionals in healthcare quality management so they can assume appropriate roles in local health care organization (Al-Assaf, 1999). ¹Some Saudi health care organizations have been successfully accredited by the JCACH; those are King Fisal specialist hospitals and research centres at Jeddah in 2002 and Riyadh in 2000, King Khalid Eye specialist hospital at Riyadh in 2001, Saad specialist hospital in Al-Khobar in 2002 and Saudi Aramco medical services organization at Dhahran in 2002. Those hospital are now world famous for referrals, teaching and research.

¹ Source: Available at <http://www.jcrinc.com/international.asp>

2.2 DEFINITION OF QUALITY IN HEALTH CARE SYSTEM

Defining and conceptualising the quality of health care service has been a major challenge for health care managers because it is a desired entity, everyone demands quality care. Many definitions of quality are apparent in this review of the relevant literature. These various definitions of quality, and the differing ways in which quality is conceptualized, is discussed in this section.

Sherdon (1988) defines the quality from the perspective of "type of quality"; he identified two components of quality:

1. Product quality
2. Services quality.

He explains that product quality refers to whether a product or service functions as promised - whether, for example, a refrigerator keeps food cold or a lawnmower cuts grass, or an insurer pays claims according to the policy. Product quality is the most tangible aspect of quality, and for some companies the only aspect considered. Service quality, in contrast, encompasses all the elements involved in delivering a product or service, from the initial contact through the actual sale to the subsequent servicing. Service quality can be thought of as forming the context in which the product or service exists. Despite its intangibility, it is emerging as a new frontier of competition (**Sherdon, 1988**). Although, both type of quality are included in the health care industry, service quality is generating more attention from the health care quality improvement personnel and health care marketers. Because service quality exists in personal relationships, management and human resources are the key to service excellence.

Sherdon (1988) emphasised that service quality is best understood as a relationship. Further, it is not merely the relationship between a customer and a company. Rather, it is the personal relationship between a customer and the particular employee that the customer happens to be dealing with. An organization's overall services quality is thus determined day by day, moment by moment, in thousands of individual, temporary relationships. It is not enough to have a broad corporate policy prompting excellent service. An ethic of high service quality must be instilled in every employee. While the actual level of service quality is forged in the consumer-provider

relationship, management plays a key role in ensuring that a consumer's experience is in line with expectations. He also suggested that management controls the lines of communication to both consumers and providers. If the message it provides to consumers is inconsistent with the message it provides to providers, expectations and experience will diverge. What distinguishes many service quality leaders is that they anticipate consumer expectations and then develop services that will exceed them (Sherdon, 1988).

Similarly, Gabbott and Hogg (1994) argued that, consumers' satisfaction with the services they receive is based on 'care aspects', the process of delivering the service. Their care expectations are particularly important in building the relationship of trust between consumers and providers, the care elements of the service are used as metaphors in order to assess their overall satisfaction with the practice. Within the context of referring quality to relationship, John (1992) suggests that service quality perceptions in health care can be improved through improving communication between patients and providers. Garvin (1983), in a similar vein, suggests that the key to providing good services is to understand that services are not the actions and behaviour themselves but the way in which consumers perceive and interpret these actions. Mottur-Pilson (1995) concluded that health care is mainly a process of care rather than a collection of clinical skills.

Defining service quality as relationships or "care aspect" is quite applicable to the health care system. It mainly reflects the health care consumers' perception of quality they receive. Many researchers such as Spiegel (1980); Gabbott and Hogg (1994) and Jackson, et al (1994) argued that most patients are unable to assess their doctor's ability to cure; therefore, they take this ability for granted. They tend instead to judge the quality of health care services from the aspect of the manner in which the services were received. This view of quality does not quite reflect the view that can be expected from health care providers. Apparently, health care providers are not that much concerned with care aspect of quality; their main concern is the cure aspect. Health care organizations are paradoxical, large and complex, yet at their core they involve a fundamental relationship between providers and consumers. Accordingly, to offer a comprehensive definition for the quality of health care, it is important to capture the viewpoints of both health care consumers and providers.

From similar view viewpoint "type of quality", **Gronroos (1984)** suggested that there are two forms of quality which relevant to health service-providing organizations:

1. Technical quality
2. Functional quality

He explains that technical quality in health care environment is defined primarily on the basis of the technical accuracy of the diagnoses and procedures. Various techniques for measuring technical quality have been proposed and are currently in use in health care organizations (**JCAHCO, 1987**). Because this information is not generally available to the consuming public, knowledge of the technical quality of health care services remains within the purview of health care professionals and administrators (**Bopp, 1990**). Whereas, functional quality refers to the manner in which the health care service is delivered to the patient (**Gronroos, 1984**). According to **Babakus and Mangold (1992)**, technical quality in a health care setting is defined primarily based on the technical accuracy of the diagnosis and procedures. They say functional quality refers to the manner in which the health service is delivered to the patient. **Bopp (1990)** and **Babakus and Mangold (1992)** persuasively argue that technical quality is a function of functional quality, and therefore, health care marketers should ultimately concentrate on assessing patients' perceptions of functional quality.

Since patients are often unable to accurately assess the technical quality of a health care service, functional quality is usually the primary determinant of patient's quality perceptions (**Donabedian, 1982; Kovner and Smits, 1978**). There is growing evidence to suggest that this perceived quality is the single most important variable influencing consumers' value perceptions. These value perceptions, in turn, affect consumers' intentions to purchase products or services (**Zeithaml, 1988**). **Bowere et al (1994)** concluded their article by making the suggestion, consistent with others above, that patients do not evaluate the technical aspects of quality, but rather the human aspects.

However, given that quality is such an important issue in the survival and prosperity of health care organizations, it seems that every customer of a health care organization (internals and external customers) has a view of what, when, where, and how the health care activities please and delight them. From this perspective, some

researchers such as **Bittle (1995)** have attempted to define quality on the basis that it is subjective opinion.

Bittle (1995) defines quality according to its multidimensionality, and addressed the view of "who defines quality". He pointed out the word *quality* relates to a subjective opinion where the participant gives meaning to the word. In health care, the definition varies and is based on the individual or group providing the definition. Each participant, provider, purchaser, and/or payer defines quality in operational terms based on their respective interests, priorities, objectives, and interpretation. The organization that defines this multidimensional concept of quality also determines the tools for measurement. For example, quality to a patient in the health care system is access and timeliness of services; to physicians, it is achieving desirable outcomes and clinical effectiveness; to hospitals; it is financial viability and satisfied customers; to payers, it is the recognition that good quality equates to lower cost and customer satisfaction. Furthermore, any definition of quality is highly dependent on the leadership of the organization or government bureaucracy creating an environment that sends powerful messages throughout the organization. This message communicates a set of core values and commitment that influence the work force to continuously improve the organization's performance (**Bittle, 1995**).

With a similar perspective, **AL-Mazrou and Farag (1994)** have provided some suggested health care quality opinions of different customers. They say that for the health service owner, quality means best services, with least possible cost, and achieving best outcome. The health care provider as perceives quality: technical skills, availability of resources and structure, freedom in health care provision, and achieving the target outcome. Whereas quality from the community viewpoint means a service that is available all the time, easily accessible, providing a feeling of comfort, the politeness of health providers, and disappearance of symptoms.

The use of the broadly inclusive term "customer" helps us to focus quality activities on the multiple constituents that are important to a health care organization. Many different groups of customers can be identified such as external customers: patients, their families and friend, payers, and community and internal customers: co-workers and other departments. Each of these customer groups has different opinions

of quality. **Leebov and Ersoz (1991)** argued that customer concept is the key to determining the definition of quality.

Leebov and Ersoz (1991) provide another perspective "how the quality in health care could be defined".

They define quality in health care as:

"Doing the right things right and making continuous improvements" (**Leebov and Ersoz (1991) Page 4**)

	Performance	
	Wrong things done right	Right things done right
Processes	Wrong things done wrong	Right things done wrong

Processes that meet customer expectations in a streamlined, cost-effective manner are the right things.

Performance by people and departments that conform to processes are things done right. Fortunately, processes and performance interact. When you clarify and improve processes, performance improves as a result.

Both process and performance are important when it comes to quality. Processes, policies, and job must be designed to reflect the most effective methods for getting the job done, to eliminate inefficiencies, and to ensure that quality is built into work processes. That means focusing attention on out-of-date systems and processes, replacing old-fashioned methods and obsolete practices with smooth, streamlined, consistently effective methods for getting the appropriate result. Additionally, our people and departments must have the competence to reliably follow our processes and procedures so that the way things are actually done is consistent with those well conceived designed (**Leebov and Ersoz, 1991**).

In doing the right things right and making continuous improvements, **Leebov and Ersoz (1991)** suggest that one should achieve optimal clinical outcomes for patients, satisfaction for all customers, retention of talented staff, and financial viability. Leebov and Ersoz's approach to defining quality provides a very broad context. However, "doing the right thing at the right time in the right way, for the right person to get the right results" would reasonably be the ultimate goal of any medical and health care practice. Specific measures and determined standards are needed to achieve this goal.

Woodside (1991) provides another different approach to defining quality in "levels of quality"; he suggests micro and macro definitions of quality. He appears to define micro quality in terms of actual service firm performance from a short-term perspective, while macro quality appears to be defined more in terms of a long-term attitude. Based on these definitions, **Woodside (1991)** proposed three major levels of quality in health care:

1. Conformance quality – doing things right in the first place, meeting the requirements stated in the specifications, zero defects.
2. Design quality – simplicity of style, assembly, and operation.
3. Fitness-of-use – the product service matching or surpassing the expectations and benefits sought by the customer.

Dumas (1987) took a similar view to "level of quality", which identified three levels of quality, which are cumulative, with the difficulty in achieving quality increasing with each one:

1. Conformance quality – conforming to specifications; having a product or service that meets predetermined standards.
2. Requirements quality – meeting total customer requirements; having perceived attributes of a service or product that meet or exceed customer requirements.
3. Quality of kind – quality so extraordinarily that delights the customer; having perceived attributes of a product or service that significantly exceed customer expectations, thereby delighting the customer with its value.

Juran (1988) argued that management must focus on two levels of quality within the organization. The first level is the mission (always fitness for use), which is determined by design requirements and by degree of conformance to the specifications of that design's availability, reliability, reliability, and maintainability. The second level is the mission of the individual departments and units within the organization to do their work according to the specifications that have been designed to achieve fitness for use. Thus, referring to quality with a concept of a "level" is one way to assist managers in adopting the concept of quality and applying it within their organizational context. However, the idea might also create potential excuses for managers to use if they wanted to justify any delays in quality improvement and the necessary activities.

Gronroos (1984) points out that the problem of providing a comprehensive definition is related to the notion that quality has traditionally been used as an adjective to imply a high degree of excellence or as an associated distinguishing attribute. Gronroos also deplores the use of the term quality as if it were a variable itself, rather than a function of a range of resources and activities. **Parasurman, et al (1985)** reiterates the problem faced by many academic writers and researchers when arguing that quality is an elusive and indistinct construct.

Woodside (1991) has suggested that no single definition of service quality fits all circumstances or situations, and he also calls for multidimensional operationalization of service quality. Some proponents in health care research suggest that any definition of quality must include recognition of what is feasible given the constraints of the current system, whether these constraints are caused by financial restrictions, limitations of medical knowledge, or technological imprecision (**Donabedian, 1980**). Inherent in this view is that rendering high-quality care necessarily includes recognizing one's limitations, such as when a rural hospital's physician opts to transfer a multi-trauma patient to a facility having better or more modern equipment or more specialized personnel on staff. Conversely, others imply that a standard of quality should be defined without reference to cost, just as "true need" is recognized as being distinct from demand (**Davies and Ware, 1988; Laffel and Blumenthal, 1989**). Quality of health care also depends on the limits we set. It requires that everyone concerned – patients, providers and third-party payers – define what it is we want to achieve and how much we want to spend (**Marwick and Gan, 1994**).

Regardless the evident difficulties of providing one comprehensive definition of quality of health care, some authors and some quality organizations have managed to summarize the broad concept of quality in a few inclusive words, such as:

"Quality of health care is the degree to which the process of care increases the probability of outcomes desired by patients and decreases the probability of undesired outcomes, given the stage of medical knowledge." **US Congress, Office of Technology Assessment (OTA) (1988).**

"Quality of health care is the degree to which health services for individuals and populations increase the likelihood of desired outcomes and are consistent with current professional knowledge". **Institute of Medicine (IOM) (1990).**

"Quality of health care is the degree to which the health personnel doing the right things right and making continuous improvement' (**Leebov and Ersoz, 1991).**

Quality = (Technical care) + (Art of care) + (Technical care x Art of care) + E

- Technical care refers to adequacy of diagnostic and therapeutic process;
- Art of care refers to the milieu, manner, and behaviour of the provider in delivering the care, and in communication to the patient; the interaction term emphasizes that the two terms are not additive;
- And the error term E represents random error (**Brook and Williams, 1975)**

"Quality of health care depends on the limits we set, it requires that everyone concerned – Patients, providers, regulators and third-party payers – define what it is they want to achieve and how much they want to spend." (**Marwick and Gan, 1994)**

In conclusion, as previously stated, one question facing the health care organization is what quality is and how it is measured. While the definition may not be clear, each organization must agree on a definition suitable to its purpose in order to proceed. However, the definition varies depending on the constituency. For example, quality as defined for hospital trustees is the continuing surety that the medical care rendered in their institution meets acceptable standards and that patient safety and interest take highest priority at all times. Without a unifying concept of quality, efforts toward improving it will remain as fragmented, isolated initiatives.

Ross (1995) stated that:

"Quality appears to be a concept for which everyone claims to have an intuitive understanding while at the same time it difficult to define" (**page317).**

2.3 IDENTIFICATION AND MEASUREMENT OF HEALTH CARE QUALITY ATTRIBUTES:

Having reviewed the theoretical background of the concept of quality in health care, including differing definitions and current importance, it is now possible to move on to review its identified attributes. As mentioned earlier on in the introduction chapter, many quality aspects, quality dimensions, quality features, and quality attributes were identified, but they consume a long list of repetitive items, there is no clear specification about what items belong to each of these four headings. For the purposes of this research, it was felt helpful to group them into four categories: structure, technical process, interpersonal process, and outcome. This is consistent with Donabedian's conceptual thinking of health care quality, which will be discussed in more detail further below.

In order to provide a clear picture of what has been achieved in relation to the identification and management of health care quality attributes, this section of the literature review discusses the four main groups (from previous research contributions) organized according as follows:

- 2.3.1 First, research literature that discussed quality attributes from a general viewpoint: those that do not specify from which perspective they were generated.
- 2.3.2 Second, research literature that discussed the quality attributes from viewpoint of patients (consumers).
- 2.3.3 Third, research literature that discussed the quality attributes from the viewpoint of professionals (providers).
- 2.3.4 Fourth, research literature that discussed the quality attributes from the viewpoint of both patients and professional (health care customers).

Although these groups of literatures will be discussed objectively, the researcher tried to assess them and identify significant differences in their approaches. Their findings, conclusions, and suggestions are discussed in relation to the Saudi health care system. In addition, the researcher paid more attention to the quality perspectives, which were relevant to the methodology, and the perspectives adopted in this study, such as Donabedian's concept and the SERVQUAL approach.

2.3.1 Literature which discussed quality attributes from a general view:

Few literatures were found, which determine the aspects of quality from a general viewpoint (i.e., they did not specify whether these aspects are generated from the opinions of health care authorities, administrators, providers, consumers, or from the researchers own opinions).

Garvin (1987) suggested that quality is a multifaceted and complex concept. He specifies eight dimensions of quality: (1) Performance (2) Features (attributes) (3) Durability (4) Reliability (5) Conformance (6) Serviceability (courtesy and competence) (7) Aesthetics, and (8) Perceptions. He indicated that these dimensions serve as a framework for understanding, evaluating, and managing quality. Garvin argues that by taking care of these identified dimensions of quality, quality can be managed to create pleasure and satisfaction for customers rather than simply to reduce customer annoyance. While **Garvin (1987)** first articulated the concept of dimensions of quality in general industry, JCAHO has brought this concept into health care in stating that quality of health care involves: (1) Appropriateness (2) Availability (3) Continuity (5) Effectiveness (6) Efficacy (7) Efficiency (8) Respect (9) Caring (10) Safety (11) Timeliness (**JACHO , 1993**).

With the same level of generality, the **WHO Working Group on Quality (1989)** proposed four components for the quality of a health care:

1. Performance that reflects technical quality.
2. Resource use that reflects economic efficiency.
3. Risk management that is associated with the provider care.
4. Consumer satisfaction

Hays (1987) also, identified seven general determinants of quality which included: (1) patient relations or employees' caring attitudes; (2) the availability of specialists; (3) physicians' overall knowledge and competence; (4) advanced technological services and a wide range of services; (5) competent administration (6) cost efficiency, and (7) efficient billing and paperwork. **Delbanco (1992)** tried to not just identify the general quality dimensions, but to identify the features of care most important in terms of both process and clinical outcomes. He identified seven important

dimensions of care: (1) respect for patients' values, preferences, and expresses needs; (2) communication and education; (3) coordination and integration of care; (4) physical comfort; (5) emotional support and alleviation of fears and anxieties; (6) involvement of family and friends; and (7) continuity and transition.

Wensing, et al (1994) pointed out that the National Council for Public Health and the Health Research Council in Netherlands, 1990, developed a list of 25 aspects of quality care:

Professional Performance

1. Effectiveness: actual improvement of the state of health
2. Professional competence: availability of the necessary knowledge and skills
3. Indication: insight into one's own competence and possibilities in relation to that of other professionals
4. Suitability: physical and mental suitability to practice the profession
5. Safety: risk minimization
6. Accuracy: accuracy in the use of knowledge and skills
7. Hygiene: minimization of the risk of infections
8. Nutrition: quality and taste of diets
9. Prevention of superfluous care
10. Burden: consequences for the patient/consumer with regard to his or total functioning

Attitude of the professional

11. Humanness: respect for the patient and his or her own responsibility
12. Informativeness: willingness to provide the patient with information
13. Mutual trust: respect for the personal privacy of a patient
14. Co-operation: co-operation between the practitioner and the patient
15. Accountability: ability of the practitioner to account for his actions and behaviour
16. Empathy: ability of the practitioner to assume the role of the patient
17. Autonomy (of the patient): whenever possible, active involvement of the patient in clarifying his/her problem

Organization of care

18. Continuity: adequate transfer of treatment in case of more providers of care, substitution by a locum or retirement
19. Availability: availability of the practitioner to potential patients
20. Efficiency: right balance between input (money, means, time) and output (of care)
21. Integrated care: tuning the care provided by different professionals to one another
22. Material privacy: safeguarding the individual privacy of the patient/consumer by protecting physical data
23. Accessibility: physical and geographical accessibility of care, including the necessary equipment
24. Financial accessibility
25. Accommodation: physical suitability of the organization

As mentioned earlier, all the above identified attributes could be grouped into "structure, process, and outcome". This view, which is discussed next, was popularised by one of the more famous people involved in defining and measuring quality in health care, Avedis Donabedian. In 1969, Avedis Donabedian contributed a chapter to a book on program evaluation which advanced the idea that quality of care should be viewed as structure, process, and outcome (**Donabedian, 1969**). Then throughout the years, he gradually developed his theoretical model for healthcare quality assessment and measurement. **Donabedian (1980, 1982, and 1986)** has observed that definitions of quality ordinarily reflect the values and goals of the current medical care system and of the larger society of which it is part. He divided the aspect of quality into three components, namely structure, process and outcome.

In this context, **Donabedian (1980)** stated that:

This threefold approach is possible because there is a fundamental functional relationship among the three elements ...Structural characteristics of the settings in which care takes place a propensity to influence. Similarly, changes in the process of care, including variations in its quality, will influence the effect of care on health status, broadly defined (**Stiles and Mick (1994) (page 312)**).

Structure: resources available to provide health care. Elements of structure within an organization are those things that go into it and provide the basis where processes can be developed; i.e. the various types of resources used and the rules and regulations of the organization are forms of structure. The role of structure is crucial in establishing a solid foundation on which processes can be developed. Structure accountability relates to ensuring that the necessary facilities, equipment, supplies and people, i.e. the "stuff" necessary to deliver the kinds of care customers and the public want are made and kept available. Provider's structural elements - convenient hours and locations, full or specialized service availability, size, board certification, sponsorship, etc. - have long been the chief emphasis for providers' management and marketing strategies. As a result, this type of accountability is generally no great challenge. The biggest challenge to structural accountability is financial, generating enough revenue and margin to enable the capital and operational investments needed to enable having an excellent structure. As payer stringency increases, billing and collections becomes a major effort - as the public's ability and willingness to pay for the ever-increasing costs of diagnosing and treating disease diminishes - this is increasingly difficult to ensure (**MacStravic, 2005**).

Process: extent to which professionals perform according to accepted standards. This aspect refers to the 'throughput' of the organization, that is, to the various activities carried out by a medical organization in order to achieve a desired outcome. Quality of process is usually judged in terms of results or outcome because, in many situations, there is no obvious best process. In examining process, "one is interested not in the power of medical technology to achieve results, but in whether what is now known to be 'good' medical care has been applied" (**Donabedian, 1969 page 189**). Process measures emphasize the technical management of illness but also include rehabilitation, prevention, continuity of care, and aspects of patient-physician interaction. Nevertheless, process activities such as the effectiveness of policies and procedures, level of participation by members or the state of harmony with social factors such as religion, social values or language can be evaluated and improved. Today, process measures are often evaluated against national standards. Benchmark performance rates for surgical procedures have been established. For instance, the American College of Surgeons and the American Academy of Pediatrics have promulgated criteria for specific diseases (**Larson and Muller, 2003**). Donabedian noted that process measures provide knowledge about whether good medicine has been practiced but, on the

negative side, they also are less conclusive than measures of outcome. In addition, process measures will change as the practice of medicine progresses. And from a practical viewpoint, it means ensuring that the customer "experience" is managed to meet variable and rising expectations. This is a continuous challenge, far more difficult and changeable than structural accountability, though not necessarily as expensive. Challenges to process accountability arise chiefly in the people involved. Can hospitals ensure enough qualified staff is always available, willing and able to deliver the kinds of experiences patients, families and physicians demand? Will staff act in ways that promote or damage quality and service? Are they motivated and enabled to do the best job possible in both clinical and service quality dimensions? As more third party payers adopt pay-for-performance (P4P) schemes in compensating providers, process accountability is a major factor in enabling structure accountability, as well (MacStravic, 2005).

Outcome: Outcome refers to the result or 'output' of an activity or process. It could refer to the change in the patient's condition following treatment. Quality of outcome for a medical association might be evaluated by concentrating on topics such as improving members' knowledge and attitudes, developing standards of practice for physicians and other health care personnel, encouraging health promotion projects or participation in scientific research. Outcome is less easily to quantify (and thus to measure) than either structure or process. Hence, though the ultimate goal should be to focus on whether the objectives of medical associations have been achieved, there tends to be greater emphasis on improving the more measurable aspects of structure (inputs) and process (throughputs). The kind of "outcomes" Donabedian discussed related to objective, measurable, clinical results of care, the kinds that are used in "evidence-based medicine" (EBM) to ensure that providers are "doing the right thing". While providers have accepted the inevitable with respect to structure and process accountability, they have generally resisted outcomes accountability. While they employ outcome measures in judging their own operations, they resist being held accountable by others for their results (MacStravic, 2005). MacStravic (2005) argues that providers understandably resist being held accountable for outcomes, simply because they cannot truly control them.

In addition, **Donabedian (1985)** highlighted three closely interrelated quality components:

1. The quality of technical care. This means the ability of a health service to produce the best improvement in the health status according to the available science, technology and skills at a particular point in time.
2. The quality of inter-personal relationships between the patient and the health care team.
3. The quality of the amenities of care, e.g.: cleanliness of the clinic; comfort; warmth and welcoming physical environment.

Moreover, **Donabedian (1992)** identified the key properties of health care that constitute quality. These are called Donabedian's *Pillars of quality*:

- *Effectiveness*: the ability to attain the greatest improvements in health now achievable by the best care.
- *Efficiency*: the ability to lower the cost of care without diminishing attainable improvements in health.
- *Optimality*: the balancing of costs against the effects of care on health (or on the benefits of health care, meaning the monetary value of improvements in health) so as to attain the most advantageous balance.
- *Acceptability*: conformity to the wishes, desires, and expectations of patients and responsible members of their families.
- *Legitimacy*: conformity to social preferences as expressed in ethical principles, values, norms, mores, laws, and regulations.
- *Equity*: conformity to a principle that determines what is just or fair in the distribution of health care and of its benefits among the members of a population.

Furthermore, Donabedian has broadened the definition of quality to include not just technical management, but also management of interpersonal relationships, access, and continuity of care. **McLaughlin and Kaluzny (1999)** argue that one can assess and measure quality by using Donabedian's concepts and models, presented in the matrix in **Table 2.1**, as a framework.

Table 2.1, Donabedian's Matrix for Classification of Quality Measures

	Structure	Process	Outcome
Accessibility			
Technical Management			
Management of interpersonal relationships			
Continuity			

Within each cell of the matrix, one can define aspects of quality for which measures and standards can be developed. For example, in the "Structure/Accessibility" cell, one might measure the scope and nature of services provided, provisions for emergency care, or geographic factors, such as the distance to the nearest centre fully equipped to deal with a given problem. Within "Process/Technical Management," one might measure the adequacy of diagnostic workup and treatment for a particular condition, using a checklist or "branched" criteria.

The value of this matrix is that it helps us to define quality broadly and to identify the several of components that we might wish to measure throughout the health care system. However, there are advantages and disadvantages to using each of these approaches. It is relatively simple to monitor structure by using a checklist. The JCAHO took this approach in its early days because there was some agreement that certain structural elements were needed as minimal standards to ensure an environment in which good care was possible. It is obvious, however, that adequate inputs alone do not ensure good outcomes. Process measures take into account professional performance and would seem to be more closely correlated with better outcomes. It should also be obvious, however, that outcomes are not determined solely by professional performance. Other factors such as the patient's compliance, age, and chance also enter into the equation. Nevertheless, it is often easier to measure provider performance than it is to measure patient outcomes. It should be noted, however, that it is much more difficult to gather specific outcome data on patients than it is to measure structure or process.

Donabedian's three components of medical care imply certain relationships among the three conceptual domains. Simply stated, appropriate structure and process will lead to favourable medical care outcomes. Although some studies' findings confirm

Donabedian's triadic model (**Kwangsoo and Wan, 2002**) where direct relationships were found between structure (structural clinical integration) and process (average total charge), and between patient outcomes (surgical outcomes), several researchers are arguing this direct relation. The medical literature is limited regarding what processes affect outcomes (**MacStravic, 2005; Larson and Muller, 2003; Chin, and Muramatsu, 2003; and Haynes 1993**). Outcomes have logic as quality measures because they represent the actual living state of the patient, but they are also affected by factors beyond the quality of care, including case-mix and chance (**Chin, and Muramatsu, 2003**). Although structure and process are precursors to medical care outcomes, they are not sufficient conditions for optimal medical care outcomes. **Larson and Muller (2003)** pointed out that good results are dependent upon a number of other factors that are not under the medical practitioner's direct control. For instance, the patient's compliance with a prescription regimen for lowering blood pressure may be more dependent on the price of a prescribed medication in the absence of prescription drug coverage than the doctor's treatment plan. In addition, competent, up-to-date, and consistent performance of medical procedures, i.e., abdominal surgery, will not produce equal results in different patients. The patient's overall health status, age, comorbidities, outlook on life and familial support can create a substantial variation in the outcome of medical care. Some of these risk factors will need to be adjusted when performance measures are devised and interpreted (**MacStravic, 2005**). Whether or not a deity is involved, it is clear that most health care outcomes are affected by how patients along with family members behave with respect to compliance with medical regimens, taking prescribed drugs, etc., and therefore providers cannot control the results achieved.

Regardless of these critical issues, Donabedian's concept is widely adopted. His model influenced the Quality Assessment/Quality Assurance movement of the 1970s, the Total Quality Management (TQM) movement of the late 1980s, and more recent performance measurement initiatives such as Health Plan Employer Data and Information Set (HEDIS), Computerized Needs-oriented Quality Measurement Evaluation System (CONQUEST), and ORYX¹ (**Larson and Muller, 2003**).

¹ ORYX is the name of the Joint Commission initiative that requires health care organizations such as hospitals, long-term care facilities, etc., to participate in performance measurement as part of their accreditation review

Donabedian's concept is also inspired several authors to conceptualize a framework for measuring quality in healthcare. For example, **Stiles and Mick (1994)** developed a conceptual paradigm by which quality attributes of health care could be organized. They proposed a 3-by-3 matrix, where the vertical axis denotes technical procedures, interpersonal encounters, and viability of amenities and the horizontal axis represents structure, process, and patient outcome. The intersections of the columns and rows identify a set of generic definitions of quality. Thus, the matrix can be employed systematically to operationalize an empirically grounded definition of quality for the organization.

Donabedian's concept is used to formulate the Saudi CQI strategies and it provides a theoretical background for some Saudi researchers (such as **Mansour and AL-Osimy, 1996; Al-Shahri and Kinchin-White, 2000**). It was used in structuring the current study instrument which aimed to identify the priorities of "structure, process and outcome" within the context of PHC system. Accrediting agencies such as the JCAHO initially focused on the structural elements that hospitals and other organizations needed to have to be able to supply high quality care. These elements have fallen out of favour as dominant elements, and process and outcome factors have risen in importance (**Chin and Muramatsu, 2003**). The importance of contextual elements - particularly in organizations such as hospitals and health systems - has been underestimated (**Donabedian, 1980**). There is increasing awareness that most health care is delivered in organizations, and that organizational interventions may help improve care (**Shortell et al., 2000**). Thus, the design of the current study was pay more attention to assessing and identifying the general structural element of the PHC centres, in order to exploring the organizational context within which the process and outcome elements are undertaken.

In summery, the literature that discussed the aspects of quality from a general viewpoint provides a broad conceptual framework. One might wonder if an assessment of quality is at all possible, seeing the multiplicity of attributes relevant to the concept of quality, and the possibility that goodness in one might conflict with goodness in another. The first step in moving from broad conceptual formulations to specific measurement would be to specify the smaller subset of components that is to be the focus of attention. Consumers and providers must be considering. What they value must dominate the aims and objectives, the achievement of which has to be measured.

2.3.2 Literature which discussed the quality attributes from viewpoint of patients (consumers).

A considerable literature has addressed the issue of identifying and measuring health care quality attributes from the viewpoint of patients (consumers). However, two research streams on determining how patients evaluate quality attributes have emerged. The first tradition, pioneered by **Ware, et. al (1976)**, focused on the discovery of the attributes that determine patient satisfaction. The patient satisfaction research stream has served as the foundation for a large set of studies reviewed by **Nelson, et al (1990)**. The main conclusion was that, in practice, some of the attributes that research suggests determine satisfaction have received insufficient attention and health care managers need to know what attributes patients use in evaluating health care providers. The second stream of research is more recent and it has attempted to identify attributes employed by service users in the evaluation of services in terms of service quality (**Parasuraman, et al. 1985, 1986, 1988**). A major objective of Parasuraman and his colleagues' produced what is known as SERVQUAL (Services Quality), the instrument that was developed to measure services quality dimensions that were posited to be antecedents of satisfaction.

There is a problem of who conceptualised the relationship between satisfaction with care and the perception of quality. As was pointed out earlier in introduction chapter, patients' evaluation of quality of care is not necessarily expressed in terms of satisfaction (**Calnan, 1998**), and the measurement of satisfaction does not necessarily reflect the perception that patients have of quality of care (**Cleary, 1998**). In addition, satisfaction includes a highly subjective dimension (**Epstein, et al., 1996**).

Despite the fact that satisfaction and service quality are different constructs, the two are closely related (**Taylor, 1994**). Consumers' satisfaction is believed to mediate the relationship between service quality evaluations and the ultimate behavioural intentions of consumers toward service providers (**John, 1991; and Woodside, et al., 1989**). More specifically, **Woodside, et al (1989)** found empirical support for the causal ordering of the relevant constructs in the selection of health services providers as: service quality → patient satisfaction → purchase decision. Therefore, patients' service quality perceptions are believed to positively influence patient satisfaction, which in

turn positively or negatively influences the patient's decision to choose a specific health care service.

There is confusion in the literature regarding the relationship between consumer satisfaction and service quality. **Parasurman, et al (1985)** suggested that in measuring perceived service quality the level of comparison is what a consumer *should* expect, whereas in measures of satisfaction the appropriate comparison is what a consumer *would* expect. However, such a differentiation appears to be inconsistent with **Woodruff, et al.'s (1983)** suggestion that expectations should be based on experience norms-what consumers *should* expect from a given service provider given their experience with that specific type of service organization. Thus, this distinction is important to measure and research because service providers need to know whether their objective should be to have consumers who are satisfied with their performance or to deliver the maximum level of perceived service quality. The importance of this issue has led to several efforts to clarify the relationship between satisfaction and service quality such as **Bitner (1990) and Bolton and Drew (1991)**.

The close relationship between satisfaction and service quality is evident in several studies, which demonstrate a positive relationship between service quality and patient satisfaction (**Sorensen, et al., 1979; Houston and Pasanen, 1972**). More specifically, service quality perceptions are considered long-term consumer attitudes and patient satisfaction refers to short-term, service encounter-specific consumer judgments (**Peyrot, et al., 1993**)

Nelson, et al (1990) pointed that patient satisfaction surveys should be viewed as tools for verifying information discovered from clinical quality indicators, as a source for uncovering potential problem areas, and as a means for moving toward total health services quality. Total health service quality requires an understanding of the needs and expectations of the patient: it implies that the resources and skills of the health care provider meet these needs and expectations in a timely, efficient, and scientifically appropriate manner, and hopefully this result in patients who are satisfied with the outcome of their care.

First, Attributes that determine the Health care Consumers' Satisfaction

One of the most common ways of examining patients' views is through patient satisfaction. **Hunt (1977)** concludes that satisfaction is an evaluative reaction resulting from the interaction of the product/situation with the individual's expectations. Another conceptual issue is the assumption of a multiplicative relationship between determinants of satisfaction. Rather than being interactive, cognitions and responses may instead be quasi-independent predictors of satisfaction, each weighted according to individual patient differences.

Within the health care industry, patient satisfaction has emerged as important component and measure of the quality of care over the past decade (**Palmer, 1991**). The satisfaction of the client with past and present care is partly an outcome of the quality of that care. The new emphasis on quality of care and outcome measurement has led to increased appreciations of the significance of patients' perceptions of care they receive. Considering the recent trend that consumers are increasingly more quality conscious, it is imperative that service firms not only satisfy customers but also delight them (**Saunders, et al., 1995**). Patient satisfaction is a focal concern of quality assurance and expected outcome of care (**Aharony and Strasser, 1993**).

Data on customer satisfaction alerts health care providers to patient concerns, needs, and perceptions of treatment. They are also useful for program planning, evaluation, and identification of potential areas of improvement. Finally, they provide a measure of service failure and service failure recovery (**Ford, et al., 1997**). Patient satisfaction can serve as an outcome measure of the quality of health care and provides a consumer perspective that can contribute to a complete, balanced evaluation of the structure, process, and outcome of services. Patient satisfaction is also predictive of such health-related behaviours as compliance and switching providers, and is related to self-reported improvement in health (**Pascoe, 1983**). However, the CQI philosophy suggests that quality is what the consumer perceives it to be. Therefore, there has been an increased emphasis on evaluating patients' satisfaction with services. According to a 1994 survey of 102 US-based managed care organizations, over half the respondents ranked patient satisfaction as important as price for being successful in the marketplace of the future (**Stratton, 1994**).

Pascoe (1983) concluded that although patient satisfaction data can add to the evaluation of PHC, the effect is rarely large. One implication of the typically small effect is that patient satisfaction should be considered as one of several sources of information for program planning and evaluation. Another issue stemming from the limited effect is the necessity for careful conceptualization and measurement of satisfaction in order to detect such effects.

There are considerable difficulties involved with conceptualizing satisfaction and operationalizing this concept. A popular definition of satisfaction is the difference between expectations and the care actually provided. However, this definition is itself problematic in that for some health problems, expectations develop during the process of health care delivery and are revised in the light of experiences. There is also the question about whether satisfaction is fixed but changes in the light of experience.

Greenfield and Attkison (1989) found two broad satisfaction factors: (1) practitioner manner and skill, which included six core items; practitioner manner, knowledge and competence, general satisfaction, ability to listen and understand, thoroughness and confidentiality/respect for rights and; (2) perceived outcome, which included helping relieve symptoms, and maintaining well-being/preventing illness. In the similar context, **Woolly et al (1978)** concluded that patient satisfaction could be determined by four variables: satisfaction with outcome, continuity of care, patient expectations, and doctor-patient communications. Furthermore, **Ware et al (1978)**, proposed eight dimensions to patient satisfaction: (1) art of care (2) technical quality of care (3) accessibility/convenience (4) finances (5) physical environment (6) availability (7) continuity, and (8) efficiency/outcomes of care. As a result of initial research, these were re-ordered into four factors: (1) physician conduct (2) availability of services (3) continuity/convenience, and (4) cost.

Time Factor has received political attention and has been shown to affect patient satisfaction (**Kincey, et al., 1975; Attkinson and Gardener 1991**). The few studies on waiting times and satisfaction in health care settings have mixed results. For example, **Mowen, et al (1993)** found that patients in the emergency department (ER) who waited longer than their expected waiting times had significantly lower satisfaction levels than patients whose waiting time expectations were met or positively exceeded.

Weinberger, et al (1981a) found that the perceived length of time in the examination room with the physician positively affects their views toward both the competence and personal qualities of the physician. **Campbell, et al (2001)** found that longer consultation times are essential for providing high quality clinical care. **Dansky and Miles (1997)** found that the total time spent waiting for the clinician was the most significant predictor of patient satisfaction. Informing patients how long their wait would be and being occupied during the wait were also significant predictors of patient satisfaction. By contrast, two studies conducted in outpatient settings (**Kurata et al., 1994** and **Zapka et al., 1995**) found that a long waiting time was not a significant predictor of patient satisfaction. Furthermore, **Bursch, et al (1993)** found that the total time spent in the ER was not as important as the amount of time it took before the patient received care.

On the other hand, **Weinberger, et al (1981b)** concluded that the perceived length of time in the examination room with the physician positively affects their views toward both the competence and personal qualities of the physician. In addition, longer consultation times are essential for providing high quality clinical care (**Campbell, et al., 2001**)

Hall, et al (1988a) did a meta-analysis of 41 independent studies of provider behaviour showed patient satisfaction was significantly associated with more information given by providers. It was also related to greater technical and interpersonal competence among physicians, improved partnership building, more immediate and positive nonverbal provider behaviour, more social conversation, and more communication overall. Based on these findings, **Hall et al** concluded that satisfaction sensitively reflects both task and socio-emotional provider behaviours. They also concluded that patients are inclined to “reciprocate” the “socio-emotional” and “task behaviours” of physicians, but that physician task competence will have a stronger influence on actual patient decisions and assessments about quality. These conclusions and those of **Willson and Mcnamara (1982)** offer the strongest arguments for taking patient assessments of quality seriously.

Hall and Dornan (1988a) reviewed 221 patient satisfaction studies. They identified 10 elements of patient satisfaction based on the dimensions included in all the work reviewed:

1. Overall satisfaction,
2. satisfaction with access (including convenience, hours, distance, perceived availability, ease of getting appointments),
3. satisfaction with humaneness (warmth, respect, kindness, willingness to listen, appropriate non-verbal behaviours, interpersonal skill),
4. satisfaction with competence (technical)
5. satisfaction with information provided,
6. satisfaction with bureaucratic arrangements (including time spent waiting),
7. satisfaction with physical facilities (aesthetic and functional capacities, etc.),
8. satisfaction with providers attention to psychosocial problems,
9. satisfaction with continuity of care,
10. satisfaction with outcome of care.

The frequency with which each of these areas has been included in studies is given percentage terms below in **Table 2.2** (number of reviews studied=221)

Table 2.2, Quality dimensions identified by the **Hall and Dornan (1988b)**

Dimension	%
1. Humaneness	65
2. Informativeness	50
3. Overall quality	45
4. Competence	43
5. Overall satisfaction	43
6. Bureaucracy	28
7. Access	27
8. Cost	18
9. Facilities	16
10. Outcome	6
11. Continuity	4
12. Attention to psychological problems	3

In spite of these numerous studies of patient satisfaction, doubts have been raised about the validity of patient satisfaction surveys and questions about the underlying assumption, namely that "patient satisfaction" exists in a population, simply awaiting measurement. For example, it is suggested that some consumers might simply remain passive and do not evaluate health care and that others do evaluate health care but not in terms of being "satisfied." The consideration is that the conceptual framework derived from patient satisfaction research provides only partial, and sometimes misleading, insights into the perspectives of the patient. Surveys (as discussed above) tend to produce results that inflate levels of satisfaction. It is difficult to judge whether high levels of satisfaction reflects consumer' high ratings of the quality of their care or whether such results are an artefact of the methods used. There is some evidence to suggest that studies employing qualitative methods such as focus groups or informal interviews are more likely to uncover areas of criticism than are questionnaire surveys.

Despite the direct and indirect benefits of improving patient satisfaction, there has been growing criticism of its measurement. Satisfaction ratings have been criticized for not mirroring objective reality (**Ware, et al., 1983**) and, thus, for not being useful measures of quality. Health services providers and researchers are encouraged to further investigate the temporal nature of patient satisfaction in relation to quality perception. The literature supporting the position that quality perception is a long-term attitude while satisfaction is a short-term consumer judgment has yet to be validated specific to health services setting. **Kleinsorge and Koenig (1991)** consider patient satisfaction relative to nursing homes, conceptually defining patient satisfaction as service quality. Specifically, they stated that:

Hereafter, we use "quality" and "consumers satisfaction" synonymously. We do so in part because consumer satisfaction is a function of the persevered quality of any product or service (**Page 11**).

Due to the backlash against the measurement of patient satisfaction, many organizations now emphasize the measure of "patient perceptions" (**Drain, 2001**). In 1999, JCAHO for instance, replaced the term "satisfaction" with "perception of care and service" in an effort to better measure the performance of organizations on how well they meet the needs, expectations and concerns of individuals (**JCAHO, 1999**).

Second, Attributes that determine the health care quality from the viewpoint of consumers

Already in 1983, consumer theories were more advanced - that is, more differentiated and better tested-than patient satisfaction models (Pascoe 1983). This tradition of theories is associated with theories of quality assurance and control that emerged from the goods sector during the 1980s (Parasuraman et al. 1985). One of them is the service quality approach, which has increasingly been applied to health care services (e.g., Babakus and Mangold 1992). From the perspective of measuring instruments, the main advantage of quality theories over more psychological theories of satisfaction is that theories of quality assurance systems consider the measurement of patient opinions as a phase in the circle of continuous quality improvement (Ovretveit 1992) and not, like more psychological theories do, as a research object in itself (e.g., Strasser et al. 1993). The SERVQUAL instrument developed by Parasuraman et al (1985,1988) is based on this body of knowledge and measures consumer satisfaction with services quality. In the SERVQUAL model, quality of services is defined as follows:

the quality that a consumer perceives in services is a function of the magnitude and direction of the gap between expected services and perceived service (Parasuraman et al. 1985, page 46).

Before the evidence about how patients could judge health care is discussed, it is important to clarify the context in which patients' or users' views are emphasized. There are several reasons, which have been put forward to explain why users' views should be taken into consideration. The first is associated with the evaluations of health care and holds that a comprehensive assessment should not only take into account clinical effectiveness, efficiency, and equity but also include users' views about acceptability and satisfaction with care. While, Donabedian (1992) argued that patients constitute an essential and even exclusive source of information about accessibility or effectiveness of care, there is some debate about whether user acceptability and satisfaction are outcomes in their own right or a part of the process of care that in turn will influence health and medical outcomes.

Some researchers (**Ware and Hayes, 1988; Pascoe, 1983; Rubin, 1990; and Haddad, et al., 1998a**) have argued that a patient's opinion directly influences his or her compliance with treatment and the continuity of the patient–physician relationship, and hence care outcomes. In addition, **Rosenthal and Shannon (1997)** pointed out that measurement of patient perceptions constitutes a positive approach to the evaluation of quality, in contrast to negative approaches that focus on the measurement of inadequate processes or undesired outcomes. It has been acknowledged that compared with other methods of evaluating quality, assessment of patient perceptions offers several practical advantages: it can be measured rapidly following the delivery of care; it is inexpensive; it does not depend on the quality of data found in medical records; and it is more sensitive to differences in the quality of care than indicators such as adjusted mortality rates or complications rates.

With the shift from acute to chronic forms of disease in developed countries in the late 20th century, coupled with changes in the age structure of the population, issues involving the quality of long-term medical and social care come to the fore. With chronic forms of disease and disability, sufferers and their families play a more active part in care. Also, with the reduction in the length of hospital stay for acute conditions, increased emphasis is now being placed on users becoming involved with a partnership with professionals as they are required, along with their careers, to play a more active part in the management of their illness and in treatment planning.

The other reason is associated with professional values and ethics. The emphasis here is placed on the altruistic concern of the doctor for the users' welfare. For example, some doctors and other practitioners emphasise the holistic nature of therapeutic care, which, by definition, requires that the users' views and interests be taken into account. In the context of ethics, some professionals emphasise the need to inform patients about costs as well as the benefits of different medical treatment and leave the decision of whether they want the treatment to them.

In each of these contexts, the importance of taking consumer' views into account tends to reflect “top down” policy, in that the reasons for taking account of consumer' views were prescribed by government, managers and/or health professionals. However, there is another context in which consumer' views have also been identified, and that is where the initiatives extolling the views of the population or sections of it emerge from

the communities themselves. For example, there is the idea of “citizen advocacy” (Tanguay, 1987), where advocates pursue issue with relevant public authorities on behalf of their clients, who are unable to articulate fully their needs and preferences. There are also those groups that have emerged from social movements, such as those in the area of maternity care and childbirth, which aim to provide support and information for the health service user and to act as pressure groups for improving users’ health. The democratic ideals underpinning “citizen advocacy” would be unfamiliar to many in the Saudi health care system, but the idea might be very beneficial for both Saudi health care consumers and providers, where the users’ voice do not generally reach top-management.

Lytle and Mokwa (1992) suggest that patient perceptions of health care quality are formed through an evaluative process involving each of three identified product benefit levels (core, intangible and tangible products). During this evaluative process, patients consider the health care product’s ability to conform to certain requirements expected of each of the three product benefit levels. Therefore, examination of health care quality should include an analysis of patient’s requirements and evaluations at

1. The core product benefit level (service outcome),
2. The intangible product benefit level (service process), and
3. The tangible product level (physical environment).

During this evaluative process, patients consider the health care product's ability to conform to certain requirements or expectations at each of the three product levels. Therefore, examination of health care quality should include an analysis of patients' requirements and evaluations at the core product benefit level (services outcome), the intangible product benefit level (services process), and the tangible product benefit level (physical environment).

Martin (1989) identifies four basic needs of customers: (1) the need to feel important (2) the need to feel welcome (3) the need to be understood and (4) the need for comfort. **Martin (1989)** argues that these needs work as incentives for judging quality.

On the other hand, **Tenner and De Toro (1992)** suggest that consumers have three levels of quality needs:

- First are base quality expectations or *implicit needs*. These pertain to the provider's ability to meet basic service requirements;
- The second level is optional expectations or *explicit needs*. These are services attributes for which consumers desire and hope, but when absent do not make the basic service provision ineffective;
- The third level is unarticulated expectations or *latent needs*. When latent needs are satisfied, delight results.

Base level expectations are always assumed to be present by the patient. When implicit needs go unfulfilled, the deficiency creates dissatisfaction. In the health care setting, implicit needs are related to providers' ability to fulfil their basic functions. At a minimum, patients expect reliability, competence, courtesy, credibility, security, and positive treatment outcomes. For example, when using an emergency medical service, patients would expect that they would not be injured or harmed during transport to a facility due to technician negligence. Meeting these implicit expectations avoids dissatisfaction and alienation of the patient. However, providing for base level expectations will not induce satisfaction, as these aspects of service delivery are assumed to be integral to effectiveness. At the next level up the hierarchy, optional expectations or explicit needs are those that are known to patients but are considered to be "extras", not included as part of the base-level services. When explicit needs are not fulfilled, the patient will not be satisfied. However, when they are met, satisfaction results. This second level involves those factors found to be significant in previous studies investigating patients' perceptions of quality health services. They include responsiveness, access, understanding, caring, and communication. At the top level of the hierarchy are unarticulated expectations or latent needs. These unarticulated needs are not salient to patients, because they are not expected. Therefore, the fulfilment of such needs will not affect satisfaction with service. However, fulfilment can create delighted consumers. It is argued here that the two factors most important to this dimension are the aesthetic appearance of the physical facilities and personnel and the cost/quality benefit of services.

Gronroos (1984) has argued that consumers view service quality as a comparison between the services they expect and perceptions of the services they receive. Researchers such as **(Garvin, 1983; Holbrook and Corfman, 1985; Jacoby and**

Olson, 1985; and Zeithamal, 1987) have emphasized the difference between objective and perceived quality. Perceived quality is the consumer's judgment about an entity's overall excellence or superiority. It differs from objective quality that is defined as a form of attitude, related but not equivalent to satisfaction, and results from a comparison of expectations with perceptions of performance.

Of relevance to the above discussion, **Carson, et al (1998)** developed the following taxonomy:

Level 1: Base expectations or Implicit needs

Lack of provision at this level of needs elicits dissatisfaction. These factors are always assumed to be present and hence may not be identified as critical to service quality. Example: reliability, competence, courtesy, credibility, security, and positive treatment outcomes.

Level 2: Optional expectations or Explicit needs

Provision of level 2 needs encourages satisfaction. Example: responsiveness, access, caring, understanding, and communication.

Level 3: Unarticulated expectations or Latent needs

Provision of level 3 needs encourages delight. Example: aesthetics and value

In summary, patients have some basic expectations with regard to health service delivery. They expect reliable, dependable assistance; knowledgeable, skilful personnel; polite, respectful, and courteous staff; trustworthy; honest, and credible providers; freedom from danger, risk, and doubt; and appropriate treatment outcomes. If they do not receive these basics, patients will not be satisfied. However, if in addition to these basic-level services patients receive attributes that they desire, they become satisfied. These satisfiers include willingness to provide prompt, responsive service; explaining services and providing assurances; being approachable and convenient with reasonable waiting times; providing individualized attention and recognizing unique requirements of the patients; and being personable and involved with the human aspects of care. At the third level, patients are delighted when the appearance of the personnel and facilities are pleasing and when the received service is believed to be a good value.

It has been proven that, patients are aware of the quality issues in health care and back up their interest with action. **Woerner and Phillips (1989)** investigated patient responses to a request for written permission to review their medical records. This request was linked to a quality care study. Of more than 2,000 patients, 46% found the request acceptable and gave their permission. Patients were aware of the confidentiality issue, realized the legal aspects and cooperated with mandates for peer review and medical audit. In addition, **Ware, and Synder (1975)** investigated the perceptions of consumers relative to health care services. Among the words used by consumers to describe quality of care were the following: thoroughness, use of preventive measures, information giving by the doctor, use of medication, surgical prudence. Furthermore, in the caring area, the consumers mentioned humaneness, courtesy and respect. Therefore, negative patient evaluations are therefore indicators for potential opportunities to improve the quality of care.

Research suggests that patients' perceptions are often influenced by factors beyond providers' control, such as the severity of diagnosis. Related research indicates that patients are more strongly influenced by interpersonal / functional rather than technical factors (**Koenig and Kleinsorge 1994**). For example, in teaching hospitals, where there is technological superiority, patients report greater dissatisfaction than in non-teaching hospitals. This seems primary related to the fact that the emphasis is on student education rather than patients' needs. Communication at the bedside is directed toward apprentice care providers rather than the customer (**Carson, et al., 1998**).

In attempting to identify all aspects of quality in health care, **Wensing, et. al (1994)** reviewed 40 studies, which discussed the patient judgments on general practice care. **Wensing, et. al** scanned 27 health care journals from 1980 up to and including June 1991. They identified 24 aspects of quality health care which are listed on **Table 2.3**. The identified aspects were categorized into four categories:

1. professional performance,
2. attitude of the professional,
3. organization of care, and
4. overall quality.

Table 2.3, Aspects of quality health care reviewed by Wensing, et. al (1994)

General aspect of care	percentages
<u>Professional performance:</u>	
1. Effectiveness (outcome)	8
2. Competence	18
3. Indication	18
4. Suitability	5
5. Accurately	38
6. Hygiene	3
7. Prevention of superfluous	8
8. Burden (on the patient)	3
<u>Attitude of the professional:</u>	
9. Humanness	65
10. Informativeness	48
11. Mutual trust	5
12. Co-operation	3
13. Accountability	5
14. Empathy	25
15. Autonomy (of the patient)	5
<u>Organization of care:</u>	
16. Continuity	10
17. Availability (access)	62
18. Efficiency	5
19. Integrated care	10
20. Material privacy	3
21. Accessibility	13
22. Financial accessibility (cost)	10
23. Accommodation (facilities)	18
24. Global (overall quality)	50

The main conclusion that one can get from Wensing et al, is that, the most commonly identified aspects of quality of care are: availability, humanness, informativeness, accuracy, and overall quality. These were identified in more than 35% of the studies reviewed. These aspects are reflected the main four aspect of quality availability = structure; humanness and informativeness, = interpersonal process; accuracy = interpersonal process; and overall quality = outcome. This result not only supported Donabedian's approach, but was also used in the research described here so that more emphasis was given grouping the proposed attributes according to these categories.

Patients so not seem to want to be the subject of instruction. **Thomas (1995)** identified the following factors which contribute to patient perceptions of quality health care: physicians respect the patients' preferences, care is well-coordinated, long-term

effects of illnesses are communicated, there is prompt relief from pain, emotional support from staff is received, family/friends are involved in decisions, and patients are prepared for discharge. This list suggests that patients value the "art of medicine". **Hulka, et al (1970) and Hulka, et al (1971)** made a fundamental distinction between the art of care (personal qualities) and technical aspects of care (professional competence). **Lupton, et al (1991)**, also maintained such a distinction and, in questions asking subjects the qualities of a good doctors, found that 65% gave responses relating to affective (the most frequently referred to category) and 56% to instrumental aspects of care.

Williams and Calnan (1991a) examined the extent to which there is convergence or divergence in assessing the criteria of consumer satisfaction across general practice, dental care and hospital settings. Their findings showed clearly that issues concerning professional competence, together with the nature and quality of the patient- professional relationship, were consistently the most important predictors of overall consumer satisfaction with general practice, dental care, and hospital care. Some typical comments were:

- I never feel my GP has enough time for me and therefore often end up, telling him only half the reason why I came.
 - I was dissatisfied (in hospital) because basically there was no personal care given and the doctors were unfriendly and they didn't bother to try and treat my needs and worries separately.
- (Williams and Calnan, 1991a, page 240)**

In spite all the arguments about the ability of consumers to judge the health care services, **Hall and Dornan (1988a, and 1988b)**, cite several studies, which indicate that patient can judge technical quality of care. Authors such as **Spiegel (1980) and Jackson, et al (1994)**, question the consumer's judgment of the quality of health care services. They argue that sometimes it is difficult for consumer to judge the quality of the treatment. Some professionals contend that health care consumers' perception of quality service is distorted. The patients' views are seen as inaccurate because they often lack requisite knowledge for judging technical competence. **Spiegel (1980)** pointed out that while the consumer may not know when he is getting the best care, less than the best may be acceptable to the consumer, if they are satisfied with the provider/patient relationship.

Moreover, **Jackson, et al (1994)** pointed out that in many cases, patients expect and demand care based on incomplete information regarding the efficiency of such treatment. For example, with the increased attention given to mammography screening, many younger women are demanding mammography screening without apparent regard to medical need. The same is true for prostate-specific antigens (PSA) screening, reflecting the concerns of male patients about prostate cancer. These are classic examples in which patient education and the use of patient data can be utilized to reduce unnecessary care, thereby improving the quality of care provided.

Whether or not patients are regarded as competent judges of medical care, the fact is that they do make such judgments, which must influence their perceptions of the encounter. These judgments are, therefore, relevant to research on patient satisfaction. Regardless of the difficulties that might affect the validity of judgment of health care quality by consumer, there is widespread agreement on the importance of patient perceptions about quality of health care provided. **Woernrt and Phillips (1989)** indicated that feedback from clients may be used by health care staff to define quality of care and set standards for health care personnel. This feedback can be valuable for refining an agency's operations, that is, how services are planned and managed. It is relevant to training employees, scheduling assignments, and monitoring services. By asking clients what they think is most important for quality service; the health agency can improve its practices where necessary to satisfy clients and employees.

In view of the importance of integrating consumers' opinions of quality into quality improvement initiatives, Parasuraman and his colleagues devoted considerable effort to providing a reliable and valid instrumental tool, which aims to measure services quality dimensions from the viewpoint of service users. The attributes that define service quality identified in the SERVQUAL effort were grouped into main five aspects: (1) Tangibles (2) Reliability (3) Responsiveness (4) Assurance, and (5) Empathy. In their exploratory research they showed that the criteria used by consumers in assessing service quality fit 10 potentially overlapping attributes. These attributes were: (1) Tangible (2) Reliability (3) Responsiveness (4) Competency (5) Courtesy (6) Communication (7) Credibility (8) Security (9) Access, and (10) Understanding (**Parasuraman, et al., 1985**).

Generally, the attributes which are identified by the SERVQUAL can be classified into two main dimensions, which are the cure and care dimensions. This classification is discussed in the following two paragraphs.

Reliability, Competency, and Credibility (Cure dimension):

These attributes represented by cure relates to the fact that what is being sought is health not health care *per se*. In medicine, this is a vastly complex area and one which the individual patient is not qualified to assess even after treatment. It is possible for the patient to assess whether his/her symptoms have been relieved, but not always possible to know if he/she has been cured or if the way in which the symptoms were treated was the most beneficial. In the absence of technical knowledge and the delayed relationship between treatment and cure, the reliability and competency attributes in health care are particularly difficult to assess. The outcome of the service (the cure) may not be immediately apparent, and therefore evaluation at the time of delivery is based on the credibility of the doctor and the trust placed in him/her. A patient has an investment in believing in the ability of the medical practitioner to deliver health, the psychological effects of which have been widely explored. However because patients cannot assess this directly they will use other criteria to assess reliability and competency. In these circumstances, patients look at how the service is delivered in order to evaluate what was delivered. i.e. clinical competence is inferred from the process of care.

Courtesy, Communication, understanding, and tangibles (care dimension):

These care attributes are particularly important in building the relationship of trust between patient and doctor. The care elements of the service are used as metaphors in order to assess their overall satisfaction with the practice. The situational factors have identified as an important aspects of service satisfactions. The implication is that patients will regard the premises and the way that the staff are dressed as an indications of the care provided. Convenience can be broken down into physical accessibility, e.g.; car parking, public transport and treatment accessibility e.g.; the availability of appointment time, the range of specialist clinics provided. To these aspects of the service are added the responsiveness of the staff (willingness to help); assurance (knowledge and courtesy of the providers); empathy (caring individualized attention, "bedside manner"); and the tangible aspects relating to the signs symbols and artefacts

of delivery. These concepts are important contributions to our understanding of patient evaluation of the health-care experience.

The SERVQUAL 10 attributes that identified are:

1. Tangibles (such as facility attractiveness and employee appearance)
2. Reliability (dependable and consistent services delivery)
3. Responsiveness (employee timeliness in delivering desired services)
4. Competence (employee knowledge and technical skills)
5. Understanding the patient (effort to learn the patient's particular needs and provide individualized attention)
6. Access, including distance to facility, waiting time, and hours of operation
7. Courtesy (staff politeness and tactfulness)
8. Communication (ability of providers to explain the nature of available services in understandable terms)
9. Credibility (trustworthiness and honest of the staff); and
10. Security (freedom from risk, safety, and confidentiality).

Items representing various facets of SERVQUAL 10 attributes were generated to form the initial item pool for the SERVQUAL scale. The SERVQUAL scale as developed by **Parasurman et. al (1988)** is a multiple-item scale for measuring consumers' perception of service quality, consisting of 44 different statements, and representing the 10 service-quality identified attributes. The first 22 of statements were designed to measure consumer expectations about firms in general within the service category being investigated. Consumers are asked to respond to statements about what "should" occur. The remaining 22 statements were designed to measure the consumers' perceptions about the particular firm whose service quality was being assessed. The same statements were used as with the first 22, but reworded to express the consumer's opinion about the firm's quality. Respondents are asked to pick one of the seven numbers next to each statement. There is a seven-point scale, ranging from "strongly agree" (7) to "strongly disagree" (1), with no verbal labels for scale points 2 through 6, and this accompanies each statement.

SERVQUAL has been tested in health care settings and the findings have been mixed. **Babakus and Mangol (1992)** determined that SERVQUAL is reliable and valid

in the hospital environment. On the other hand, research conducted by **Ramsaran-Fowdar (2005)** suggested that SERVQUAL was inappropriate for measuring professional service quality since it excluded the dimensions for 'core service', service customisation' and 'knowledge of the professional.' **Ramsaran-Fowdar (2005)** concluded that dimensions in SERVQUAL cannot be replicated fully to the health care services. Other dimensions such as 'professionalism' and 'core outcomes' may emerge as equally critical when determining the attributes patients use to evaluate health care quality. In addition, **Brown and Swartz (1989)** identified 'professional credibility', 'professional competence' and 'communications' as factors significant for both physicians and patients in the evaluation of service quality and were not included on the SERVQUAL. **Carman (1990)** has argued that service-specific dimensions other than those in SERVQUAL may need to be added to completely capture the consumer's definition of service quality.

Lytle and Mokwa (1992) discovered that although "outcomes" was not one of the SERVQUAL dimensions of quality, it exerted a significant influence on patient perceptions of health care quality. The basic finding of their study was that patient satisfaction was related to 12 dimensions. These were 'Outcome' and 'Caring', in addition to the original 10 dimensions identified by SERVQUAL. **Lytle and Mokwa (1992)** suggest that patient perceptions of health care quality formed by a process involving three evaluations – service outcome, service process, and physical environment health care quality, in their view, is conformance to patient requirements. They subsequently present a conceptual model of health care quality that views the service quality construct as comprised of measures of three dimensions; physician interactions, staff interactions, and the physical environment.

Bowers, et. al (1994) pointed out that SERVQUAL might not completely cover all the dimensions of health care services that are important to patients since the nature of health care services is more intensive in the provider-consumer interaction, and this is significantly different from the services for which SERVQUAL was developed. In addition, Bowers and his colleagues confirmed the finding of Lytle and Mokwa (1992) and added two dimensions: "caring" on the part of health care professionals (e.g., providers seem warm in their involvement with the patient) and "outcomes" (e.g.,

saving a life or relieving pain), as other dimensions, resulting from their focus group interview. **Bowers, et. al (1994)** narrowed twelve dimensions down to six dimensions that significantly affected patient satisfaction, using a regression analysis based on data collected through mail surveys. These dimensions were: (1) Reliability (2) Responsiveness (3) Communication (4) Access (5) Understanding patient, and (6) Caring. Empirical results in this study showed that access, understanding, reliability, responsiveness, caring, and communication were the significant factors related to patients' perceptions of quality. Bowers and his colleagues concluded their article by making the familiar suggestion that patients do not evaluate the technical aspects of the quality, but rather the human aspects. However, given that quality is such an important issue in the survival and prosperity of health care organizations, it seems that the findings in this line of research warrant further attention. Specifically, alternative conceptual approaches may offer more insight into how patients judge quality.

Moreover, **Jun, et. al (1998)** identified 11 attributes that define quality of care and patient satisfaction. They identified one additional attribute to SERVQUAL attributes, which was about effective collaboration in service provision.

Babakus and Boller (1992) undertook an empirical assessment of the SERVQUAL scale and reported that the scale appears to suffer from a number of methodological shortcomings. First, the dimensions of the SERVQUAL scale may depend on the service industry under investigation. Further, they supported the call of **Cronin and Taylor (1992)** to treat the SERVQUAL scale as a uni-dimensional measure rather than a multidimensional scale. Second, expectations appear to add little to the explanatory power of the disconfirmation process relative to service quality evaluations. These findings support **Cronin and Taylor's position (1992)** that the disconfirmation format appears suspect as an operationalization of service quality and that performance-based measures may be more appropriate.

The major conclusion from the studies noted above is that although some authors have attempted to add some attitudes to the original SERVQUAL attributes, their contributions were very limited (they add one or two attributes) and they do not provide strong evidence that only the determinants of service quality attributes identified by SERVQUAL scale were adequate to define patient-perceived service quality in health care settings. As a result, no evidence was obtained about whether patients used

additional or different dimensions in assessing service quality. Moreover, health care providers were not involved in identifying quality dimensions in any of these studies. The current research therefore was designed to overcome this limitation and to test – first - whether other quality attributes would be appropriate to define and measure the quality of health care, and – second - to test whether the quality attributes identified by SERVQUAL are suited for use in the PHC context.

It is important to note here that the SERVQUAL scale was not adapted for use in this research because the SERVQUAL scale would not achieve the study objectives. There are several reasons for this. First, SERVQUAL scale is not meeting the general approach of study, where it was developed to be an evaluative instrument, whereas the study intended to not be an evaluative, but rather to be exploratory in nature and within the assessment stage of quality improvement initiative (i.e. identification and determination of what should have priority to be put on the improvement agenda of Saudi PHC services). Second, the SERVQUAL scale was designed to be used by service consumers, and the providers were not considered. While, one important objective of this study was to identify the quality perceptions of both consumers and providers. Third, the SERVQUAL scale was developed on the basis that all the 10 identified attributes were significantly important, while the study aims to explore whether they are all significant predictors for PHC consumers and providers. Finally, the researcher thinks that adaptation of scale which originated from different language (English/Arabic), different cultural and religious background (Western Christian /Arabic Moslem), different level of education (non or seldom adult illiterate/high adult illiterate), different environment (competitive /non competitive), different system of service provision (fee-for-service/free service), is a complex process, and consumes tremendous effort and time to assure its reliability and validity. This was not feasible. Instead, the 10 service-quality attributes identified in SERVQUAL, and their descriptions, served as the basic structure for the instrument developed for the research and data collection instrument reported here. Moreover, more attributes were added because they were relevant to the PHC system. It should be noted that the SERVQUAL scale and the attributes of quality it measures have not been used in any Saudi research to date.

2.3.3 Literatures that discussed the quality attributes from viewpoint of professionals (providers).

These range of studies could be referred to as the "technocratic" perspective of health care professions, Studies based on the technocratic perspective are relatively frequent and convey the representations of health care professionals (for example, WHO, 1989; Engelkes, 1990; Garner, et al., 1990; Lewis, et al., 1991; Nicholas, et al., 1991; Thomason and Edwards, 1991, Bryce, et al., 1992; Kaufman, et al, 1992; Askew et al., 1993, Kipp, et al., 1994; Satia, et al., 1994). Most often, and in a more or less explicit fashion, they rely on a normative definition of quality: services are judged to be of good quality as soon as they reach defined standards (Haddad, et al, 1998a).

Health care vendors like to believe "quality sells" and that customers are willing to pay more for high medicine. Whether this is true is uncertain. In developing countries the managed-care market is sending mixed signals to providers about quality. So far, providers have made little effort to define quality in way that sophisticated buyers or even average customers can understand. Boland (1989) stated that:

Before providers climb on the quality bandwagon, they should think though what quality means in terms of day-to-day business operations. Once providers define quality, they will be judged by them and held accountable for managing it. Quality is a double-edge sword. That's why delivery systems, hospitals and physicians should take initiative with this issue before others step in with their own definitions and standards (Page 37).

Service quality, when defined by care delivery professionals, conforms to their occupational codes and standards. These typically address three aspects of quality:

1. Qualifications (whether the providers have the necessary knowledge and skills for providing care).
2. Process (whether the appropriate therapeutic procedures were used in providing treatment), and
3. Outcomes (whether treatment interventions were effective).

Until quite recently, quality of care was frequently assessed on dimensions which were professionally or even governmentally derived rather than on dimensions which patients themselves consider to be important (Haigh-Smith and Armstrong, 1989),

there is justified concern that much of this research was "modified paternalism" (Pollitt, 1989) or tokenism (Williamson, 1988).

Shearer (1997) stated that:

Unfortunately, in defining the providers as their customers, they seem to have lost sight of the ultimate consumers, the patients and clients. If regulators' priorities and actions revolve around this misguided definition of "customer," they will give short shrift to those whose welfare should be the primary concern. The danger is that regulators will fail to hear the voices of consumers, which are already far too quiet (page 211).

Health care systems are now entering an age of "accountable consumerism" in which patients demand service excellence (Vinn, 2000). The scope of quality measurement has shifted from a bias reflecting professional consensus to a shared expression that includes the patient's real and perceived expectations of quality. To meet the expectations of health care consumers, providers will need to continually improve quality and increase consumer satisfaction. The health professional is seen by the patient as one source of advice within a network of consultants. There is a shift away from an emphasis on explaining behaviour in terms of medical rationality and towards attempting to understand the lay person's action in terms of his or her own logic, knowledge, and beliefs. In Saudi Arabia, maybe in other countries, there is tendency for health care professionals, particularly physicians, to think of themselves as operating individually, and authoritatively. Saudi lay persons' voices and opinions are not clearly identified, and may for some time be intentionally ignored. In practice, professionals are contributing members of a collaborative team that includes in addition to the variety of health care professionals, the administrators, the non-skilled health workers, the suppliers, and the customers. Each of those members should be empowered to correct the actions of others in ensuring the quality of health care services. There are grounds therefore to suppose that further constraints on the current superiority of professionals (mainly consultants), may require reform of existing health policies, or their replacement, or that new policies entirely will be introduced in order to allow more involvement of other team's members.

2.3.4 Literature which discussed the quality attributes from viewpoint of both patients and professional (health care customers).

Consumer expectations are essential to define quality, but customers are not the ultimate and only judges of quality in circumstances that affect people's safety and health. In these situations, professionals must represent the customers' best interests and set professional standards on their behalf. **Leebove and Ersoz (1991)** indicated that standards can be found in the pertinent professional literatures. They may have developed as a result of government regulations, may result from a need for risk-management practice, or may be found in an organization's policies and procedures, or adopted from outside accreditation organizations.

Sociologists writing about the perspectives of the health professionals and the patients have, at least until recently, depicted them either in terms of a shared perspective or a difference or even a clash of perspectives. The shared perspective implies the use of criteria that characterize disease and illness as a fundamentally biological phenomenon. This perspective also implies that the patient accepts the authority of the profession and has faith in medical knowledge and medical expertise. In this context, the patient is depicted as passive and uncritical. In contrast, an alternative perspective suggests that the health professional and patient may have different and even conflicting views. The image of the layperson in this approach is one who is active and critical, manages his or her own health requirements, and is discriminating in the use of medical knowledge, advice, and expertise.

There are a limited number of studies identifying the quality opinions of both health care providers and consumers. One qualitative example (using focus group interviews) is that of **Delbanco (1992)** who used qualitative research among patients, patients' family members, nurses, physicians, social workers, health administrators, policy specialists, and laypersons to identify the features of care most important in terms of both process and clinical outcomes. The seven dimensions of care considered important were: respect for patients' values, preferences, and expressed needs; communication and education; coordination and integration of care; physical comfort; emotional support and alleviation of fears and anxieties; involvement of family and friends; and continuity and transition.

Another qualitative example was comparative: **Wensing, et al (1996)** concluded that patients and general practitioners differed to some extent in their assessment of the aspects of care that they considered important for quality. They agreed that most indicators of care that related to the "doctor-patient relationship" and that "information and support" were relevant and therefore suitable as indicators for patient assessment of health care quality. There was less agreement about the relevance of indicators of "medical and technical care", "availability and accessibility", and "organization of services".

Only very few studies have compared providers' and consumers' priorities and evaluations of general practice care (**Rashid, 1989; Jung, et al., 1997; Haigh-Smith and Armstrong, 1989; Jung, et al., 2002; Vedsted, et al., 2002**), although such knowledge is crucial to the organization of general practice.

Haigh-Smith and Armstrong (1989) assessed the differing foci of governmental and lay criteria in a general practice setting. Patients compared criteria provided by the UK Government (in the 1987 white paper 'Promoting better health') and by professionals, and criteria elicited from patients in a series of pilot interviews. The criteria assessed in this study are given below in **Table 2.4**. The three criteria most highly ranked by all patients were: having a doctor who listens, having a doctor who sorts out problems, and usually seeing the same doctor (all criteria originated by patients). The three least highly valued were health education, being able to change doctor easily and having well decorated and convenient premises (all criteria originated by the government). However, patients gave higher priority than GPs to information about the purpose of investigations and treatment, about patients' associations and about their illness. They also gave higher priority to the GP having enough time during the consultation, to the GP providing quick services in the case of emergencies, to continuity of care and to the GP's participation in courses. These high patient priorities have also been found in other studies (**Vedsted, et al., 2002; Fletcher, et al., 1983; Wensing et al., 1997; Weinberger, et. al., 1981a and 1981b**) and should be recommended because the GPs tended to give lower priorities to these aspects. In contrast, GPs gave higher priority than patients to organization and coordination. However, this might be explained by the GPs having to acknowledge organizational issues in practice. Some studies have shown that patients may have specific priorities

regarding technical, interpersonal and organizational aspects of care (Donabedian, 1992; Fletcher, et al., 1983).

Table 2.4, List of criteria assessed by Haigh-Smith and Armstrong (1989)

Doctor listens	(p)
Doctor sorts out problems	(p)
Usually same doctor	(p)
Appointment within two days	(p)
Regular screening for cancer	(G)
Health checks for adults	(G)
Staff friendly	(p)
Tests at surgery	(p)
Staff know me	(p)
Doctor goes on courses	(G)
Waiting time < 20 min	(p)
Small place	(p)
nurse on premises	(p)
Woman doctor available	(G)
Health checks for children	(G)
Convenient surgery times	(G)
Every child immunized	(G)
Health education	(G)
Change doctor easily	(G)
Well decorated items	(G)

(P) = Patient generated items

(G) = Government generated items

Haigh-Smith and Armstrong (1989) concluded that the best way of maintaining patients' satisfaction seems to be to emphasize the traditional if more intangible virtues of good general practice encapsulated in the attentive, competent, and available doctor.

A consumer's organization (called *Consumer Reports*) in the United State of America (USA) investigated the quality of HMO and nursing home services and called into question the ability of providers to speak on behalf of consumers in assessing quality of care. In a 1996 survey of more than 20,000 HMO plan enrollees, Consumer Reports found that many had run into serious problems with their health plans. About 10% of respondents said that their HMOs did not provide the medical treatment they felt they needed. A surprising 18% actually went outside of their HMO plans to obtain what they thought was necessary care. Therefore, while cooperation and responsiveness to providers' needs can improve ultimate performance, regulators should never consider the providers of care to be their customers (**Consumer Report 1996**).

Zazove and Klinkman (1998) assessed the differences of services expectations between consumers and providers. He found great differences between them. Their expectations are listed as the following:

Patients' expectations

- Access and service are timely and convenient
- Service and care are coordinated and efficient
- Facilities are comfortable, clean, and attractive
- Patients have the knowledge necessary to be comfortable in their environment and partners in their care
- Patients are treated with respect
- The expected medical result is obtained
- Staff members are caring and compassionate
- Comprehensive family-oriented care is provided
- Continuity of care is ensured

Providers' expectations

- The medical services are coordinated and efficient
- Care is delivered in a cost-effective manner
- Documentation is provided in a complete and timely manner
- There is an identified locus for resolving problems
- There is easy access to a system for dealing with managed care requirements
- Communications about their patients are timely and complete
- They are treated as colleagues and partners in their patients' treatment
- The referral process is timely convenient
- Wider geographical area served

Thus, the differences of quality perceptions between the two groups could be referred to as the differences between their expectations. Expectations play a major role in judging the quality of care. **Parasuraman et al (1988)** pointed out that, consumers' expectations are viewed as the desire or want of consumers, i.e., what they feel a service provider should offer, rather than would offer. **Gronroos (1984)** and **Parasuraman et. al (1985)**, unambiguously support the notion that service quality, as perceived by consumers, stems from a comparison of what they feel service firms should offer (i.e.,

from their expectations) with their perceptions of the performance of firms providing the services. Perceived service quality is therefore viewed as the degree and direction of discrepancy between consumers' perceptions and expectations. This view should not be limited to the consumers only, providers also judge quality based on degree of this discrepancy.

The differences could also be referred to as the difference between their interests and concerns. This perspective is supported by Bittle's concept of quality, where he conceptualized quality as subjective opinion, where the participant gives meaning to the word (Bittle, 1995). In this context, **AL-Mazrou and Farag (1994)** indicated that there are different classification and opinions with regard to attributes that seems controversial. It consists of owner of the service, service provider (health team), and consumer (community).

- For the health service owner, quality means best services, with least possible cost, and achieving best outcome.
- Health care providers perceived quality as: technical skills, availability of resources and structure, freedom in health care provision, and achieving the target outcome.
- While quality from the community viewpoint means: a service that is available all the time, easy accessible, providing feelings of comfort and politeness by health providers, and the disappearance of symptoms.

Although there is an acknowledgement that health professionals' and patients' perspective are different, they may not be as different as some argue. In the everyday practice of medicine, health professionals do not necessarily draw on the biomedical perspective but use a perspective closer to the lay perspective. **Vedsted, et al., 2002; Jung, et al., 2002; and Jung, et al., 1997** found that GPs and patients have to some extent a shared perspective on general practice care. However, GPs were more critical about the quality of care than patients were and they underestimated how positive patients were about the care they provided.

2.4 ALTERNATIVE APPROACHES TO DEFINING AND MEASURING QUALITY OF HEALTH CARE

The above discussion, gives evidence that quality of health is a multidimensional aspect.

The following points provide a conclusion of what has been discussed so far.

- *Quality is defined in terms of the structure, process and outcomes of health care.*

"Structure, process and outcome" is perhaps the most common formula in discussions about defining and measuring the quality of health care. They are not direct attributes of care themselves but rather indirect measures of attributes or factors that influence and reflect quality. Structure refers to specific, identifiable characteristics of plans or providers (e.g. credentials, accreditation, licensure, systems) deemed to be basic prerequisites of quality medical care. Process refers to the activities between providers or plans and patients. It also refers to the technical management of patient care according to the state of medical science and prevailing standards of care. Outcome is defined as a change in a patient's health status that can be attributed to the application of specific medical services. Measuring of outcome provides focus on what happened to a patient as a result of medical services. It may be either positive or negative. Structure, process and outcome are interrelated elements in a formula. Certain structural characteristics of the settings in which providers render services may influence the process of care, which may in turn influence outcomes. Consequently, good structure and process should increase the probability of good outcomes. In thinking about how the three approaches are to be used, one must remember that they are not, themselves, properties of quality. They are only kinds of information that can lead to inferences about the degree of goodness in one or more attributes of quality.

- *Quality reflects the attributes of accessibility, continuity and coordination.*

Accessibility refers to the relative ease or difficulty with which the consumer can initiate care with a provider for assessment and treatment of medical conditions. It is inextricably related to the concept of appropriateness. Sufficient access is generally considered essential for quality. But, if access leads to inappropriate care (questionable medical services or procedures), access can be associated with redundant, unnecessary or even harmful services. Coordination and continuity are closely related. Coordination

is the way in which the specific elements of medical services during any one episode of care are brought together in a total plan for care of the patient. Continuity signifies a lack of interruption between or during episodes of care. In sum, accessibility, coordination and continuity are attributes of the quality of medical care. Quality care may then be defined as care that reflects reasonable access to appropriate services and features the coordination and continuity necessary to manage a patient's problems. Operationalizing this definition to measure quality requires setting specific structure and process standards designed to promote accessibility, coordination and continuity.

- *Quality reflects the attributes of appropriateness, efficiency and effectiveness.*

Appropriateness is an important attribute of medical care associated with quality. It refers to the medical necessity of care (Does this particular patient require care?), the relevance of services given the patient's condition (what should be done in the process of patient care for a patient with this presenting problem, given the current state of medical knowledge?) and the proper location for service delivery (Does the care of this patient require hospitalization or outpatient services?). Efficiency is an attribute of care that generally relates to the duration and intensity of care. That is, efficiency refers in economic terms to the quantity of medical resources used to produce a given outcome. It is generally analyzed using measures such as the length of hospital stay for patients with a given condition or the number of outpatient visits for a particular medical problem. Effectiveness signifies whether medical care services improved the patient's condition. Many providers contend that appropriateness and efficiency are separate from quality. They are, however, relevant aspects of quality from the purchaser perspectives. Consider, for example, a common utilization and cost problem for employers is inpatient admissions for surgical procedures that can be performed in outpatient setting. Defining and measuring quality in terms of outcome alone may indicate that quality is acceptable, if hospitalized patients improve and there are no negative outcomes. But, if the patients could be treated as effectively in outpatient settings at a lower cost and with fewer days lost from work, hospitalization would be inappropriate and inefficient. From the purchaser viewpoint, goods and services are not considered to be of acceptable quality if they are not appropriate and produced efficiently and effectively. A quality formula that centres on attributes of quality that are especially relevant to purchasers.

- *Consumer satisfaction is an important measure of the quality of medical care.*

Consumer (clients, patients) can be an important source of information on quality. Consumer satisfaction is the measure of the success of health plans and providers in meeting consumer expectations. It is arguably the best measure of those aspects of care related to consumer's values (i.e., the interpersonal aspects of the process of care). In addition, research strongly suggests that client perceptions of quality correlate with outcome measures of quality and may indeed affect outcomes. Thus, the measurement of consumer satisfaction is an important alternative to verify aspects of plans and provider quality. Health plans and hospitals are making increasing use of satisfaction surveys in their quality management efforts. It should be noted, however, that consumer satisfaction has its limitations. Most consumers have, at best, a fragmentary understanding of the science of medical care, and their judgments on the technical process of care can be inaccurate.

- *Quality is conformance to standards (requirements).*

This definition of quality is one of the most basic, fundamental formulations in industry. The purchaser specifies standards or requirements for a good or services, and the producer or vendor strives to meet defined requirements. A producer or vendor, of course, may also have internal requirements that managers and workers must meet in the production process. This definition is becoming more common in medical care, especially among purchasers. It is also a controversial definition when applied to medical care. In applying this definition, the immediate question arises: whose standards for what? Purchasers, plans and providers can all set standards. They can be set for structure and process characteristics of quality. They can be set to establish norms and protocols for accessibility, coordination, continuity, appropriateness, efficiency and effectiveness. Providers, in particular, are concerned about this definition of quality because they often do not agree on standards. Variations in practice patterns illustrate the difficulty in setting standards for quality care. In sum, quality as conformance to standards is a helpful definition since it does emphasize the necessity of formulating standards in order to operationalise alternative definitions of quality in medical care. It has the added advantage of basing quality measurement efforts on a concept that business understands from its experience. However, it does not, in and of

itself, provide content to a specific definition of quality, or to attributes of quality. Hence, it best serves as a framework for applying different definitions of quality rather than as a separate definition itself.

Aquilina (1989) concluded four important points that addressing the issue of the multidimensional definitions of and approaches to measuring quality in medical care:

- First, quality is a multidimensional concept. There are several ways to define and measure quality, and no single right way. It is important that purchasers not rely on any single definition.
- Second, definitions of quality are overlapping, since they incorporate many of the same essential, conceptual elements. This can make discussions on quality confusing. It is always helpful to clarify assumptions on quality in medical care to help ensure clear communication.
- Third, many aspects of quality are measurable. Aspects of quality can best be measured by applying alternative definitions, each of which builds a piece of entire puzzle. But quality measurement - and the actual management of medical care quality - requires standards to operationalise definitions where often there is no agreement. Progress toward quality measurement will require collaborative efforts to develop standards based on evaluation of the impact of standards on outcomes.
- Fourth, it is crucial to develop and use definitions of quality that are relevant to consumers. Consumers need to judge the value of health plans and providers. Consequently, it is crucial that definitions and measures of quality actually provide information that purchasers and consumers can use in their evaluation of health plans and providers.

Boland (1989) stated that:

Quality hasn't been translated into an agreed-upon set of standards and benchmarks that can be applied throughout the industry. It's too challenging and complicated a task for providers to tackle on their own. As a result, the market has turned to advanced medical software systems to determine what quality means and how it can be measured (**Page 37**).

Both Aquilina's conclusions and Boland's statement provide central assumptions for the research described in this thesis.

2.5 CONTINUOUS QUALITY IMPROVEMENT IN HEALTH CARE

As health care organizations develop their own quality improvement approaches, their management must go through a decision process in which activities are initiated, adopted, and then institutionalised. Quality improvement in health care comes in a variety of "shape, colours, and sizes" and is referred to by many names; Total Quality Management (TQM), Continuous Quality Improvement (CQI), Quality Assurance (QA), or some other terms. It is in general a structured organizational process for involving personnel in planning and executing a continuous flow of improvements to provide quality health care that meets or exceeds expectations. Although CQI comes in a variety of forms and is initiated for a variety of reasons, it does have a set of distinguishing characteristics and functions. These characteristics and functions are often defined as the essence of good management. They include:

1. Understanding and adapting to the organization's external environment;
2. Empowering clinicians and managers to analyze and improve processes;
3. Adopting a norm that customer preferences are the primary determinants of quality and that the term customer includes both the patients and the providers in the process;
4. Developing a multidisciplinary approach that goes beyond conventional departmental and professional lines;
5. Adopting a planned, articulated philosophy of ongoing change and adaptation;
6. Setting up mechanism to ensure implementation of best practices through planned organizational learning; and
7. Providing the motivation for a rational, data-based, cooperative approach to process analysis and change (**McLaughlin and Kaluzny, 1999**).

Organizations embark on QI for a variety of reasons, including accreditation requirements, cost control, competition for customers, and pressure from employers and payers. Knowing what methods exist to support, QI is paramount but inadequate if the methods are not tailored to the specific needs of the organization. Key to successful application is to adapt the process to the organization, as opposed to fitting the organization to the process.

It is important to note that the current study is not aimed to formulate a QI program or evaluate an existing one, nor will the QI concept be used for designing the study's methodology. However, QI concepts were reviewed to provide, first, a theoretical context that facilitates the understanding of the multidimensionality of quality and how the application of the concept of quality has developed over time. Second, QI concepts were reviewed to give evidence that QI initiatives once applied have successfully generated a wide range of assessment data. This is central to the main goal of this study: the identification of quality attributes from the viewpoint of both health care providers and consumers.

The following operational definitions are provided in an effort to establish a common ground.

- **Quality Assurance (QA):** All actions taken to ensure that standards and procedures are adhered to and that delivered products or services meet performance requirements.
- **Total Quality Management (TQM):** An operational style that enables the precise definition of opportunities to improve the efficiency, effectiveness and value of care and service provided to both internal and external customers.
- **Continuous Quality Improvement (CQI):** A series of mechanisms used to identify and act on opportunities to improve the efficiency, effectiveness and value of services provided (Bittle, 1995).

The fundamentals of TQM are based on the scientific management movement developed at the turn of the last century. This movement emphasized "management based on facts", with management assumed to be the master of the facts. It believed that management was responsible for specifying one correct method to work for all workers and for seeing that personnel executed that method to ensure quality. Gradually that perspective has been influenced by the human relations perspective and by the recognition of the importance and ability of the people in the organization (McLaughlin and Kaluzny, 1999).

The major five United States contributors to the emergence of TQM are W. Shewhart, W.E. Deming, A. Feigenbaum, J.M. Juran, and P. Crosby. The universal principles of total quality management are (a) a customer focus (b) management

commitment (c) training (d) process capability and control, and (e) measurement through quality improvement tools. Results from the National Demonstration Project on Quality Improvement in Health Care showed the principles of total quality management could to be applied to health care (**Widtfeldt and Widtfeldt, 1992**).

Crosby (1980) defines quality as "conformance to requirements". He argues that where requirements are clearly stated, measurements can be taken to determine conformance to those requirements. Non-conformance then is the absence of quality. He also sees quality management (QM) as a systematic way of guaranteeing that organized activities happen the way they were planned to. However, the degree of success or failure of QM efforts depends on the level of awareness of what constitutes quality and the commitment at the leadership level. Crosby believed that the quality program should go forward on two fronts. On one hand, management needs to master a set of skills, including his 14 steps, and to develop the necessary implementation and support systems. On the other individuals will need training in a variety of tools, including process and systems modelling, statistical techniques, experimental design, problem solving, and error prevention. Crosby's 14-step of quality improvement begins with the commitment of leadership and management to recognize that senior leadership must participate in any quality improvement program; the bringing together of representatives from selected areas to form teams in an effort to determine the status of quality, the cost of quality, and to raise the level of quality awareness among employees. Further emphasis is placed on achieving "zero defects" where doing things right the first time fulfils the quality mission to regularly meet and/or exceed the specified goal. Crosby's 14-steps are the following:

1. Management commitment
2. Quality improvement team
3. Quality measurement
4. Cost of quality evaluation
5. Quality awareness
6. Corrective action
7. Establish an ad hoc committee for the zero defect program
8. Supervisor training
9. Zero defects day
10. Goal setting

11. Error cause removal
12. Recognition of success
13. Quality councils
14. Do it over again

In this context Crosby asserts that "quality is free" (Crosby, 1978), and he points out that: "..... what costs money are the un-quality things – all the actions that involve not doing the job right the first time" (page 135)

Crosby's writings emphasize developing an estimate of the "cost of non-conformance," also called the "cost of quality". This involves identifying and assigning values to all of the unnecessary costs associated with waste and wasted effort when work is not done correctly the first time. This includes the cost of identifying errors, correcting them, and making up for the customer dissatisfaction that results. Estimates of the cost of quality range from 20 to 40 percent of total costs of the industry, a range also widely accepted by hospital administrations and other health care experts (McLaughlin and Kaluzny, 1999).

Crosby's concept of the cost of quality is a good one to use when top management has not yet accepted the philosophical arguments of CQI. Management can often be impressed by arguments that show the specific cost that poor quality generates, especially when the presenters also show how these faults can be addressed using standard quality improvement techniques.

Shewhart (1989) promoted the idea that price alone was no indication of value. He wrote that price, without an understanding of quality, is meaningless. Shewhart taught that decisions based on price alone were almost certain, in the long run, to be more expensive than necessary and to lead to undesired results. He was also aware that there were inherent difficulties in defining quality, although he felt that reasonable people could develop operational definitions, that is, standards. Furthermore, it was Shewhart's idea that statistical control (also called statistical process control) of stable or "in control" processes is the foundation of all empirical CQI activities. If a process exhibited variation, then the cause of that variation had to be discovered and removed. Determining variation and analyzing its causes in order to remove them is one of the primary functions of TQM.

W. Edwards Deming is the best known of the proponents of TQM. In the 19950s he was invited by representatives of Japanese industry to suggest how they might best rebuild their war-ravaged economy. Although he had been advocating his statistical approach to quality for some time, the Japanese were the first to implement his ideas widely. Over the intervening years, Deming has made enormous contributions to the development of TQM. **Deming (1982)** defines quality as the never-ending improvement of the "expected process". Emphasis is placed on those components that make up the internal system and processes and those processes that incorporate the external consumer. The ultimate goal is customer satisfaction. Deming's philosophy encompasses a holistic approach to management in which the organization is viewed as an integrated entity. He argues that quality is not productivity assessment, zero defect programs, or employee suggestion programs. He views quality improvement as a philosophy, not a program. The driving force of the management style fosters a cycle of never ending improvement in design/redesign, conformance, and performance. Deming identified two types of sources for improvement in processes. The first was elimination of special causes of process variation: unnecessary variation associated with specific material(s), machine(s), or individual(s). The second was elimination of common causes of variation: those associated with aspects of the system itself such as design, training, materials, machines, or working conditions. Those working directly with the process can address special causes of problems, whereas common causes of problems are the responsibility of management to correct.

Deming believed that management has the final responsibility for quality. Employees work in the system, where management deals with the system itself. He also felt that most quality problems are management controlled rather than worker controlled. This was the basis for his requirement that TQM be based on a top-down, organization wide commitment. Furthermore, his focus has always been on processes (rather than organizational structure), on the ever-continuous cycle of improvement, and on the rigorous statistical analysis of objective data.

Building on Deming statistical approach, Armand Feigenbaum provided theoretical basis for TQM. **Feigenbaum (1983)** coined the phrase "total quality control", which he defined as an effective system for integrating the functions of quality development (conception, planning design, set-up), quality maintenance (production,

distribution, service), and quality improvement (training, data analysis, user feedback). These functions cut across all activities in the organization (including marketing, production, and finance) and involve all system phases (inputs, transformations, outputs, and outcomes). Both suppliers and customers are drawn into the total concept. The goal of quality, according to Feigenbaum, is to satisfy whatever customers believe to be their requirements for the service or product.

The most interesting of Feigenbaum's ideas is that total quality control has a dynamical nature, where, those factors outside the organization (cultural, attitudinal, and technological changes) can make customers dissatisfied with a once satisfactory outcome, thereby continuously motivating new quality improvement cycles.

Joseph Juran, like Deming, was involved with the Japanese in the 1950s. He argued that the quality improvement process is a never-ending spiral of progress, or "fitness for use", as defined by customers. **Juran (1991)** defines quality as "fitness for use" and requires that product features respond to customer's needs and be free from deficiencies. He sought a foundation for total quality management through leadership and likens quality to finance, in which planning, control and improvement are critical. Juran's followers in health care emphasize Juran's "Quality Trilogy" of basic quality processes: (1) quality planning (2) quality control (3) quality improvement. "Juran Trilogy" centres on effective leadership; well-established goals; an infrastructure that emphasizes education and training; customer and supplier relationships; mechanisms for measurement; and process to support quality planning, quality control, and quality improvement. These quality processes must rest on a "foundation" of customer focus, management involvement, and strategic planning that links all efforts to the firm's key business goals (**Juran, 1988**).

Juran's writings parallel Deming's concepts of classifying process variations, separating them into sporadic and chronic. Sporadic problems occur when production falls below acceptable standards; chronic problems are inherent in the work setting and require intervention by management. Improvements in chronic problems he calls "breakthroughs" (**Juran, 1988**). Furthermore, Juran insists that quality goals should be specific. A vague statement such as "we are dedicated to improving quality" is unacceptable. Instead, he insists on a specific goal such as "we will reduce the number

of medical records uncompleted after two weeks to one percent of total discharges by January 1st by next year."

All the ideas mentioned up to this point have originated with Americans, although their ideas were largely ignored in the United States until about 1980 (**McLaughlin and Kaluzny, 1999**). The Japanese, however, have made numerous original contributions to CQI thinking, tools, and techniques, especially since the 1960s. The most famous of the Japanese experts are Genich Taguchi and Kaoru Ishikawa (**McLaughlin and Kaluzny, 1999**). Taguchi emphasized using statistical techniques developed for the design of experiments for quick identification of problematic variations in a service or product, and focused on what he called *robust* (forgiving) design. He also emphasized evaluating quality from both an end-user and a process approach (**McLaughlin and Kaluzny, 1999**).

As more organizations adopt CQI, we are seeing increasing innovation and experimentation with CQI thinking and its applications. This is especially true of the health care arena, where virtually every organization has to work hard to adapt CQI to its own processes. From the above review, one can draw a conclusion that CQI required certain attributes in order to be successfully applied; these attributes are summarized as follows. There must be:

- Total participation by all members of an organization (quality must be company wide).
- Identification of suppliers, internal and external customers.
- Internal customers are employees/departments within organization (such as health care professionals, recruitment personnel, catering department, and others) who contribute to the organization's mission and who are depend on for running services, and produce products or outputs to serve external customers.
- External customers are people not employed by the organization (patients, their family and friends, managed care buyers, referring physicians and others) who do business with the organization and who have some choice about where to take their business.

- Suppliers are employees/departments within or outside the organization who supply things such as patients, information, test results, food, cleaning services, completed paperwork, requisitions, or answer customers' questions.
- Identification of internal and external customers' expectations.
- Identification of professional standards (accredit organizational standards).
- The necessity for communicating with both customer and supplier (promoting feedback and creating channels of communication throughout the health care system).
- Emphasis on education and training
- Rigorous use of statistics and developing measures to monitor performance.

The suppliers of the Saudi PHC service includes the MOH authorities (decision makers who are supplying policy and procedures, manpower, equipments, etc), and the PHC centres' employees (providers). The internal customers are the dependent and cooperating PHC centres' employees (providers). The external customers are the PHC centres' users (consumers) and their families and friends, the referring hospitals and specialized centres, and the community as a whole. Identifying each of the core elements of CQI and determining their expectations and perceptions about the quality of service, whether they supplying or receiving it, is a crucial step for successful application of QI initiatives.

Creating a quality strategy requires an understanding of the concepts underlining the improvement process and a determination of how these concepts can be applied consistently with the culture and values of the organization and of the community. Attention to how people think, their current knowledge, behaviours and attitudes, and the creation of a simple, logical approach to what has to be accomplished, are among the priorities for effective application.

Saudi Arabia is one of the Islamic nations; the two leading holy mosques of Islam are located in it. Saudi's social and economic development has taken place within the framework of Islamic religious beliefs. The special position of Saudi Arabia within the Islamic nations has created special cultural norms and values which have an impact on

the daily life of most Saudi people. Moreover, the demographic nature of the Saudi population (a majority of whom have Bedouin origins), creates an additional dimension to the Saudi culture. Within this framework, the researcher will list some of the characteristics that distinguish the Saudi PHC service from other countries and provide a special cultural context for the application of CQI:

- Many Saudi people place great faith in their religious beliefs and believe that illness and health are a religious concern. It is written in the noble Qur'an (the holy book of Muslims) that: Say: 'nothing shall ever happen to us except what Allâh has ordained for us. And in Allâh let the believers put their trust'¹ (**verse 51**) and it is also written that: when afflicted with calamity, say: 'truly! to Allâh we belong and truly, to him we shall return'² (**verse 156**). As a result, they are less likely to complain about an unsuccessful treatment outcome or less expected services.
- Saudi people tend to serve each other according to tribal norms, acquaintance, or personal interest. As a result, they easily manage to avoid the criteria set by health policies, such as those governing their eligibility as patients and avoid the necessity for referral from PHC centres to obtain treatment at public hospitals. **Mufti (1999)** reported that there is minimal control of utilization in public hospitals, consequently leading to abuse and over utilization. **Saeed, et al (1992)** reported that 6% of eligible families did not visit the PHC centre (Olaisha centre in Riyadh city) because they received health care directly from public hospitals without referral.
- PHC centres are divided into male and female sections, including facilities and staff. As a result, medical consultation and health education are usually given separately.
- Saudi women are not permitted to drive vehicles; some of them have difficulties in transportation, as a result, their follow up is frequently disconnected.
- Education is free but not compulsory, illiteracy rates in adults is high, women's illiteracy is higher than men's, as the results PHC written health education materials such as pamphlets, booklets and posters are ineffective unless they include guiding pictures or descriptive images. Explicit detailed human images (such as faces and complete body) are not allowed to be presented in the educational materials. As a result, some subjects, such as breast self-examination, are not adequately addressed.

¹ Qur'an : Sûrah (chapter) 9, part 10, verse 51.

² Qur'an :Sûrah (chapter) 2, part 2, verse 156.

2.6 THE DEVELOPMENT OF THE PRIMARY HEALTH CARE APPROACH:

In May 1975, the report of a study sponsored jointly by WHO and UNICEF, *Alternative approaches to meeting basic health needs in developing countries* (Djukanovic and Mach, 1975), revealed that despite the great efforts made by governments and international organizations, the basic health needs of the majority of people throughout the world are not yet being met. The report also criticized the existing patterns of health systems, which were often modelled on those in the industrialized world, and called for revolutionary changes in approaches to health services, which should be remodelled and linked to the prevailing cultures, norms and values of individual societies. The study explored the strengths and weaknesses of several health systems in different parts of the world, selecting case studies of different countries with different political, economical, socio-cultural, environmental and ideological features. From the analysis of these approaches, the study concluded that despite economic and other formidable problems, it was possible, using available resources, to meet the basic health needs of the populations in developing countries, achieve better health care coverage and improve the skills levels among health workers selected by local people from among themselves and suitably trained. This was contrasted with efforts that introduced reluctant, alienated, and frustrated groups of bureaucrats into the community (Djukanovic and Mach, 1975).

Those new challenges and the quest for an idealistic model for the delivery of health care, gave momentum to calls for a higher priority to be assigned to the identification of solutions to health care and social injustice, particularly among rural and urban slum dwellers. Therefore, health became a social target for government. The World Health Assembly resolved in its thirtieth session, in 1977 that:

The main social target for governments and WHO in the coming decades should be the attainment by all the citizens of the world by the year 2000 of a level of health which will permit them to lead a socially and economically productive life (WHO, 1979, page 7).

This was the starting point for the well-known goal of *Health for all by the year 2000* (HFA/2000). After 1977, a series of national, regional and international meetings, seminars, workshops and conferences had been held throughout the world, organised by WHO and UNICEF (Bennett, 1979), and culminating in the Alma-Ata Conference of 1978. This was attended by government delegations from 134 member states together

with representatives of 67 United Nations' organizations, specialized agencies, and non-governmental organizations in official relation with WHO and UNICEF (**WHO / UNICEF 1978**). This conference has been described as the largest and most authoritative international meeting on health affairs ever convened (**Golladay, 1980**) and as the largest single-theme conference ever held (**Bennett, 1979**).

There were five objectives for this conference:

1. To promote primary health care in all countries.
2. To define the principles of primary health care and the operational means to overcome the problems expected to be encountered in its development.
3. To exchange experience and information on the development of primary health care within the framework of comprehensive national health systems and services.
4. To evaluate the health care situation throughout the world as it related to, and could be improved by primary health care.
5. To identify the role of governments, national and international organizations in technical co-operation and support for the development of primary health care (**WHO / UNICEF, 1978**).

The immediate outcome of the conference was a ten article declaration reaffirming health as a fundamental human right and world-wide social goal, and calling for a new approach to health and health care, which is the primary health care (PHC) approach. The relationship between the PHC approach and development in general was emphasized. Moreover, the technical and operational aspects, and the national and international strategies and plans of action to further the approach were highlighted. The declaration concluded with 22 specific recommendations (**WHO / UNICEF, 1978**).

WHO / UNICEF (1978) defined the Primary Health Care (PHC) concept as follows:

Primary Health Care is essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and a cost that the community and country can afford to maintain at every state of their development in the spirit of self reliance and self determination. It forms an integral part both of country's health system, of which it is the central function and main focus, and of the overall social and economic development of the community. It is the first level of contact of individuals, the family and community with the national health system bringing health care as close as possible to where people live and work, and constitutes the first element of a continuing health care process (**Page 3**).

PHC is a model for delivery of services. Various agencies have conceptualized PHC as care delivered by various types of personnel, including generalist physicians, paediatricians, or internists. Most governmental agencies concerned with PHC, and many professional organizations, also insist on the inclusion of other types of personnel, such as nurses, dentists, obstetricians/gynaecologists, social workers, nutritionists, mental health professionals and various other types of therapists. PHC also has been defined in terms of its emphases on prevention, health education, family focus, or community orientation. But PHC has no monopoly on these types of services. Many specialists deliver care that is primarily preventive such as ophthalmologists, dentists, and obstetricians are the most obvious examples. Moreover, even specialists such as cardiologists or surgeons would be expected to include prevention in their repertoire of services (Starfield, 1993).

The concept of PHC could be well understood if the aspirations expressed in the definition were visibly matched in reality. The expressions such as 'essential care', 'acceptable methods', 'accessibility' and 'affordability' need further explanation. Essential health care is the health care which would meet the actual health need of the community, categorized in broad terms as health promotion, preventive, curative and rehabilitative care and hence, it is comprehensive; the need for "continuity in care" of the population starting from intra-uterine life to terminal care (womb to tomb) is the second essentiality, the third qualification is to provide a satisfactory quality of care compatible to professional and community expectations. Thus, comprehensive, continuous and compatible quality is the basic essentials for the delivery of PHC (Starfield, 1993).

Accessibility to health care is to be ensured in terms of geographical proximity and social access and functional access. Ideally, the proximity to the PHC services should be as near to the people as possible and actually, PHC begins at home. However, the MOH policy denotes that organized professional services, should be available through health centres to every citizen within an hour of travel using the most common mode of transport available in that area. Thus, the geographical proximity and convenience of transport are a necessity especially for implementing health promotion and preventive services with its outreach components. Social accessibility denotes the ease of access to all the population irrespective of socio-economic or cultural barriers or preferences.

Functional accessibility means that right kind of care is available on a continuous basis appropriate to the kind of need (WHO / UNICEF, 1978).

Affordability means that the PHC services are to be provided within available resources. The term resources should not only mean the governmental inputs, neither does the aim of providing services free of cost should not mean that there is no scope for a community input. The available government resources in terms of money, material and manpower may have to be redistributed or at times supplemented through community inputs, to share the cost in certain PHC activities such as improvements to the home environment, protection of water source, and community disposal of refuse, etc. Hence, whatever PHC activities are planned they have to be within the affordable limits of the providers and community (Al-Mazrou, et al., 1990).

Furthermore, *Equity* to an extent depends on access; the latter is the facility and the former is an active function. Equity means services are available to all and that more services are available to the more needy and vulnerable while continuing to provide essential health care for all the population irrespective of social, economical and cultural preferences. Extended care is to be provided to the “high risk” groups in the community either within the health centres or through the health centres at a higher level of care (hospital). Characteristics of the population served have to be known, if equity is to be ensured, and vulnerable groups need to be identified and reached. The “at risk approach” is a proven approach, to achieve faster results with limited resources in terms of visible positive changes in the health status of the community. Health services (not necessarily health centres) have to be dispersed into the farthest remote rural areas and into the deepest parts of the underserved urban population. The failure to reach the needy and the majority is usually due to limited geographical access. Thus, to ensure equity, accessibility has to be improved either by increasing the number of health facilities, by improving transport conditions, or by organizing outreach services, thus substituting one when the other is not available. PHC services aim to correct imbalances in accessibility and bring health services as near to people’s homes as possible and are supported by higher levels of health care to which patient can be referred for extended care.

PHC as a concept and instrument of delivery of health care is the key to achieving an acceptable level of health throughout the world within the foreseeable

future as part of social development and in the spirit social justice. It is equally valid for all countries, from the most to the least developed, though it may take varying forms in each of them.

Rifkin and Walt (1986) pointed out that:

PHC is not merely health service improvements. It is understanding and improving the range of social and economic factors which ultimately influence the improvement of health status (**page 559**)

WHO / UNICEF (1978) reported that, a health system is made up of components from the health and other sectors whose interrelated actions contribute to health. It is subdivided into various levels, the first of which is the point of contact between individuals and the health system where PHC is delivered. Accordingly, a package containing health promotion, preventive and curative service components were formulated and were described as the eight elements of PHC. The details of delivery of each element would depend on the actual priority, community needs, the stage of socio-economic and health development and available resources in a community or country:

1. Education concerning prevailing health problems and the methods of preventing and controlling them.
2. Promotion of food supply and proper nutrition.
3. Provision of comprehensive maternal and child health care.
4. Immunization of children against major communicable diseases.
5. Prevention and control of locally endemic diseases.
6. Provision of adequate supply of safe water and basic sanitation.
7. Appropriate treatment of common diseases and injuries.
8. Provision of essential drugs.

(Rehabilitative services could be included if decided upon whenever required).

The first three elements in the above list are basically health promotion services; the middle three preventive and the last two (together with) rehabilitative services would form the classical curative care. However, the division into eight elements is not absolute in the sense they are not independent of the whole extent, as each element extends to others domain to some extent and every element is complimentary to each other for the effective implementation of any single element with all the elements acting collectively towards total PHC implementation (**WHO / UNICEF, 1978**).

The above mentioned eight services indicated as elements, are to be organized and delivered on the basis of principles of equity in distribution, appropriate technology, multi-sectoral approach and community participation. These elements and principles, considered in totality along with accessibility and affordability, constitute the PHC approach in the delivery of health care.

PHC requires development, adaptation and application of appropriate technology that the people can use and afford. The word 'technology' is used to express the total sum of materials, methods, and techniques in association with the persons using it, which are potentially capable of solving health problems. It also implies that technologies are required not only for diagnostic and therapeutic manoeuvres but also for disease prevention, control and health promotion. Appropriateness means that besides being scientifically sound it is also acceptable to those who apply it and to those for whom it is used. Though it is commonly perceived that the person who is going to apply it is a trained health professional, in PHC practice there are instances where the technology may have to be applied by an individual, family or community e.g. use of tooth brush, eye glasses, domestic water filters, domestic pest control, etc. Thus, the technology should be applicable for "self use". Scientifically sound and acceptable technology has to fulfil certain criteria such as sensitivity, cost, ease of application and maintenance, cultural acceptability, and the capacity adaptation and further development locally. The developmental efforts of each sector are complimentary to other and hence, individual sectors cannot function in isolation. Even if the health sector confines its activities to the array of PHC elements, multi-sectoral inputs are required to deliver each of these services because of the inherent inadequacies in skills and resources. The division of responsibility, the proportional inputs and priorities for such action would vary within each country and community, depending on the health problems, felt needs and actual needs, health sector resources, community resources and resources of the related sectors. However, the process should continue to evolve through defining mutual roles with the dynamic leadership provided by PHC personnel (**Al-Mazrou, et al. 1990**).

Social awareness and community self-reliance are the key factors in human development, people should have both the right and duty to participate in the process for the improvement and maintenance of health. Hence, it is of utmost importance that the

PHC providers make necessary arrangements for individuals, families and communities to assume responsibility for their health. Though we still consider PHC being provided in terms of essential services, PHC in reality is a practice by people for their own health benefits. Hence, the scope for involvement is unlimited (by involving them in all spheres of PHC activity for planning, implementation and evaluation) and the need for initiating participation should be paramount. The support from higher levels of the health care services is necessary to ensure the use of technical knowledge that is too complex or expensive to be applied routinely through PHC. In addition, the hospitals are to be reoriented towards PHC, so as to share the social goal of making essential health services available to all, to accept and incorporate PHC concepts in hospital practice and to extend support for PHC development in addition to the established role of care of patients on referral. The expressed PHC concepts, principles and aspirations need to be implemented through developing a suitable PHC delivery system. PHC development would be a long but dynamic process (**Al-Mazrou, et al. 1990**).

Various agencies have conceptualized PHC as care delivered by various types of personnel, including generalist physicians, nurses, paediatricians, or internists. Many professional organizations insist on the inclusion of other types of personnel such as dentists, obstetricians/gynaecologist, social workers, nutritionists, mental health professionals and various other types of therapists. **Starfield (1993)** argued that such conceptualizations fail to provide a coherent approach to improving the delivery of PHC services. Characterization by type of personnel assumes that personnel of the designed type all have had training that is targeted toward achieving the same goals; it loses sight of the fact that increasing specialization of all types of professionals makes them increasingly less likely to be oriented to PHC.

PHC also has been defined in terms of its emphases on prevention, health education, and family focus or community orientation (**WHO/UNICEF, 1978**). But PHC has no monopoly on these types of services. Many specialists deliver care that is primarily preventive: Ophthalmologists, dentist, and obstetricians are the most obvious examples. And even specialists such as cardiologists or surgeons would be expected to include prevention in their repertoire of services **Starfield (1993)**.

Starfield (1993) has pointed out four components of PHC:

1. *First contact* means that care has to be provided when it is needed. To do this, services must be accessible in time and place and by financing and culture. To be translated into first contact care, this accessibility must be manifested as behaviour; the population must use the source of care in a timely manner when a need for care is perceived.

2. *Longitudinal* means that care is time oriented rather than oriented to a disease or a disease episode; longitudinal care is person focus rather than focused on a problem or type of problem. To achieve longitudinal care, there must be at least an informal agreement of the patient to enrol as a regular patient and of the practitioner to be the regular source of care. Beyond this, it must be demonstrated that care is sought from that source each time, except for specific referrals made by the PHC source to other types of providers.

3. *Comprehensive* means that there is an assumed responsibility to provide care for the common problems in the population. To do this requires an explicit and appropriately inclusive range of services and that these services be provided when they are needed.

4. *Coordination* is the function that “puts the pieces together” when patients are sent elsewhere for referrals, procedures or therapists. The coordinating function requires some mechanism of continuity to provide the information about the care patients receive elsewhere, and it also requires actual recognition of information generated when patients must be seen elsewhere for various aspects of their care.

In addition, **Flocke (1997)** pointed out additional three characteristics of PHC:

1. *Accumulated knowledge* is defined as the patient's perception that the physician knows his or her values and preferences about medical care issues, clearly understands his or her health needs, and knows the family medical history. Also the idea that the patient and physician had 'been through a lot together' was considered a part of this attribute.

2. *Interpersonal communication* is defined as patients' reports of how well the physician listens and explains during their interactions. These aspects have been shown to relate to patient satisfaction, compliance, and health outcomes (**Woolly et al. 1978; Leopold, et al., 1996; Bertakis, et al., 1998**).

3. *Continuity of care* is defined as continuous care by PHC providers over time.

PHC is theoretically supposed to provide curative, preventive, health promotion and rehabilitative health services, the range of which will certainly vary from one country to another. However, in reality PHC is curative in nature. Many developing countries provide only curative services, with a minimum level of preventive aspects (Sebai, 1988). Although the majority of the health problems facing the developing countries health can be tackled by adopting appropriate preventive measures, many people will remain unconvinced and have difficulty in accepting preventive care because the effectiveness of PHC is poorly regarded by patients (Stephen, 1991).

There are strong indications that PHC has and can bring about marked gains in health. It is well known that PHC, if delivered as intended by WHO, can meet almost 80% of the health need of the people and only 20% of health problems should be referred to secondary and tertiary health care (Sebai, 1988). PHC does bring about reductions in infant mortality when implemented with sufficient resources. There is strong evidence that infant mortality rates in resource-poor countries have continued to drop at a steady rate since 1990 (Rutstein, 2000) Further, worldwide vaccination coverage rates for measles have risen from less than 20% in 1980 to now cover 80% of the world's population, and measles cases have fallen from more than four million in 1980 to be now less than 0.8 million annually (WHO, 2000c)

However, health cannot be attained by the health sector alone. In developing countries in particular, economic development, anti-poverty measures, food production, water, sanitation, housing, environmental protection and education all contribute to health and have the same goal of human development. PHC, as an integral part of the health system and of overall social and economic development, will of necessity rest on proper coordination at all levels between the health and all other sectors concerned (WHO / UNICEF, 1978). In some developing countries, development of the health care system has meant simply expansion of the existing health system. This strategy will not lead to achieving the social, economic and political goals set by the PHC International Conference. Moreover, a large number of developing countries depend on assistance from rich industrialized countries and international organizations. Mburu (1980) questions for how long those countries will continue to rely on the industrialized countries and pointed out that as long they do so, they try to model their health care systems on those in industrialized countries.

2.7 THE CONCEPT AND ROLE OF PHC CENTRES:

The idea of the PHC centre has two main origins: the public health movement, which began in the mid-19th century in Europe and United States, and a wide variety of attempts to provide selected medical services to the general population, especially to vulnerable groups (**WHO Study group, 1997**). The terms used for PHC centres vary widely, ranging from the dispensary, clinic or polyclinic as a place mainly for curative care, to the health station or health post as a place where the main activity is to promote public health. However, PHC centre is defined by the WHO as a frontline facility working for health promotion and protection as well as providing treatment and care services within a locality or district health system that has a certain amount of self-reliance and authority. PHC centres are known by different names. Smaller ones may be dispensaries, health posts or health stations, depending on the resources available to the level of services provided. Whatever its size, the PHC centre is the essential heart of PHC at the district level, working closely with other structures (**WHO Study group, 1997**).

There has been widespread agreement for many years that health development should be carried out through district or local health systems large enough to be manageable (**WHO Working Group, 1989**). Two contrasting current trends reinforce this view. The first is the decentralization of politics and government in many countries (**WHO / UNICEF, 1978**), which makes the importance of the local system self-evident. The second is the much talked about globalization, which is placing the control of more and more goods and services in fewer and fewer hands (**Kahssay, 1998**). For developing countries in particular, it implies the transfer of a greater share of health resources to the underserved majority of population (**WHO / UNICEF, 1978**). In this context strong and self-reliant local systems are seen as a necessary counterbalance, without which the needs of the majority seem certain to be neglected (**Kahssay, 1998**).

With globalization has come an alarming increase in international statements and guidelines "for developing countries" about such matters as ethics, equity and health system reform. When it does not refer to specific places, times, people and conditions, such thinking is of little interest outside international forums. All these trends in fact make the importance of the local or district health system more conspicuous. Within local health care system of developing countries, health development is most effectively



implemented through health centres (**WHO, 1994a**), if we understand these to have responsibility both for the maintenance of optimum health and for the care of the sick in a given area or population.

PHC centres should be able to respond dynamically to whatever health problems arise in their catchments area. This means they must be equipped and staffed to provide a wide range of medical services and preventive activities, and to tackle the emerging health agenda of lifestyle and social related problems. **Kahssay (1998)** argued that PHC centres have been generally sidelined by vertical programs despite their critical position for delivering and linking a variety of services for the benefit of people's health. He explained that PHC centres focusing on vertical programs when they emphasize targets to be reached instead of building up systems that have the capacity to promote health and solve health problems. He pointed out that a notable example of a vertical programme is the Expanded Program on Immunization (EPI), it is separated from maternal and child health of which it was and should have remained a part.

Despite the Alma-Ata Declaration, and even sometimes in opposition to it, vertical programs have continued, and indeed flourished. Paradoxically, the most debilitating aspect of these vertical programs for health development is that they are solution-based (**Kahssay, 1998**). They emphasize targets to be reached instead of building up systems that have the capacity to promote health and solve health problems.

According to **WHO Study Group (1992)**, PHC centres should carry out a range of health promotion, protective, preventive, diagnostic, curative, and rehabilitative activities, including provision of inpatient and maternal care for patients requiring a bed for less than 24 hours. They should receive technical support from first-referral hospitals and provide support and supervision to increase the quality of care at dispensaries and other PHC centres or sub centres. Their activities should also include social welfare, education, and environmental health. As technical and operational modules of PHC systems in urban areas, PHC centres should work to develop community-based health services, responding to local health needs and taking into account social, epidemiological and environmental conditions in the populations they serve.

Further, the **WHO Study group (1997)** pointed out the expected role of the PHC centres is that it should:

- Respond to local needs and requirement;
- Maintain an ongoing dialogue with individuals, families and communities;
- Provide health promotion, preventive, curative and rehabilitation activities;
- Work with other sectors in promoting activities and initiatives related to health;
- Function as a "health development unit" and not simply as a clinical services point;
- Provide equitable and quality health care too all in a catchments population.

To take on such a pivotal role it is essential that PHC centres be appropriately and strongly supported by the people and communities, the district authorities and district hospitals, the provincial and central levels, the training and research institutions, and by information systems and the media (**WHO, 1994a**). Staff at all these sectors need to understand the challenges, difficulties and skills required for effective PHC health centre practice, and provide the support needed to strengthen this.

The **WHO Study Group (1992)** reported that most of the PHC centres in urban areas are primarily concerned with basic curative and preventive services and deal with some aspects of maternal and child health. Health posts and health centres, while useful in providing a primary level of care, are limited in their capacity and services, and in the skills at their disposal, and are usually available during official working hours only. Their services are usually not adequate to meet local health needs or the growing demands made on them by a knowledgeable and well-informed local population and as a result of developments in basic health technology. On the other hand, the inpatient, outpatient and emergency services of first-referral or district hospitals are often congested with patients suffering from minor ailments and illnesses. Interrelationships and referral and support systems between these institutions are often very weak, if they exist at all, and there are frequently not well-defined joint activities addressing community health needs in a comprehensive way. There is no doubt that a strong body is needed for overall district health planning and management at district level. However, for technical and epidemiological reasons and for the efficient delivery of services, most health care centres need a more local reference point. It is therefore necessary to strengthen and upgrade the PHC centres or to establish at least one of them as a reference PHC centre in each district with a sizeable population. They should provide

comprehensive general health care, leaving hospitals to deal with referrals and more complicated cases.

In addition, the **WHO Study Group (1997)** identified the following weaknesses that contribute to problems in the present functioning of the PHC centre system:

- The quality of service provided is often poor, which undermines the credibility of the PHC health centre as an institution.
- Management problems exist at two levels: in the PHC centre, where they are characterized by poor teamwork and difficulties in developing and implementing action plans; and the district and national level, where technical and managerial support capability is generally inadequate.
- A limited understanding, throughout the health system, of the role of the health centre. This has frequently led to inadequate financial and material resources as well as small numbers of staff at the local level.
- Poorly skilled and demoralized staff that feels isolated and, in general, lack the skills to be effective problem-solvers and net-workers.

In order to encounter all the difficulties resulting in the adequate implementation of the PHC system and in order to improve the PHC centre activities, **Kahssay (1998)** suggested number of conditions must be fulfilled:

- *The government must play a leading role in creating a favourable environment for health centres.* A clear government policy of endorsement for PHC health centres in the national health system is needed, backed by strong commitment. To reinforce this, supporting legislation and regulations are needed to facilitate the flexible management of administrative, financial and human resources at the local level.
- *Revitalized training programs for health centre staff are needed.* The skills and training of PHC centre staff must change drastically. For this, a concerted effort on the part of training institutions is needed. The revitalization of PHC centres will require a break both with the clinical mentality found in many training institutions and with the bureaucratic mentality found in many government health departments. The **WHO Study Group (1997)** has listed "old and new" skills needed by PHC centre staff. These include, in addition to the usual health skills: working with people

and organizations in the local community, financial management, and working with local government.

- *Support for PHC centres must be strengthened.* Supervision of PHC centre staff is often routine and sometimes rigid and authoritarian. Managers at the district and higher levels, who are responsible for supporting PHC centre teams, need technical skills and managerial approaches that correspond much more closely to the centre's actual function as a provider of health care and an agent of development.
- *The capacity of PHC health centres to do their own research and development, and learn from experiences, must be expanded.* The active examination of problems and key issues would enable the PHC centre to engage far more effectively with others and to provide leadership in its catchments area and district. Direct collaboration with universities can be useful. However, a note of caution is called for here, as universities are well known for their tendency to do research in order to publish, while PHC centre need to do it in order to solve their problems.
- *Resources must be shifted towards the PHC centres.* PHC centres deal with up to 80% of a country's health problems but receive as little as 20% of its health resources and of the attention given to health matters in policy-making. This reflects "the 80/20 imbalance" which characterizes the world's health and economic situation (Kahssay 1998). Findings from 40 countries reports during the International Conference on Community Health Centres (Montreal, Canada, 3-6 December 1995) indicated that in half of those countries PHC centre expenditure was less than 15% of the total health budget. For example, in Chile, PHC centres attend to 97.8% of all births and 97% of all outpatient consultations. In the United Kingdom, 97% of the population is registered with a general practitioner, and 90% of all patients are seen at local PHC facilities outside hospitals. In Portugal, 80% of the population is registered with general practitioners at local PHC centres (WHO, 1994b). Furthermore, in 1994, data from monitoring reports on progress towards health for all showed that 80% of the countries in Africa spent less than 35% of their health expenditure on health care at the local level (WHO, 1994b).

Because of the worldwide movement towards privatization, decentralization and democratization, PHC centres are again in the spotlight. Privatization is compelling them to be more entrepreneurial, while democratization calls for more community involvement and more cooperation with other partners, which influence health status. PHC centres in all their shapes and forms are the interface between communities and the health and development sectors. In most countries they are the most numerous and widespread structure for delivery of health services. Thus, the attempts of the health sector to assist people in their struggle for better health will succeed or fail at the PHC centres (**Kahssay, 1998**).

In conclusion, the critical role of the PHC centre for health care delivery must be appreciated, and the missed opportunities since the Alma-Ata Declaration must now be seen as challenges for improving performance. Because of its closeness to the grass roots, it is undoubtedly the PHC centre that offers the greatest potential for sustainable community health development. PHC centres are critical as they could provide relevant information for bottom-up planning and for decision-making at the health PHC centre, hospital, district health system and local government levels. They could facilitate the participation of other sectors and agencies in defining health needs and priorities. Taken together, this process enables a holistic approach to defining health needs, developing health interventions, and ensuring quality of care. Unfortunately, as WHO reported, this desired situation is not happening in any significant way in most areas of the world (**WHO Study Group, 1997**).

When PHC centres are bypassed, and hospitals and specialist centres are used to provide treatment for simple ailments, the costs of care rise dramatically. In part this is because the unit cost for essentially any procedure is higher in hospital than in PHC centres, and partly because it leads to ineffective utilization of PHC centre resources. Thus, PHC centres should be strengthened to provide adequate first-level care and appropriate follow-up of patients. If this can be achieved, it will lead to a far more rational use of resources throughout the health service (**WHO Study Group, 1997, page 9**).

2.8 QUALITY MANAGEMENT IN AMBULATORY CARE:

Improved delivery of primary care health services is increasingly seen as critical to efforts to improve health care access and quality while controlling costs. The mounting evidence associating primary care with quality of care and parsimonious resource utilization has increased policymakers' expectations that primary care delivery represents one important part of the cure for many health care system ills. The question of which aspects of primary care are associated with important health care out-comes has not, however, been elucidated. Defining and measuring the specific domains of PHC is critical to efforts to evaluate the effectiveness of PHC (**Flocke, 1997**):

Palmer (1991) pointed out that in the United States, ambulatory health care has been a Cinderella service, taking third place to hospital and long-term care, and he stated that:

Cinderella's problems were not limited to doing all the housework and missing the ball. She had to wear her sister's hand-me-down clothes. Ambulatory care has suffered similarly by having imposed on it systems, including quality assurance systems, that were designed for the very different circumstances of hospital care (**Page75**)

It is obvious that this problem is not limited to the United States, but extends to most of the developing countries. Moreover, little attention had been paid to the quality of PHC services in these countries (**Sauerborn, et al., 1989a; Forsberg, et al., 1992; Haddad and Fournier, 1995; Haddad et al., 1998a**). Hospital care is widely accepted as "more important" than either long-term or ambulatory care because it concerns patients who are seriously ill and whose unstable conditions require complex technologies and close attention by numerous skilled personnel. The stakes are high for hospitalized patients because the care given is often urgent and may be life saving but also may be risky.

In contrast, ambulatory care is perceived as less important because it concerns mostly minor illness in patients whose condition is relatively stable and for which simple interventions suffice. Third-party payers are minimally involved, and the costs are therefore not only lower but also less visible. No single organization speaks for the diverse providers of ambulatory care. Yet decisions made in ambulatory care can save lives and limit disability, and also avert costs of care through prevention and early intervention in disease. Most ambulatory care is considered "primary" because, for

many patients, the quality of care given in this setting will determine whether subsequent hospital admission occurs (**Palmer, 1991**).

The next section provides a review of historical information, which discussed the concept of quality management in PHC. But, contrary to plans, this review is limited to United State practice. The scarcity of available literatures related to Europeans countries is the reason for this limitation. The quality management in Saudi PHC is discussed in the following session.

Peterson, et al (1956) conducted one of the earliest studies of the quality of ambulatory care in the United States among general practitioners in North Carolina in 1954. He and his colleagues visited volunteer general practitioners in their practices and described their office facilities and practice characteristics. In current terminology, we would call this an assessment of structure of care. They also watched patient visits and rated practitioners' performance under headings such as taking a history, performing a physical examination, making a diagnosis, and prescribing therapy. However, this observational method has not come into frequent use, undoubtedly because of the amount of effort and the cost required.

Other investigators in the late fifties and early sixties used peer review (implicit criteria) of process of care but applied judgements to data from medical records. For instance, the New York chapter of the American Society for Internal Medicine (ASIM) reported in 1965 that it was possible to measure quality of ambulatory care by implicit peer review of medical records (**Kroeger, et al., 1965**). Physicians at the Health Insurance Plan of New York published similar findings around the same time (**Morehead, 1967**). This method had the advantage that using medical records involves less effort than direct observation and is therefore less expensive. A major drawback was the use of implicit criteria. Judgments made by individuals tend to be "unreliable"; that is, different reviewers disagree for a proportion of records, and even the same reviewer may give a different rating to the same medical record at a different occasion.

There followed a series of studies in which investigators sought to overcome the problems of implicit review by writing explicit criteria for judging quality of ambulatory care as documented in medical records. Because explicit criteria are time-consuming to construct, they were developed only for selected common diagnoses or

conditions. The work was commissioned by physician groups interested in measuring quality as a stimulus for their membership to improve its own performance. Medical records of volunteer physicians were used to test the methods. Examples of this approach, generally called "medical audit," were reported in seventies by **Payne and Lyons (1987)**, for the Hawaii Medical Association, **Hare and Barnoon (1973)** for the American Society for Internal Medicine, **Osborne and Thompson (1975)** for the American Academy of Paediatrics. A surprise finding of these studies was that the lists of explicit criteria derived by votes of physician panels gave very low scores to these same physicians when applied to their own medical records. The federal government subsequently funded a study specifically to examine these puzzling findings (**Hulka, et al., 1979**). With hindsight, it emerged that while systematic, quantities, objective approaches increase the reliability of quality measurement, criteria in list form do not satisfactory capture the complex decision logic of medical care.

In the period from the fifties to the early seventies, physician self-improvement of the process of care was the focus. The next wave of work emphasized the impact of care upon the patient. This next wave of work emphasized the impact of care upon the patient. This immediately brought it closer to physicians' real practice goals. **Williamson (1978)** was a leader of this movement for outcome studies. He campaigned against measures of quality that bore no relationship to patients' welfare and emphasized that quality measurement should lead to interventions to improve quality. Of course, medical records are insufficient to capture patients' outcomes one they have left the office, so Williamson sometimes re-examined patients or, more often, sent questionnaires to patients after they received care. He also explored explicit methods of setting outcome criteria by having physicians estimate expected rates for achieving a particular outcome at a defined interval after care in particular groups of patients.

The scope of studies expanded rapidly. Patients were surveyed not only about their health status following care, but also about their perceptions of access to care and their satisfaction with the care received. Two major studies in this genre include **Hulka, et al (1976)** study of volunteer general practitioners in Fort Wayne, Indiana and **Mushlin and Appel (1980)** study of the Columbia, Maryland. A further expansion was to study not just users of care (patients), but also populations at risk to receive (or not to receive) care. A study by **Kessner (1974)** exemplifying this shift toward detecting the

underserved. He arranged independent examinations of a population sample of children to detect rates of treatable but as yet undiscovered and untreated disease as a means of judging quality of primary care in neighbourhood.

Many lessons were learned from these studies. It became clear that the study of ambulatory outcomes is expensive and difficult. Minor changes in health are hard to measure and outcomes may be delayed for years. If and when bad outcomes occur, many factors may be blamed for them. These can include poor access to care so that disease is far advanced when patients are first seen, confusion as to which of many providers is responsible for a patient's care, patients' failures to take effective therapy or to pay attention to warning signals and errors in systems for keeping track of patients over time. Several solutions to the difficulties of outcome studies emerged. For instance, among desired outcomes in treating hypertension is prevention of death from heart and kidney disease. Because we know that control of blood pressure is associated with reduced mortality, we can use blood pressure control as an "intermediate outcome measure" for quality. Another approach is to evaluate implementation of known effective processes. For example, immunization is known to be effective in preventing bad outcomes attributable to certain infectious diseases. Completion of the recommended immunization schedule is a satisfactory correlate of good outcome and the most feasible way to assess outcomes and processes in ways that to improve the outcomes. In all these approaches, the emphasis remains on good implementation, not just good decisions.

Palmer (1991) indicated that the obvious progress in measuring quality in the U.S. health system led to interest by regulators in measuring the quality of the care for which they provided reimbursement, so that they could invoke sanctions for care of unacceptably poor quality. This is one mode of operation for what we now call external monitoring of quality.

During the seventies, external monitoring of quality flourished. **Morehead, et al (1971)** in a study of federally funded neighbourhood health centres conducted a pioneering program. She used both explicit and implicit judgments for quality of process care, and applied these to medical records data. In this period too, in 1975 the JCAHO, followed by the Accreditation Association for Ambulatory Health Care (AAAHC), developed voluntary accreditation programs for ambulatory care to

encourage quality patient care in all type of freestanding ambulatory care facilities. The accreditation standards mostly concerned structure of care; including standards for quality of medical records and requirements that ambulatory care providers operate internal quality assurance programs ¹(**JCAHO 1980 and AAAHC, 1979**). The National Committee for Quality Assurance (NCQA), which was founded in 1979 as a joint effort of the Group Health Association of America and the American Association of Foundations for Medical Care, was contracted to perform the external review of access to care. By year 2004, nearly 1,200 freestanding ambulatory care organizations are accredited by JCAHO, covering the full range of ambulatory health care services, including PHC centres.

These external review programs required that a vast quantity of reviews be performed. An array of logistical problems had to be overcome when dealing with large numbers of diverse sites. A leap in the ability to review care on a large scale came from taking advantage of a different data source: claims for reimbursement submitted to third-party payers. Leading in this field were medical programs in various states, contracting in some instances with a Professional Standards Review Organization (PSRO) or a precursor, an Experimental Medical Care Review Organization (EMCRO) (**Nelson and Cannon, 1979 and Loher, 1980**). The goal of review was primarily to detect unnecessary care, which is both harmful to patients and wasteful of resources. One method was to subject claims to statistical analysis comparing physicians' use of services for comparable patient groups in order to detect "outliers" whose practices would receive more detailed study. Another approach, pioneered at the San Joaquin Foundation for Medical Care, was to incorporate medical criteria in automated screening to detect and deny payment of claims for apparently inappropriate services, **Harrington (1973)** in some instances, review was expanded to detect indicators of poor quality of care unrelated to over utilization, occurrences that are now called "sentinel" or "adverse" events.

During the seventies and early eighties, advances continued in the review of the process of ambulatory care using medical records. **Greenfield (1975)** applied concepts from medical decision analysis to formulation of explicit criteria for ambulatory care quality. He developed criteria that followed the "branching logic" so common in

¹ Available at <http://www.jcaho.org/accredited+organizations/ambulatory+care/index.jtm>

medicine: “if A happens, B is indicated: if not, C is indicated.” He showed that these were much better related to outcomes of care than the earlier “list” type of criteria **(Greenfield, 1981)**

Palmer developed simplified branching criteria specifying both correct decisions and implementation of those decisions for nine different ambulatory care “tasks” **(Palmer, et al., 1983; Palmer, et al., 1984a; and Palmer, et al., 1984b)**. She and her colleagues developed interactive computerized data systems, which allowed entry of data abstracted from medical records, applied the criteria, and produced reports of quality scores for individual cases, groups of cases, and cases sorted by practitioner. These data systems were used in cycles of quality assurance that resulted in physicians’ taking actions that produced improvements in care **(Palmer, et al., 1985)**.

Advances have also continued in quality measurement based on outcomes. One approach which is commonly used is “screening” of records for adverse (sentinel) events using “generic” (as opposed to disease-specific) criteria. As the term “screening criteria” implies, the adverse event approach is useful for scanning to detect problems, which are then referred to a physician who conducts a detailed review of care given by specific physicians. The method treats hospital admissions for conditions that are theoretically preventable by good ambulatory care as indicators of possible problems in quality **(Palmer, 1991)**.

Looking back over evolution of methods to measure quality of ambulatory care, two things are clear: we have come a long way, and we still have a long way to go. Methods of measurement have become more sophisticated as solutions to earlier methodological problems were produced. Despite this progress, many challenges remain. The measures currently available do not do justice to the full range of interactions between providers and consumers. Fortunately, better data systems and continuing improvements in computer technology will facilitate further developments **(Palmer, 1991)**.

2.9 QUALITY ATTRIBUTES IN PHC:

As noted by **Grumbach (1999)**, in the past decade, PHC have experienced both the “best of times and the worst of times”. Multiple studies have been published suggesting that for selected conditions specialists may provide better care; one large study reported that a significant percentage of PHC physicians reported feeling pressured to provide care beyond the limits of their expertise (**St. Peter, et al., 1999**), while others have demonstrated the importance of PHC coordination to clients along with some concerns about ease of referrals to specialists (**Grumbach, 1999**). In addition, market pressures have stimulated health care organizations to provide options for consumers to “opt out” of a restrictive relationship with a single physician through point of service and other options. Struggling with their role as gatekeepers while striving to provide patient centred care, general internists have long been in at the forefront of assessing what works in PHC practice with respect to the organization of practice, the impact of PHC on vulnerable subgroups, development and implementation of strategies to improve care in specific clinical domains, and identification of dimensions of patient-centred care. These efforts have been conducted at a time when interest in assessing and improving quality of care has intensified in response to public concerns about managed care and patient safety (**Arolyn and Lancy, 2000**).

Despite these efforts, however, there is surprisingly little consensus regarding which aspect of PHC practice represent the critical elements of excellence in PHC and which strategies can assure consistent delivery of high quality care. The diversity of patients and problems, the small scale of many practices, and the low volume of any specific condition would appear to resist many straightforward approaches to quality measurement and improvement. While many clinical quality measures now used to accredit health plans are relevant to PHC, by definition measurement in any one clinical domain can only capture a small slice on any clinician’s practice. Complementary strategies have included efforts to identify dimensions of PHC from the consumer’s perspective (**Safran, et al., 1998a and 1998b; Goldfield, et. al., 1999**), assessment of patient satisfaction or experiences with care (**Press, et al., 1992; Starfield, 1992; Cleary and Edyman-Levitation, 1997**), and evaluation of broad dimensions of PHC such as accessibility, continuity, coordination and comprehensiveness (**Safran, et al., 1994; Seibert, 1996**).

The significance of PHC lies in the added value to patients. One important potential contribution is the opportunity to promote health and prevent disease. Seeing patients over time and across different situations provides windows of opportunity in which primary care physicians can address the delivery of appropriate preventive services. **Nutting (1986)** suggests that several attributes of PHC (longitudinality, communication, and generally, the patient-physician relationship) may facilitate health promotion. In addition, accumulated knowledge about the patient's values and lifestyle may help physicians tailor the preventive services to those that may be most effective for particular patient. It is likely that attributes of primary care and especially those related to an established patient-physician relationship could be associated with the maintenance of clinical preventive services over time.

The lack of understanding of the value of specific components of primary care (**Donaldson and Vanselow, 1996**) has been complicated in the past by a poor consensus on the definition and operationalization of its specific domains (**Starfield, 1992**). **Starfield (1992)** mention that what distinguishes PHC is its organization and its challenges. It is frontline care, ongoing care, comprehensive care and coordinated care. Each of these characteristics can be measure.

Progress has been made in measuring the specific attributes of primary care comprehensively (e.g. **Safran, et al., 1994; Bindman, et al., 1994; Flocke, 1997; Flocke, et al., 1998**), although refinement and evaluation of the different measurement approaches are warranted. As better measures of the delivery of primary care (as described in the IOM definition) are developed, a clearer understanding of the association of the delivery of primary care with patient outcomes has also developed. The IOM committee on PHC contends that much is to be learned from a multidimensional view of PHC that includes implications for health care reform, medical education, and organization of delivery systems.

Schillinger, et al (2000) provides additional avenues for evaluating important dimensions of high quality PHC. **Schillinger, et al (2000)** conducted a prospective randomized trial of gate keeping in a public hospital. The team evaluated the impact of the intervention on utilization of PHC services, use of the Emergency Department (ED)

for non-urgent or low acuity visits, specialty care, hospital admissions, and patients' satisfaction. After one year, patients in the intervention group were found to have significantly fewer specialty visits and hospital admissions, no significant increase in PHC visits, and no differences in use of the ED for non-urgent care. Patient satisfaction at base line and at 1 year was equivalent between the two groups. The researchers attempted to assess inappropriate reduction of specialty care by examining referrals to ophthalmology for diabetic patients, and found that utilization was comparably low (38% of eligible patients) in both group. There were too few hospitalizations to assess whether the observed reduction in hospitalizations was attributable to those considered ambulatory-care sensitive, and the findings here are reported as differences in the number of hospitalizations rather than differences in length of stay or total hospital days.

These findings provide support for the premise that a gatekeeper model, albeit one not associated with financial penalties or incentives, can enhance patient outcomes in a public hospital setting. The patients in this study were poorer and reported lower self-rated health than patients likely to have been enrolled in commercial managed care plans. Of particular note, these findings suggest that coordination of care, a characteristic of PHC that has been frustratingly difficult to measure, can result in enhanced outcomes with no decrease in patient satisfaction. For those struggling to implement similar approaches in comparable settings these findings should be good news. The one specific clinical measure that was assessed was referrals for eye examinations. However, while less than optimal, this was close to the 50th percentile for commercial plans reporting from that region.

Looking to the future, it is clear that the possibilities for expanding and refining the conceptual frame works for identifying and replicating the best of PHC has only begun to emerge. The challenges of an aging and increasingly diverse patient population, the largely unexplored frontier of errors in PHC settings, and the possibilities for enhanced use of information technology in routine practice is only beginning (**Arolyn and Lancy, 2000**).

Flocke, et al., 1998 questioned 'Why were the anticipated benefits of having an assigned primary care provider not realized?' Several have argued that merely assigning

a PHC physician to a patient does not justify the assumption that the cardinal tenets of primary care will be delivered (Starfield and Parrino, 1996; and Henley, 1996). Additional work on evaluation of primary care with various processes and outcomes needs to be done (Donaldson, et al., 1996) but must include the recognized components of primary care as opposed to a one-dimensional definition of primary care based on clinician specialty, residency training, or care setting (Starfield, 1996).

There is no accepted definition for CQI in PHC. However, AL-Mazrou, et al (1990) concluded that CQI in health care could mean:

(a) Maintaining predetermined standards of care for the health services provided for all members of the community when required.

(b) Ensuring appropriate execution of the effective health activities.

(c) Improving the quality of health care in order to improve the health status of the community.

(d) Continuous searching for ways to improve community health care defined in terms of pre-set, specific, and clear objectives.

(e) Continuous monitoring of pre-set standards using selected indicators related to the PHC elements.

Jankowski (1999) concluded that good quality PHC provides a comprehensive, coordinated, continuous program of prevention, treatment, and care at first contact. However, an important aspect is effective communication where the patient and PHC professional explore a number of possible options.

Gabbott and Hogg (1994) conducted a study to investigate the relative importance of the process aspects in patient evaluations of the health-care experience. This was done from a perspective which encompassed the doctors and the practice. A questionnaire was mailed to a random sample of 2,000 adults resident within central Scotland drawn from the register of electors. The results of the initial factor analysis provided evidence of six underlying strategies for assessing primary health care. The first factor, which explains 26% of the total variance, was concerned with the range of services offered by the practice. The emergence of this factor also highlights the importance of treatment accessibility as opposed to physical accessibility when assessing the performance of the practice. Factor two accounts for 10% of the total variance and relates closely to the empathy dimension. The third factor which explains

9% of the variance concerns an element in the evaluative process which was characterized as a doctor dimension. This comprises the age, gender mix and qualifications of the doctor in the practice. While this information does not describe the nature of the service provided by the doctor, it does provide the patient with an indication of experience and gender oriented empathy. Factor four which explains 7% of total variance concerns physical access to the practice. Factors five and six, which together explained 6% and 5% of total variance respectively, concerned the physical decor of the facilities and the time spent waiting for treatment.

Haddad, et al (1998a) conducted a study to document the user's opinion on the quality of PHC services in Guinea. A 20-item scale was used. These were categorized into three groups. The first group included five items related to health care delivery: one item dealt with diagnoses, one with the care outcomes, and three with drugs (prescription, quality and availability). The second group of items included eight items referring to the attitudes and practices of the health care workers: patient follow-up, clinical examination (which is not systematic, and is considered as a mark of attention from the health care staff), the reception of the patient, compassion, respect, time spent, explanation given on the health problem, and lastly, the honesty of the staff. The seven items in the third group focused more specifically on the health care facilities. Three items referred to accessibility and dealt with adequacy of the fees, the possibility of making special payment arrangements (credit), and distance. Four other items dealt with resources: the adequacy of the number of doctors, female doctors for women's treatment, equipment and rooms.

In addition, in a survey of over 200 patients, **Buller and Buller (1987)** found that satisfaction with health care increased as physicians used an affiliation style of communication (i.e., friendliness, openness, attractiveness, and calmness) and decreased as physicians used a more controlling communication style (i.e., dominance and contentiousness). **Bertakis, et al (1991)**, in their study of more than 500 patients in two university clinics, found that those receiving a patient activation style of care showed the greatest improvement in satisfaction after one year and a significant correlation between satisfaction and improved health status (The patient activation style used was one in which the physician asks or the patient spontaneously offers what he or she knows or believes about health and disease, the patient asks questions, and there is

discussion of topics not related to the current visit). In the same study, physicians-patient interactions that were classified as a counselling style (discussion of interpersonal relations or the current emotional state of patient or patient's family) or a preventive service style (disease prevention discussions, plans, or screenings) were significantly associated with an improved health status. It appears that discussion of psychosocial issues in a PHC setting assists patients in the healing process **Bertakis, et al (1998)**. In Engel's bio-psycho-social model (**Engel, 1980**), the PHC provider must consider and integrate information about all the systems in which the person exists: biological, psychological, interpersonal, social, and cultural. Similarly, the concept of focusing on the whole person, as opposed to disease or organ system, was included in the IOM's 1978 definition of PHC (**IOM, 1978**).

Kupper, et al (1975) and Ware and Snyder (1975) suggested that quality of PHC services could be described differently from the viewpoint of the three services customers: administrators of the service (MOH); service provider (health team) and service consumer (the community). Their identified quality attributes are listed below:

1. PHC Quality from the service consumer viewpoint could mean:

- A service that is available all the time
- Easily accessible
- Feeling of comfort
- Politeness of health providers
- Disappearance of symptoms

2. PHC Quality from the service provider viewpoint could mean:

- Technical skills
- Availability of resources and structure
- Freedom in health provision
- Achieving the target outcome

3. PHC Quality from the administrators' viewpoint could mean:

- Best services
- Least possible cost
- Best outcome

Similarly, **AL-Mazrou and Farag (1994)** suggested that there are different classification and opinions with regard to quality attributes of PHC services. For the health service owner, quality means best services, with least possible cost, and achieving best out come. Health care providers perceived quality as: technical skills, availability of resources and structure, freedom in health care provision, and achieving the target outcome. While quality from the community viewpoint means: a service that is available all the time, easily accessible, feeling of comfort and politeness from health providers, and disappearance of symptoms

From the above one can notice that there are definite differential perceptions of primary health care quality. In general, the existing literature on the issue of quality dimensions of PHC services encompasses two sets of criteria:

- those identified by PHC providers - staff qualifications, the availability of certain equipment, facilities, drugs and supplies, the staff-to-patient ratio, and the rigor of quality assurance measures; and
- those attributes identified by PHC consumers – choice of providers, physical accessibility, staff courtesy, convenience of hours, environment and availability of information (detailed diagnosis, prognosis, alternative courses of treatment etc.).

Any objective assessment of the performance of health care systems must include both of these perspectives.

One sure way to reduce the continued bypassing of PHC centres is to ensure that the services provided are high quality. In the matter of PHC services, quality standards must be met from the point of view of all three partners - the public, the health professionals, and the authorities. The definition of quality must take into account the views and feelings of the consumer. It is only in this way that the notion of quality becomes meaningful, with a positive utilization of the PHC services. **WHO study group (1992)** reported that even in the most generously funded health systems, there has so far been only limited progress in developing operationally useful measures of health outcome, while techniques, such as peer audits, for monitoring the quality of services still widespread acceptance. There is an urgent need for political commitment to ensure that the monitoring and evaluation of PHC system are combined with understanding of what is good practice.

2.10 QUALITY OF PHC SERVICES IN DEVELOPING COUNTIES:

Saudi Arabia is the largest country in the Middle East, occupying the majority of the Arabian Peninsula. The Red Sea is on the west and the Persian Gulf lies to the east. The world's largest sand desert, the Rubal-Khali, stretches across the southern boarder. The country was formed under the leadership of King Abdulaziz Ibin Saud. He and his sons began the modernization that developed the country from a land of wandering Bedouins to the home of an astronaut who flew abroad the June 1985 Discovery Mission. As the world knows, oil revenues propelled this country from one of the poorest to one of the highest per capita incomes (Mills, 1986).

Saudi Arabia is an oil-based economy with strong government controls over major economic activities. Saudi Arabia has the largest reserves of petroleum in the world (25% of the proved reserves), ranks as the largest exporter of petroleum, and plays a leading role in OPEC. The petroleum sector accounts for roughly 75% of budget revenues, 45% of GDP, and 90% of export earnings. About 40% of GDP comes from the private sector. Roughly five and a half million foreign workers play an important role in the Saudi economy, for example, in the oil and service sectors. The government in 1999 announced plans to begin privatizing the electricity companies, which follows the ongoing privatization of the telecommunications company. The government is encouraging private sector growth to lessen the kingdom's dependence on oil and increase employment opportunities for the swelling Saudi population. Priorities for government spending in the short term include additional funds for education and for the water and sewage systems. Economic reforms proceed cautiously because of deep-rooted political and social conservatism.

The following are some of economic indicators of Saudi Arabia¹:

GDP: purchasing power parity - \$286.2 billion

GDP - real growth rate: 4.7%

GDP - per capita: purchasing power parity - \$11,800

GDP - composition by sector: *agriculture:* 4.7%, *industry:* 58.8%, *services:* 36.5%

Budget: *revenues:* \$78.77 billion, *expenditures:* \$66.76 billion,

¹ Source: www.cia.gov/cia/publications/factbook/geos/sa.htm. Updated on 14 Sep 2004

Although Saudi Arabia has a good economical situation, where its GDP is higher than the GDPs of some Eastern European countries, which are considered as developed countries (see table 2.5), Saudi Arabia is ranked by the United Nation (UN) as a developing country¹ (see appendix II). This classification is not based on the country's GDP, put according to its general level of human development, where according to the Human Development report that is annually published by the United Nation Development Programme² (UNDP), Saudi Arabia is ranked as a country with medium human development. It seems that all developing countries either those who are suffering from low economical situation such as some African countries or those who blessed with an oil-based economy such as some of the Gulf countries are sharing similar experiences with the dilemma of ensuring quality of health care services.

³Table 2.5, Comparison of Saudi GDP with some of Eastern Europe countries' GDPs

	Saudi	Albania	Bulgaria	Georgia	Romania	Croatia	Armenia
GDP	\$286.2 billion	\$16.13 billion	\$57.13 billion	12.18 billion	\$155.0 billion	\$47.05 billion	\$11.79 billion
GDP - per capita	\$11,800	\$4,500	\$7,600	\$2,500	\$7,000	\$10,600	\$3,500

Palmer (1995) stated that: “Just give me more staff, more equipment and more money and I will improve quality”. The researcher argued that resources scarcity is not the only obstacles that challenging provision of quality health care services, many common behaviors which are usually shared by the developing countries – such as centralization of health system, lack of community empowerment, poor resource allocation, inadequate supervision, weakness of leadership and management, and inadequate training of health manpower – are responsible for the continuing of quality issues as a problem in developing countries (WHO Study group, 1997; Sebai, 1988; and Hall and Taylor, 2003). Reerink and Sauerborn (1996) supported this argument, pointing out that the scarcity of human resources, buildings, equipment and money to run health services may exist in developing countries.

¹ Source: list of country groupings and sub-groupings for the analytical studies of the United Nations word economic survey and other UN reports. Available at <http://www.UN.org>.

² Source: United Nations Development Programme (UNDP). Human Development Report (HDR) 2005. Available at <http://hdr.undp.org/reports/global/2005/>

³ Source: www.cia.gov/cia/publications/factbook/geos/sa.htm. Updated on 14 Sep 2004

But there are other more conceptual reasons, which resulted in delays to tackling the issue of quality of care in these countries:

- (i) *Inappropriate focus on inputs.* Of the three elements in the **Donabedian (1986)** triad of structure, process and outcome, the focus in the assessment of quality has been clearly put on structure. The assumption was that document-based analysis of the process of care was that not feasible, given the low degree of documentation of care, and that observation of provider-patient encounters was prohibitively expensive. Therefore, inputs, which could be assessed with ease and at low cost, were frequently used as proxies for quality. Such input indicators included the presence of drugs in PHC centres **Litvack and Bodard (1993)** and staffing **Akin, et al (1995)** and the availability of electricity or running water **Lavy and Germain (1994)**. The reality in many developing countries made it tempting to equate lack of quality with the absence or shortage of inputs. The proposed policy consequence was to finance inputs to improve the quality of care. The assumption was that a minimal level of inputs is essential before one can focus on the process of health care delivery.
- (ii) *The new concern for quality of PHC.* In the late 1980s, several factors came together to put quality of care on the agenda: first, the recognition that the quality of many health services was, indeed, low. Second, studies indicated that the low utilization of both community health workers and first line health services was, to a large extent, due to consumers' perceptions of low quality of care (**Sauerborn, et al., 1989b**). Patients voted with their feet and shunned health care which they perceived as low quality. Third, the quality came from a change in the financing of health care. Austerity policies under the banner of "structural adjustment" forced governments in the 1980s to cut subsidies to the health sector. Since in most developing countries the bulk of PHC was (and still is) provided by subsidized government services, policy-makers began to look for non-budgetary ways to finance health care. They turned to either user fees or some form of prepayment schemes. In both cases, patients/customers were asked to pay directly for health services. It became clear that consumers were only willing to pay for health services,

and thus generate the necessary revenues to fund them, if they perceived these services to be of reasonable quality.

Accordingly, **Reerink and Sauerborn (1996)** strongly suggest that focusing on improving the process of care through quality assurance (QA) is the most promising avenue to improving quality of care in these countries. They also reviewed the current state of the art of QA of PHC in developing countries and formulated some policy suggestions. They call for a national commitment and leadership that provides a legal and institutional framework for QA and setting professional standards, training, supervision, and information. Finally, they concluded that the focus on process should not lead to a neglect of improving inputs.

One of the first large-scale comprehensive efforts to provide detailed information on how PHC services were delivered in developing countries was carried out by the USAID-financed Primary Health Care Operations Research (PRICOR) project (1985-1992) whose studies spanned 12 countries (Saudi Arabia was not included). Using a direct observation of over 6000 patients-providers encounters, this project uncovered several deficiencies in the diagnosis, treatment and counselling of patients as well as in the supervision of health workers for the following PHC activities: immunization, case management for malaria, diarrhoea, and acute respiratory infections (**Nichols, et al., 1991**).

The following are some PHC quality management studies that are carried out in Africa. **Kanji, et. al (1995)** measured the quality of PHC services in Dar-Es-Salaam. He concluded that there was a high level of inadequate care among both government and non-government PHC providers. **Amonoo-Lartson, et al (1985)** carried out a study in rural clinics in Ghana to assess the process of providing maternal and children care. They compared actual (observed) performance levels with expected levels for a number of diagnostic, therapeutic and counselling tasks. They found significant performance gaps especially in the area of physical examination and in the counselling of patients/clients. Similarly, **Sauerborn, et al (1989a)** analysed maternal and child health services in a rural district of Burkina Faso. They reported that the task of screening for risk factors in both under five clinics and antenatal clinics was especially well below standard. They also found that communication in both curative and preventive clinics

was poor. **Bjorck, et. al (1992)** observed 539 primary care visits and found that, according to local standards of care, only 65 (12%) of the patients were adequately diagnosed and treated. In another study, a qualitative study in Tanzania, the interpersonal skills of health centre staff were especially inadequate (**Gilson, et al (1994)**). It is therefore no surprise that community satisfaction with PHC services is low

Nevertheless, interest in the quality of health care services in developing countries appears to be on the rise (**Haddad, et al. 1998b**). There has been an increase in the number of actions aimed at maintaining acceptable standards of quality (**Nichols, et al., 1991**) and of studies concerning the assurance and evaluation of quality (**Amonoo-Lartson, et al., 1985; and Bjorck, et al., 1992**). This trend undoubtedly translates the concerns raised by the implementation of strategies to improve the continuity and effectiveness of PHC services. It is also the consequence of the repeated observation of strong links between the quality of services and use of these services. In fact, perceived quality is one of the principal determining factors of utilization (**Haddad and Fournier (1995)**) and non-utilization of services (a major issue in several developing countries) is often traced to a perceived lack of quality (**Gilson, et al., 1994**).

Patient satisfaction is increasingly recognized as an important issue for health care reform strategies in low and middle income countries; for example, because of the influence of perceived quality on demand for services (**Mwabu, 1986; McPake, 1993**). Yet satisfaction has rarely been the explicit focus of assessment in these countries; only few such evaluations have been identified such as (**Wouters 1991; and Paine and Wright 1988**). Satisfaction is, however, an implicit element in a range of assessments of utilization patterns (**Paine and Wright 1989; Abu-Zeid and Dann, 1985**) and in knowledge, attitude and practice surveys (**Ward, 1987**).

Clearly, feedback from clients is vital if deficiencies are to be identified and improvements achieved. In many developing countries, PHC services are fully financed by the state, and the people who use them are mostly poor, elderly, uneducated or unemployed. These people have the greatest difficulty in evaluating what is provided because, as a rule, they have no basis for comparison. Consumers make judgments about quality by assessing factors they can appraise, such as courtesy, responsiveness, attentiveness and perceived competence (**Dagnew, 1984**).

There have been relatively few works published with the specific objective of identifying the criteria that communities apply to judge PHC services in developing countries. **Haddad, et al (1998a)** identified five attributes of quality of PHC services which are perceived by lay people in Guinea: technical competence, attitudes and conduct of personnel, availability, and adequacy of resources and services, accessibility, and effectiveness of care.

In a rapid appraisal of urban consumer preferences about health in Fiji, the art of care emerged as the foremost criteria. This was followed by availability of drugs and personnel, physical environment, technical quality, accessibility and inpatient food (**Singh, et al., 1999**). A study on the qualities that should be found among health workers in Zaire showed that women valued interpersonal qualities (respect, patience, courtesy, attentiveness, friendliness and straightforwardness), technical qualities, and to a lesser extent, integrity (**Haddad and Fournier, 1995**). When they were asked about the two best qualities a nurse should have, the majority mentioned a relational component first and a technical component second. Thus, women's judgment on the quality of care may be largely based on their perception of the health providers' conduct. Studies conducted in various settings and with various population groups support this observation (**Attah and Plang, 1993; Bryce, et al., 1992**). Additional information on women's views of the quality of PHC services is reported in a Tanzanian study in which 250 women were invited to discuss their previous experiences with public, private and traditional providers (**Atkinson and Ngenda, 1996**). From the comments on public services, the authors deduced a classification of perceived quality involving six dimensions: (1) conduct of health staff; (2) technical care, including outcome; (3) convenience of the health facility; (4) organization of the health care; (5) drugs (prescription, and availability) and (6) structural aspects, including staffing.

These studies provide interesting information on the criteria that communities may use to judge the quality of PHC services. Since communities are not homogenous in their definition of quality and most of the previous studies in developing countries focus on specific, somewhat non-representative groups, these studies do not necessarily provide an exhaustive view of the perceptions, which can prevail in a community. As research conducted in the West suggests, perceived quality may vary among members

of different socio-economic groups and may be influenced by the social, organizational and technical context in which the health services are delivered (**Calnan, 1988b**).

However, **Haddad, et al (1998b)** have mentioned that:

We lack a detailed taxonomy of perceived quality which could act as a framework for the construction of tools to measure the component of care in conformity with the dominant representations of the users (**Page 100**).

National governments throughout the world adopted PHC as their official blueprint for total population coverage with essential PHC services. Goals and targets were set for Achieving Health For All by the Year 2000 (**WHO, 1981**). Some of these goals were that:

- at least 5% of gross national product should be spent on health;
- at least 90% of children should have a weight for age that corresponds to the reference values;
- people should have access to trained personnel for attending pregnancy and childbirth; and
- child care should be available up to at least one year of age (**WHO, 1981**).

More than 30 years later, health statistics¹ tells us that despite the exciting progress made in improving the health of those living in the developing world, challenges continue to face developing countries:

- In 2000, 11.1 million children under the age of five died, primarily due to preventable illnesses such as diarrhoea and acute respiratory infection.
- Over her lifetime, a woman in Africa has a 1 in 13 risk of dying during pregnancy and childbirth. More than half a million women die each year from causes related to pregnancy and childbirth.
- At the end of 2001, 40 million adults and children were infected with HIV/AIDS. By 2010, it is estimated that more than 44 million children in 34 developing countries will have lost one or both parents. The majority of these deaths will result from AIDS.

¹ Available at www.usaid.gov/our_work/global_health/home/confrontingfactsheet.html

- The world's population is over 6.1 billion, and rapid population growth continues to put a strain on developing economies and natural resources.
- At least 135 million children in developing countries struggle to survive without the support and protection of parents. These vulnerable children are the innocent victims of extreme social and economic distress, natural disaster, disease, armed conflict, and exploitation
- According to the world health report 2004¹, in Saudi Arabia the under-five mortality rate per 1000 living birth is 29, infant mortality rate per 1000 living birth is 24, maternal mortality ratio per 100 000 live birth is 23, malaria mortality rate per 100 000 is 4, tuberculosis prevalence per 100 000 is 16, and HIV prevalence among adults is <0.1 %

For the future, there must be questions about what might bring about change in the years to come. Sixteen years ago Dr. Sebaei raised the following challenging questions and this research is questioning them again. Is the economy of the developing countries going to improve and is more money going to be available to the health sectors? Is political commitment of the 134 members' states of the WHO that signed the Alma Ata decree going to be fulfilled, so that the health will be considered an objective of economic development? Are health authorities and medical educators going to change their approach to health care from focusing on individual patient care to a holistic approach to health? (Sebaei, 1988). The most important question is how the dream of "health for all" can be turned into a reality?

The "World Health Report 2000, Health Systems: Improving Performance"² marked the end of WHO's use of PHC as the means for the delivery of healthcare services in resource-poor countries. This report puts the failure of PHC to achieve its goal down to inadequate funding and insufficient training and equipment for healthcare workers at all levels. This resulted in either a total lack of services at the community level, or services of such poor quality that people had no option but to bypass the primary-level providers, resulting in a failure of the referral system within the PHC hierarchy (WHO, 2000a).

¹ Source: the world health report 2004, changing history. Available at www.who.int/whr/en/

² Source: the world health report 2000, health system: improving performance. Available as www.who.int/whr/en/

2.11 HEALTH CARE SYSTEM IN THE KINGDOM OF SAUDI ARABIA

For review the health profiles of Saudi Arabia, see appendix I

In contrast to the centralized governing authority in Saudi Arabia, the health care system is divided among several government ministries and the private sector. The Ministry of Defence and Aviation, the Ministry of Interior, the Ministry of Higher Education, and the National Guard operate hospitals and clinics for employees and families. The MOH plans and manages health care for the general population, operates hospitals and clinics, recruits personnel, and participates with other Persian Gulf countries in a council dealing with common health concerns.

Health Services in Saudi Arabia have developed enormously over the last two decades, as evidenced by the availability of health facilities throughout all parts of the vast Kingdom. Health services provided by the government sector in the Kingdom of Saudi Arabia are mostly free and account for 80% of total services (MOH, 1995). The Saudi MOH provides over 60% of these services, free of charge. Twenty per cent of the health service is delivered free through other government agencies, and the remaining 20% is provided by the non-government sector.

A series of development plans (five year plans) in Saudi Arabia have established the infrastructure for the expansion of curative and preventive services all over the country. Rapid developments in medical education and the training of further Saudi health manpower have also taken place. Future challenges facing the Saudi health system are to be addressed in order to achieve the ambitious goals set by the most recent health development plan. These include the optimum utilization of current health resources with competence health managerial skills, the search for alternative means of financing these services, the maintenance of a balance between curative and preventive services, the expansion of training Saudi health manpower to meet increasing demand, and the implementation of a comprehensive PHC program (Sebai, et al., 2001).

The Saudi's first contact with their health care system is with PHC centres or private health dispensaries. The secondary level of care is obtained from proprietary or government-financed hospitals that are general, or less technical, in nature. Hospitals associated with the university medical schools conform to this category, in contrast to the academic hospitals found in the West. Tertiary care subdivides into two groups of

hospitals. One group focuses on specific diseases or medical areas such as the psychiatric hospitals, the tuberculosis hospitals, the one Hansen's disease (leprosy) hospital, the infectious diseases hospitals, and the maternity and children's hospitals. Although these hospitals specialize, their missions and resources do not allow inclusion with the group of so-called specialist hospitals. These offer sophisticated, diagnostic testing and technical advanced treatment. Examples are the King Khalid Eye Specialist hospital and King Faisal Specialist hospital and research centre. Until recently, patients were sent abroad for specialized treatment at government expense. This practice has been curtailed as access to health care has improved within the Kingdom.

Beginning with the introduction of the first of the five-year Development Plans in 1970, the Saudi health care system underwent a dramatic quantitative and qualitative improvement. Even as the modern network of health care and social services was expanded across the entire country, technology was continually updated to incorporate the latest medical advances. Today, Saudi Arabians have access to a network of thousands of hospitals and clinics across the country and are no longer obligated to travel abroad to obtain specialized medical treatment. Sophisticated surgical procedures such as open-heart surgery and organ transplants are routinely performed in various Saudi hospitals to the highest international standards.

Nevertheless, **Sebai, et al (2001)** reported that the expansion of health facilities has not been equally commensurate with other important issues, such as: the development of health information system for the purpose of effective planning, monitoring and systematic evaluation; the training of personnel in various medical fields and health administration; and the enhancement of preventive services. Moreover, the lack of financial incentives for physicians and other professionals, the lack of cost-consciousness, and the tendency on the part of physicians to want to do every thing possible for the patients, leads to excessive use of resources in situations where benefits are at best marginal (**Umeh, 1996**). If that is the case, then given the abundance of highly specialized equipment and facilities in the Kingdom, a delivery system that prevents abuse and excessive use of resources is urgently needed (**Mufti, 2000**).

Most medical care is free for the Saudis. Funding is through several routes: the employer/sponsor, the applicable government ministry, or through the benevolence of a prince or a sheikh. Payment is required by those who opt to use private sector facilities,

by those who do not fall in the above categories, and by those who demand extra services. Up till now there is no system of medical insurance coverage, however, there is a plan to apply an insurance system very soon. In 2000, the total budget of the MOH reached over SR 13000 millions, the relatively high health expenditure in this country compared to that of many developing countries has made the extensive coverage with curative services in Saudi Arabia possible. Due the increasing burden of health expenditure on government, health privatization was highly encouraged since the fourth of the five-year development plan (MOP, 1985). An example of this encouragement, the government in conjunction with its own hospital expansion program subsidizes the private sector with loans to construct hospitals according to the number of beds needed (Mills, 1986). As a result of the privatization policy, the general government expenditure on health is relatively reduced through out the years. **Table 2.6** shows progress of the expenditure on health in Saudi Arabia.

¹**Table 2.6:** The health expenditure on health in Saudi Arabia

Health expenditure Indicator	1997	1998	1999	2000	2001
Total expenditure on health as % of GDP	5.3	5.2	4.5	4.5	4.6
Generals government expenditure on health as % of total expenditure on health	77.3	76.3	73.7	74.4	74.6
Private expenditure on health as % of total expenditure on health	22.7	23.7	26.3	25.6	25.4

Saudi Arabia depends on expatriate professionals and institutions to supplement its own national human resources, while education and training develop local manpower. There is a great deficiency in the national health care manpower. It is calculated that there will be a total of 15,226 Saudi doctors in the Saudi health workforce by the year 2020, representing only 32% of the total health manpower. This is a rather conservative estimate, based on a projected 500 graduates per year (Sebai et al., 2001). Hence, the country's dependence on expatriates to fill physicians' posts will continue for long time. Similar shortage is also envisaged among Saudi nurses (Luna, 1998), and other health personnel, in dictating an urgent need to accelerate the training of the Saudi workforce in all health fields. It should be noted that the development and training of health manpower in the country should concentrate not only on the quantity of health personnel trained, but also on quality and performance of those trained.

¹ **Source:** the world health report 2004, changing history. Available at: www.who.int/whr/en/

2.12 QUALITY IN PRIMARY HEALTH CARE IN SAUDI ARABIA

Nationwide coverage with PHC service for all citizens has been the target of the MOH. The Saudi PHC program, which now reaches over 95% of the country's population, is considered by WHO to be the most valid and relevant program according to the socio cultural and economic situation in the Kingdom. As reflected in the reports of the two in depth review missions (1987 and 1989) by the MOH and WHO/ EMRO, the policy, strategies, and procedures followed in implementing Primary Health Care are both sound and effective (**AL-Mazrou and Farag, 1994**).

At the early years of developing the PHC services in Saudi Arabia, their contribution were not adequate due to the lack of quality measures at that time. This perception was addressed by **Banoub's study (1982)**. He conducted a study in 1980 to assess the PHC services in Qasim region (it is one of the eight administrative regions in Saudi Arabia) in terms of accessibility, comprehensiveness, continuity and efficiency, using quality indicators. **Banoub (1982)** concluded that the efficiency of the services needed to be strengthened through sound planning, organization, co-ordination, information and control. An inadequate utilization of resources was found. The services provided were mostly curative and were mainly treating sick people visiting the units. These services are mostly provided through a rapid examination leading to a provisional clinical impression for which drugs are prescribed mainly as tonics, antibiotics, and analgesics. Health promotion and preventive services were minimal. He argued that greater community participation should be encouraged. The quality of care was affected by the lack of continuing education for professionals and by the inadequate administrative quality control measures.

In addition, the PHC services that available to the general population were predominantly oriented towards curative services. An official survey of the utilization of health services in PHC centres was conducted by the Ministry of Planning in 1984. The report of this survey documented a heavy focus on providing curative services, with over 90% of its activities directed towards individual patient care. Mother and child care, antenatal care, information on proper dietary habits, prophylactic routine examinations of preschool children, etc. were insufficient (**MOP, 1984**). This trend was noted in many old studies that conducted in rural and urban areas in several regions of

the country. In a study of Qasim province, **Sebai (1982)** reported that the physician in the PHC centre examined about 90 patients per day spending about 2 minutes per patient. The services were predominantly curative. In Al-Ahasah region ten health centres were evaluated and were found to be mostly curative and to mainly treat sick people visiting the centre (**Banoub, 1984**). The same pattern of curative services was observed in rural areas such as Khulais village (**Sebai et. al., 1980**) and in Tamnia village (**Sebai and Al-Hazmi, 1981**)

Accordingly, health planners for the fifth national health plan (1990-1995), felt the need to emphasize preventive services in PHC centres and shift interest towards reducing endemic disease, combating community health problems, and raising the health level of the population through application of all curative, preventive and health promotion elements in PHC. The impact of these measures was evident in the extensive coverage of the children's immunization program, a 29% reduction in hospital attendance, and a 24% increase in PHC visitors for all types of services during the five-years (1989-1994) period (**Luna, 1998**).

Although, the royal decree issued in 1980 led to the establishment of PHC centres by administratively integrating dispensaries, health offices and Maternity and Childhood (MCH) centres into one unit, there is still a great need for administrative organization, technical integration and coordination at the policy-and decision- making levels. **Baldo, et al (2000)** addressed this issue clearly. He indicated that the responsibility for some PHC components remains outside the General Directorate of PHC centres. For example, immunization, communicable disease control and prevention of chronic diseases are the responsibility of the General Directorate of Parasitic and Communicable Diseases, while health education and environmental sanitation fall under the General Directorate of Preventive Health. The General Directorate of PHC centres is only partly responsible for PHC programs. It provides technical and managerial support to 20 regional PHC directorates, which are responsible for implementing all PHC functions. Monitoring and follow-up of specific programs are carried out by the directorate concerned. Technical integration of PHC policies and decisions is engineered by the General Directorate of PHC centres through meetings, internal correspondence, participation in scientific and training activities and feedback to regions. The MOH is currently reviewing a proposal for reorganizing its

administrative structure, possibly including the establishment of a central assistant deputy post for PHC to encompass the General Directorates of Reproductive and family health, child health and immunization, health education, and Health Centres Affaires. It is hoped that this new PHC department will have sufficient authority and resources to successfully fulfil its functions.

Through out the history of the application of the PHC services in Saudi Arabia, there has been tremendous progress and improvement in PHC services. The number of PHC centres increased from 1306 by year 1985 to 1766 by year 2000, the total of physicians in PHC increased from 3086 by year 1985 to 4192 by year 2000, the total number of nurses increased from 6002 by year 1985 to 9848 by year 2000, Total PHC assistant health personnel increased from 3154 by year 1985 to 5091 by year 2000 (**MOP, 2000**).

This expansion of the PHC centres' services in Saudi Arabia created a need for various types of evaluation to measure the quality of the PHC services, and illustrates the differences in the health situation within the country. The WHO indicated in 1981 that governments should know whether they are making progress towards attaining an acceptable level of health for all people or not. The director of WHO in 1985 requested that governments should gather information about the availability of resources in various centres. In order to ensure an equitable distribution across the centres, Saudi MOH and WHO conducted the first review of PHC services in 10 regions of Saudi Arabia jointly in November 7th 1987. Based on the results of this review, it was indicated that before any further expansion of PHC centres, it would be imperative to conduct a general situation analysis of health centres, in which basic indicators of quality would be incorporated in further evaluation of services (**WHO, 1987**).

The process of quality improvement was applied step by step according to a strategic plan. During the 1980s, efforts were focused on establishing comprehensive PHC services with selective strengthening of control of diarrhoeal diseases (VDD), Immunization and Maternity and Childhood services. In the 1990s, there emerged new programs, including the quality assurance (QA), programme of supportive supervision (POSS), the baby-friendly hospital initiative (BFHI) and the acute respiratory infection (ARI) programmes. In the mid-1990s, through two joint WHO review missions, more

PHC-related programmes were introduced. These included reproductive health and safe motherhood, adolescent health, women's health, control of chronic diseases, development of a district health system and strengthening of referral services for at-risk groups, mainly mothers and children. School health was revived and elderly care was also programmed. These programmes were also incorporated into the seventh five-year health plan for 2000 -2005 (Baldo, et al., 2000). In the third millennium, current financial constrains and persistent shortage of health workers necessitates effective and efficient quality improvement programmes of Saudi PHC services.

In response to the poor situation of the PHC centres in 1992, the Ministry of Health in close collaboration with World Health Organization (WHO), began an initiative to develop a quality assurance program for primary health care in Saudi Arabia. As a result of this initiative, the Scientific Committee of Quality Assurance in Primary Health Care (SCQAPHC) was developed. They considered that Donabedian's framework for health care quality assurance provides an outline that can be adapted and used according to the reality context in which primary health care is delivered. SCQAPHC acknowledges their use of the Donabedian framework in their work for constructing a quality assurance manual for Primary Health Care services in Saudi Arabia in 1994. The manual considered as the first step towards the implementation of the Quality Assurance (QA) program in PHC at a national level.

Quality Assurance Program in PHC in Saudi Arabia set out eight goals for its implementation:

1. Increasing the capacity and effectiveness of health services.
2. Increasing efficiency of the health services.
3. Maintaining "good" standards for health services.
4. Improving the outcome of health services.
5. Increasing consumer satisfaction.
6. Increasing effectiveness of community participation.
7. Improving collaboration and cooperation with health-related sectors. And
8. Improving morale of the health team.

AL-Mazrou and Farag (1994) described the framework for quality improvement in Saudi PHC as follows:

1. **Structure/Resources;** refers to both the quantity and the quality of the available or necessary resources for any program or activity. It includes for example: Health Manpower, Essential Drugs, Equipment, Records, and Buildings. It includes also organizational and management plans designed for a particular problem or activity and importantly the knowledge, attitude and skills for the health team who will run the program.
2. **Processes/Procedures;** refers to the collection of procedures, activities, tasks, and functions that are aimed at meeting the overall purpose of PHC. It includes administration, communication, and monitoring of quality improvement initiatives.
3. **Outcome/Results;** it refer to the observations that represent either an improvement (health gain) or deterioration (death, disease, disability, distress, and dissatisfaction). It could be observed in the individual, community or in the environment.

Another initiative involving the introduction of quality assurance and an improvement technique to the PHC providers in Saudi Arabia is the Program of Supportive Supervision (POSS). The Saudi MOH through its PHC centres General Directorate has been working with the JCAHO in planning and implementing this program. POSS was started in 1995 to strengthen the implementation of quality assurance and improvement activities within PHC centres. POSS is coordinated by committee, all of whom are highly qualified physicians, and is chaired by the director general of PHC services. The aim of POSS is to ensure the quality of PHC activities at the health centres level in the 20 regions of Saudi Kingdom through supportive supervisory field visits. POSS is administered by a central technical committee consisting of nine senior members who are divided into three teams, each of which is responsible for six or seven regions in the country. The objective is to have each team make at least one regional visit every week. A visit consists of a short meeting with the region's top leader to explain the purpose of the visit and to select three PHC centres (2 urban and 1 rural) in the region to visit. The team accompanied by regional supervisors, then visits these centres and completes a quality evaluation form for each PHC centre that the team has visited. The form is a checklist of several indicators related to the

structure and process elements and the purpose is to assess whether the PHC is meeting the majority of indicator thresholds. If so, then it is judged by the team to be a quality PHC centre. An exit meeting is then conducted with the same PHC leaders plus the regional supervisor to provide appropriate feedback after each visit. The feedback is a summary of strengths and weakness supported by relevant recommendations. The POSS team then discusses these recommendation with the regional administrators and the regional supervisors and requests a plan of action for improvement (**Al-Assaf, 1999**).

The Saudi POSS is responsible for a number of activities in the area of PHC quality. For example, through it all health regions of the country are now being visited at least once a year. In each region a number of PHC centres have been surveyed, and feedback has been provided to the region's supervisors. In addition, several manuals have been published and distributed to the regions. The topics of these manuals include health care quality indicators, maternal/child health, acute respiratory infection, bronchial asthma, and mental health (**Baldo, et. al., 2000; Al-Assaf, 1999**). A number of national symposia have been held in several places in the Saudi Kingdom to communicate standards and protocols to clinicians and health care workers in relation to the topics addressed in the published manuals. Also, national research projects either have been completed or are currently under way to gather information.

Unfortunately, the inadequacies still continue even after the development of the quality assurance program for PHC in Saudi Arabia since 1992 and the work of POSS since 1995. A number of studies identified inadequacies and deficiencies. One example is; **Mansour and Al-Osimy (1996)** who concluded an evaluation study to evaluate the resources available in the three PHC centres in Riyadh city. The results showed that the three centres' resources were less than adequate. In terms of manpower available, the centres exceeded the MOH requirements with respect to physicians, nurses, and clerks, but did not meet the requirements with respect to laboratory and x-ray technicians, pharmacists, community health workers, social workers and health inspectors. Besides the centres' deficiencies in certain manpower categories, most of the personnel (60-80%) were not fluent in the language of the Saudi consumers (Arabic), did not have enough experiences in PHC and did not attend the training courses offered by the Saudi MOH. In addition, the condition of the equipments and facilities were less than acceptable (under equipped and inadequate).

Furthermore, **AL-Omar and Bin Saeed (1999)** have studied the factors influencing patients' utilization of primary health care providers in Saudi Arabia. Through a self-administered questionnaire, data were collected from 408 randomly selected patients in five MOH PHC centres and five private dispensaries. They concluded that because PHC providers could not control the socio-demographic characteristics of patients, policy makers should focus on ensuring that PHC facilities have enough male and female doctors. Furthermore, the quality of the medical staff of these facilities should be upgraded to improve the overall quality of the services they provided. The result their study supported the findings of **Bin Saeed (1998)** whose study showed that those patients who thought the quality of care was important were more likely to seek treatment in private health care facilities.

Bakhashwain (1995) has carried out a study to identify the factors that affect the utilization of PHC health centres at Jeddah city, and revealed the PHC client's attitude toward the provided services. He concluded that the utilization of PHC services is influenced by organizational, personal, economic, cultural and geographical factors. Some factors such as problem of transportation and a long waiting time have been found to be obstacles in connection with widely different economic and cultural characteristics. One issue specific to Saudi Arabia is the utilization of maternity care clinics, if there was no female doctor; many respondents indicated they would switch to the private sector. Another factor was language, which affected the mutual understanding between providers and consumers. The study also revealed that the majority of the respondents preferred to be treated in the private PHC sector. The competition between the two sectors will be always favour the private as long as they can do what they like, at the time they like, whereas the public PHC centre is impeded by bureaucratic and organizational obstacles. In addition, many respondents reported that they faced some kinds of difficulties with the public PHC facilities and these difficulties will influence their attitudes towards the PHC approach in general. Complaints included slowness in the provision of services, long waiting before being seen by a doctor, unhelpfulness among receptionists, problems with communication, the feeling that many doctors ignored patient's feelings and the shortage of the equipment at the PHC centres.

In addition, **Bargawi's study (2001)** provided valuable indications about the changes that should be made to promote the quality of PHC services. It illustrates the fact that clients are just as sensitive to aspects of the interpersonal relations they have with the professionals as they are to the technical quality of the care provided. They recognize the importance of a good doctor/client communication, good diagnosis, adequate treatments, as well as the need to receive sufficient information on the health problem and the treatment to follow. PHC physicians can succeed in today's environment only if clinical care and interpersonal skills are rapidly improved. The task will be easier if they are trained and retrained in the critical use of clinical guidelines, are able to operate comfortably in team settings and share client care with nurses and other types of providers, understand and use system-and process-thinking to organize and improve care. Clients who felt that they have not been thoroughly checked or given medication without careful examination and proper diagnosis are less likely to come back for care and follow the doctor's advice. PHC providers must reinvent themselves and learn how to provide real value in chronic disease and preventive services. Only then can they contribute to the coming revolution in the organization and improvement of health care services.

There is little doubt that there is great need to change some of the old-manner of providing PHC services in Saudi Arabia and to replace them with more practical programs which are harmonized with the current health challenges. The significance of PHC lies in the added value to patients. One important potential contribution is the opportunity to promote health and prevent disease. Seeing patients over time and across different situations provides windows of opportunity in which primary care physicians can address the delivery of appropriate preventive services. The lack of understanding of the value of specific components of PHC has been complicated by a poor consensus on the definition and operationalization of its specific domains. Some authors suggest that several attributes of primary care (longitudinality, communication, and generally, the patient-physician relationship) may facilitate health promotion. It is likely that attributes of primary care and especially those related to an established patient-physician relationship could be associated with the customers' (provider and consumers) satisfactions, the maintenance of clinical preventive services over time and the desired healthy community.

Recommended Facilities, Resources and Manpower of Saudi PHC centres:

Buildings of Saudi PHC centres are expected to be either governmental built or rented for purpose. There are certain criteria that expected to be fulfilled in the building, according to the PHC policies as documented on the PHC manual (MOH, 1986) e.g.: the building should be capacious, allow for easy movement of people, there should be reasonable parking areas for visitors cars and ambulatory vehicles, the building should be well located to be accessible to the majority of the people and in healthy surroundings.

It is expected that each building will have enough rooms to accommodate the following activities:

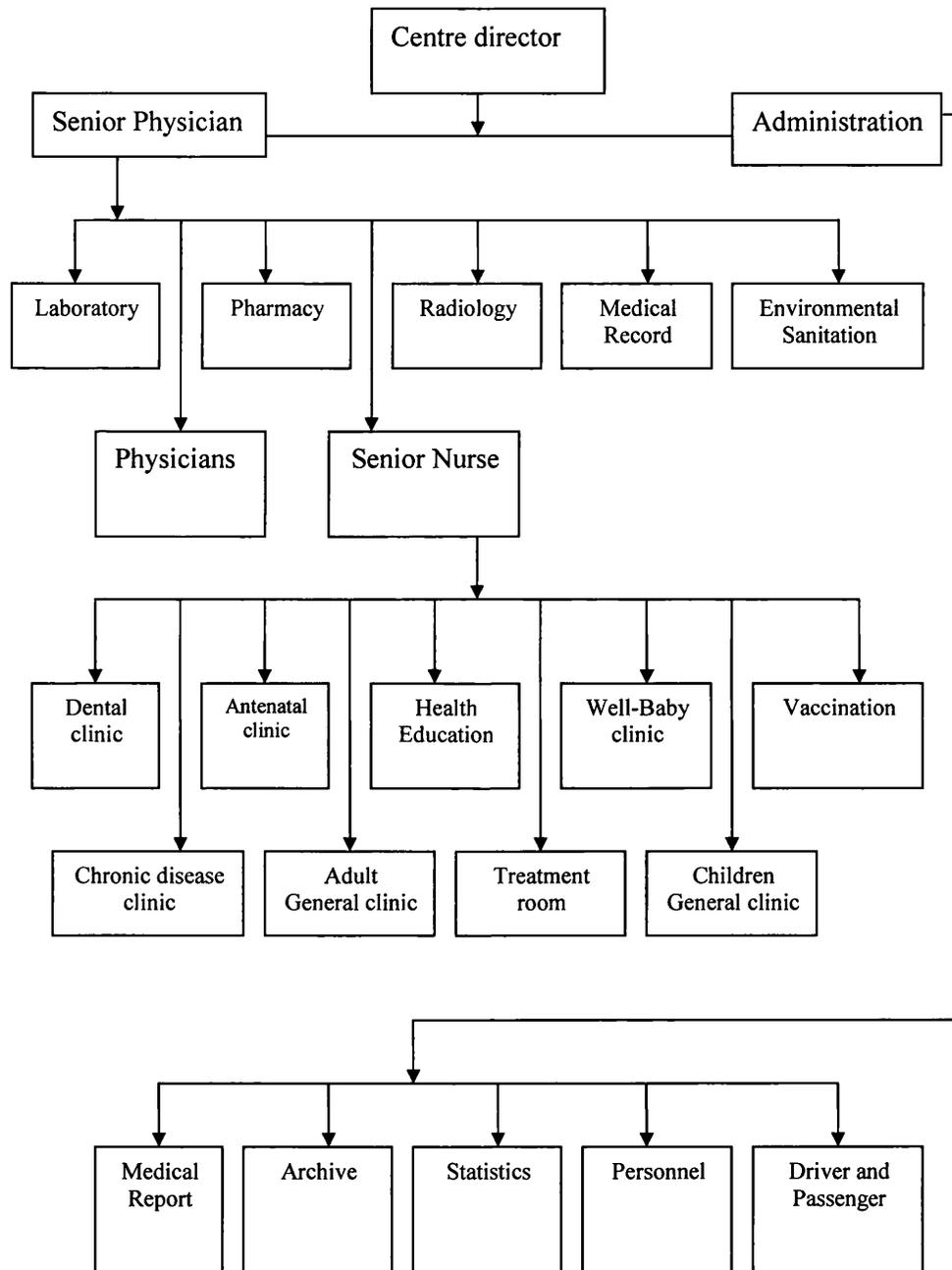
- Family records
- Management and information
- Medical examination
- Waiting spaces (males and females)
- Sterilization/dressings and injections
- Vaccination room
- Health inspector's activities
- Delivery room and recovery room
- Maternal and child health care rooms
- Nutrition surveillance (counselling)
- Oral re-dehydration therapy
- X-ray
- Laboratory services and stores
- Emergency room
- Dental health

The availability of medical equipment and manpower depend on the size of the centre, its workload. It is advisable that equipment should be of good standard quality: easy to operate and maintain and be of reasonable cost. The followings are the recommended health personnel:

- | | |
|--|------------------------------|
| • General practitioners | • Health visitors |
| • Dentists | • Social workers |
| • Nurses | • Records clerks |
| • Midwives | • Rehabilitation technicians |
| • Laboratory technicians | • Administrators |
| • Pharmacists or assistant pharmacists | • Cleaners |
| • X-ray technicians | • Drivers |
| • Health inspectors | |

Organizational structure of Saudi PHC centres:

¹Figure 2.1: Illustration of the organizational structure of the Ministry of Health PHC centre



¹ Source: MOH, Jeddah's PHC Administration (2003)

2.13 PHC SERVICES AT JEDDAH CITY:

JEDDAH is known as "The Bride of the Red Sea". It is located at the eastern coast of the Red Sea, within the Tihama plains. It is the second largest city after Riyadh, the capital of Saudi Arabia. It is the Kingdom's principal seaport and is one of the oldest and most beautiful cities in the Saudi Arabia. Jeddah is an industrial and active commercial centre with modern features; we can call it a luxurious city among the Middle East cities. Jeddah has hot and humidity weather almost all the months of the year. The temperature is ranging from 16°C in winter to 37 ° C in summer. Temperatures are considerably higher and life without air-conditioning would be very unpleasant indeed. In 1947, the city encompassed no more than one square kilometre, and its population was about 30,000. Now, with a population of approximately one and a half million, Jeddah occupies an area of 560 square kilometres and stretches for 80km north to south along its coastline. Between the boom years of 1974 and 1980, the population of Jeddah doubled, and statistical experts predict that this figure will have doubled again by the end of the coming ten years.

Jeddah has advanced health care services. The MOH has a comprehensive medical care system in Jeddah, which provides the three levels of medical services; primary, secondary and tertiary level. There are five governmental specialized hospital (eye hospital, psychiatric hospital, epidemiological hospital, two materiality and paediatric hospitals), and numbers of specialized centres which distributed all over the Jeddah's geographical areas, such as oncology, diabetic, tuberculosis, dental and kidney transportation centres ... and so forth. Jeddah has three large MOH general hospitals; King Abdulaziz Hospital, King Fahad Hospital and Al-Thaghur Hospital. There are other governmental hospitals and specialized centres (not under MOH), those include; King Faisal specialized Hospital, King Khalid National Guard Hospital, King Fahad Arm Force Hospital, and King Abdulaziz University Hospital. In addition, there are 21 private hospitals.

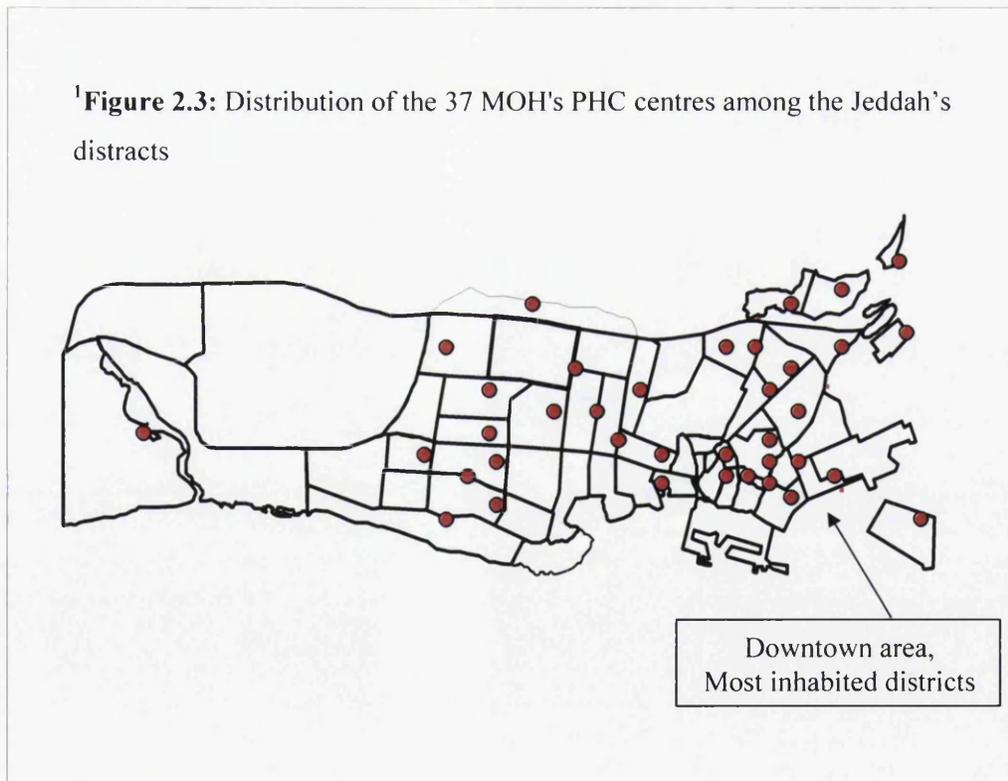
Jeddah and its rural areas (Al-Leith and Rabegh) have 75 PHC centres (**MOP, 2000**), out of which 37 are located inside the city of Jeddah. Jeddah's PHC centres are distributed among different Jeddah's districts, with giving priority to the highly crowded districts. Jeddah is divided into around 70 districts (**see figure 2.2**). Some of them are very crowded; have more then 60000 populations, such as the downtown areas. While

some others are constituted only small numbers of populations, such as those located at far northern areas. Accordingly, the MOH was carefully distributing the 37 PHC centres at the most inhabited districts (see **figure 2.3**). However, the ongoing increase of PHC visitors and the increasing of demand for equality of distributions and easiness of access, encouraged the MOH to set a future plan which aims to increase the numbers of PHC centres in order to cover the majority of the Jeddah's districts.

Figure 2.2: Jeddah map illustrates the 70 districts divisions among the city



¹**Figure 2.3:** Distribution of the 37 MOH's PHC centres among the Jeddah's districts



¹ Source: MOH, Jeddah's PHC Administration (2003)

The following are some statistical information, which illustrates the utilization of Jeddah's PHC centres and their constituted work force:

¹**Table 2.7:** Jeddah's PHC centres clinics visits, % of Saudi and non-Saudi, in year 2002

Nationality	General clinics	Dental clinics	Antennal clinics	Well-Baby clinics	Total of clinics visits	%
Saudi	924300	94719	14340	57660	1091019	78.95
Non-Saudi	200350	14182	17747	58648	290927	21.05
Total	1124650	108901	32087	116308	13813946	100

²**Table 2.8:** Jeddah's PHC centres supportive services visits, % of Saudi and non-Saudi, in year 2002

Nationality	Treatment room	Laboratory	Radiology	Total number of visits	%
Saudi	95328	149566	10212	255106	71.17
Non-Saudi	24165	76440	2735	103340	28.83
Total	119493	226006	12947	358446	100

³**Table 2.9:** Distribution of health manpower in Jeddah's PHC centres in year 2002

Nationality	Saudi		Non-Saudi		Total
	Male	Female	Male	Female	
General practitioners	38	72	23	22	155
Family medicine	7	9	0	1	17
dentists	8	26	7	4	45
nurses	63	286	16	100	465
Midwives	0	3	0	3	6
Pharmacists	26	0	15	10	51
Liberationists	31	9	11	3	54
Radiologists	18	5	6	0	29
Health inspectors	49	0	4	0	53
Statisticians	4	1	0	0	5
Administrators	159	20	0	0	179
Employees	321	250	0	0	571
Workers	82	21	1	0	104

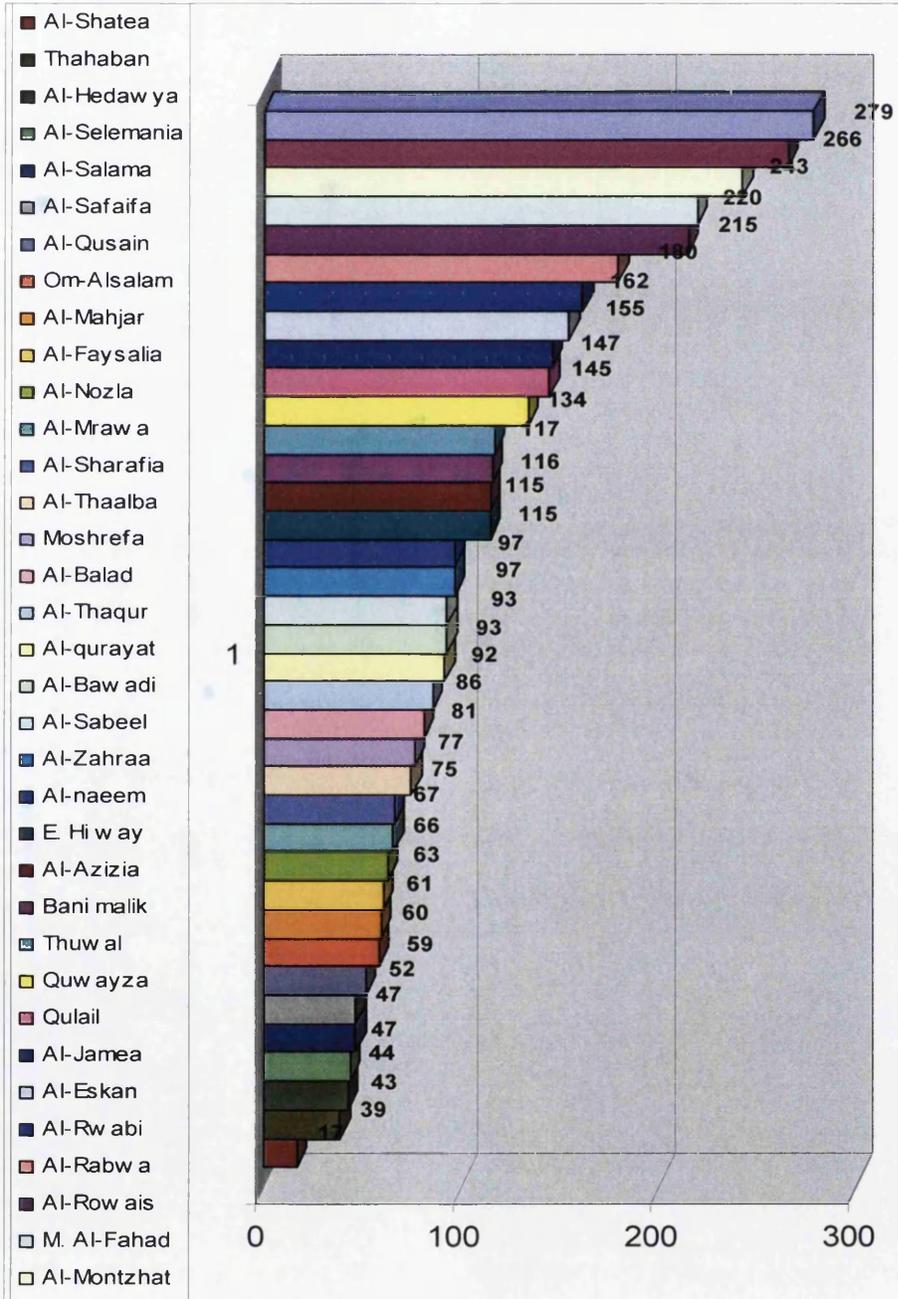
¹ Source: MOH, Jeddah's PHC Administration (2003)

² Source: MOH, Jeddah's PHC Administration (2003)

³ Source: MOH, Jeddah's PHC Administration (2003)

Figure, 2.4 below demonstrated the distributions of the 37 PHC at Jeddah in relation to the average consumers' visits per day.

¹Figure 2.4 Distribution of the 37 MOH's PHC centres in relation to the average consumers' visits per day.



¹ Source: MOH, Jeddah's PHC Administration (2003)

2.14 PROVIDERS' SATISFACTION WITH PHC IN SAUDI ARABIA

Job dissatisfaction among healthcare practitioners has serious implications in terms of patient care (Sutherland and Cooper, 1992), while satisfaction improves the care substantiality (DiMatteo and Hays 1980). A great deal of dissatisfaction and stress are associated with a deteriorating work performance and threaten the patient-physicians relationship (Kerr, et al., 1997). Throughout the literatures reviewed that were related to providers' satisfaction, attention has been mainly drawn to the identifying the job satisfaction among the physicians. Several Saudi studies into job satisfaction among PHC' physicians agree with the international studies (such as Bovier and Perneger, 2003; Kerr, et al., 1997) where the physicians are under stress (Al-Shammari, et al., 1995; Al-Faris, et al., 1996; Al-Rowais, 1996; and Migharbil, 1993). Mutbouly (1998) reported that generally, 60% of physicians who are working at the Jeddah' MOH PHC centres were dissatisfied with their job. Saudis were more dissatisfied than the non-Saudis physicians. Females were more dissatisfied than males. She also pointed out that the highest dissatisfaction scores were due to; insufficient material, insufficient educational program, followed by insufficient recreation, while 'insufficient staff and time' was the least cause of stress and dissatisfaction to the physicians.

It is well established that knowledge, skill and attitude are determining the quality of the provider to performing his/her job. A study by El-Zubier, et al (1995) to assess the knowledge of PHC working staff in three provinces of Saudi Arabia, found that the correct definition of PHC was known by only 51.4%, functions of PHC by 62.6%. What Alma Ata means in terms of PHC was known by 76.2% of the staff. Al-Omran and Albar (1995) similarly assessed private practitioners' knowledge and attitude towards PHC practice; the results showed deficit knowledge of and negative attitude towards PHC among the responders. Furthermore, Basulaiman and Elzubier (1996) found that PHC physicians working at the PHC centres in Damman city, exhibited a low level of knowledge about commonly used radio-diagnostic investigations. Al-Dawood and Elzubier (2002) concluded that positive attitudes toward PHC formed by interns during medical school training actually diminish and sometimes eventually disappears altogether when they become consultants. They also concluded that unless consultants change their attitude towards the importance of primary care, the quality of patient care as well as physicians training would suffer.

2.15 CUSTOMER SATISFACTION WITH PHC IN SAUDI ARABIA

Although patient's satisfaction studies have been known for at least four decades, a literature review of the patient satisfaction research concerning PHC in Saudi Arabia has produced only few published studies. During recent years, researchers have reported findings of specialized studies on clients' attitudes and satisfaction with the utilization of PHC services, most of those studies were conducted in Riyadh city (the capital of Saudi Arabia).

The researcher has reviewed these studies and detailed descriptions of their results are stated in the next few pages. It is important to be noted here that the current study is not an extension of these previous works, but is an original contribution. The existing knowledge that drawn from the previous studies is mainly bounded by either the evaluation of PHC centres or measurement of clients' satisfaction, but no previous study has adopted the approach used in the current study which determine the quality perceptions of PHC services from viewpoints of their providers and consumers via using the scale type of questions for the measurement. At the end of this review, the researcher will provide a conclusion that drawn from their results and related them with the current study discussion of quality. The following is a list of the published studies concerning client satisfaction with PHC services in Saudi Arabia:

1. **Abu-Zeid (1989)** conducted a study to assess the pattern of utilization health services in two urban communities in Abha city, and to reflect the people's "wants" as evidenced by their degree of satisfaction with, and suggestions for improving PHC services. A 20% random sample of 146 families including 942 individuals was selected from two urban communities in Abha city. The information was obtained from the heads of families through interviews using a structured questionnaire. The result revealed that, 57% of the heads of families were completely satisfied and 37% were moderately satisfied. Only 6% were not satisfied. Fifty-eight percent of the heads of families indicated there was a need to improve the quality of physician's services and to increase qualified specialists. Of particular interest were the suggestions to improve the doctor-patient relationship and proper medication prescription. There was a feeling that physicians prescribe too many medications, sometimes without effectiveness. Other important suggestions included a desire to increase the number of female physicians in clinics, 24 hours services by PHC

centres, better health education, more dental care, provision of small operating room in PHC centres, and to ensure equal accessibility of health services to the non-Saudis as that to the Saudis.

2. **Saeed, et al (1992)** interviewed 560 patients using Olaisha primary health care centre. Patients indicated that shorter waiting time and satisfaction with the services were important reasons for using the PHC centre. Furthermore, findings indicated that non-Saudi visitors used the centre significantly more than the Saudi, the longer the distance travelled the less the use, patients of higher levels of education used the PHC Centres' services significantly more the illiterates and those of lower education levels. Other variables such as age, sex, occupation were not significant.
3. **Ali and Mahmoud (1993)** conducted a study to estimate the patient satisfaction with respect to PHC services in Riyadh city. Fourteen PHC centres were chosen randomly to represent various geographic areas of Riyadh. Information was collected through a pre-tested questionnaire used by thirty well-trained final year medical students. Systematic sampling of family files was conducted and the household head was interviewed. Nine hundred respondents were interviewed concerning their satisfaction with the services delivered. The findings were as follows: 40% were dissatisfied. One third of the dissatisfied expressed the view that the centre was too far; 19.4% complained that the working hours of the centre were not suitable; 38.9% complained of the absence of specialty clinics; 19.4% had language barriers with the physicians; 63.9% complained about delays at the centre; 16.7% of the satisfied and 38.9% of the dissatisfied complained that the physicians did not satisfactorily explain their health problems and treatments. In 22.7% of the dissatisfied category, physicians' explanations were neither clear nor understandable. Among the satisfied, 74.6% said that primary health care centre was the first choice if they felt sick; 61.1% of the non-satisfied category gave this response.
4. **Monsour and AL-Osimy (1993)** interviewed 300 patients in three primary care centres in Riyadh City. The results show that patients were moderately satisfied with the services. They were most satisfied with the effectiveness and humane aspects of care and least satisfied with the thoroughness and continuity aspects of care.

5. **Al-Faris et al (1996)** evaluated the patient satisfaction with different aspects of the PHC centres services and they studied certain factors that contribute to this evaluation. The study was conducted in 6 randomly selected PHC centres in Riyadh city and included 466 randomly selected patients. Self-administered questionnaire was used. The result showed that patients had shown a high (90%) of overall satisfaction. It was more among the older age group, the non-Saudis, the married and the housewives. Patients' educational level and sex did not have a significant effect on the overall satisfaction. Features of the PHC centres disliked most were overcrowding, absence of appointment systems and inadequate drug supply or laboratory services. Long waiting time (>1 hour) and consultation time that is either too short (<5 minutes) or too long (>20 minutes) were association with dissatisfaction.

6. **Makhdoom et al (1997)** assessed the satisfaction of attendees of PHC centres in Al-Khobar city. A random sample of 1990 subjects were interviewed using a questionnaire incorporating 40 items using a 5-point-based Likert Scale describing 7 aspects of health services received. The study revealed a high score of overall satisfaction approaching 90% of the possible total (4.3 out of 5), but lesser and variable satisfaction scores for specific aspects of services. The mean satisfaction score regarding continuity of care was the lowest one, hardly approaching 70% of the total possible score. Being of a Saudi nationality was negatively associated with the mean overall satisfaction score.

7. **Al- Qatari and Haran (1999)** identified the components of PHC that cause most concern to service users and then identified the factors associated with satisfaction among the users of PHC centres in Qateef town. A sample of 802 households representing 838 families was chosen randomly from the housing lists of the PHC centres in Qateef town. The results showed that waiting area structure, confidentiality and environmental structure were the areas that caused most concern to service users. The factors that showed the greatest association with satisfaction were the type of the PHC centre building (purpose-built or rented), literacy status of the household head (literate or illiterate), the extent of the PHC centre utilization (regular or infrequent).

8. **Al-Doghaither and Saeed (2000)** conducted a satisfaction study in Jeddah city. Data was collected via a self-administered questionnaire. Seventy-five subjects participated in the study. The summary satisfaction score was 3.76 points (75.2%) and the overall satisfaction with the services provided was 2.45 points (49%) out of a maximum of 5 points. The highest satisfaction was for dental clinic and the lowest was for the cooperation of the receptionist.
9. **Saeed et al (2001)** conducted a study to identify consumers' satisfaction with services provided by MOH PHC Centres in Riyadh city. A total of 540 clients participated in the study via self-administered questionnaires. The result revealed that the summary satisfaction score was 3.77 points (75%) and the mean satisfaction with services provided by physicians was 2.56 points (51%) out of a maximum of 5 points. The highest satisfaction was for discussing psychological aspects of patients' problems and the lowest was for attentive listening to clients' complains. The physician's communication skills contributed more to patient satisfaction than their professional skills and satisfying patients' wishes scored the lowest satisfaction. Unskilled labourers, literate patients, and patients with higher income showed significantly higher mean satisfaction rates while students, illiterate people, those aged less than 50 years, and patients with income less than SR 6000 per months scored the lowest satisfaction.

Furthermore, the author found two unpublished PhD dissertation concerning satisfaction issues.

(1) **AL-Juhani (1994)** has conducted a PhD dissertation to measure patient satisfaction in primary care centres in Yanbu AL- Sinaiyah in 1994. Findings indicate that patients, overall, were moderately satisfied with services provided. He found that females were more satisfied than males, the younger respondents were more satisfied than the older respondents were, the less educated were more satisfied than the higher educated, and finally, the lesser income respondents were more satisfied than the higher income respondents were. Therefore, satisfaction is more a function of the people receiving the service than of the service itself. Generally, dissatisfied patients have complained of having to wait too long for specialty care, having to wait too long to see the doctor, feeling that doctors treat them with no respect and about being worried about their privacy.

(2) **Bakhashwain (1995)** has carried out study to identify the factors that affect the utilization of PHC health centres at Jeddah city, and revealed the PHC client's attitude toward the provided services. He concluded that the utilization of PHC services is influenced by organizational, personal, economic, cultural and geographical factors. Some factors such as problem of transportation and a long waiting time have been found to be obstacles in connection with widely different economic and cultural characteristics. One issue specific to Saudi Arabia is the utilization of maternity care clinics, if there was no female doctor; many respondents indicated they would switch to the private sector. Another factor was language, which affected the mutual understanding between providers and consumers. The competition between the two sectors will be always in favour of the private as long as they can do what they like; at the time they like In addition, many respondents reported that they faced some kinds of difficulties with the public PHC facilities. Complaints included slowness in the provision of services, long waiting before seeing doctor the unhelpfulness of receptionists, problems with communication, the feeling that many doctors ignored patient's feelings and the shortage of the equipment at the PHC centres.

The following table (2.10) is summarizing the main causes of dissatisfaction that were perceived by the unsatisfied users of Saudi PHC centres. The causes are ordered descending according to the member of times identified on the references:

Table 2.10: Summary of the main causes of dissatisfaction which were perceived by unsatisfied users of Saudi PHC centres

Causes of dissatisfaction	References
1. Long waiting time (>1 hour)	Saeed, et al., 1992; Ali and Mahmoud, 1993; Monsour and AL-Osimy, 1993; AL-Juhani, 1994; Bakhashwain, 1995; Al-Faris et al. 1996; Al-Qatari and Haran, 1999.
2. Staff misbehaviour (poor communication skills of the staff especially physicians)	Ali and Mahmoud, 1993; AL-Juhani, 1994; Al-Faris et al. 1996; Bakhashwain, 1995; Saeed et al. 2001; Al-Doghaither and Saeed, 2000.
3. The centre is too far	Saeed, et al., 1992; Ali and Mahmoud, 1993; Bakhashwain, 1995; Saeed et al. 2001.

Continue table 2.10

Causes of dissatisfaction	References
4. Deficiency of laboratory services	Saeed, et al., 1992; Al-Faris et al. 1996; Saeed et al. 2001; Al-Doghaither and Saeed, 2000.
5. Absence of continuity of care (follow-up)	Monsour and AL-Osimy, 1993; Al-Faris et al. 1996; Makhdoom et al., 1997.
6. Insufficient number of physicians and nurses	Monsour and AL-Osimy, 1993; Bakhashwain, 1995; Al-Faris et al. 1996.
7. Language barrier with the staff	Ali and Mahmoud, 1993; Bakhashwain, 1995; Al-Faris et al. 1996;
8. Absence of specialty clinics in the centre	Saeed, et al., 1992; Ali and Mahmoud, 1993.
9. Over crowdedness of the centre	Saeed, et al., 1992; Al-Faris et al. 1996.
10. Inadequate of drug supply	Al-Faris et al. 1996; Al-Doghaither and Saeed, 2000.
11. Reluctance of the physician to refer the PHC users to the hospitals	Saeed et al. 2001; Al-Doghaither and Saeed, 2000.
12. Deficiencies of health education	Monsour and AL-Osimy, 1993; Makhdoom et al., 1997.
13. Poor environmental structure of the centre (such as uncomfortable waiting area, and under equipped clinics)	Monsour and AL-Osimy, 1993; Al- Qatari and Haran, 1999.
14. Inadequate confidentiality measures	AL-Juhani, 1994; Al- Qatari and Haran, 1999.
15. Limitation of the car parking spaces	Saeed, et al., 1992.
16. Poor physical and nursing professional skills	Monsour and AL-Osimy, 1993.
17. Consultation time, either too short (<5 minutes) or too long (>20 minutes)	Al-Faris et al. 1996.
18. The centre's working hours are not suitable	Ali and Mahmoud, 1993.
19. Absence of appointment systems	Al-Faris et al. 1996.

In general, the studies concerning client satisfaction with PHC services in Saudi Arabia provide evidence that measuring the satisfaction level alone would not reflect the quality level of the services. As shown early, in spite of the obvious deficiencies existing in PHC services, more than 50% of consumers expressed satisfaction with their services. The researcher believes that satisfaction is determined mostly by the current success of service and personal mood. Although the ideal expectations of the consumers would be high, and the current quality service does not match them, they could express their satisfaction with services if for example they were treated nicely, and their current needs were fulfilled on the particular day they visited the centre. Thus, satisfaction scores are dynamic; they change according to situational factors. In contrast, the concept of quality perception (quality opinion) is a more reliable in identifying the agenda required for quality improvement process. Satisfaction varies not only with the type and manner of service provided but also with the characteristics of the patient population being served. For example, among those who have had recent treatment, satisfaction levels tend to be higher than with those who have not recently used the specific service. According to the above Saudi studies, most of the consumers were regularly attending the PHC centres and **Weiss (1988)** has showed that being a regular user is a predisposing factor for satisfaction

Among the socio-demographic characteristics of the population, age is the most influence factor. Satisfaction seems to increase with age **Ware, et al., 1978; Pope, 1978; DiMatteo and Hays, 1980; Haddad, et a., 2000; Williams and Calnan, 1991a; Sitzia and Wood, 1997; Hall and Dornan, 1988b; Locker and Dunt, 1978; Kinnersley, et al., 1996; and Pascoe 1983**). This finding may reflect real differences in the actual experiences of health care, or it may reflect lower expectations of the older generation, or more realistic expectations in that they experienced health services before PHC existed, or do not expect too much of modern medicine and accept its limitations. Alternatively, the older generation may have a greater degree of deference and respect for the medical profession as a whole, although this may be “strategic” in that they use the professional medical care more often than their younger counterparts.

Most outpatient satisfaction instruments now in use have not been developed with gender issues in mind (**Scholle, et al., 2000**). Indeed, it has been suggested that patient satisfaction measures typically are developed to minimize differences in experiences or

expectations by socio-demographic variables, such as gender, in order to clearer health policy implications (**Khayat and Salter, 1994**). The problem with this approach, however, is that generic instruments may not estimate women's satisfaction levels accurately and may be of limited usefulness for quality improvement. Although, it was documented that satisfaction is unrelated to the patient's gender (**Al-Dogaither and Saeed, 2000; Makhdoom, et al., 1997; and Al-Qatari and Haran, 1999; Doyle and Ware, 1977; Greenley and Schoenherr, 1981; Krol and Nordlund, 1983; Pope 1978; and Weiss, 1988**), a few studies have found that women were less satisfied than men (**Biderman, et al., 1994; Al-Dawood and Elzubier, 1996**) and they were more critical of PHC services than men (**Khayat and Salter, 1994**).

Education is the other socio-demographic characteristic which could impact on the level of satisfaction. Some studies **Hulka et al. 1971; and Zastowny et al. 1983**) reported that educational attainment and patient satisfaction are positively related. Some authors (**Lewis, 1994; Chaska, et al., 1980; Makhdoom, et al. 1997; and Al-Qatari and Haran, 1999**) have found satisfaction to be lower among the more highly educated. Given that the Saudi adult literacy rate is not high, it was estimated in 1999 as 80%, we may expect satisfaction levels to be correspondingly higher.¹

However, people in Saudi Arabia are usually very polite and usually reluctant to complain about medical services (**Mansour and Al-Osimy, 1996**). Thus, reports of satisfaction could be significantly affected by these characteristics. **Mansour and Al-Osimy (1996)** addressed this issue by conducting a study to evaluate the resources available in three large health centers in Saudi Arabia, and to determine consumer's satisfaction with the services provided. Three centres in the City of Riyadh were chosen purposefully and the consumers of the respective centres were interviewed as to their satisfaction with the services provided. The results show that there was a discrepancy between the findings obtained from the centre's resources evaluation and those derived from the satisfaction portion. Despite the inadequacies in manpower, equipments and facilities, the consumers were generally satisfied. This finding is consistent with **Taylor's study (1994)** which suggested that confusion remains in terms of distinguishing services quality from customer satisfaction.

¹ Available at <http://www.who.int/whosis/country/indicators.cfm>

2.16 MOST SIGNIFICANT CONCLUDING POINTS OF THE ENTIRE LITERATURE REVIEW

- The service quality construct is widely to be multidimensional in nature, although the number of dimensions appears to vary from study to study.
- Quality perception is a long-term attitude while satisfaction is a short-term consumer judgment has yet to be validated specific to health services setting.
- Discrepancies in quality perceptions between the health services providers and consumers are expected to exist.
- SERVQUAL concept has been used in health care industry with mixed result. Its 10 identified attributes influencing customer evaluations of service delivery provides a concept that can be applied for divining the quality of health care, although there are some limitations in its use.
- There is a debate about whether patient can judge the quality of technical care. Most literature suggested that patients do not evaluate the technical aspects of the quality, but rather the human aspects.
- Consumer expectations are essential to define quality, but customers are not the ultimate and only judges of quality in circumstances that affect people's safety and health. In theses situations, professionals must represent the customers' best interests and set professional standards on their behalf.
- The availability of PHC service in and of itself does not guarantee its utilization. In fact, household surveys revealed that the perceived low quality of health care was one of the main reasons why people did not attend PHC services in cases of illness.
- Research studies about quality and patient satisfaction with PHC in Saudi Arabia concluded that the efficiency of PHC services needs to be strengthened through sound planning, organization, co-ordination, information and control. In addition, studies revealed that the Saudi PHC centres need well-defined and specified continuous quality improvement (CQI) programmes. However, great sensitivity and caution should be exerted to adapt CQI methods to the prevailing Saudi cultural norms and values, and must take account of the availability of resources and local priorities. Therefore, the present study attempt to identify the specific quality attributes of Saudi PHC services. This could be considered as a background or initial step for constructing an effective, efficient, and acceptable CQI program for the Saudi PHC centres.

CHAPTER III

METHODOLOGY

3. METHODOLOGY

This chapter will review the research methods literature, in order to examine how alternative research strategies were considered, and to explain in detail the methods used in conducting the study. The main reference source for the study's methodology was the textbook *Nursing research, principles and methods*, edited by Polit and Beck, 2004.

In this chapter, the researcher discusses the strengths and limitations of the research design that have been used in the study. Before going into this discussion, a brief overview of the general research limitations in Saudi Arabia should be invaluable for the reader. Although Saudi Arabia is considered a developing county, it has good economic status when compared with other Arab countries, but also when compared with other Arab countries, it has poor educational, science, and research systems. Conducting research in Saudi Arabia is not a common and easy task; several factors such as deficiency of research resources, in addition to some political, social, and cultural pressures play a role in hampering the research process.

Deficiency of resources; researchers in Saudi Arabia suffer from difficulties in accessing reputable research literature (published articles and books). The public libraries are not widely distributed in the cities (there are only two public libraries and they are both located in Riyadh city). Moreover, the universities' and hospitals' libraries provide some services, but these services are limited to their members only. Recent books are not supplied by these libraries, so researchers must purchase recent books from the few bookshops that are available or order them through the internet or ask friends living abroad to get them. Free access to full text articles is not easily available to researchers, so they have to pay for subscription and e-mail orders. Only one organization really helps researchers acquire the documents they require free of charge: that is the King Abdulaziz City for Science & Technology (KACST). It is an independent scientific organization of the Saudi Arabian Government, established in 1977 at Riyadh city, but responds to only a limited numbers requests from each researcher due to their high workload.

Insufficient documentation; the Saudi Health care system lacks sufficient documentation. Many decisions and changes take place without the presence of any written policy or any related documents to refer to. Furthermore, some documents are written in order to put across a particular message and can be selective of the truth. Much important contextual data can be missing from such documents as reports of spoken events, where the pauses, hesitations and gestures are not recorded.

Scarcity of published Saudi research: some Saudi research has been rejected for publication by international scientific journals because of their local content and the journals have recommended that the work be published in the local Saudi scientific journals. However, there are a limited number of Saudi scientific journals, usually with long waiting lists. In addition, many Saudi researchers have no incentive to send their work for publication, much research that has been completed for PhD and M-level degrees are kept unpublished.

Political pressure; certain activities that might be construed as critical of governmental behaviours, and the evaluation of political decisions, are not permitted. People are not encouraged to express their opinions regarding the decisions that have been taken by the authorities. Published materials are usually subjected to filtration before the publication process.

Social pressure; Saudi people are characterized by lack of motivation to participate in research. Unlike other countries, the value of the research concept and teaching is not developed among students during their academic years. Recommendations of research are usually not taken seriously, and there is always a missing link connecting the researches' findings with any practical application. There is resistance to recommended changes by both health care providers and decision makers. Health care professionals are not keen to follow the principles of evidence based practice, and health managers do not often base their decisions on any research-based evidence.

Cultural pressure; females are under several cultural constraints which create special obstacles for females to conduct research. For example, they are not allowed to drive vehicles, not allowed to travel alone, not allowed to stay at hotels alone, and are

not allowed to take high managerial positions. In addition, there is great restriction in the male and female interaction. Furthermore, there is variation between the casual spoken language (colloquial Arabic language) and the written language (official Arabic language). This creates particular difficulties in wording survey instruments in such a way that would ensure it – or the responses - could be understandable in the way intended by the researcher or the respondents. Given that the majority of Saudi people have low to moderate levels of education, a self-administered questionnaire needs to be clear and as easy to understand as possible in order to be accepted by the respondents. In addition, recording of someone's mistake or complaining of someone's behaviour is not a common practice in Saudi culture. So, it is expected that people will not respond honestly with the researchers with any questioning that might imply appraisal, judgement, or criticism.

Therefore, and with the acknowledgement of the above limitations, this researcher tried to choose the research strategies and design and data collection tools which would be most applicable for use in Saudi culture and most suitable for use by a Saudi female researcher while, at the same time, addressing the study objectives.

3.1. GENERAL RESEARCH STRATEGIES AND DESIGN:

The objectives of a particular research project delineates the intentions of the researcher and the purpose of the investigations. **Walliman (2006)** listed the range of possible objectives that can be investigated by any social research. These are: to describe; to explain and evaluate; to compare; to correlate; and to act, intervene and change. Similarly but with more precise scope, **Kumar (2005)** listed three objectives, which are: to describe; to establish or explore; and to explain. Accordingly, the methodological design of the current study was classified from the viewpoint of its objectives.

As stated in the introduction chapter, the study focused on achieving six objectives. With consideration of specific aim of each of the study objectives, the appropriate research strategies and the data collection tools were carefully selected. Generally, the current study is designed as having an exploratory nature and a descriptive effort in order to be an assessment step for the further investigation of

quality of PHC services in Saudi Arabia. Specifically, different data collection tools and research strategies were designed to each objective. This is explained as the following:

- Objective (1): To generally assess the structure of the selected PHC centres at Jeddah city. The aim here is "to describe what is prevalent regarding a service program". In order to achieve this objective a descriptive research method was used, this is the recommended approach to be used with this kind of objective by several research methodology authors such as **Walliman, 2006; Kumar, 2005; Polit and Beck, 2004; Peat, 2002, and Parahoo, 1997. Kumar (2005)** stated examples of topics which could be investigated by using the descriptive research methods and they seem to be similar to the current research objective, they are as the following: types of service provided by an agency; sale of a product; and strategies put in place by a company to increase productivity of workers. Therefore, depending on the type of information sought in the current study (such as: "What are the structures of the Saudi PHC centres?", the researcher used several descriptive research method such as personal observation, interview with the PHC managers, reviewing the records etc., as means of collecting data for answering this question.

- Different methods were appropriate for the next five objectives, which are as follows:
 - Objective (2): To measure the level of importance of selected 17 PHC quality attributes in defining and measuring the quality of PHC services as perceived by PHC consumers and providers.

 - Objective (3): To reveal various discrepancies and similarities among the PHC providers and consumers in the perceived importance of determinants of PHC quality attributes.

 - Objective (4): To measure the level of quality opinions toward the 16 selected PHC services as judged by PHC consumers and providers.

 - Objective (5): To state the criteria used to judge the poor quality of PHC services as perceived by PHC consumers and providers.

The main theme of these four objectives is "to describe what is prevalent regarding a situation or a phenomenon". In order to achieve this objective a descriptive research method was also used. **Kumar (2005)** stated examples of topics which could be investigated by using the descriptive research methods, and they were similar to these current research objectives, they are as the following: attitude of students towards quality of teaching; attitude of worker towards management; extent of occupational mobility among immigrants and consumers' likes and dislikes with regard to a product. Therefore, depending on the type of information sought:

- 1."What do PHC consumers and providers perceive to be the important attributes in defining and measuring the quality of PHC services?"
- 2."Do discrepancies exist between the PHC providers and consumers in the perceived importance of determinants of PHC quality?"
- 3."What are the quality opinions of the PHC services as judged by the PHC consumers and providers?"
- 4."What criteria PHC consumers and providers used to judge the poor quality of the PHC services?"

The researcher used one of the descriptive research methods available: the self-administered questionnaires as the means of collecting data for answering these questions.

Objective (6): To correlate the overall satisfaction level of the PHC quality services with the selected sociodemographic categories. The aim here is "to ascertain if there is a relationship". In order to achieve this objective, the approach used was to demonstrate where correlations existed between various factors. This is the approach recommended by some of the research methodology authors, such as **Walliman, 2006; Kumar, 2005; Polit and Beck, 2004**. The information sought in correlation research is expressed not in the form of artefacts or word or observation, but in numbers. While historical and descriptive approaches are predominantly forms of qualitative research, analytical survey or correlation research is principally quantitative (**Walliman, 2006**). **Kumar (2005)** stated examples of topics which could be investigated by using the correlation research methods such as the relationship between stressful living and incidence of heart attacks. **Walliman (2006)** explained that correlation research can be broadly classified into two type of study: rational and prediction studies. Rational

studies investigate possible relationship between phenomena to establish if a correlation exists and, if so, its extent. This exploratory form of research is carried out particularly where little or no previous work has been done, and its outcomes can be the basis for further investigation. So, for questions such as "Do some selected sociodemographic categories significantly influence the general level of satisfaction with the quality of the PHC services?" the researcher used statistical methods such as Analysis of Variance (ANOVA) by examining the significance of correlations.

Based on the literature reviewed, it was found that a growing trend is the blending of qualitative and quantities data within single studies (**Polit and Beck, 2004; Bryman, 1988**). There are also examples of research that combine the two approaches, usually to examine different aspects of the research problem (**Walliman, 2006**). Accordingly, two strategies were used in the current study. The strength of qualitative research lies in its flexibility and potential to yield insights. However, qualitative research is usually based on small, unrepresentative samples and relies on subjective judgement. Thus, some researchers believe there are many noteworthy advantages of integrating of qualitative and quantitative data in an investigation. One argument for blending qualitative and quantities data in a study is that they are complementary; they represent word and numbers, the two-fundamental languages of human communication. **Polit and Beck (2004)** point out that by integrating different methods and modes of analysis, the weaknesses of a single approach may be diminished or overcome.

The first study tool (*descriptive statistics about the PHC centres*) which was intended to provide data describing "what the structure of the Saudi PHC centres is", was used quantitative techniques which rely on collecting data that is numerically based. Whereas the second tool (*a self-administered questionnaire*) was intended to explore the identification of the opinions of PHC providers and consumers about the quality of services, and was designed to collecting both quantitative and qualitative data through several closed-ended questions and one open-ended question. The researcher believes this combination would help to clarify important results and corroborate the understandings gleaned from the statistical analysis.

3.2. METHODOLOGICAL LITERATURE REVIEW

To scientifically develop the data collection tools of the study, a literature analysis was carried out. Several studies from all over the world (United States, United Kingdom, other European countries, Asian countries, developing countries, and local studies from Saudi Arabia) dealing with the identification of health care quality attributes have been reviewed. Some of these studies focus on general components of quality of health care, while others deal with specific aspects particularly the attitudes, conduct, and competency of health care workers, the quality of patient information, and the availability of human and physical resources.

Since the 1970s, a considerable literature has addressed the issue of identifying health care quality attributes (such as **Ware, et al., 1976; Donabedian, 1980, 1985, 1992; Parasuraman, et al., 1985; Gronroos, 1984; Garvin, 1987; Babakus and Mango, 1992; Bowers, et al., 1994; Stiles and Mick, 1994; Wensing and Grol, 1996; Jun et al., 1998**). Throughout the past decade (1990s), the interest in assessing and evaluating the quality and outcome of PHC services has increased. This interest is apparent through the publishing of several related articles such as **Goldfield, et al., 1999; Safran, et al., 1998a; Flock, 1997; Seibert, et al., 1996; Press, et al., 1992; Starfield, 1992**. Some researchers such as **Flock (1997) and Starfield (1996)** have claimed that the ability to evaluate the outcomes of various aspects of PHC is restricted by a lack of well-validated, comprehensive measures of the attributes of PHC. In addition, specific domains have generally been investigated in isolation from the other aspects of PHC. **Flocke (1997)** concluded that the interrelatedness and the relative importance of quality aspects of PHC have yet to be evaluated and cannot be evaluated until multiple aspects are measured together. Moreover, the advancement of research regarding the quality attributes of PHC has been limited by the lack of standardization of terminology (**Starfield, 1996**), and a relative paucity of research using comprehensive measures (**Safran, et al., 1994; Bindman, et al., 1996**). Among those studies, it has been observed that the methods used are often presented in very general terms, which makes them difficult to replicate. The measurement instruments - especially among the studies from the developing countries - are usually poorly described and they are only rarely reported. The quality dimensions, the number of items, the response formats, as well as the rules used to construct the global scores are not always clearly stated.

Within the framework of the study's objectives, and in order to form the methodological design of the study, five aspects of the literature were covered:

1. *Literature on measuring quality attributes of PHC services.* From this literature, a large list of quality attributes was identified as being of concern to both PHC providers and consumers. Those attributes are: overall satisfaction, accessibility, tangibles (all observable items such as physical facilities, equipments and materials, drugs, cleanliness, maintenance, etc.), continuity, assurance, empathy, coordination, responsiveness, cooperation, comprehensiveness, security and confidentiality, longitudinally, communication, credibility, responsiveness, patient-physician relationship, preventive services, patient follow-up, clinical examination, availability of drugs, effectiveness of diagnoses, reception of the patient, compassion, respect, time spent in consultation, short waiting time, organization of appointment, availability for emergencies, explanation given on the health problem, the honesty and competency of the staff, team work, adequacy of the fees, the possibility of making special payment arrangements (credit), distance, adequacy of the number of doctors, adequacy and efficiency of equipment, existence of specialist clinics, and comfortable waiting rooms and amenities. What has not been reported in these studies, however, is the importance of community participation.
2. *Literature on the assessment of Quality of Care from the Patient's Perspective (QCPP).* This concept has often been operationalized as patient satisfaction. Patient satisfaction has been a widely investigated subject in health care research: more than 22,000 articles were published (PubMed Research online, 2003) and dozens of measuring instruments were developed during the past two decades (Campen, et al., 1995). However, only a few measuring instruments have been developed explicitly for the assessment of QCPP (e.g. Nelson, et al., 1989; Meterko, et al., 1990). As patient satisfaction is an important element of QCPP, it is highly advisable to review the literature on patient satisfaction measuring instruments before developing a new QCPP measuring instrument (Campen, et al., 1995). The literature on patient satisfaction contains numerous

scales that have been subjected to appropriate tests for validity and reliability. Most of these scales used Likert-type items. The reviewed scales are:

1. Multidimensional Scaling (**MDS**), developed by **Roghmman, et al. (1979)**
2. The Primary Care Assessment Survey (**PCAS**), developed by **Safran, et al. (1998a)**
3. The Components of Primary Care Instrument (**CPCI**), developed by **Flocke (1997)**
4. The Patient Reports on System Performance (**PROSPER**), developed by **Hargraves, et al. (1993)**
5. Develop and Evaluate Methods to Promote Ambulatory Care Quality (**DEMPAQ**), developed by **Palmer and Peterson (1995)**
6. The Patient Satisfaction Questionnaire (**PSQ**), developed by **Ware, et al (1983)**
7. The Client Satisfaction Questionnaire (**CSQ**), developed by **Larsen, et al (1979)**
8. The Consultation Satisfaction Questionnaire (**CSQ**), developed by **Baker (1990)**
9. The Satisfaction with Physician and Primary Care Scale (**SPPCS**), developed by **Hulka, et al (1970)**
10. The Patient Judgments of Hospital Quality Instrument (**PJHQ**), developed by **Meterko, et al (1990)**
11. The Services Quality Instrument (**SERVQUAL**), developed by **Parasurman, et al. (1985)**

Although, all the above 11 scales are quite popular as validated measurement instruments, they were not adopted as a study instrument for two reasons: First: all of these developed survey instruments are of Western (either American or British) origin and, as well as including items that were not transferable to a Saudi PHC setting, it is unclear how the established levels of reliability and validity would be influenced by transfer to a similar, but by no means identical, organizational and cultural context. Second: those scales are specifically designed to measure or evaluate the quality services either from the viewpoint of patients or physicians, or measure their satisfaction. Thus, those scales were not appropriate for achieving the comprehensive objectives of the study, which targeted to identify the quality opinions of both PHC providers and consumers.

3. *Literature which measure the satisfaction of the PHC providers with the quality of care provided:* only very few published studies have measured and discussed satisfaction with quality of care from the viewpoint of health care providers **Dungal, 1978; Crutcher and Bass, 1980; Weinberger, et al., 1981a; Suchman, et al., 1993; Shore and Franks, 1986; Schwenk, et al., 1989; and Kerr, et al., 1997**). Moreover, these studies were mainly concerned with the PHC physicians who formally act as "gatekeepers". The researcher identified some potential determinants of physicians' overall satisfaction with PHC services including: (1) the nature of the patient's problem (organic as opposed to psychosocial) (**Crutcher and Bass, 1980; and Dungal, 1978**); (2) freedom from external constraints (e.g., heavy patient loads) (**Shore and Franks, 1986**); (3) a cooperative attitude on the part of the patient (**Schwenk, et al, 1989; Kerr, et al., 1997**); and (4) patient-related factors, an amalgam of the physician's personal reactions to the patient and the nature of the patient-doctor relationship (**Shore and Franks, 1986**).
4. *Literature measuring the comparison between the health care' consumers and providers regarding their opinions about the quality of health care quality.* Unfortunately, only limited studies were identified that addressed this issue (**Wensing, et al, 1996; Spivak, et al., 1980; Vedsted, et al., 2002; Jung, et al., 2002; Rashid, et al., 1989**). Three important methodological aspects were generated from the review of these studies. First: most of those studies have adopted the EUROPER questionnaire (**Grol, et al., 1999**), which contains 40 questions organized into five templates each with eight questions: medical-technical care; doctors-patient relationship; information and support; availability and accessibility; and organization of the services. Second: in order to gain statistical validation of the questionnaire, it is better if the provider's questionnaire uses exactly the same wording as the consumer's questionnaire. Third: it is recommended that providers and consumers should rate each of the questions according to their importance on a 5-point Likert scale ranging from "not at all important" to "most important". In addition, respondents could select "do not know" (**Vedsted, et al., 2002;Suchman, et al., 1993; Jung, et al., 2002**).

3.3. ALTERNATIVE STRATEGIES FOR DATA COLLECTION

The review of literature (that dealing with the aspect of identification of health care providers' and consumers' perceptions of the quality of services) shows that several methodological measurements both qualitative and quantitative have been used within this context. However, three main methods have been used frequently throughout the literature reviewed: focus group, personal interview, and questionnaire.

3.3.1. Focus group:

A focus group brings together respondents to discuss their feelings, attitudes, and perceptions about service (Steiber and Krowinski, 1990). This method is similar to the in-depth interview in that the group moderator has prepared a guide that outlines the topics to be discussed. But instead of a one-on-one forum, questions are posed to the group, and a group discussion of each topic is conducted. The group moderator obtains feedback during these sessions about the services that the health care client received during their stay. Because the moderator is able to interview several clients at once, time and money are saved (Ford, et al., 1997). What makes focus groups different from in-depth interviews is the interaction of members and the group support that ensues. Interaction and support produce mutual stimulation of thoughts and recall of feelings and experiences Steiber and Krowinski (1990). Focus groups allow for the discovery of both important service problems and the identification of suggestions on how to fix those problems.

Focus groups are a robust method of gathering information on how customers view the services they encounter (Zilmund, 1989). Typically, a focus group ranges from 6 to 10 people in one session lasting for half an hour up to several hours. Focus groups have the advantage of allowing health clients to stimulate each other's memories and perceptions about the services. This can be particularly useful when management is seeking creative ideas for restructuring or adding to existing services. Focus groups do have some disadvantages, however. They can sometimes be very expensive, time-consuming, and are a labour-intensive tool to obtain patient feedback data about service quality. In addition, if a meeting place is needed, and travel and lodging expenses are reimbursed for the facilitators and participants, the cost of a single focus group session can be considerable: one US study reports costs reaching \$7,500 per session (Ford, et al., 1997).

Focus groups also lack anonymity for participants. If members are concerned about the views of others, information may be withheld or distorted. Since the group composition can enhance or inhibit members' interactions, care should be taken to create homogeneous groups with respect to demographics (age, race, gender) and the services received (**Steiber and Krowinski, 1990**). It is also important to recognize that focus groups are only attractive to those who have the time to travel and are motivated by the incentive. Since focus groups are designed to represent the targeted health client market, careful selection of participants is crucial in gaining statistically valid information. While the goal is to obtain the views of a representative cross-section of clients, this may be difficult with focus groups. If the sample is not selected carefully or does not match the intended profile, the resulting information can be misleading (**Zilmund, 1989**).

Among the studies reviewed which are focused on the measuring the PHC providers' and consumers' perceptions of the quality of PHC services, only limited numbers of studies administered the focus group method for data collection. These studies are grouped into two categories:

1. Studies that measured PHC consumer satisfaction (such as: **Gilson, et al., 1994; Haddad, et al., 1998a and 1998b; Scholle, et al., 2000; Anderson, et al., 2001**).
2. Studies that measured the quality perceptions of PHC services from the viewpoint of both PHC consumers and providers (such as: **Wensing, et al., 1996**).

The researcher did not find any literature reporting a study using the focus group method to measure consumer satisfaction with PHC services in Saudi Arabia. In addition to the disadvantages listed above, the researcher's previous experience suggested there would be practical difficulties in conducting this method at the Saudi PHC centres. It is difficult to bring the Saudi PHC clients into a group and ask them to wait for at least half an hour to discuss their perceptions, they are always in a hurry, their educational levels vary, and they do not like to discuss a sensitive subject - such as their opinions on the quality of services - openly. Thus, it could be because of these reasons that Saudi research into PHC consumer satisfaction has not used this method.

3.3.2. Personal interview:

Interviews attempt to generate the same type of information as surveys but they are not self-administered. Interviews involve verbal communication between the researcher and the subject, during which information is provided to the researcher (**Burns and Grove, 1987**). There are a variety of approaches to conducting an interview, ranging from a totally unstructured interview in which the content is completely controlled by the subject, to interviews in which the content is similar to a questionnaire, with the possible responses to questions carefully designed by the researcher.

When researchers proceed without a preconceived view of the content or flow of information to be gathered, they may conduct completely unstructured interviews (**Polit and Beck, 2004**). Unstructured interviews can provide very rich information when they are conducted by trained interviewers able to detect nuances in responses and to probe for further information as the client responds to open-ended questions. In this way, an interviewer might discover a previously unknown problem or a new twist in a known problem area in the service experience that could not have been foreseen or included in a printed questionnaire. In structured or semi-structured interviews, researchers prepare in advance a written topic guide, which is a list of areas or questions to be covered with each respondent. The interviewer's function is to encourage participants to talk freely about all the topics on the list, and to tell stories in their own words (**Burns and Grove, 1987; Polit and Beck, 2004**).

Interviews can have greater flexibility in covering topics, and greater sensitivity to client concerns, greater respondent adherence and more scope to follow up non-respondents, and greater potential to establish rapport with interviewees than questionnaire respondents (**Fitzpatrick, 1991**). Whether unstructured or semi-structured the interviews can provide qualitative data representing actual individual views, rather than aggregated data (**Rees Lewis, 1994**). Interpersonal skills can be used to facilitate cooperation and elicit more information. In addition, there is a higher response rate to interviews than questionnaires, leading to a more representative sample. Interviews allow collection of data from subjects unable or unlikely to complete questionnaires, such as the very ill or those whose reading, writing and ability to express themselves is marginal (**Burns and Grove, 1987**).

However, interviews are usually more time consuming than focus groups and questionnaires, both in terms of administration and of analysis. Sample sizes tend to be smaller, which can lead to the over-representation of individual views, and a higher risk that individual respondents can be identified by those involved in a general practice. Interviews can be costly, however, because of the cost of a trained interviewer, a custom-designed interview instrument, and the inconvenience to the patient. Personal interviews can range from \$200 to \$350 per interview, plus the cost of any incentives provided to the interviewee as compensation for the time spent. Instrument development and the need to hire trained and skilled interviewers may also inflate the cost (**Ford, et al., 1997**). In addition, subject bias is always a threat to the validity of the findings, as is inconsistency in data collection from one subject to another (**Burns and Grove, 1987**).

Among the studies reviewed which focused on the measuring PHC providers' and consumers' perceptions of the quality of PHC services, only a limited number of studies were found which administered the interview method for data collection. These studies are grouped into three categories:

1. Studies that measured PHC consumer satisfaction (such as: **Singh, et al., 1999; Weinberger, et al., 1981b; Greene, et al., 1980**).
2. Studies that measured the quality perceptions of PHC services from the viewpoint of both PHC consumers and providers (such as: **Spivak, et al., 1980**).
3. Studies that measured consumer satisfaction with PHC services in Saudi Arabia (such as: **Saeed, et al., 1992; Ali, and Mohmoud, 1993; Mansour and Al-Osimy, 1993; Al-Doghaither, et al., 2001; and Al-Qatari and Haran, 1999**).

Although there were some Saudi studies that used the interview method and it is more convenient than the focus group method for collecting data within Saudi PHC centres, it was discarded because it would be time consuming, difficult to obtain trained interviewers, a large sample size was needed because the study was to involve a multitude of settings, and because of the cultural difficulties of conducting personal interviews between males and females.

3.3.3. Self-Administered Questionnaire:

Surveys (questionnaires) are an inexpensive way to gather data from a potentially large number of respondents. Often they are the only feasible way to reach a large enough number of respondents to allow statistical analysis of the results (Parahoo, 1997). Surveying can yield statistically valid measures of patient opinion because it is more likely to be representative of patient attitudes (Ford, et al., 1997). Surveys range widely in sophistication, precision, validity, reliability, complexity, cost, and in how they are administered. A well-designed questionnaire that is used effectively can gather information on both the overall performance of the test system as well as information on specific components of the system. If the questionnaire includes demographic questions on the participants, they can be used to correlate performance and satisfaction with the test system among different groups of users. They may be administered by mail or at the services provider's site. Some providers use a computer terminal on site to ask the questions, record answers, and process the data instantly.

When surveys are developed that are valid and reliable, and then sent to a randomly selected representative sample of clients who are motivated to participate, the organization can gain useful information about client satisfaction with their health care experience. However, many uncontrollable factors influence a client's likelihood of responding accurately to a mailed survey. Inaccurate and incomplete mailing lists, patients moving to new addresses, or a simple disinterest in either correctly filling out or even returning the questionnaires can significantly impact on the response rate. Poor response rates increase sampling error and decrease the usefulness and representativeness of the information. In addition, while mailed surveys are generally less costly than other survey techniques, they are still expensive when survey development, questionnaire validation, and the expense of data analysis are taken into consideration. Questionnaires can range in cost from \$1,000 to \$15,000 to develop and analyze. Printing, postage, and generating a list of clients from an existing database can further increase costs (Ford, et al., 1997).

In contrast with the other data collection methods, self-administered questionnaires were repeatedly used among the studies reviewed which focused on measuring the PHC providers' and consumers' perceptions of the quality of PHC services. These studies are grouped into three categories:

1. Studies that measured PHC consumer satisfaction and quality perceptions (such as: **Gabbott and Hogg, 1994; Wensing, et al., 1997; Hannay, et al., 1997; Weiss, 1988; Dansky and Miles, 1997; Biderman, et al., 1994; Haddad, et al., 1998b; Jackson, et al., 1994; Imanaka, et al., 1995; Avis, et al., 1994; Kersnik, 2000; Haddad, et al., 2000; Calnan. et al., 1994; Kinnersley, et al., 1996; Feletti, et al., 1986; Khayat and Salter, 1994; and Flocke, 1997).**
2. Studies that measured the quality perceptions of PHC services from the viewpoint of both PHC consumers and providers (such as: **Vedsted, et al., 2002; Suchman, et al., 1993; Jung, et al., 2002).**
3. Studies that measured consumer satisfaction with PHC services in Saudi Arabia (such as: **Ali and Mahmoud, 1993; Makhdoom, et al., 1997; Saeed, et al., 2001; Al-Omar and Bin Saeed, 1999; Al-Doghaither and Saeed, 2000).**

The primary advantages of self-administered questionnaires are the ease and relatively low cost of administration and provision of standardized statistical data which can, when a reliable and valid instrument is used, be compared with other samples. They are less subject to researcher bias than interviewers are, less staff training is required, and anonymity is more easily guaranteed (**Rees Lewis, 1994**). Furthermore, if they are well designed, they are easily understood and clearly related to opinions about the quality of services (**Fitzpatrick, 1991 and Wilkinson, 1986**). Finally, the questionnaire designer can improve the instrument by piloting it many times before administering it to respondents, thereby increasing its validity and reliability. It can also be useful for other researchers to borrow and adapt for use in replication studies (**Parahoo, 1997**). In general, questionnaires are better suited to gathering reliable subjective measures, such as user perception and satisfaction of the system or interface in question.

Given the above mentioned advantages plus the cultural difficulties anticipated for a female researcher in a society where males and females are largely separated, the researcher adopted the self-administered questionnaire as the data collection method. Despite the overwhelming reasons for its use, a self-administered questionnaire has some disadvantages and these should be acknowledged here. The main disadvantage with the self-administered questionnaire is that there is no opportunity to ask respondents to elaborate, expand, clarify or illustrate their answers. Respondents themselves have no opportunity to ask for clarification. They may understand questions differently from researchers, and this does not inspire confidence in the validity of

questionnaires (Polit and Beck, 2004; Parahoo, 1997). In addition, they are not easy to construct and it can often take as many as 8-12 drafts before a reasonable one is ready for use (Crossby, et al., 1989). Even after all this effort, some questions can still be ambiguous (Parahoo, 1997). Moreover, questionnaires tell us little about the context in which respondents formulate their responses. The researcher's control over the environment will be somewhat limited. As Nay-Brock (1984) explains, it is difficult to take into account any reluctance or evasiveness on the part of the respondent because the non-verbal responses of the respondents cannot be observed. The data collected from questionnaires are sometimes superficial and can only be taken at face value (Parahoo, 1993). They are devoid of the context, which gives rise to them, and, although they may attempt to measure important contextual variables, they typically separate the measured behaviour from its particular historical, social and cultural context (Mechanic, 1989). This loss of control means the validity of the results are more reliant on the honesty of the respondents. Consequently, it is more difficult to claim complete objectivity with questionnaire data than results of a tightly controlled lab test. Finally, questionnaires do not suit everyone, in particular those who have difficulty in reading and comprehension and in articulating written responses, such as those who hardly can just read and write (a considerable numbers of those category were expected to be participated on the study). This may lead some respondents to confer with others or ask them to complete the questionnaires. The implications of this for knowledge and attitude questions are obvious (Parahoo, 1997).

Although some of the above mentioned disadvantages are inevitable, they are inherent in the method in that the questionnaire is by its very nature limited to collecting certain type of data, but many of the other disadvantages can be overcome through skilful construction. The researcher tried hard to reduce the effect of expected disadvantages on the validity and reliability of the questionnaire. The questionnaire's popularity as a method of data collection suggests that, to many people, the advantages outweigh the disadvantages. However, earlier reasons were presented for discarding Western questionnaires that related to their unsuitability for Saudi PHC. Here though, in deciding to devise a self-administered questionnaire, it was possible to design an instrument that was suited to this context because it was specifically designed with Saudi PHC and Saudi cultural limitations in mind. However, the detailed reasons and justifications for choosing this tool as the main data collection tool are discussed below.

Specific reasons and justifications for choosing the self-administered questionnaire design:

1. **Limited alternatives of questionnaire's administration methods:** questionnaires can be self or researcher administered. Normally the latter can be performed when the researcher is in the same room or in the vicinity (**Parahoo, 1997**). This alternative method of data collection was difficult to administer in this study because the researcher could not manage to be available at the time of data collection at all the 18 PHC centres. A self-administered questionnaire is one in which respondents write their responses on the questionnaire without the researcher helping in any way (**Polit and Beck, 2004; Parahoo, 1997**). This was apparent as a more practical data collection design. On the other hand, the questionnaire can be delivered personally, via the e-mail system or posted (**Polit and Beck, 2004; Parahoo, 1997**). The two latter designs were avoided because in Saudi Arabia the postal system is not advanced, there is only very limited post services (i.e. houses are not provided with the post codes). Similarly, the e-mail system in Saudi Arabia is not well developed; only limited numbers of people have access to internet services. Only in January 1999, Saudi Arabia began allowing its public to access the Internet through local service providers¹; internet use over the Saudi population was estimated at only 6.37% in 2003.² An alternative was to distribute the questionnaires manually (given hand by hand). This was the method adopted, however, they were not delivered personally by the researcher herself, but delivered by the medical record officers and the receptionists who are working at the centres. Questionnaires can also be administered either 'face to face' or over the telephone ((**Polit and Beck, 2004; Parahoo, 1997**). This type of 'face to face' encounter is more like a structured interview, where the researcher can read the questions and record the responses on the questionnaire. This method was also rejected in this study in order to avoid the disadvantages of the interview method. Although, telephone surveys are becoming increasingly popular in the social and health sciences in the Western countries (**Polit and Beck, 2004; Parahoo, 1997**), in Saudi Arabia this method is not yet socially acceptable. The difficulties of conducting telephone surveys were reported by some researchers, such as **Al-Tamimi (2004); and Mohamed, and Al-Doghaither, (2002)**.

¹ <http://hrw.org/advocacy/internet/mena/saudi.htm>

² http://www.rsf.org/article.php3?id_article=10766

2. **Nature of the questions:** since, the research questions were mainly intended to identify the participants' opinions, multiple-response questions were judged useful (Polit et. al., 2001; Ware and Hays, 1988). The researcher has previous experience (during her MSN)¹ with using multiple-response questions among the Saudi people in identifying their opinions regarding the institutionalization of their disabled children. During that study, she compared the interview method with the questionnaire method and found that with the interview method, the process was time consuming and people were not interested in thinking sufficiently thoroughly and tended to just pick the 'neutral' options. In contrast, the questionnaire method was found more practical and the respondents expressed their feeling of comfort with self-answering the questions. Moreover, they considered the available choices seriously and did not just opt for the 'neutral' response. Some of the respondents said that the self-administered method give them appropriate time to think about each option more deeply than the interview method. Parahoo, 1997 pointed out that self-administered questionnaire allows respondents to answer in their own time and at their own convenience, thereby giving more candid answers. They have time to check records, especially when they answer factual question. Accordingly, the researcher preferred to use the self-administered questionnaire in this study to take the advantage of this method regarding this matter.

3. **Cultural limitation:** given that the researcher is a single Saudi female, this creates lots of difficulties in approaching the male respondents via focus group or personal interview. Such difficulties were stated in an article written by Littlewood, and Yousuf (2000), but no other study has been found which addresses the implications of gender and culture in questionnaire design. This is an under-researched topic and it might be worthy of further investigation in the future. Saudi people are respectful of their cultural norms and Islamic rules. According to the Saudi culture, the female should not privately meet any male who is not her first relative (father, brother, son, or nephew) in any closed area, even in public places such as the PHC centres. In addition, the PHC centres are designed to be providing the services to males and

¹ 'Factors influencing the institutionalization of special disabled children' a thesis conducted to partially fulfilment of the requirements for Master degree in Nursing Science from King Saud university, Riyadh, Saudi Arabia

females separately. Since the waiting areas and other facilities are separated, it is not socially acceptable for a female to be seen to be hanging around male areas. Accordingly, the researcher had to decide either to limit the study population to females only (this would negatively effect the generalization of the study) or, as she decided, to avoid choosing interview or focus group methods and opt for the questionnaire method.

4. **Interviewer bias:** One of the major advantages of self-administered questionnaires is the absence of interviewer effect (**Parahoo, 1997**). **Dockrell and Joffe (1992)** analysed data from their study of young people and HIV/AIDS and concluded that, while face-to face interviews gave them insight into the behaviour of the respondents, the latter were often uncomfortable in discussing their sexual activities. According to them, the questionnaire with fixed choices, might be more appropriate and could lead to a more accurate reporting of such activities (**Dockrell and Joffe, 1992**). Given that the researcher was familiar with most of Jeddah's PHC providers, especially the nurses (the researcher used to provide continuing training and educational activities to them), she was concerned that this familiarity and social relationship would introduce bias if the interview method was carried out.

5. **Anonymity:** unlike interviews, questionnaires offer the possibly of complete anonymity. A guarantee of anonymity can be crucial in obtaining candid responses, particularly if the questions are personal or sensitive (**Polit and Beck, 2004**). People in Saudi Arabia are usually very reluctant to complain about medical services (**Mansour and Al-Osimy, 1996**). From the viewpoint of the researcher, people of Saudi Arabia are very cautious; people complain routinely of poor service quality, but when they are asked to consider the topic seriously, by a researcher, they seem reluctant to express their feelings frankly within the presence of a researcher because she is one of the health care personnel.

6. **Time factor:** the main advantage of questionnaires is that they can reach large numbers of people over wide geographical areas and collect data at a lower cost than other methods such as interviews and observation (**Parahoo, 1997**). The limited time available for data collection was one of the stronger reasons for decision to conduct a survey using self-administered questionnaires. Interviews and focus

groups are more time consuming. Because the study was designed to be cross-sectional, it was anticipated that PHC clients would not be prepared to spend much time in participating in the study. Moreover, given that the driving of vehicles by females is not allowed in Saudi Arabia, it would be difficult for a female researcher to conduct interviews in the 18 different settings and get a representative sample within an acceptable time (i.e. during the researcher's vacation which was taken specialty for the purpose of data collection process). In addition, it would be very difficult to find a place for conducting the interviews within the centres, which are always crowded and provided with insufficient waiting areas.

One problem with the self-administered questionnaire is that it can be used only in situations where literacy rates are sufficiently high. Some might question the questionnaire method as the main data collection tool, while the literacy rate among the adult in Saudi Arabia is not high. It is estimated that the literacy for the total population is 78.8%, with males at 84.7% and females at 70.8% (2003)¹. Given the high visiting rate among the Jeddah's PHC centres, this percentage was estimated as sufficient to obtain a representative sample within the study period (three months). Although the level of higher education (university / postgraduate) among Saudis is estimated to be low, the majority of Saudi people have at least elementary level of education. According to the results of previous studies conducted on the different PHC settings over all Saudi Arabia, people who are completely illiterate (cannot read or write) comprise just a small portion of the PHC consumers, they are around 8.5 % (see table 3.1).

Table 3.1, lists of studies which identified educational levels among adult PHC consumers.

University / postgraduate	Secondary / preparatory	Elementary / Can read and write	Illiterate	References
25.5 %	49.4 %	17.8 %	7.3 %	Al-Faris et al., 1996
16 %	59.5 %	20.5 %	4 %	Al-Doghaiter, and Saeed, 2000
30 %	48 %	17 %	5 %	Saeed, et al., 2001
22 %	51 %	12 %	15 %	Saeed, et al., 1992
3.1 %	37.6 %	39.7 %	19.6 %	Al-Omar, 2000
31 %	63 %	6 %	-	Al-Omar and Bin Saeed, 1999
21.3 %	51.4 %	18.8 %	8.5 %	The Average

¹ Available at : [http:// www.cia.gov/cia/puplications/factbook/geos/sa.html](http://www.cia.gov/cia/puplications/factbook/geos/sa.html)

The information about the educational level of the PHC consumers was given careful consideration during the formulation and development of the questionnaire's questions. As it is shown on the above table, more than 50% of the target population of the study (the consumers) would be expected to be having intermediate level of education (secondary/ preparatory). However, the other levels of education were expected to exist in considerable percentages. This diversity of educational levels between the consumers also exists among the providers. While considerable numbers of the providers are expected to have university or postgraduate level of education (such as physicians, some nurses and administrators), the majority of the providers have lesser educational levels (see table 3.2).

Table 3.2¹, the percentage of educational level among the PHC providers who are working at PHC centres, Jeddah, 2003.

	Level of education	Category	Percentage
1.	University / postgraduate	Physicians, dentists, nurses, pharmacists, administrators	15.5%
2.	Associate diploma (2-3 year after the secondary school)	Health care technicians such as liberationists, radiologists, health inspectors, statisticians, nurses	38.6%
3.	Secondary / preparatory	Administrators, receptionists, nurses	35.3%
4.	Elementary / Can read and write	Workers	10.6%

Thus, the questions were designed to be appropriate to all levels of education. Actually, the researcher acknowledges that diversity of educational level was the factor that had the greatest impact as a limitation of the data collection tool. The language used in the questionnaire has been such that the reading ability required was not too demanding. It was kept simple and the sentences short so that the subject matter of the questions could be easily understood.

In summary, the self administered questionnaire was used in this study because it was less costly and time consuming than interviews, offered the possibility of anonymity, and ran no risk of interviewer bias.

¹ Source: MOH, Jeddah's PHC Administration (2003).

3.4. DATA COLLECTION TOOLS:

Date collection tools were designed to answer the study questions, in order to meet the objectives of the study. Two tools were designed for this study:

First tool: *descriptive statistics about the PHC centres.* See **appendix III**

This instrument consists of one page and was designed to be completed by the researcher herself. It aims to achieve the first objective of the study, through identifying some descriptive information about Jeddah's PHC centres. This description was intended to provide a clear view about the current condition of the Saudi PHC centres and how they are running. This was done through direct observation of the PHC centres' buildings, and reviewing some available organizational documents such as the daily and monthly census record. Indeed, it is crucial for identification of quality attributes of PHC services to find out the context within it these services are running. However, this study is not dealing with the aspect of services' evaluation.

The description included information about the following items;

1. The condition of the PHC centres' buildings, which were included: date of opening, type of building whether it is rented or purpose-built building, space of building (m²) and number of floors.
2. The working hours (duty system), whether it was one shift or two shifts.
3. PHC customers' information, which included the following: number of population served, number of visits per day, and number of visits per month.
4. PHC providers' information, which included the following: number of physicians, number of nurses, number of technicians, and the total number of employees.
5. The range of services provided at the PHC centre.

Structure refers to "the setting in which "the process of care takes place and the instrumentalities of which it is the product" (**Donabedian, 1969, page 188**). This includes the qualifications of medical staff, organizational structure, financial policies, and the operation of programs (**Press, et al., 1992**). Some accreditation organizations such as JCAHO indicated that good structural elements that hospitals and other organizations are needed to have to be able to supply high quality care (**Chin, and Muramatsu, 2003**). **Donabedian (1980)**, however, points out that the importance of contextual structural elements-particularly organizations such as hospitals and health

systems has been underestimated. The researcher believes that the quality of structure of the PHC service in Saudi Arabia is underestimated. Several published studies (**Sebai, 1981, 1982 and 1988; Sebai et. al., 1980, Banoub, 1982; Dodd, 1986; Kanan, 1989; Mansour & AL-Osimy, 1996**) have assessed and evaluated the Saudi PHC centres and their results clearly indicate that there are great structural deficiencies. Moreover, in addition, several statements by the PHC authorities have acknowledged these deficiencies. However, the practical steps toward addressing such deficiencies have up to now not proven feasible. The structure of the PHC service in Saudi Arabia still needs to be assessed in-depth and its limitations still need to be highlighted.

The structural components of the PHC service, as stated on the Saudi Quality assurance in PHC annual report, includes the following: health manpower of all categories (physicians, nurses, health inspectors, pharmacists, laboratory technicians, etc.), essential drugs, equipment, records, files, stationery, buildings, and it includes also organizational and management plans, in addition to the knowledge, attitude, and skills of health team (**Al-Mazrou and Farag, 1994**). Actually, in spite of the clarity about the structural components of the Saudi PHC service, their quality measurements are difficult to specify and PHCs are facing deficiency in standards and in policy guidance about the organisation of their services. It was stated on the Saudi Quality assurance in PHC annual that:

There is no fixed or ideal standard for structure but it depends on its appropriateness to the health system, the locality and even the time and accordingly we judge its quality. For example, the standard structure in one country cannot be considered suitable for another country – it may be neither feasible nor appropriate. Furthermore, the current standard structure set for one country may not be suitable five years later in the same country (**Al-Mazrou and Farag, 1994, page 33**).

Although, the researcher was aware of the importance of assessing the structural components of Saudi PHC service, she acknowledges the study limitation regarding this issue, where only few components were assessed. This limitation arises mainly from the lack of official documents (as a reliable source of knowledge), which could describe and rationalize the organizational structure and the managerial plans. For instance, the researcher was unable to find any official document justifying the variations of the working hours between the centres (some are working continuous shift while other are working interrupted shifts).

Second Tool: *A self-administered questionnaire.* See appendix IV

Questionnaires are quite flexible in what they can measure, however they are not equally suited to measuring all types of data (**Bryman, 1988**). Data could be qualitative or quantitative. Accordingly, the questions of this study's tool were designed to gather both quantitative and qualitative data.

Qualitative data are sometimes accompanied with quantitative data to illustrate the meaning of constructs or relationships (**Polit and Beck, 2004**). This was the specific reason for designing the questions to gather both types of data for the current study. The questionnaire was designed for collecting both quantitative data, through several closed-ended questions, and qualitative data through administering some open-ended questions. This combination would help to clarify important results and corroborate the understandings gleaned from the statistical analysis. Accordingly, the questionnaire initially encompassed four open-ended questions. Later, these were reduced to only one open-ended question because of the limitations of the educational background of the respondents and limited time available for answering the questionnaire.

What distinguishes this tool is primarily that it focuses on the identification of the opinions of PHC providers and consumers about the quality of services rather than on measuring their satisfaction, as all the previous Saudi PHC studies have. While some questionnaires have been subjected to validation studies, there are two difficulties posed in reusing them in an assessment of perceived quality. The first is common to questionnaires of this type and lies in the fact that their content must be re-evaluated, and adjusted to local socio-cultural and linguistic realities, as well as to the local modes of organizing medical practice (**Calnan, 1988a; and Calnan, 1988b**). The second difficulty lies in the approach used in these questionnaires. Most address user satisfaction rather than user opinions regarding quality of care.

The researcher developed this tool after an extensive review and analysis of related literature, as mentioned previously (**Pascoe, 1983; Parasuraman, et al., 1988; Donabedian, 1992; Bowers, et al., 1994; Gilson, et al, 1994; Reerink and Sauerborn, 1996; Haddad, et al, 1998a; Haddad, et al, 1998b; Jun, et al., 1998; Haddad et al, 2000**).

In terms of measurement, the researcher found three critical issues: the first measurement issue is the degree of specificity of the measurement of the instrument. The degree of specificity ranges from vague statements on overall feelings about health care to particular components of the construct (**Hulka, et al., 1971; Zyzanski, et al., 1974; Woolley, et al., 1978; Locker and Dunt, 1978; Roghmann, et al., 1979; and Stewart and Wanklin, 1978**). Regarding questionnaire format, some design variables have significant effects on study outcomes. Questions relating to a particular incident or consultation have been found to yield lower levels of satisfaction than a general enquiry (**Williams and Calnan, 1991a**). Moreover, the overall summary satisfaction may be very high but detailed questioning of subjects often revealed substantial dissatisfaction with certain aspects of the services, as has been reported in several studies (**Al-Faris, et al., 1996; Harrison, 1996; AbdAl-Kareem, et al., 1996 and Al-Doghaither and Saeed, 2000**). In addition, **Fitzpatrick (1991)** points out that the more clearly focused each question is, the easier it is to compare satisfaction with the different element of care. However, to achieve the purpose of the study and meet its objectives, and taking into consideration the educational level of the respondents, the researcher attempted to make the questions concise, direct, and specific. Accordingly, the two forms of questions about overall opinion of services and opinion of each specific service were included in the measurement instrument to gain validated results.

The second measurement issue concerns the issue of whether it is better to ask patients their opinions of health care on an impersonal level, inquire about the person's own experiences, or to compromise. After comparing the three methods, **Stewart and Wanklin (1978)** suggested using the intermediate approach. They found that as questions are asked more directly about patients' own physician and experience, the expressed level of satisfaction increases. In fact there is, empirically, little to choose between "direct or indirect" questions which were used with approximately equal frequency among the studies reviewed by this researcher and by **Hall and Dornan (1988a)**. Abstract questions evoke more honest responses because it is less threatening for the patient to criticize health care on an impersonal level. However, some research shows that patients are more likely to criticize their personal physicians and challenge physician authority **Haug and Lavin (1979)**. Accordingly, the questions were designed to be general and not touching any personal experiences of the respondents.

The third measurement issue was whether to use closed-ended questions or open-ended questions. The decision to use open- and closed- ended questions was based on a number of considerations, such as the sensitivity of the topic, the verbal ability of respondents, and the amount of time available. Closed-ended questions have the advantage of being tightly structured; responses are easy to code and analyze; less time is taken in filling the questionnaire (Bryman, 2001). Polit and Beck (2004) pointed out that good closed-ended items are often difficult to construct but easy to administer and, especially, to analyze. The analysis of open-ended items, on the other hand, is more difficult and time-consuming. Moreover, Bryman (2001) pointed out that open-ended questions have the advantage of eliciting more detailed answers. The respondent is free to answer without limitations imposed by the researcher. The disadvantage is that the answers are difficult to code; greater time is taken in filling the questionnaire; respondents get tired; answers cannot be analyzed well. In questionnaires, subjects may be less willing to compose written responses than to check off or circle appropriate alternatives. Closed-ended items are also preferred with respondents who are unable to express them selves well verbally. Furthermore, some questions are less objectionable in closed form than in open form, because the range of options gives respondents a greater measure of privacy than the blunter open-ended question. The major drawback of the closed-ended questions is the possibility that researchers may have neglected or overlooked potentially important responses. The respondent is led in a pre-determined direction, leaving him/her less choice to express his/her own potentially unique answers. Moreover, the answers listed in the questionnaire may not be among the answers applying to a particular respondent. When the area of research is relatively new, open-ended questions may be better than closed-ended ones for avoiding bias. However, combinations of both formats are recommended to offset the strengths and weaknesses of each. Consequently, the researcher designed the questionnaire to contain closed-ended questions offering multiple choice answers and judgmental questions requiring rating responses. In addition, one open-ended question was included in order to leave space for free emotional expression and eliciting more detailed answers. One way out of the difficulty that related to the closed response questions is to include options such as "others... (Please specify)"; or "don't know"(Bryman, A. 2001). Therefore, options such as these were included in the closed response questions.

The self administered questionnaire consisted of six parts:

Part one: it is the first page of the questionnaire (the cover letter), and it serves to ensure informed consent where it comprises the brief information about the study and the expected role of the respondents in this study. Informed consent means that the participants have adequate information regarding the research, are capable of comprehending the information, and have the power of free choice, enabling them to consent to or decline participation voluntarily (**Polit and Beck, 2004**). Accordingly, the researcher did not use the documentation process (i.e. having participants sign a consent form), instead, their completion of the questionnaires were taken as consent. However, participation in the study was completely voluntary and the respondents would not have experienced any pressure or expectation before taking part.

At the top of the page, the full title of the study was stated. The content encompassed the study's general goal and some inviting and encouraging statements requesting they answer the questioners honestly and precisely. In addition, the possible benefits to the PHC service were motioned. Moreover, it contains directional statements which guided the respondent about how and where the questionnaire should be placed after completion. It also clearly indicates that participation is strictly voluntary and their privacy will at all times be protected. The covering letter ended with a statement of thanks and appreciations for their participation. As **Fitzpatrick (1991)** pointed out, it is important to include a simple clear statement of the purpose and use of the questionnaire and explanations of why the person has been selected, how the questionnaire is to be completed, and what the person is to do with it after its completion, in addition it should include a statement of thanks and acknowledgment of their time and effort.

Finally, in order to enhance the response rate, the full name and the title (position) of the researcher were included. The name of the researcher was expected to be known by considerable numbers of both PHC providers and consumers. She is a community health nurse and used to provide regular educational activities for both groups. **Polit and Beck (2004)** indicated that people are more likely to complete a questionnaire if they are encouraged to do so by someone whose name (or position) they recognize.

Part two: comprised six closed-ended questions (multiple choices). The response categories were provided with boxes to tick. They were mutually exclusive so that the respondents could select only one answer. The first four questions aimed to determine some socio-demographic characteristics of the PHC consumers and providers. These were; gender, age, nationality, level of education. The remaining two questions aimed to identify the type of respondent, whether he/she is PHC customer or provider, and to identify the duration of time the customer had been using the PHC services and the duration of working experiences of the employees.

Part three: comprised a five-point rating question. The researcher in this part intended to test whether the identified attributes which are previously measured as important according to the western literature are important from the point of view of the PHC user in Saudi Arabia or not, and if they are important, to what extent. Therefore, the researcher used the rating question and asked the respondents to rate the level of importance of the seventeen selected attributes whether they are: very important; important; neutral; not important; or not important at all. **Polit and Beck (2004)** indicated that the rating questions is one of the various types of closed-ended questions, and described the rating questions as: asking respondents to evaluate something along an ordered dimension. Rating questions are typically bipolar, with the end points specifying opposite extremes on a continuum. The numbered categories are on continuums, such as: very serious to not at all serious, very important to very unimportant, strongly like to strongly dislike, or strongly agree to strongly disagree (**Brown, 1988**).

This part of the questionnaire was not intended to measure attitudes toward the attributes of the quality of the PHC services. Accordingly, the researcher did not use psychometric scales such as Likert scales which are basically designed to measure attitudes. This part was an opinion-based question aimed to identify the opinions of PHC providers and consumers about the importance for each of the seventeen selected attributes in defining and measuring the quality of PHC services. **Bowling (1998)** indicated that an *opinion-based* question is one that asks the respondent what they think of something. An answer to an opinion question cannot be proven right or wrong: it is simply the opinion of the respondent and is inaccessible to independent verification.

Moreover, **Wilkin, et al (1992)** indicated that varying cultural attitudes to health care mean that scales need re-evaluation before they are applied in settings different to those in which they were developed originally. Thus, it is important to point out that although the wide uses of the Likert scale was a measurement instrument among the Saudi and international studies reviewed as discussed above, the researcher did not develop a Likert scale, nor adapt a previously validated one, for the following reasons:

1. With reference to the purpose and use of the Likert scale: The Likert scale is a type of psychometric scale and it is the most widely used scaling technique, named after the psychologist Rensis Likert. It consists of several declarative items that express a viewpoint on a topic. Respondents are asked to indicate the degree to which they agree or disagree with the opinion expressed by a statement. Usually three to seven response alternatives are used, but there are different opinions about the optimal number of response alternatives (**Polit and Beck, 2004; Svensson, 2001**). Likert-scale items are most often used to investigate how respondents rate a series of statements by having them circle or otherwise mark numbered categories. Likert-scale items are useful for gathering respondents' feelings, opinions, attitudes, etc. on any language-related topics (**Polit and Beck, 2004; Ware and Hays, 1988**). Although the advantages of using the Likert scale are well recognized as a powerful mechanism for obtaining data, researchers who use this approach should always be aware of its limitations, which are inevitably associated with this scaling technique. There are several limitations in using a Likert scale. The first is that the wording of the descriptive categories most probably affect the responses and artificial categories might not be sufficient to describe a complex continuous, subjective phenomenon (**Vickers, 1999; McCormack, 1988**). Second, too many response categories may lead to difficulties in choosing and too few may not provide enough choice or sensitivity, forcing the respondent to choose an answer that does not represent the person's true intent. **Polit and Beck (2004)** indicated that the most pervasive problem is people's tendency to present a favourable image of themselves. Social desirability response bias refers to the tendency of some individuals to misrepresent their responses consistency by giving answers that are congruent with prevailing social values. Finally, a total score from a multi-item Likert index may be the result of many different combinations of ratings, which leads to a loss of information about the scale items (**Bowling, 1998**). Moreover, it has been indicated that the use of sum

scores may lead to incorrect conclusions (Svensson, 2001). Polit and Beck (2004) pointed out this problem as response sets. Scale scores are seldom entirely accurate and pure measures of the critical variable. A number of irrelevant factors are also being measured at the same time. To this point, the researcher is fully aware that if a Likert scale is being developed or adapted, evidence should be gathered to demonstrate that the scale is sufficiently free from response biases to measure the critical variable. The researcher argues that using a psychometric scale, which is used to discriminate quantifiably among people with different attitudes, fears, motives, perceptions, personality traits, and needs, such as the Likert scale would be beyond the study's objectives because the study was not intended to measure the level of satisfaction or their attitudes towards the quality of PHC. Instead, the questions were just used to obtain opinions: it was intended to get respondents to signal the importance of various attributes of quality in PHCs. Opinion questions direct the thought of the respondent outwards, towards people or artefacts in the world out there. Responses to opinion questions can be checked against actual behaviour of people, usually, in retrospect, while attitude questions focus the respondents' attention to inside themselves, to their internal response to events and situations in their lives (Bryman, 2001). Parahoo (1997) indicated that the purpose of questionnaires is normally to explore, describe, assess or evaluate phenomena but not necessarily to measure them. But use of psychometric scale, such as Likert scales, represent an attempt to measure phenomena such as attitudes, pain, satisfaction, and illness behaviour

2. **With reference to the objective of the study:** the specific objective of the study, which was intended to be achieved by this part of the questionnaire was; to measure the level of importance of selected 17 PHC quality attributes in defining and measuring the quality of PHC services as perceived by PHC consumers and providers. This objective is clearly not to measure their attitude toward or satisfaction with each of the 17 PHC quality attributes selected. In this case, each of the 17 attributes will be needed to phrase into several statements (negative and positive). Therefore, it was found that developing a Likert scale or any type of psychometric scales would not be appropriate for the purposes of this study. Parahoo (1997) points out that in psychometrics, rating scales are often referenced to a statement that expresses an attitude or perception toward something. The most

common example of such a rating scales is the Likert scale, in which a person is asked to select a category label from a list indicating the extent of disagreement with a statement. Further more, **Polit and Beck (2004)** point out that the first step in constructing a Likert-type scale is to develop a large pool of items that state different positions on an issue i.e. negatively worded statement and positively worded statement, the aim is to spread out people with various attitudes or traits along the continuum. Again this would be beyond the study's objective.

3. With reference to the structure and the construction of the Likert scale:

Parahoo (1997) explained that rating scales are sometimes referred to as questionnaires. There are however, crucial differences between the two, especially with regard to their structure and design. Questionnaires, on the whole, contain a set of questions mostly in closed and open-ended formats. Responses to each of the questions are on their own and analysed separately, although researchers seek to correlate and cross-tabulate variables. Together, responses from all the questions provide an answer to the research question or hypotheses. Hence, the researcher in this study carefully selected groups of questions that reflect the aspect of quality of PHC services, such as quality attributes, quality of services, satisfaction with the quality and criteria of quality. She asked questions on these aspects in multiple choice, open-ended, and rating format questions, but not did not use rating scales. Rating scales, such as Likert scales, are made up of statements that respondents are required to rate. A Likert scale is normally constructed by collecting a large number of statements on the phenomenon being rated and, through an elaborate process, weaning them down to a smaller number that can be administered to respondents. In addition, developing a scale would have required a lot of time and resources, as well as requiring a course in psychological measurement, including much statistics, beforehand, and would also have required pervious experience of administering and interpreting questionnaires that have already been devised. This exercise shows the difference between complexity of constructing a rating scale (such as a Likert scale) and the relative simplicity of constructing rating questions for close-ended questions. Moreover (**Polit and Beck (2004)**) indicated the important of carefully assessing the validity and the reliability of developing a scale and stated that:

Advanced students developing a Likert scale for widespread use should consult a reference on psychometric procedures, such as *Psychometric Theory* by Nunnally and Bernstein (1994) (**Polit and Beck 2004, page 356**).

4. **With reference to cultural sensitivity:** Flaskerud (1988) questioned whether the Likert scale format was culturally biased. She speculated that problems in using Likert scales cross-culturally could be due to education, faulty translation, irrelevant content, lack of semantic equivalence, the differing character of social interactions in various groups, or the nature of the response required. It is also possible that the degree of variation Likert scales attempt to measure is meaningless to some cultural groups. This thoughtful article highlighted this researcher's concern regarding the difficulties and infeasibility of adapting a western validated scale and using it in Saudi culture. It was noted that of the Saudi studies conducted to measure the satisfaction of the PHC consumers, such as Saeed, et. al (2001); AL-Doghaither and Saeed (2000); Makhdoom, et. al (1997); Al- Qatari & Haran (1999), only one study (Saeed, et. al. 2001) acknowledged using an adapted scale based on a translated, modified version of both PSQ and CSQ scales. The rest of the studies did not adopt any validated international scales, they developed new local scales instead. But, the validity and the reliability were poorly described.

Accordingly, with reference to the above discussion, this part of the data collection tool was designed to be just a rating question and was not drawn from any type of psychometric scale. Rating questions are considered one type of close-ended question (**Polit and Beck, 2004**). The 17 PHC attributes suggested were listed without being formulated into negative and positive statements as required by the Likert scale format. The researcher attempted to explore whether they are important or not, rather than to measure the attitude of respondent toward each one, which could be address by using the Likert type of scale. This could be an area of investigation for future researches. The rating question was developed in a way that allowed respondents to grade their responses about the attribute's importance on five levels. The higher the score the higher the level of importance, they are as the following:

1. "Not important at all"
2. " Not important"
3. " Neutral"
4. " Important"
5. "Very important"

The researcher felt that the rating questions were more appropriate than the dichotomous questions to be used for collecting the required data in this part of the questionnaire (i.e. do you think "courtesy" is an important attribute in defining and measuring the quality of PHC in Saudi Arabia? "yes" or "no"). Respondents, who may resent being forced to see an issue as either "yes" or "no", often consider dichotomous items too restrictive. **Polit and Beck (2004); Bryman (2001); Bowling (1998)** indicated that while dichotomous questions are considered most appropriate for gathering factual information, graded alternatives are preferable for opinion or attitude questions because they give researchers more information (intensity as well as direction of opinion) and because they give respondents a chance to express a range of views.

Many researchers indicated that usually three to seven response alternatives are used, but there are different opinions about the optimal number of response alternatives. There are two sets of issues here. One is whether the researcher should have an odd or even number of response options. The general answer to give here is pointed out by **Bowling (1998)** that if there is a possibility of having a 'neutral' response to a set of questions, then the researcher should have an odd number of questions with the central point being the neutral place. On the other hand, if the researcher wishes to assess the strength of the polarity; he/she is actually asking two questions in one: firstly, is it good or bad, and secondly, is it really very good or very bad. This leads to an even number of response options. Regarding this issue the researcher decided to use an odd number of alternatives (five alternatives) in order to avoid obtaining responses which could not be used. The researcher believed that it would be helpful to indicate the central (neutral) point. Some people use even numbers of response options to 'force' the respondents to go one way or another. What happens in practice is that respondents end up giving random responses between the two middle items, and this is not very useful.

The other set of issues is how wide should the response options be? A range of 1 to 3, 1 to 5, or even 1 to 12? **Bowling (1998)** pointed out that it depends on how accurately can the majority of respondents distinguish between flavours of meaning in the questions. If the researcher suspects that the majority of respondents are going to be fairly uninformed about the topic, then he/she decides on a small number of response options. If the researcher is going to be dealing with experts, then a much larger set of response options can be used. Accordingly, the researcher decided five alternatives was

a reasonable number to use, not too small and not too large. When people have to differentiate between fine shades of meaning that may be beyond their ability, they will complain that the questionnaire was 'long' and 'hard.'

In spite of the careful selection of this response technique, the researcher acknowledges that some limitation and biases might still occur given that the majority of respondents (the PHC consumers) have low to moderate levels of education. Extreme responses are an example of these biases, when some individuals consistently select extreme alternatives. These extreme responses distort the findings because they do not necessarily signify the most intense feelings about the phenomenon under study (**Parahoo, 1997; Polit and Beck, 2004**). **Polit and Beck (2004)** pointed out that there is little a researcher can do to counteract this bias, but there are procedures for detecting it. Moreover, some people have been found to agree with statements regardless of content. Such people are called yea-sayers, and the bias is known as the acquiescence response set. A less common problem is the opposite tendency for other individuals, called nay-sayers, to disagree with statements independently of question content (**Polit and Beck, 2004**). Finally, **Polit and Beck, 2004** stated that:

The effects of response biases should not be exaggerated, but it is important that researchers who are using self-report instruments give these issues some thought. Evidence should be gathered to demonstrate that the instrument is sufficiently free from response biases to measure the critical variables (**page 361**).

The researcher followed three steps in order to develop the final form of the five-point rating question: First, the three classical aspects of quality (structure, process, and outcome) which were identified by Donabedian (1980) were chosen to be the main components of the rating question. This decision depended on previous studies which pointed out that Donabedian's classification has the dual advantage of being widely accepted and easily understood (**Pascoe, 1983; Parasuraman, et al., 1988**). In addition, the Saudi Committee for PHC Quality Assurance (**SCQAPHC**) has adapted Donabedian's framework in their work for constructing a quality assurance manual for PHC services in Saudi Arabia (**AL-Mazrou and Farag, 1994**). Then, the process aspect was divided into two categories: technical process and interpersonal process. This division was supported by several studies (such as **Haddad, et al. 1998a; Haddad, et al. 1998b; Jun, et al. 1998; and Haddad, et al. 2000**). The final step was the process of subdivision of the four aspects of quality (structure, technical process, interpersonal

process, and outcome) into several attributes. This process was crucial for meeting the aims of the study - the identification of various quality attributes of PHC services and the measurement of their level of importance in defining and measuring the quality of PHC services according to the PHC providers and consumers.

The subdivision selected attributes that were largely based on the Institute of Medicine's 1994 definition of PHC (IOM, 1994). It was also based on the attributes that used by prominent researchers in the area of PHC, as previously discussed in the literature review (Pascoe, 1983; Parasuraman, et al., 1988; Donabedian, 1992; Bowers, et al., 1994; Gilson, et al., 1994; Reerink and Sauerborn, 1996; Haddad, et al., 1998a; Haddad, et al., 1998b; Jun, et al., 1998; Haddad et al., 2000). The subdivision process of the four quality aspects yielded seventeen attributes which were arranged as follows:

- **Structural aspect**, subdivided into five attributes; (1) tangibility (2) accessibility (3) staffing and manpower (4) administration and management, and (5) range of services.
- **Technical process aspect**, subdivided into five attributes: (1) competency (2) time factor (3) security and confidentiality (4) continuity and follow-up, and (5) community participation.
- **Interpersonal process aspect**, subdivided into four attributes; (1) courtesy (2) consumer/provider communication (3) credibility and responsiveness and (4) teamwork.
- **Outcome aspect**, subdivided into three attributes; (1) treatment services (2) preventive services, and (3) consumer and provider satisfaction.

Table 3.3 shows the studies which were reviewed and how they describe one or more of the seventeen quality attributes of the study. It appears that some attributes have been identified and measured in several studies while others were only seldom mentioned. There was one attribute (community participation) that was never measured in Saudi and international studies. This attribute was added by this researcher because of its important role in the Saudi PHC services.

Table 3.3, lists the reviewed studies which identified the health care quality attributes

Quality attributes	Reference
1. Tangibility	Ware, 1978; Osterweis and Howell, 1979; Greene, et al., 1980; Ware, 1981; Nguyen, et al., 1983; Pascoe, 1983; Parasuraman, et al., 1988; Weiss and Senf, 1990; Fitzpatrick, 1991; Smith, 1992; Donabedian, 1992; Witty, 1992; Meredith, 1993; Gritzner, 1993; Leavey and Wilson, 1993; Ehnfors and Smedby, 1993; Mansour and Al-Osimy, 1993; Biderman, et al., 1994; Gabbott and Hogg, 1994; Scott and Smith, 1994; Bowers, et al., 1994; Thomas, et al, 1995; Steffen and Nystrom, 1997; Wensing, et al, 1997; Jun, et al., 1998; Al-Dohaither and Saeed, 2000; Al-Dohaither, et al., 2001.
2. Accessibility	Greene, et al., 1980; Parasuraman, et al., 1988; Don Buesching, 1985; Aquilina, 1989; Hansagi, et al., 1992; Starfield, 1993; Mansour and Al-Osimy, 1993; Ali and Mahmoud, 1993; Bowers, et al., 1994; Makhdoom, et al., 1996; Jun, et al., 1998; Haddad, et al., 1998.
3. Staffing and Manpowered	Ali and Mahmoud, 1993
4. Range of services	Ali and Mahmoud, 1993; Gabbott and Hogg, 1994; Wensing, et al, 1997
5. Competency	Garvin, 1987; Parasuraman, et al., 1988; Aquilina, 1989; Mansour and Al-Osimy, 1993; Bowers, et al., 1994; Jun, et al., 1998; Haddad, et al., 1998; Saeed, et al, 2001.
6. Time factor	Van Luijk, 1979; Greene, et al., 1980; Mansour and Al-Osimy, 1993; Ali and Mahmoud, 1993; Gabbott and Hogg, 1994; Al-Dawood and Elzubier, 1995; Dansky and Miles, 1997; Al-Almaie, et al., 1998; Wensing, et al, 1997.
7. Security and confidentiality	Houston and Pasanen, 1972; Ware, et al., 1978; Ware, 1981; Nguyen, et al., 1983; Pascoe, 1983; Ali and Mahmoud, 1993; Evason and Whittington, 1991; Hansagi, et al., 1992; Cohen, et al., 1996; Saeed, et al, 2000.
8. Continuity and follow-up	Hulka, et al., 1970; Greene, et al., 1980; Don Buesching, 1985; Aquilina, 1989; Nelson and Hopkins, 1990; Hansagi, et al., 1992; Starfield, 1993; Mansour and Al-Osimy, 1993; Al-Dawood and Elzubier, 1995; Makhdoom, et al., 1997; Wensing, et al, 1997; Al-Dohaither and Saeed, 2000.
9. Administration Management	Starfield, 1993; Vedsted, et al., 2001.
10. Community participation	Never mentioned
11. Courtesy	Ware, et al., 1978; Ware, 1978; Greene, et al., 1980; Nguyen, et al., 1983; Pascoe, 1983; Don Buesching, 1985; Garvin, 1987; Ware and Hays, 1988; Parasuraman, et al., 1988; Hall and Dornan, 1989; Weiss and Senf, 1990; Nelson and Hopkins, 1990; Fitzpatrick, 1991; Evason and Whittington, 1991; Donabedian, 1992; Gritzner, 1993; Ehnfors and Smedby, 1993; Mansour and Al-Osimy, 1993; Bendtsen and Bjurulf, 1993; Bowers, Swan and Koehler, 1994; Gabbott and Hogg, 1994; Thomas, et al., 1995; Al-Dawood and Elzubier, 1995; Makhdoom, et al., 1996; Steffen and Nystrom, 1997; Al-Almaie, et al., 1998; Jun, et al., 1998; Haddad, et al., 1998; Al-Dohaither and Saeed, 2000.
12. Consumer / provider communication	Houston and Pasanen, 1972; Kincey, et al., 1975; Wrihlesworth and Williams, 1975; Berkanovic and Marcuss, 1976; Larsen and Rootman, 1976; Blanchard, et al., 1977; Woolley, et al., 1978; Ware, et al., 1978; Locker and Dunt, 1978; Greene, et al., 1980; Parasuraman, et al., 1988; Hall and Dornan, 1988; Rashid, et al, 1989; Weiss and Senf, 1990; Nelson and Hopkins, 1990; Fitzpatrick, 1991; Evason and Whittington, 1991; Donabedian, 1992; Witty, 1992; Smith, 1992; Thomson, 1993; Ehnfors and Smedby, 1993; Meredith, 1993; Leavey and Wilson, 1993; Calnan, et al., 1994; Scott and Smith, 1994; Biderman, et al., 1994; Thomas, et al., 1995; Bowers, et al., 1994; Cohen, et al., 1996; Little, et al, 2001.
13. Credibility Responsiveness	Parasuraman, et al., 1988; Pommernke and Weed, 1991; Bowers, et al., 1994; Gabbott and Hogg, 1994; Steffen and Nystrom, 1997; Jun, et al., 1998.
14. Team work	Wensing, et al, 1997; Jun, et al., 1998.
15. Treatment services	Ware, et al., 1978; Ware, 1978; Nguyen, et al., 1983; Ware and Hays, 1988; Fitzpatrick, 1991; Witty, 1992; Bendtsen and Bjurulf, 1993; Wensing, et al, 1997; Jun, et al., 1998
16. Prevention services	Pommernke and Weed, 1991; Jaen, et al., 1994; Campbell, 2001.
17. Providers and Consumers' Satisfaction	Woolley, et al., 1978; Don Buesching, 1985; Bitran, 1995; Bowers, et al., 1994; Al-Almaie, et al., 1998

Part four: consisted of a six-point rating question, aimed at measuring the level of quality of 16 selected PHC services as perceived by PHC providers and consumers. Unlike the previous five-point rating question used to indicate levels of importance, this question allows respondents to grade their responses on six levels including "Don't know":

0. "Don't know",
1. "Bad",
2. "Satisfactory",
3. "Good",
4. "Very good",
5. "Excellent"

The researcher chose this form of question to measure the opinions about the quality level of services provided, However, as mentioned earlier, a multiple-response question permits greater variability in client responses than "yes or no" question. In addition, it allows prioritizing the quality improvement effort (**Drain, 2001**).

The "don't know" choice was included on the rating choices in order to cover all significant alternatives. Where it was expected that some participants do not have any previous experience with (never use) some of the 16 services, asking the respondents to judge on the services that they actually never use them will lead to invalid result. **Polit and Beck (2004)** point out that if respondents are forced to choose a response from options provided by the researchers, they should feel reasonably comfortable with the available options. As a precaution, researchers often have as one response option a phrase such as "other-please specify" or "don't know". However, statistically, the choice "don't know" was excluded (given "zero" score) from the rating score, which were arranged to be five points.

The sixteen selected PHC services are supposed to be provided by Saudi PHC centres as stated on the PHC manual for the health centres personnel in 1986 and in the quality assurance manual for PHC services in Saudi Arabia in 1994 (**MOH, 1986**; and **AL-Mazrou and Farag, 1994**). These services are: (1) Vaccination (2) Children clinic (3) Antenatal clinic (4) Dental clinic (5) Chronic disease clinic (6) Provision of medications (7) Health education (8) Community participation (9) Infection control (10) Environmental health (11) Laboratory service (12) Radiology service (13) Referral

system (14) Emergency service (15) Treatment room, and (16) Continuity and follow-up.

Part five: consisted of one open question which aimed to encourage the PHC consumers and providers to state their opinions about the judgment criteria that determine the low quality of PHC services. Although it is well known that open-ended questions are considered difficult to analyze, it produces much detailed information and allows for clarification of respondents' views (**Locker and Dunt, 1978; Fitzpatrick, 1991**). The researcher believes that words and sentences are important human artefacts. What people say and write can be a source of evidence about individual and social processes. By administering this open-ended question on the questionnaire, a majority of the respondents were encouraged to express their opinions without limitations and they also had opportunity to express complaints, expectations, wishes, and their demands. Some of them have filled the available space for the answer and attached additional paper. The researcher used the '*content analysis*' method in analysing this question. **Bryman (2001)** indicated that the standard method for analysing the open-ended question is called '*content analysis*' and is a subject all of its own. Content analysis usually lets the researcher distil responses into categories, and then he/she can count the frequency of occurrence of different categories of response.

Part six: constituted one question, addressed on a five-point rating question, which aimed to explore the opinion regarding the general level of satisfactions with quality with PHC services. It allowed respondents to grade their responses on five levels:

1. "Not satisfied at all",
2. "Not satisfied",
3. "Neutral",
4. "Satisfied",
5. "Very satisfied".

The question was direct "State your general level of satisfaction toward the quality of PHC centres' services that you are either working in it as a provider or benefit from its services as a customer?" This question was not included to measure the satisfaction of the service; rather it was included to serve three purposes. First to further explore the perceptions of respondents toward the quality level of the PHC services. All the

previous Saudi studies concerned with satisfaction with the PHC services in Saudi Arabia were intended to measure the level of satisfaction toward the PHC service, but none of them was intended to test the respondents' opinion toward the quality of this service. The researcher argues that when asking people "Are you satisfied with the service?" They could answer differently than when they have been asked "Are you satisfied with the *quality* of the service". The key word here is "quality" not "satisfied". People could express level of satisfaction toward certain service but when they have been questioned about its quality they may express dissatisfaction. This idea was generated from the discussion earlier about the differentiation between satisfaction and service quality. **Parasurman, et al (1985)** suggested that in measuring perceived service quality the level of comparison is what a consumer *should* expect, whereas in measures of satisfaction the appropriate comparison is what a consumer *would* expect. A range of alternatives was inserted to give the respondents the opportunity to express to what extent they are satisfied with the quality of the service. Second, the question was inserted to identify whether there is any difference between the general levels of satisfaction toward the PHC service reported in previous Saudi studies and the level of satisfaction with the quality of this service. In addition, it would identify whether there is any difference between opinion of the PHC providers and the PHC consumers toward this issue. While some studies found that GPs and patients have to some extent a shared perspective on general practice care (**Vedsted, et al., 2002; Jung, et al., 2002; and Jung, et al., 1997**), others concluded that patients and physicians differed to some extent in their assessment of the aspects of care that they considered important for quality (**Wensing, et al., 1996; Bittle., 1995**). Third, the question was inserted also to address the sixth objective of the study, which was to correlate the overall satisfaction level of the PHC quality services with the selected sociodemographic categories. While sociodemographic variables have been studied on numerous occasions, a consistent picture of their effect on patient satisfaction has not emerged. Researchers such as **Weiss (1988)**; and **Like and Zyzanski (1987)** suggest that these conflicting results may be due to the fact that studies have varied widely in the nature of the sample studied, the used methods of the data collection, the specific package of background characteristics examined, whether patients are asked when they are actively seeking health care as opposed to when they are healthy and not seeking care, and whether a singular global item or multi-item scale was used to measure patient satisfaction.

3.5. RELIABILITY AND VALIDITY OF THE TOOL:

The researcher was keen to assure the validity and reliability of the study's questionnaire. More structured approaches, such as multiple item questionnaires with rating response categories, produce data that are easier to handle but require particular attention to validity and reliability (Fitzpatrick, 1991; Rees Lewis, 1994). The reliability and validity of an instrument are not totally independent. A measuring device that is not reliable cannot possibly be valid. An instrument cannot validly be measuring the attribute of interest if it is erratic or inaccurate (Polit et. al., 2001).

3.5.1. RELIABILITY:

Reliability is the extent to which scores are consistent, dependable, or repeatable (Cassady, et al., 2000). If a spring scale gave a reading of 120 pounds for a person's weight one minute and a reading of 150 pounds the next minute, we would naturally be wary of using an unreliable scale. Another way of defining reliability is in terms of accuracy. An instrument is reliable if its measures accurately reflect the true measures of the attribute. A reliable measure is one that maximizes the true score component and minimizes the error component of a score (Polit and Beck, 2004). Three aspects of reliability are of interest to researchers collecting quantities data: stability, internal consistency, and equivalence (Polit and Beck, 2004; Polit et. al., 2001). In the current study only two estimation procedures were used to determine the reliability: stability and internal consistency. The third measure (equivalence) was not used because it was not applicable to the study design because, as Polit and Beck (2004) point out, the equivalence approach is used primarily with structured observational instruments.

3.5.1.1. Stability (Test- retest reliability):

The stability of a measure is the extent to which the same scores are obtained when the instrument is used with the same people on separate occasions (Polit and Beck, 2004). Assessments of stability are derived through test-rest reliability procedures, which could be obtained by using the Spearman's RHO coefficient test (Corston and Colman, 2003; and Polit and Beck, 2004; Polit et. al., 2001).

Both rating questions of the study (the five-points questions which was designed to measure the level of importance for each given general PHC quality attributes, and the six-points questions which was designed to measuring the perception level of

quality of PHC services) were subjected to reliability tests to measure the scales' ability to reproduce responses in a consistent manner. The test was conducted at one of Jeddah's PHC centres (the Al-Jamaa centre), and this was excluded from the main study. Twenty-five mothers were selected (able at least to read and write without assistance) from the vaccination clinic during their visit, and they were asked to answer the questions of the two scales and to write down their children's name and medical record numbers on the questionnaire. Then, after two months and during their next visit for vaccination for their babies, the same 25 mothers were asked again to re-answer the same questionnaire. The matching process was done according to their babies' names and the medical record numbers. The reliability of the two scales was measured by using the spearman's RHO coefficient test. The reliability coefficient for the rating question (level of importance of PHC quality attributes scale) was 0.95, and for the second rating question (the perception level of quality of PHC services), it was 0.92. Both results reflect high reliability scores. Reliability coefficients range from 0.00 to 1.00. The higher the value, the more reliable (stable) is the measuring instrument (Polit and Beck, 2004).

Table 3.4 shows the result of the Spearman's RHO coefficient test for the first rating question (level of importance of PHC quality attributes):

			Pre test	Post test
Spearman's RHO	Pre test	Correlation Coefficient	1.000	0.953*
		Sig (2-taild)	0.01	0.000
		N	25	25
	Post test	Correlation Coefficient	0.953*	1.000
		Sig (2-taild)	0.000	0.01
		N	25	25

* Correlation is significant at the .01 level (2-tailed).

Table 3.5 shows the result of the Spearman's RHO coefficient test for the second rating question (the perception level of quality of PHC services):

			Pre test	Post test
Spearman's RHO	Pre test	Correlation Coefficient	1.000	0.920*
		Sig (2-taild)	0.01	0.000
		N	25	25
	Post test	Correlation Coefficient	0.920*	1.000
		Sig (2-taild)	0.000	0.01
		N	25	25

* Correlation is significant at the .01 level (2-tailed).

3.5.1.2. Internal consistency (Cronbach's Alpha)

An instrument may be said to have internal consistency reliability to the extent that all its subparts measure that same characteristic. This approach to reliability assesses an important source of measurement error in multi-item measures: the sampling of items (**Polit et. al., 2001**). One of the oldest methods for assessing internal consistency is the split half technique. More sophisticated and accurate methods of computing internal consistency estimates are now in use, most notably Cronbach's alpha or coefficient alpha. This method gives an estimate of the split-half correlation for all possible ways of dividing the measure into two halves, not just odd versus even items (**Polit and Beck, 2004**). Technically, the variance of the sum of two items is equal to the sum of the two variances minus (two times) the covariance; that is, the amount of true score variance common to the two items. We can estimate the proportion of true score variance that is captured by the items by comparing the sum of item variances with the variance of the sum scale. If there is no true score but only error in the items then the coefficient alpha will be equal to zero. If all items are perfectly reliable and measure the same thing (true score), then coefficient alpha is equal to one (**Streiner and Norman, 1995**).

The internal consistency of each rating question was assessed by item-total correlations and Cronbach alpha. An overall scale reliability check on the final items chosen produced a Cronbach alpha of 0.90 for the five-points rating questions (designed to measure the level of importance for each given general PHC quality attributes) and 0.92 for the six- points rating questions (designed to measuring the perception level of quality of PHC services). Cronbach alpha scores for both rating questions were sufficiently high. As with test-re test reliability coefficients, indexes of internal consistency range in value between 0.00 and 1.00. The higher the reliability coefficient, the more accurate (internally consistent) the measure (**Polit and Beck, 2004**). Reliability coefficient above 0.70 usually are considered satisfactory (**Polit and Beck, 2004; Polit et. al., 2001**). The Cronbach's alpha of both scales exceeded the stringent 0.70 Cronbach's alpha standard for reliable measures, confirming the instrument's high internal consistency and reliability.

3.5.2. VALIDITY:

Validity is the degree to which an instrument measures what it is supposed to be measuring (**Polit and Beck, 2004**). An instrument can be reliable, however, without being valid. Suppose we had the idea to measure patients' anxiety by measuring the circumference of their wrists. We could obtain highly accurate, consistent, and precise measurements of wrist circumferences, but they would not be valid indicators of anxiety. Thus, the high reliability of an instrument provides no evidence of its validity: the low reliability of a measure is evidence of low validity. Like reliability, validity has a number of aspects and assessment approaches: face validity, content validity, criterion-related validity, and construct validity. The first two approaches (face validity, content validity) were used to assess the validity of the study's tool.

3.5.2.1. Face validity:

Face validity refers to whether the instrument looks as though it is measuring the appropriate construct. Although face validity should not be considered primary evidence for an instrument's validity, it is helpful for a measure to have face validity if other types of validity have also been demonstrated (**Polit and Beck, 2004**). **Polit and Beck (2004)** pointed out that researchers designing a new instrument should begin with a thorough conceptualization of the construct so the instrument can capture the entire content domain. Such a conceptualization might come from rich first-hand knowledge, an exhaustive literature review, or findings from a qualitative inquiry. Consequently, items for the first rating question (level of importance of PHC quality attributes) were drawn from an extensive literature review of more than 80 related studies (listed previously on table 3.1). Whereas, the second rating question (the perception level of quality of PHC services) was drawn from the MOH documents (**AL-Mazrou and Farag, 1994; Al-Mazrou, et. al., 1990; MOH, 1986**), which determine the available services of PHC in Saudi Arabia. Accordingly, the researcher assumed that both the scales look as though they are measuring the appropriate variables of the study.

3.5.2.2. Content Validity

Content validity is the extent to which the scale is appropriate to its intended purpose and whether it adequately reflects the intended purpose (**Cassady, et al., 2000**). Content validity is ensured by evaluating the capacity of the scale to reflect all relevant facets of an issue (the construct) (**Haddad, et al., 1998a**). For example, this means that

a measure of perceived quality must portray the vision that the study's respondents have of the services considered rather than reproducing the images that the researcher has of these qualities. An instrument's content validity is necessarily based on judgment. There are no completely objective methods of ensuring the adequate content coverage of an instrument. However, it is becoming increasingly common to use a panel of substantive experts to evaluate and document the content validity of new instrument. **Portney and, Watkins (2000)** indicted that the determination of content validity is subjective, and there are no statistical indices that can assess content validity. Content validity is supported when a panel of experts reviews the instrument and determines if the questions adequately sample the content domain. The panel typically consists of at least three experts, but a large number may be advisable if the construct is complex (**Polit and Beck, 2004**).

When the researcher prepared the first draft of the questionnaire, it was critically discussed with a group of people who are knowledgeable about questionnaire construction and experts on the questionnaire's substantive content (quality of PHC services). This panel of experts consisted of five individuals who were composed of Saudi and Arab nationalities, some of them have been recommended by the supervisor of the postgraduate studies and research in PHC MOH. They included a bio-statistician, a family medicine consultant, a physician with Post Graduate Diploma in research methodology, a nurse manager in a PHC centre, and a sociologist. The panel evaluated the relevance and appropriateness of the questions to the component they proposed to measure and assessed the questions for clarity and conciseness. Their opinions were considered and some changes were introduced into the questionnaire. They suggested the following points:

1. The size of the questionnaire was reduced from five pages to four pages. Some questions were omitted. They were three open-ended questions (1) "Please define the quality of PHC service from your point of view" (2) "do you think the above listed attributes are confining all the PHC quality attributes? "Yes" "No", if "No" please – specify (3) "Please state your suggestions of how the quality of PHC service can be improved". The reason behind this shortening was mainly to improve the response rate. Based on the reality of the overcrowding in the PHC centres and insufficiency of the waiting areas (**Saeed, et al., 1992; Al-Faris et al. 1996; Kanan, 1989**), asking respondents to complete a long questionnaire was judged as too inconvenient a

request. Furthermore, in relation to the educational level of the respondents, answering such open-ended questions could be not an easy task and this could discourage their participation.

2. The questions were reordered, in order to follow the direction; from easy questions (not requiring lots of thinking) to more comprehensive questions. The questionnaire was arranged to minimize bias. The possibility that earlier questions might influence responses to subsequent questions was considered. The general questions were placed first to avoid "coaching".
3. The operational definitions of each of the selected 17 PHC attributes were added. Given the variation of the educational level between the respondents, this addition was very important in order to ensure that the items would be interpreted in as similar way as possible by all the respondents.
4. Some technical problems were detected, such as spelling mistakes, grammatical errors, and so forth.

3.6. ARABIC TRANSLATION

Data collection instruments that are translated from a source language into a target language should be reliable, complete, accurate, and culturally appropriate. When the translated text conveys the intended meaning of the original text, the translation is deemed reliable. Translations that do not add any new information to the translated document and do not omit information provided in the source document are said to be complete (Harkness, 2003).

The questionnaire was initially developed and its reliability and validity assessed while it was written in English language. Then it was translated into Arabic language by the researcher herself. The content validity was re-checked again by asking one of the panel of experts (a bio-statistician) to review the Arabic translation. This process of translation was done cautiously and with special care. It had to take into consideration the fact that the formal Arabic language is the official written language and is different from the colloquial Arabic language (the spoken one), which is the more understandable language for the public especially as they have different educational levels and different local accents. The researcher tried hard to select the easiest and common form of Arabic language. A detailed explanation and operational definition was sometimes required for some terms to convey the precise meaning of the term.

3.7. PILOT TESTING

A pilot study (some times called a feasibility study) is a small-scale version or trial run of the major study (**Polit and Beck, 2004**). The major objective of the pilot study was to test and evaluate the questionnaires regarding the wording and clarity of the questions, ease of understanding, time needed to complete the questionnaire and the order of the questions.

The pilot test was conducted at one of Jeddah PHC centre's (Al-Jamaa centre), which was excluded from the main study. **Polit and Beck (2004)** pointed out that the pilot test (pre-test) should be administered to individuals who are similar to actual participants. Ordinarily, 10 to 20 pre-tests are sufficient. Accordingly, ten PHC providers (two physicians, four nurses, one health inspector, one pharmacist and two medical record employees) were asked to complete the questionnaire. In addition, 20 adult PHC clients (above 18 years), who were able to read and write without assistance, were selected and asked to complete the questionnaire.

These modifications were made following the pilot test:

- Minor changes were made to the wording of the questions; formal Arabic language words that respondents found difficult were replaced with simpler and clearer words.
- It was decided to make the open-ended question optional. This means that responses to this question were not necessary to consider the questionnaire completely filled. This decision was made in response to the reality that not all respondents were able to answer it (some of them left it empty while others wrote something like "I don't have any criterion to judge against it the quality of PHC services").
- The direction of the open-ended question was changed from asking about what criteria would be used to judge *good quality* in PHC services to asking instead about how they would judge *poor quality*. This change in the direction of question was made as a result of the way people responded to the question. Although the question was direct and clear, a majority of participants (either providers or customers) answered the question as if it were asking them to state the criteria they would use to judge the quality of PHC services to be poor.

3.8. STATISTICAL ANALYSIS:

Study data were analysed and tabulated by using the statistical software package called Statistical Product and Service Solutions (Formerly Statistical Package for Social Sciences) "SPSS" version 10, it is distributed by SPSS Inc. of Chicago, Illinois, USA (Corston and Colman, 2003). The statistical methods used are:

3.8.1. Frequency and percent

These methods are used to give descriptive analyses of socio-demographic data (age, gender, nationality, level of education, reason for attending the PHC centre and the duration of using the PHC centres' services).

3.8.2. The t -test for Independent Samples

The t -test is the most commonly used method to evaluate the differences in means between two groups. This test was done to compare the opinions means for quality attributes between PHC customers and providers, the sex and the nationality.

3.8.3. Analysis of Variance (ANOVA)

Analysis of variance, or ANOVA, is a method of testing the null hypothesis that several group means are equal in the population, by comparing the sample variance estimated from the group means to that estimated within the groups. It can be assumed that the data are a random sample from a normal population; in the population, all cell variances are the same. The One-Way ANOVA procedure produces a one-way analysis of variance for a quantitative dependent variable by a single factor (independent) variable. Analysis of variance is used to test the hypothesis that several means are equal. This technique is an extension of the two-sample t test.

3.8.4. Statistical significance (p-level).

The statistical significance of a result is an estimated measure of the degree to which it is "true" (in the sense of "representative of the population"). The higher the p-level, the less we can believe that the observed relation between variables in the sample is a reliable indicator of the relation between the respective variables in the population. Specifically, the p -level represents the probability of error that is involved in accepting our observed result as valid. In many sciences, results that yield $p \leq .05$ are considered borderline statistically significant. Results that are significant at the $p \leq .01$ level are commonly considered statistically significant, and $p \leq .005$ or $p \leq .001$ levels are often called "highly" significant.

3.9. SETTING OF THE STUDY:

As was mentioned earlier, Jeddah city has 37 PHC centres under MOH, and they are distributed widely among the city. For the purpose of the generalization the study was conducted in eighteen Ministry of Health PHC centres. The 18 PHC centres were selected randomly (as explained below) using the PHC centres list for Jeddah city (see table 3.6).

The PHC centres are organized according to their geographical distribution and grouped into six groups according to the supervision responsibility. Each group contains six or seven PHC centres and they are supervised by one physician, called the PHC supervisor. The PHC centres are given their name according to the districts where they are located (i.e. PHC centre that is located at Al-Marwa districts is called Al-Marwa centre).

Table 3.6: Distribution of Jeddah's PHC centres according to the supervisory groups
(List of 37 PHC centres at Jeddah city)

First Group	Second Group	Third Group	Fourth Group	Fifth Group	Sixth Group
Supervisor Dr. Khalid	Supervisor Dr. Ezdehar	Supervisor Dr. Fatheya	Supervisor Dr. Ahmed	Supervisor Dr. Humod	Supervisor Dr. Esam
Al-Marwa Centre	Al-Bawadi Centre	Al- Balad Centre	Al-Nozla Centre	Madayn Fahad Centre	Al-Eskan Centre
Al-Rabwa Centre	Al-Zahraa Centre	Al-Hendawya Centre	Al-Mahjar Centre	Al-Jamaa Centre	Kilo 14 Centre
Al-Aaziziah Centre	Al-Naeim Centre	Al-Sharafia Centre	Al-Sabeel Centre	Bani-Malik Centre	Qaiza Centre
Al-Faysaliah Centre	Al-Shatea Centre	Moshrifia Centre	Al-Gorayat Centre	Al-Thagur Centre	Bahra Centre
Al-Safaa Centre	Al-Salama Centre	Al-Royees Centre	Al-Thaalba Centre	Al-Sulaimanya Centre	AL- Montazahat Centre
N. Highway Centre	Obhor Centre	Al-Schaifa Centre	Gholaikl Centre	Al-Rawabi Centre	Om- Assalam Centre
			Al-Senayaia Centre		

Source: MOH, Jeddah's PHC administration (2003)

Table 3.7 below, shows the random selection of 18 PHC centres. The first, the second and the third centres were selected from each supervisory group. As a result,

three centres were chosen from each one of the six groups, which gave a total of 18 centres.

Table 3.7: Random selection of the 18 PHC centres those included in the study

First Group	Second Group	Third Group	Fourth Group	Fifth Group	Sixth Group
Supervisor Dr. Khalid	Supervisor Dr. Ezdehar	Supervisor Dr. Fatheya	Supervisor Dr. Ahmed	Supervisor Dr. Humod	Supervisor Dr. Esam
1. Al-Marwa Centre	4. Al-Bawadi Centre	7. Al-Balad Centre	10. Al-Nozla Centre	13. Madayn Fahad Centre	16. Al- Eskan Centre
Al-Rabwa Centre	Al-Zahraa Centre	Al-Hendawya Centre	Al-Mahjar Centre	Al-Jamaa Centre	18. Kilo 14 Centre
2. Al-Aaziziah Centre	5. Al-Naeim Centre	8. Al-Sharafia Centre	11. Al-Sabeel Centre	14. Bani-Malik Centre	17. Qaiza Centre
Al-Faysaliah Centre	2. Al-Shatea Centre	Moshrafa Centre	Al-Gorayat Centre	Al-Thagur Centre	Bahra Centre
3. Al-Safaa Centre	6. Al-Salama Centre	9. Al-Royees Centre	12. Al-Thaalba Centre	15. Al- Sulaimanya Centre	18. AL- Montazahat Centre
N. Highway Centre	Obhor Centre	Al-Sehaifa Centre	Gholaikl Centre	Al-Rawabi Centre	Om- Assalam Centre
			Al-Senayaia Centre		

This method of selection provided great opportunities for a large number of PHC centres, with a wide range of geographical distribution, to be involved in the study. Almost half of the centres (50%) were involved in the study (18 centres out of 37 centres). In addition, this method granted the required coverage and generalization.

Figure 3.1 Distribution of the 18 selected M.O.H'S PHC centres among Jeddah city, which are included in the study.



3.10. DATA COLLECTION METHOD:

3.10.1. Administrative work:

Administrative approval for conducting the study was obtained as follows:

A letter of request was sent by the supervisor of postgraduate studies and research in PHC MOH, and the coordinator of Arab board for family and community medicine, Jeddah city (Dr. Mohammed S. Al-Ghamdi) to the executive deputy director of PHC services, Jeddah city (Dr. Talal Ekram). The letter asked him to grant permission to carry out the study at PHC centres in Jeddah city. Then he forwarded that letter granting permission to the director of PHC supervisors, Jeddah city (Dr. Khalid Bawaked), who sent letters to the six supervisors of the PHC centres in Jeddah city asking them to coordinate and facilitate the research.

3.10.2. Collecting the secondary data:

Walliman (2006) and other researchers indicate the importance of secondary data (a body of recorded information) for the background to social studies. An advantage of using such data is that it has been produced for the specific purposes of social research, and can therefore be the basis of unobtrusive inquiry. Accordingly, the researcher of the current study was keen to enrich the study with such documented data. However, her efforts to seek out this kind of documentation encountered difficulties in locating and accessing them. The documentary data which were used were collected from the following sources; oral histories from some of the executive directors of the PHC at Jeddah city; official published documents and statistics of the MOH and MOP; local newspaper and magazine; unpublished research reports (master and PhD thesis); journal articles (national and international); textbooks; and web pages.

3.10.3. Data collection date and time:

Cross-sectional design was used to collect the data. Cross-sectional design involves the collection of data at one point in time, it provides a snapshot of ideas, opinions, information etc., and it is appropriate for describing the status of phenomena or for describing relationships among phenomena at a fixed point in time (**Polit and Beck, 2004**). Cross-sectional design often uses survey methods, and surveys are often equated with cross-sectional studies. However, **Walliman (2006)** pointed out that because this kind of data collection methods tends to be intrusive, ecological validity may be put at risk. When the methods and procedures of data collection and analyses

are specified in detail, replicability is enhanced. That is, the researcher set specific criteria and put certain control on the sampling and data collection procedures.

Data collection began on 1st October 2002 and was completed on 31st December 2002 (three months). Although, the researcher was aware that the Moslem fasting month (RAMADAN) and the Moslem festival days (Eid Al-Fetter) would be included during this period, and the response rate would be negatively affected due to the official holydays, she selected this period because she could only manage to take leave from her employer during this period. During the month of RAMADAN, however, the first 25 days are official working days only the last five days is an official holyday, this is followed by an additional five days which are the Moslems' festival days (Eid Al-Fetter). So, the total number of holydays during the study period (three months) was only 10 days.

The researcher, from previous personal experience and from the reports of some other researchers, was aware of the potential difficulties of data collection in Saudi Arabia, and so was fully aware that the data collection procedure would be time and effort consuming and this would definitely require close supervision. So, the researcher managed to take a vacation from her employer during the study period. The process of the data collection and administration is explained at the next paragraphs. The study was carried out during normal working hours of the centres. The working hours of the PHC centres are different; some centres are working one shift (07:30 – 18:30), six days per week (not working on two days of weekend; Thursday and Friday). Others are working two shifts (07:30 – 13:00) and (16:00 – 07:30), including half day on Thursdays.

3.10.4. Subject of the study:

The study population consisted of all the adult consumers visiting the selected PHC centres during the study period (three months) and all the providers who were working at these centres. In order to generalize the results, and to avoid bias, the subjects of the study needed to be representative. They were selected as follows:

1. Random selection of PHC consumers (clients) from each selected PHC centres, whose are adult (more than 17 years old) and literate (able at least to read and write without assistance).

2. All PHC providers (nurses, physicians, technicians, administrators, and other PHC employees) who were willing to participate in the study.

3.10.5. Distribution of the questionnaires:

Questionnaire can be distributed in various ways, including personal distribution, group distribution, through the mail, and e-mail. The most convenient procedure is to distribute questionnaires to a group of people who complete the instrument together at the same time (**Polit and Beck, 2004**). Thus, the latter approach was selected to distribute the questionnaires. Given that Saudi Arabia is provided with limited mailing services (there is no mailing system for the houses), and that in addition, the majority of Saudi people have no access to the internet service (it was estimated in 2003 that among the 23,520,000 Saudi population, internet users are only 1,500,000)¹, these methods were ruled out. Distribution of the questionnaires at the PHC centres was the most convenient method and the only practical method to reach PHC users in Saudi Arabia. According to Jeddah's PHC centres system, all clients register their attendance at the reception area for the purpose of file retrieval. Accordingly, the researcher found that the best way of distributing the questionnaires was by asking the medical record staff (receptionists) to distribute the questionnaires among the clients who met the criteria for inclusion in the study (more than 17 years old and literate).

The process of sampling was systemic and random, where every tenth subject visiting the centre was chosen to participate in the study. The researcher chose this method to select cases in order to be representative of the population and to enhance the validity. **Walliman (2006)** indicates that random methods of sampling lead to good external validity. **Makhdoom, et al (1997)** used this type of systematic sampling of one-in-ten attendees. Participation was voluntary. The researcher provided several packs of pens for each centres in order to avoid the possibility that people would not complete the questionnaires because pens were unavailable. The clients were asked politely to participate in the study (a completely free choice was provided), and the clients who agreed were asked to fill the questionnaires while they were waiting at the PHC centres' waiting areas. All respondents were asked to return the answered questionnaires to the reception area (to the medical record staff), while they are leaving the centres. On the other hand, the distribution of questionnaires among the PHC

¹ Available at: http://www.rsfo.org/article.php3?id_article=10766

providers was run differently. Questionnaires were given either to the PHC centres' directors or to the head nurses of the centres. They distributed the questionnaires among all the PHC providers those who are willing to participate in the study. The provider's questionnaire had exactly the same wording as the consumer's questionnaire.

3.10.6. Response rate:

The total number of received complete answered questionnaires is 1517, among them, 1175 and 342 questionnaires were received from consumers and providers respectively (see table 3.8).

Table 3.8 Distribution of received questionnaires from PHC centres

No	PHC centres	No. of received customers ' questionnaires	No. of received providers ' questionnaires	Total No. of received questionnaires
1	Al-Marwa	86	18	104
2	Al-Aaziziah	41	12	53
3	Al-Safaa	75	27	102
4	Al-Bawadi	104	22	126
5	Al-Naeim	87	12	99
6	Al-Salama	65	14	79
7	Al- Balad	60	31	91
8	Al-Sharafia	30	20	50
9	Al-Royees	59	33	92
10	Al-Nozla	25	8	33
11	Al-Sabeel	80	30	110
12	Al-Thaalba	62	15	77
13	Madayn Fahad	53	15	68
14	Bani-Malik	53	20	73
15	Al-Sulaimanya	61	12	73
16	Al-Eskan	113	21	134
17	Qaiza	92	19	111
18	AL-Montazahat	29	13	42
	Total	1175	342	1517

This number was a final result of three months of data collection process. Each of the 18 PHC centres was given 200 questionnaires per month, a total 600 questionnaires for the three months. The researcher expected to get at least 100-150 completed questionnaires from the clients and around 30-50 completed questionnaires from the providers from each centre by the end of the study period. Actually, this low expectation was not congruous with the high number of actual client visits, which was estimated (according to the statistical record of MOH, Jeddah's PHC administration in 2002) with average between 1500 visits /month (in the less visited centre) and 7000 visits /month (in the most visited centre): an average of 4250 clients per month (i.e.

12750 clients per three months). But the researcher estimated responses according to the basis that a considerable member of the PHC clients would be excluded from the study because they would not meet the sampling criteria, specifically that the respondents should be more than 16 years of age and able to read and write.

The researcher acknowledged that the design of a study and, in particular, the method of data collection could affect the response rate (**Parahoo, 1997**). **Clark and Rees**, cited in **Barriball and While (1994)** referring to studies on 'continuing professional education in nursing', pointed out that:

The views of nurses who have had minimal or no experience of continuing professional education may be little known because these nurses are unlikely to perceive the relevance of a questionnaire about continuing professional education to themselves and are, therefore, unlikely to have the motivation to respond.

According to the accumulated previous experience of the researcher with the data collection process, and from remarks that were verbally reported by several researchers who are personally known by the researcher, she found that, in general view, people in Saudi Arabia are not motivated to respond to research. Thus, the researcher tried hard to overcome this fact by designing a data collection tool that would generate an acceptable response rate. As mentioned early in this chapter, the self-administered questionnaire, regardless of its disadvantages, was chosen as single data collection tool mainly because of the cultural limitation of other alternative methods of administration. However, the content of the questionnaire was carefully designed to overcome the expected low response rate.

3.10.6.1. Providers' response rate:

The response rate among the providers was 40.2% (**see table 3.9**). It is difficult to define an acceptable response rate, researchers usually compare their response rates with the 'norm' in similar studies (**Parahoo, 1997**). The response rate that was reported in the Saudi studies reviewed ranged between 49-86% (**Mansour and Al-Osimy, 1993; Al-Dawood and Elzubier, 1995; Makhdoom, et al., 1997; Al-Almaie, et al., 1998; Saeed, et al, 2000; Al-Dohaither and Saeed, 2000; Saeed, et al, 2001**). **Polit and Beck (2004)** pointed out that a response rate greater than 65% is probably sufficient for most purposes, but lower response rates are common. The numbers of providers who

are working in each PHC centre ranges from 29 to 66 providers at each centre. Because the participation of the study was completely voluntary, a high response rate was not anticipated. In addition, the Moslem's holy month (RAMADAN) was included during the data collection period. During RAMADAN, considerable numbers of workers tend to take vacations.

Table 3.9 Distribution of received questionnaires from PHC centres' providers and their response rate

No	PHC centres	Total No. of providers	No. of received providers' questionnaires	Percentage
1	Al-Marwa	30	18	60
2	Al-Aaziziah	40	12	30
3	Al-Safaa	62	27	43.5
4	Al-Bawadi	52	22	42.3
5	Al-Naeim	42	12	28.6
6	Al-Salama	50	14	28
7	Al- Balad	66	31	47
8	Al-Sharafia	29	20	69
9	Al-Royees	55	33	60
10	Al-Nozla	43	8	18.6
11	Al-Sabeel	39	30	76.9
12	Al-Thaalba	31	15	48.4
13	Madayn Fahad	73	15	20.5
14	Bani-Malik	42	20	47.6
15	Al-Sulaimanya	38	12	31.6
16	Al-Eskan	55	21	38.2
17	Qaiza	64	19	29.7
18	AL-Montazahat	40	13	32.5
Total		851	342	40.2%
Response rate		40.2%		

3.10.6.2. Consumers' response rate:

Unfortunately, after three months hard work collecting questionnaires, the researcher only managed to obtain a small number of completed consumers' questionnaires (1175 questionnaires). In contrast with the ease of determining the response rate among the providers, actually it was hard to do this among the PHC consumers. This is because it was difficult to determine the exact number of the target population. While the daily and the monthly censuses record provided the exact

numbers of PHC visitors (see table 3.10), those excluded from participating in the survey comprised a large proportion of clients visiting the centres.

Table 3.10 Distribution of the PHC consumers during the study period

No	PHC centres	No. of visited clients Oct, 2002	No. of visited clients Nov, 2002	No. of visited clients Dec, 2002	Total of visit / 3 months
1	Al-Marwa	2061	1110	1339	4510
2	Al-Aaziziah	5529	4797	4455	14781
3	Al-Safaa	5864	5232	5960	17056
4	Al-Bawadi	4272	1973	3174	9419
5	Al-Naeim	2350	1726	2046	6122
6	Al-Salama	2201	1233	1869	5303
7	Al- Balad	2972	1948	2325	7245
8	Al-Sharafiah	1891	902	1205	3998
9	Al-Royees	5622	4222	3416	13260
10	Al-Nozla	1002	1577	1453	4032
11	Al-Sabeel	2425	2157	2377	6959
12	Al-Thaalba	1990	1255	1696	4941
13	Madayn Fahad	4966	4815	6359	16140
14	Bani-Malik	3276	2829	2948	9053
15	Al-Sulaimanya	2060	1333	1894	5287
16	Al-Eskan	3207	2871	3006	9084
17	Qaiza	3206	2010	3396	8612
18	AL-Montazahat	5980	3841	5646	15467
Total		60874	45831	54564	161269

Since, the attendance rate of children (less than 15 years old) was high (see table 3.11), and this includes individuals who were excluded from the study because they were less than 17 years old. This had an effect on the willingness of accompanying parents to participate. Thus, the response rate cannot be extracted easily from recorded total visitors per the three months. In addition, those who cannot read or write were excluded from the study. Furthermore, the use of the systemic sampling procedure, where, every tenth subject visiting the centre was chosen to participate in the study, added more complexity to estimating the response rate. Thus, the actual received questionnaire and these exclusions were summarised on table 3.12.

Table 3.11 Distribution of the PHC children's visitors during the study period (Oct, Nov, and Dec, 2002)

No	PHC centres	No. of visitors 0-15 years Oct, 2002	No. of visitors 0-15 years Nov, 2002	No. of visitors 0-15 years Dec, 2002	Total of children's visitors / 3 months
1	Al-Marwa	915	489	611	2015
2	Al-Aaziziah	1901	1764	2192	5857
3	Al-Safaa	1659	2794	2533	6986
4	Al-Bawadi	1312	782	1056	3150
5	Al-Naeim	967	696	714	2377
6	Al-Salama	2201	1233	626	4060
7	Al- Balad	808	1948	594	3350
8	Al-Sharafia	677	902	387	1966
9	Al-Royees	1384	1019	504	2907
10	Al-Nozla	161	625	223	1009
11	Al-Sabeel	1080	1240	1543	3863
12	Al-Thaalba	416	183	285	884
13	Madayn Fahad	1173	1134	1948	4255
14	Bani-Malik	1177	651	1176	3004
15	Al-Sulaimanya	994	656	942	2592
16	Al-Eskan	1311	1106	968	3385
17	Qaiza	1420	994	1631	4045
18	AL-Montazahat	2040	1487	2305	5832
Total		21596	19703	20238	61537

Table 3.12 Distribution of received questionnaires from PHC centres' consumers

N o	PHC centres	No. of visited clients / three months (Study period)	Total of 0-15 years 3 months	Total of Adult visitors / 3 months	Every tenth visited clients / 3 month	No. of received customers ' questionnaires
1	Al-Marwa	4510	2015	2495	249	86
2	Al-Aaziziah	14781	5857	8924	892	41
3	Al-Safaa	17056	6986	10070	1007	75
4	Al-Bawadi	9419	3150	6269	626	104
5	Al-Naeim	6122	2377	3745	374	87
6	Al-Salama	5303	4060	1243	124	65
7	Al- Balad	7245	3350	3895	389	60
8	Al-Sharafia	3998	1966	2032	203	30
9	Al-Royees	13260	2907	10353	1035	59
10	Al-Nozla	4032	1009	3023	302	25
11	Al-Sabeel	6959	3863	3096	309	80
12	Al-Thaalba	4941	884	4057	405	62
13	Madayn Fahad	16140	4255	11885	1188	53
14	Bani-Malik	9053	3004	6049	604	53
15	Al-Sulaimanya	5287	2592	2695	269	61
16	Al-Eskan	9084	3385	5699	569	113
17	Qaiza	8612	4045	4567	456	92
18	AL-Montazahat	15467	5832	9635	963	29
Total		161269	14667	99732	9964	1175

The following are also reasons for the low response rate:

- During the data collection process period, there were three disrupting events: first, the Seventh National Polio Vaccine Campaign, this activity temporarily disrupted the normal activities and duties of the PHC centres for two weeks with a complete halt to receiving visitors. Second, the coming of the Holy month of Ramadan, where most of the employees took leave. Third, the coming of the Muslim Feast (Eid Al-Feter), when all employees took a one-week holiday.
- Giving that the 18 PHC centres are distributed widely at Jeddah City's districts, the researcher found great difficulty to daily supervise the process of questionnaire distribution at each centre. However, she made her best efforts to organize continuous visits to all centres and to get the needed cooperation from the medical record staff (the receptionists) and the administration staff.
- Participation in the study was completely voluntary, and many of the clients were not interested to being involved in the research process because they did not value or appreciate the research concept in general. The majority of them had low to moderate educational levels.
- Around 40% of the clients visiting the PHC centres were less than 18 years old (school students), and they were accompanied by their mothers who often cannot read or write.
- According to the receptionists, there were considerable numbers of clients (male and female) who were unable to read or write (approximately 20% of the total visitors).
- Some of the medical record staff (the receptionists) were not totally cooperative and they were not always willing to distribute the questionnaires, saying they were always very busy.
- Considerable numbers of uncompleted questionnaires (172 questionnaires) have been excluded.
- Due the weak supervision process some of the clients took the questionnaire to their homes and did not return them back to the centre.

3.11. ETHICAL CONSIDERATIONS:

Saudi Arabia has not yet developed an ethical framework for health care research as has developed, for example, in the UK. There are no equivalents to the UK's local research ethics committees and no ethical guidance is available from Saudi professional bodies. Ethical scrutiny is therefore the concern of hospital and health service managers at senior level. However, some governmental organizations such as the National Guard health affairs and the armed forces health affairs (those are not under the MOH), which are providing health care services to their dependents have established their own code of ethics. Although there is considerable overlap in the basic principles articulated in these documents, each deals with problems of particular concern to their respective rules and regulations, so these limited ethical guidance cannot be adopted by other organizations such as the MOH. The research described in this thesis was planned with the permission of senior health care management in Jeddah, responsible for PHCs and they had opportunity to raise ethical concerns or objections. If the researcher was planning the PhD now, then she would have been required to subject her plans for ethical scrutiny within the University of Swansea, under the procedures instigated in October 2005 by the School of Health Science. However, these procedures were not available as this research was planned.

Nevertheless, the researcher conducted within the framework of the three ethical principles: the principle of beneficence, the principle of respect for human dignity, and the principle of justice, as stated by **Polit and Beck (2004)**.

First, The principle of beneficence:

1. *Freedom from harm*: study participants can be harmed in a variety of ways, including harm that is physical (e.g. injury, fatigue), psychological (e.g., stress, fear), social (e.g., loss of friends), and economic (e.g., loss of wages) (**Polit and Beck, 2004**). Generally, the issue of the study included no harm for its participants. However, the researcher acknowledges that some psychological harm could result, as follows. According to the personal experience of the researcher, the PHC providers and consumers are waiting for such opportunities to express their feeling toward the PHC services. Accordingly, it was expected that most of the participants would be comfortable in being able to express their perceptions toward quality of PHC service. On the other hand, it was also anticipated that some would experience some stress

due to the unfamiliarity of giving opinions. Saudi people have little experience of a democratic environment, where objections and expressing different opinions is encouraged either politically or socially. In order to assure the participants, the following measure were addressed:

- The approval of the authorities for conducting the study was mentioned on the first page of the questionnaire in order to clearly indicated that the study was went through the relevant official channels.
- Implied consent has been given by voluntary participation of the subject after the purpose of the study was clearly explained in the first page of the questionnaire, and explained verbally via the medical record staff.
- The anonymity and confidentiality of the client has been achieved by omitting the client's name on the questionnaire.
- No sensitive personal information was obtained from the participants such as asking about unpleasant personal experience with the PHC service.
- The researcher was concerned to avoid or minimize the psychological harm by carefully phrasing questions (by using formal Arabic language). It was expected that the respondents while being answering the questionnaires their expectations for improvements to PHC services might be raised, with little scope for any actual improvement. So, it was previously agreed with Jeddah's executive director of PHC services to conduct several meetings involving the researcher and the PHC authorities in order to discuss the result of the study and work together to implement the recommended improvement.

2. *Freedom from Exploitation*: involvement in a research study should not place participants at a disadvantage or expose them to situations for which they have not been prepared (e.g., a person reporting drug use should not fear exposure to criminal authorities) (**Polit and Beck, 2004**). In order to avoid the possibility of exploitation, the following measure were addressed:

- The participant for the study is fully voluntary; no pressure was put on the participants.
- The participants were assured that their participation and information they might provide would not be used against them in any way (a statement was written to this effect on the first page).

3. *Benefits from research*: people agree to participate in research investigations for a number of reasons. They may perceive that there are some direct personal benefits. More often, however, any benefits from the research accrue to society in general or to other individuals. Thus, many individuals may participate in a study out of a desire to be helpful (Polit and Beck, 2004). In order to address this issue, the following measures were addressed:

- A short statement which indicating the benefit of the study for improvement of the PHC services was included on the first page of the questionnaires.
- The researcher believes that some participants gained by being able to express their opinions or problems.
- It was previously arranged with the PHC authorities to supply the final report of the study to them in order to enhance the PHC improvement initiatives.
- The researcher believes that participants have a right to be informed about the study's results. Accordingly, it is planned to make the results available in Arabic and easily accessible to the PHC users through activating several channels of distribution such as popular mass media or publishing them in a form which could be distributed through PHC centres.

Second, The principle of respect for human dignity:

1. *The right to self-determination*: this means that prospective participants have the right to decide voluntarily whether to participate in a study, without risking any penalty or prejudicial treatment. It also means that people have the right to ask questions, to refuse to give information, to ask for clarification, or to terminate their participation (Polit and Beck, 2004).

In order to avoid the possibility of coercion of any type, the following measures were addressed:

- The medical record members who were assigned to distribute the questionnaire were advised by the researcher to make the distribution process free from explicit or implicit threats of penalty from failing to participate in a study or excessive rewards from agreeing to participate. However, just simple rewards (ball pens) were given to the participants as a means of thanking them for their participation.

- The researcher was not available for most of the time while the questionnaires were completed in order to answer any questions, however, the medical record members were prepared to answer the participant's questions.

2. *The right to full disclosure*: this means that the researcher has fully described the nature of the study, the person's right to refuse participation, the researcher's responsibilities, and likely risks and benefits (**Polit and Beck, 2004**).

In order to respect this right, the following measures were addressed:

- The first page of the questionnaires was designed to serve as the informed consent, where, the main objective of the study and others needed information were clearly stated on it.
- The target population either the PHC consumers or the providers were free to accept or refuse the participation.

Third, the principle of justice:

1. *The right to fair treatment*: study participants have the right to fair and equitable treatment before, during, and after their participation in the study (**Polit and Beck, 2004**).

In order to respect this right, the following measures were addressed:

- Although, the stratified sampling design (every tenth PHC consumers was chosen to participate in the study) was used in the study, some subjects (around 28 persons) who were not included according to the sampling process but who asked to participate in the study, were permitted to participate and their responses were included despite the sampling method.
- Both Saudi and non Saudi, male and female, were given an equal opportunity to participate on the study.
- Courteous and tactful treatment was given to all participants even to those who withdrew from the study after agreeing to participate or to those who returned the questionnaire uncompleted.

2. *The right to privacy*: researchers should ensure that their research is not more intrusive than it needs to be and that participants' privacy is maintained throughout the study. Participants have the right to expect that any data they provide will be kept in strictest confidence (**Polit and Beck, 2004**).

In order to respect this right, the following measures were addressed:

- The anonymity and confidentiality of the client has been achieved by omitting the client's name on the questionnaire.
- Given that the diversity of the Jeddah's PHC centres and the sensitivity of the quality issue. The researcher did promise of confidentiality to the each PHC centre's director, in the way that any information participants provide will not be publicly reported in a manner that identifies the centre's name and making comparisons between the centres.

3.12. SUMMARY POINTS:

Saudi PHC services are provided with limited documented information regarding how the quality of services meets the expectations of both their consumers and providers. The research available was either investigating PHC consumers' satisfaction or evaluating PHC services from the viewpoint of the providers or the researchers. The evaluation studies indicated that the PHC services are provided with poor quality, on the other hand, the satisfaction surveys indicated that PHC consumers at Saudi Arabia range from being moderately to highly satisfied (60% -90%). Thus, the researcher believes that conducting consumers' satisfaction surveys in isolation of services' evaluation is not helping the improvement of services. Therefore, the value of this research lies in the pioneering nature of the study design in surveying both the PHC clients and providers. The study attempted to fill the gap in knowledge established in the literature review, by comparing PHC providers and consumers' opinions regarding the quality of the PHC services. The researcher acknowledges that this study approach created some limitations in the research strategy. The variation between the two groups on their level of education, expectations, experiences, understanding of quality concept, and their reasons of satisfaction or dissatisfaction with the services, was the main influencing factor and this directed the questionnaire's questions to be simple, direct, and brief. However, these limited questions were carefully designed to achieve the research objectives, within the context of the Saudi culture. This constrained the research strategy in certain areas; the data collection method, validity method, and method of distribution. The self-administered questionnaire was found to be the most appropriate method to be used. The researcher believes it was used wisely and sensitively, it provided valuable data on which improvement policy, and practice decisions can be made.

CHAPTER IV

DATA PRESENTATION

4. DATA PRESENTATION

This chapter presents the findings of the study in the form of tables and figures. The total number of respondents was 1517 subjects, which constituted 1175 PHC centres' consumers and 342 providers. Data of the 1517 respondents was analysed and tabulated by using the statistical software package called Statistical Product and Service Solutions "SPSS" version 10 (Corston and Colman, 2003). The figures illustrated were developed by using the Microsoft program "EXCEL". Data presentation is categorized into four statistical sections;

1. Descriptive statistics section, which presents the percent distributions of the descriptive data of the study.
2. Rating question analyses section, which presents the analyses of the two study's scales.
3. Open question analyses section, which presents the analyses of the open question.
4. Comparisons and correlation section, which presents the statically comparison and correlation between the providers' and the consumers' data.

4.1. DESCRIPTIVE STATISTICS:

4.1.1. Socio-demographic characteristics of the respondents:

The socio-demographic characteristics in the study are gender, age, nationality, provider's specialization, educational level and duration of using the PHC centres' services or being employees.

Figure 4.1 shows the percentage of the PHC providers and PHC consumers. This information was obtained by asking the respondents about the reason for attending the PHC centres. The majority of the sample (77 %) was PHC consumers.

Figure 4.1: Percent distribution of respondents according to reason for attendance at the PHC centre.

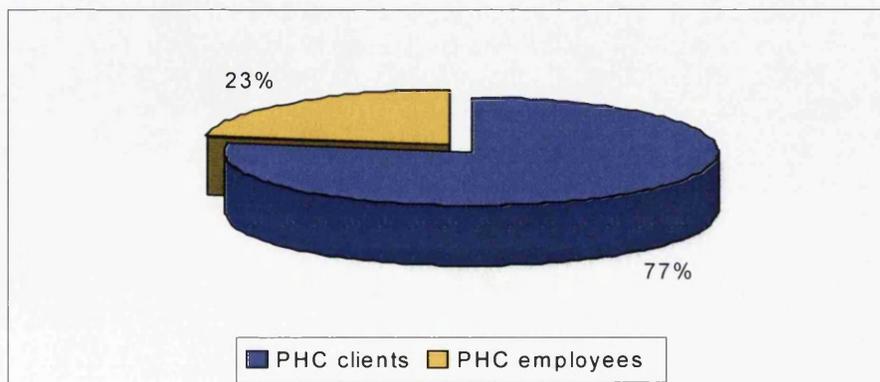


Figure 4.2 displays the gender distribution among the respondents. It shows that males constituted only 36.3% of the sample.

Figure 4.2: Percent distribution of respondents according to their gender

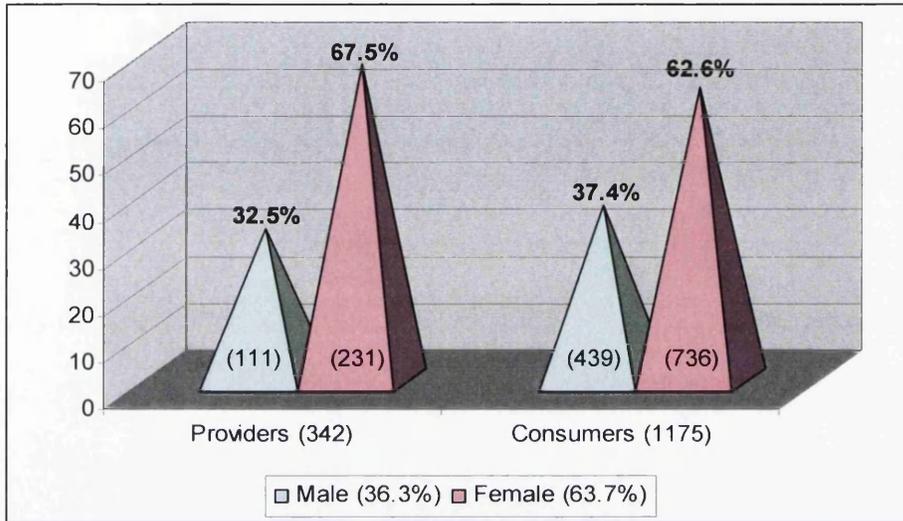


Figure 4.3 demonstrates the distribution of their age. The result shows that the most frequent age group was between 30-<40 years. The next most frequent age range is between 20-<30 years.

Figure 4.3: Percent distribution of respondents according to their age

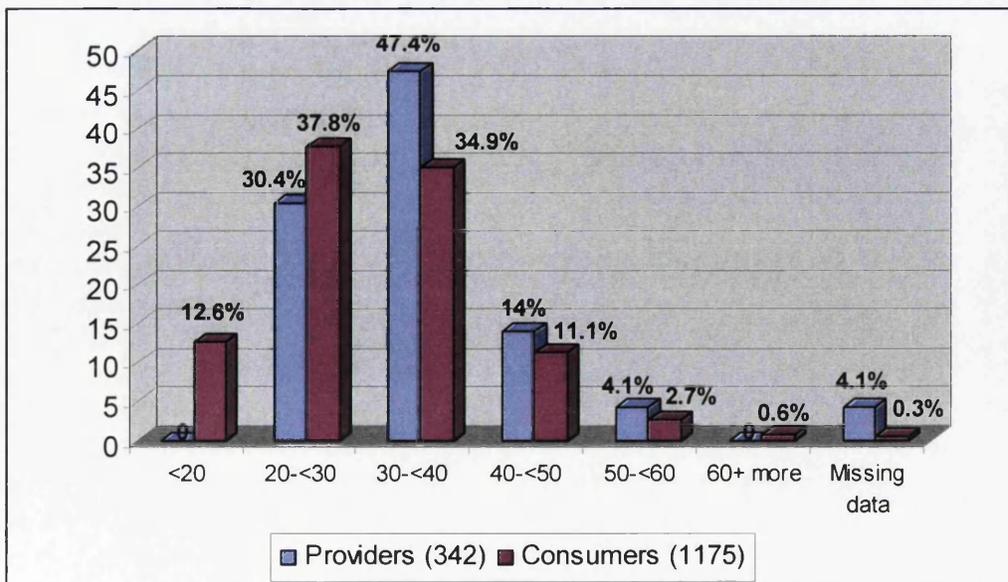


Figure 4.4 displays the nationality distribution among the respondents. It shows that Saudis constitute the majority of the respondents with percentage of 80.2% whereas, non-Saudi constituted only 19.8%.

Figure 4.4: Percent distribution of respondents according to their nationality

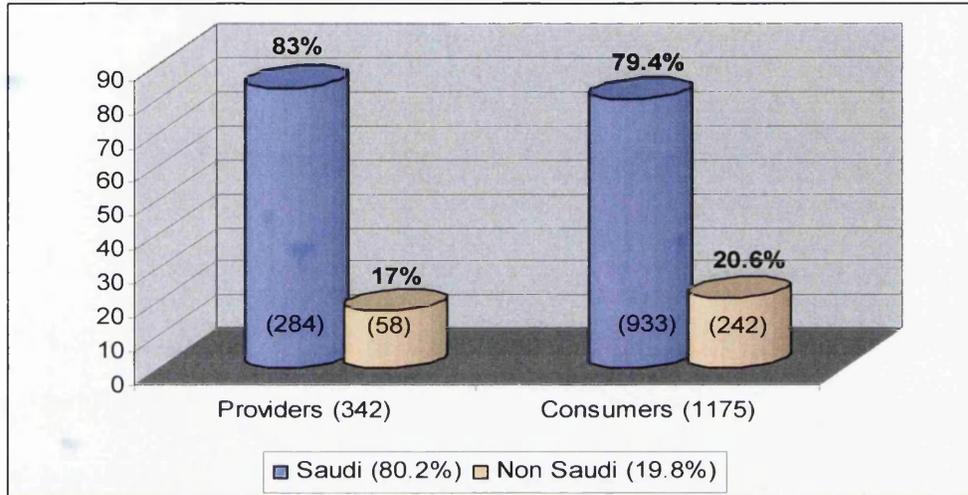


Table 4.1 and Figure 4.5 show the distribution of the level of education. More than half of the respondents (55.1%) had only secondary / preparatory education, and only (32.5%) had university / postgraduate education. A small proportion (12.4%) has elementary education or less. There were only minor differences in the educational level between males and females groups, where the females have less educational level than the males.

Table 4.1: A cross-tabulation shows gender by education level.

Gender	Level of Education						Total
	University / postgraduate		Secondary / preparatory		Elementary / Can read and write		
	%	Freq.	%	Freq.	%	Freq.	
Male	34.7	191	57.5	316	7.8	43	550
Female	31.2	302	53.8	520	15.0	145	967
Total	32.5	493	55.1	836	12.4	188	1517

Figure 4.5: Percent distribution of respondents according to their level of education

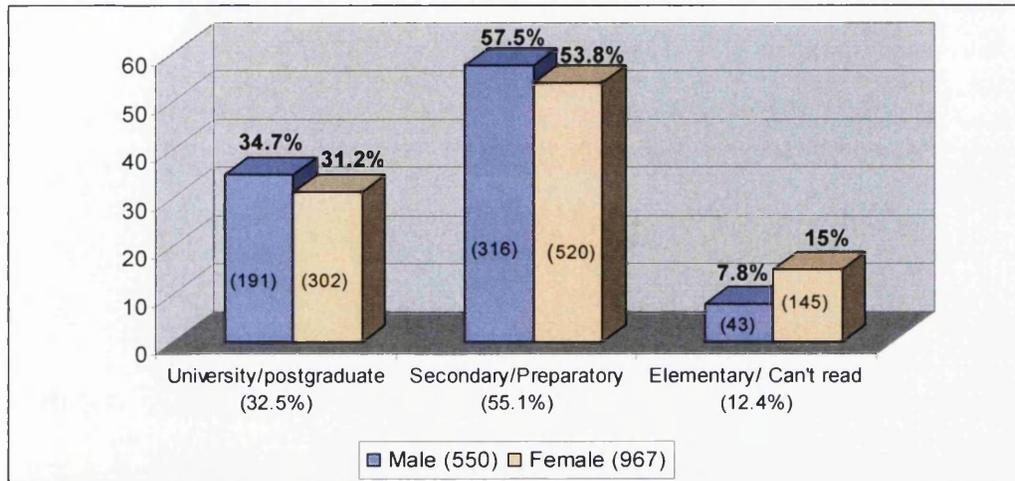


Figure 4.6 represents the frequency and percentage of PHC providers according to their health care specialization. As the figure indicates, nurses are the largest health care specialist group who were responded to the study, they constituted (35.4%) of total of providers' respondents. Actually, this result is reasonable because nurses make up the largest proportion of specialists within the workforce of PHC centres. Physicians and technicians constituted 15.2 and 12.9%, respectively. The rest of the respondents (36.5%) were the other PHC centre employees (receptionists, clerical workers, administrators, and other workers)

Figure 4.6: Percent distribution of providers' respondents according to their specializations

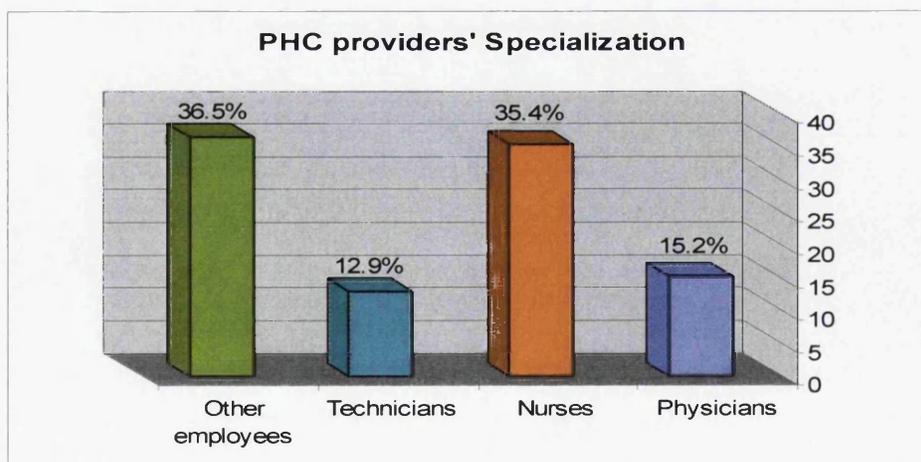
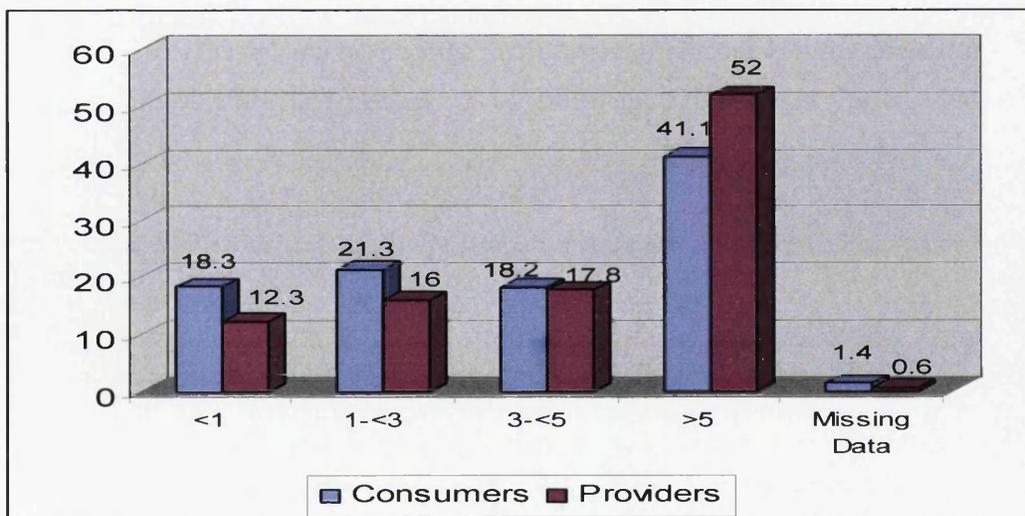


Table 4.2 and figure 4.7 display the distribution of respondents in relation to the duration of their relationship with the PHC centre, either as users of the PHC centres' services or as employees. There were small proportion of the respondents (2%) didn't answer the question (missing data). The greater number of consumers has a lengthy relationship. Where, 41.1% of the consumers were using the PHC centres' services 5 years or more, whereas, 21.3% of them were using the PHC centres' services for a duration ranging from one year to less than 3 years. Only 18.3% had used the PHC centres' services for less than one year. Similarly, the large proportion of the PHC providers were having a lengthy working experience, 52% of the providers are being employees at the centres for 5 years or more, only 12.3% of them are recently employed (less than one year).

Table 4.2: Frequency and percentage distribution of respondents in relation to duration of using the PHC centres' services or being employees

	Years								Missing Data		Total
	<1		1- <3		3 -<5		>5		% Freq.	% Freq.	
	%	Freq.	%	Freq.	%	Freq.	%	Freq.			
Consumers	18.3	215	21.3	250	18.2	214	41.1	483	1.4	17	1175
Providers	12.3	42	16.0	55	17.8	61	52.0	178	0.6	2	342
Total	16.9	257	20.1	305	18.1	275	43.5	661	2	19	1517

Figure 4.7: Percentage distribution of respondents in relation to duration of using the PHC centres' services or being employees



4.1.2. Descriptive statistics of the 18 PHC centres:

This statistical information is used to assess the condition of the Saudi PHC centres. It includes information about PHC centres' building, serving population, attendance rate, working hours, and manpower and staffing. The impact of this information on the quality of the Saudi PHC services will be discussed in the discussion chapter.

Table 4.3 shows the descriptive statistics of the 18 PHC centres surveyed. Most of the centres (15 of them) are rented (not purpose built as PHC centres), the oldest building was constructed 32 years ago, and the most recent building was constructed on 1994. Because most were not built to be PHC centres, they were designed as a normal housing building (apartments), which consist of 1-2 floors, (15 of them have two floors). The spaces of the floors are ranging between 200 m² – 400 m². Only one centre (governmental purpose-built) has 400 m² space floor.

Table 4.3: Descriptive statistics of the buildings of the 18 PHC centres

No.	PHC centre	Year of constructed	Type of building	Space of floor (m ²)	No. of floors
1	Al-Marwa	1988	rented	400m ²	2
2	Al-Aaziziah	1989	rented	300m ²	2
3	Al-Safaa	1989	rented	400m ²	2
4	Al-Bawadi	1983	rented	300m ²	2
5	Al-Naeim	1989	rented	400m ²	2
6	Al-Salama	1981	rented	300m ²	2
7	Al- Balad	1993	Govern.	300m ²	2
8	Al-Sharafia	1988	rented	200m ²	1
9	Al-Royees	1981	rented	250m ²	2
10	Al-Nozla	1971	rented	400m ²	2
11	Al-Sabeel	1989	rented	200m ²	2
12	Al-Thaalba	1985	rented	250m ²	2
13	Madayn Fahad	1985	Govern.	600m ²	0
14	Bani-Malik	1981	rented	400m ²	2
15	Al-Sulaimanya	1989	rented	250m ²	1
16	Al-Eskan	1994	Govern.	400m ²	2
17	Qaiza	1983	rented	400m ²	2
18	AL-Montazahat	1989	rented	200m ²	2

Table 4.4 shows the distribution of the population served and the attendance rate of the 18 PHC centres. They are serving a population of ranging between 60,091 (max.) and 2,519 (min.), with average equal to 26,990 people. Not less than 80 clients per day and 1400 per month visit the small centres, while 300 clients per day and 7000 clients per month visit the larger and crowded centres. The average of clients' visits /day for the 18 centres is 162 visits per day and 3,373 visits per month. Table 4 shows also the distribution of working hours among the 18 centres, where, there are two types of working hours according to the duty system used:

- One shift of continuous duty (07:30-18:30) - the new duty system
- Two shifts of interrupted duty (07:30-13:00) and (16:00-07:30) - the old duty system.

Most of the Jeddah's PHC centres are still working on the old duty system (two shifts).

Therefore, out of the 18 centres, only five centres are working one continuous shift.

Table 4.4: distribution of serving population, attendance rate, and duty system of the 18 PHC centres

No	PHC centre	No. of served population	Visited clients / day	Visited clients / month	Duty system
1	Al-Marwa	14769	90	1400	interrupted
2	Al-Aaziziah	57097	150	3500	interrupted
3	Al-Safaa	57300	210	4000	interrupted
4	Al-Bawadi	28939	130	2740	continued
5	Al-Naeim	36151	130	2350	continued
6	Al-Salama	17573	150	2210	interrupted
7	Al- Balad	14049	150	1600	continued
8	Al-Sharafia	16297	90	2500	interrupted
9	Al-Royees	20826	135	5735	continued
10	Al-Nozla	33459	140	1560	interrupted
11	Al-Sabeel	22525	80	1800	interrupted
12	Al-Thaalba	16155	180	2203	interrupted
13	Madayn Fahad	39284	300	6500	interrupted
14	Bani-Malik	19861	90	2519	interrupted
15	Al-Sulaimanya	16621	120	3600	interrupted
16	Al-Eskan	38536	300	7000	interrupted
17	Qaiza	37831	220	3496	interrupted
18	AL-Montazahat	33883	250	6000	continued
Total		521156	2915	60713	

Table 4.5 shows the manpower distribution of the 18 centres, the numbers of physicians (including the dentists) range from 2 physicians per centre to 9 physicians per centre, with an average of five physicians in each centre. The numbers of nurses are range from 7 nurses per centre to 22 nurses per centre, with an average of 14 nurses in each centre. The numbers of technicians range from 5 technicians per centre to 15 technicians per centre, with an average of 6 technicians in each centre. The technicians include health inspectors, lab technicians, x-ray technicians, dental assistants and pharmacists. In addition, all centres have varieties of other employees (administrators, receptionists and other workers) who constitute around one third to one-half of the centres' workforce. The total numbers of centres' employees ranged from 29 employees (at the smallest centre) up to 73 employees (at the largest centre). The average number of employees at each centre was 47 employees.

Table 4.5: Distribution of Manpower of the 18 PHC centres

No.	Name of PHC centres	No. of Physicians*	No. of Nurses	No. of Technicians **	Other employees	Total No. of employees
1	Al-Marwa	2	8	5	15	30
2	Al-Aaziziah	4	22	6	8	40
3	Al-Safaa	6	19	8	29	62
4	Al-Bawadi	9	18	8	17	52
5	Al-Naeim	6	14	7	15	42
6	Al-Salama	5	13	6	26	50
7	Al- Balad	7	22	9	28	66
8	Al-Sharafia	3	10	5	11	29
9	Al-Royees	7	14	8	26	55
10	Al-Nozla	4	13	5	21	43
11	Al-Sabeel	2	10	4	23	39
12	Al-Thaalba	3	7	5	16	31
13	Madayn Fahad	7	22	15	29	73
14	Bani-Malik	7	14	7	14	42
15	Al-Sulaimanya	3	13	5	17	38
16	Al-Eskan	8	15	5	27	55
17	Qaiza	4	15	6	39	64
18	AL-Montazahat	6	13	6	15	40
Total		93	262	120	376	851

* Number of physicians means all physicians who are working at the centre including the dentists

** Number of technicians includes health inspectors, lab technicians, x-ray technicians, dental assistants and pharmacists

Table 4.6 shows the staffing among the physicians of the 18 PHC centres. There are variations between the physicians regarding doctor/patient ratio per day. The ratio ranges from 1:13 to 1:60. While some physicians are having high doctor/patient ratio, more than 1:50, on the other hand, some physicians are only having 1:13 doctor/patient ratio.

The table also shows the large distribution of physicians in relation to the estimated number of serving population. Some centres with a relatively high population, such as Al-Aaziziah centre, are staffed with a limited number of physicians (only 5 physicians). However, some centres with lower estimated population to serve, such as Al-Balad, had more physicians (9 physicians).

Table 4.6: Staffing issue among the physicians of the 18 PHC centres

No.	Name of PHC centres	No. of served population	No. of Physicians	Attendance rate per day	Dr/Patient Ratio per day
1	Al-Marwa	14769	5	90	1:18
2	Al-Aaziziah	57097	6	150	1:25
3	Al-Safaa	57300	8	210	1:26
4	Al-Bawadi	28939	8	130	1:16
5	Al-Naeim	36151	7	130	1:19
6	Al-Salama	17573	6	150	1:25
7	Al- Balad	14049	9	150	1:17
8	Al-Sharafia	16297	5	90	1:18
9	Al-Royees	20826	8	135	1:17
10	Al-Nozla	33459	5	140	1:28
11	Al-Sabeel	22525	4	80	1:20
12	Al-Thaalba	16155	5	180	1:36
13	Madayn Fahad	39284	15	300	1:20
14	Bani-Malik	19861	7	90	1:13*
15	Al-Sulaimanya	16621	5	120	1:24
16	Al-Eskan	38536	5	300	1:60**
17	Qaiza	37831	6	220	1:37
18	AL-Montazahat	33883	6	250	1:42
	Total	521156	120	2915	

* The lower doctor/patient ratio

** The larger doctor/patient ratio

4.2. RATING QUESTIONS ANALYSIS:

In this section, the data of the two rating questions are analysed and illustrated in tables.

Table 4.7 displays the distribution of the frequency and percentage of the 17 selected quality attributes, which were listed on the 5-point rating responses to determine the level of importance for each attribute. There are some missing data, where the sum of frequencies was not equal to 1517 (the total number of respondents). Total frequencies for each items is calculated in column called Total of Frequency (T.F). The missing data is calculated in column called Missing Data (M.D). The number of missing data is ranged from 2 as in the “Tangible” item and to 31 as in “Range of services” item.

Table 4.7: Distribution of the frequency, percentage of the 17 selected quality attributes as perceived by the PHC providers and consumers (N=1517).

M.D	T. F	Not important at all		Not important		Neutral		Important		Very important		Quality attributes
		%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	
2	1515	0.1	2	0.3	5	4.8	72	11.2	169	83.6	1267	(Structure) 1. Tangible
15	1502	0.3	4	1.7	25	8.1	122	30.0	451	59.9	900	2. Accessibility
19	1498	0.7	11	0.4	6	5.9	88	18.9	283	74.1	1110	3. Manpower
31	1486	0.1	2	0.9	14	6.9	103	23.3	346	68.7	1021	4. Range of services
67	6001	0.3	19	0.8	50	6.4	385	20.8	1249	71.6	4298	Total
7	1510	0.5	7	1.2	18	6.5	98	21.9	331	69.9	1056	(Technical process) 5. Competency
9	1508	0.6	9	1.1	16	9.6	145	29.0	438	59.7	900	6. Time factor
19	1498	0.7	11	2.1	31	11.0	165	28.9	433	57.3	858	7. Security & confidentiality
16	1501	0.7	10	3.5	53	11.9	178	28.4	426	55.6	834	8. Continuity and follow-up
26	1491	0.4	6	1.0	15	8.7	130	27.5	410	62.4	930	9. Administration & Management
24	1493	0.7	11	4.1	61	16.7	249	32.2	481	46.3	691	10. Community participation
101	9001	0.6	54	2.2	194	10.7	965	28.0	2519	58.5	5269	Total
13	1504	0.9	13	0.9	14	6.1	91	23.5	354	68.6	1032	(Interpersonal process) 11. Courtesy
7	1510	0.6	9	21	21	414	127	27.4	414	62.2	939	12. Consumer-provider Communication
3	1514	0.3	5	1.1	17	5.7	87	23.6	358	69.2	1047	13. Credibility & Responsiveness
19	1498	0.3	5	1.1	17	7.5	112	25.0	374	66.1	990	14. Team work
42	6026	0.5	32	1.1	69	6.9	417	24.9	1500	66.5	4008	Total
21	1496	0.3	5	0.8	12	8.0	119	26.9	403	64.0	957	(Outcome) 15. Therapeutic outcome
22	1495	0.1	2	0.6	9	4.5	68	21.1	316	73.6	1100	16. Prevention outcome
9	1508	1.1	16	1.5	23	8.0	120	28.4	428	61.1	921	17. Providers & Costumers' Satisfaction
52	4499	0.5	23	1.0	44	6.8	307	25.5	1147	66.2	2978	Total

Table 4.8 displays the distribution of the importance level of the 17 selected quality attributes in defining and measuring the quality of PHC services, as perceived by both PHC providers and consumers. The level of importance is calculated by using the five-points rating responses. Respondents were requested to state their level of how to perceive the important of each of the given quality attribute. Each degree of importance was given a score on a predetermined scale, the higher the score the higher the level of importance, as the following:

- (1) "Not important at all",
- (2) "Not important",
- (3) "Neutral",
- (4) "Important", or
- (5) "Very important".

Then the weighted mean of the level of importance for each of the quality attribute were calculated, and it was categorized into five categories, which were equally spaced along a continuum. This method of calculation has been used in some literatures reviewed such as **Andrzejewski and Laguna, 1997; Al-Qarati and Haran, 1999; Al-Doghaither, and Saeed, 2000; Kersnik, 2000; Haddad, et. al., 2000; and Saeed, et. al., 2001.** The space between the categories is equal to 0.8. This figure was calculated by dividing the number of spaces between categories (which were four) by the number of categories (which were five) (i.e. $4/5=0.8$) **Brown, J. D. (1988).**

The five categories of importance are:

- < 1.8 = Not important at al
- 1.8 – 2.5 = Not important
- 2.6 – 3.3 = Neutral
- 3.4 – 4.1 = Important
- 4.2 – 5.0 = Very important

All selected quality attributes were perceived as "very important" from the viewpoint of both PHC providers and consumers, their weighted means are more then (4.2), except one attribute which was "community participation" where it was perceived as "important", its weighted mean equal to (4.19).

In addition, the 17 attributes were categorized into the four classical aspects of quality (structure, technical process, interpersonal process, and outcome). All the four aspects were perceived as "very important" their weighted means were more than (4.2). The Cronbach's alpha was calculated for each aspects of quality and they were as the following: 0.6767 for structure, 0.7692 for technical process, 0.7842 for interpersonal process, and 0.6968 for outcome.

Furthermore, table 4.8 shows the ranking order of the selected 17 quality attributes, which are ordered as the following (the most important attribute is up, and the least important attribute is down):

1. Tangible (weighted mean = 4.78)
2. Prevention services (weighted mean = 4.67)
3. Staffing and Manpowered (weighted mean = 4.65)
4. Competency and Reliability (weighted mean = 4.60)
4. Credibility and Responsiveness (weighted mean = 4.60)
6. Range of services (weighted mean = 4.59)
7. Courtesy (weighted mean = 4.58)
8. Teamwork (weighted mean = 4.55)
9. Therapeutic outcome (weighted mean = 4.53)
10. Administration and Management (weighted mean = 4.50)
11. Consumer/provider Communication and understanding (weighted mean = 4.49)
12. Accessibility (weighted mean = 4.48)
13. Providers and Consumers' Satisfaction (weighted mean = 4.47)
14. Time factor (weighted mean = 4.46)
15. Security and confidentiality (weighted mean = 4.40)
16. Continuity and follow-up (weighted mean = 4.35)
17. Community participation (weighted mean = 4.19)

Table 4.8: Distribution the importance level of the 17 quality attributes as perceived by the PHC providers and consumers (N=1517)

Quality attributes	Aspects of quality	Rank	Class	Weighted mean
1. Tangible *	Structure	1	Very important	4.78
2. Accessibility		12	Very important	4.48
3. Staffing and Manpowered		3	Very important	4.65
4. Range of services		6	Very important	4.59
Cronbach's alpha	0.6767			
5. Competency	Technical process	4	Very important	4.60
6. Time factor		14	Very important	4.46
7. Security and confidentiality		15	Very important	4.40
8. Continuity and follow-up		16	Very important	4.35
9. Administration and Management		10	Very important	4.50
10. Community participation **		17	Important	4.19
Cronbach's alpha	0.7692			
11. Courtesy	Interpersonal process	7	Very important	4.58
12. Consumer/provider Communication		11	Very important	4.49
13. Credibility and Responsiveness		4	Very important	4.60
14. Team work		8	Very important	4.55
Cronbach's alpha	0.7842			
15 Therapeutic outcome	Outcome	9	Very important	4.53
16. Prevention outcome		2	Very important	4.67
17. Providers and Consumers' Satisfaction		13	Very important	4.47
Cronbach's alpha	0.6968			
Total Cronbach's alpha	0.8972			

* The most important quality attribute

**The least important quality attribute

Figure 4.8, illustrates the distribution of the weighted means (W.M.) of the four aspects of quality. There were only marginal differences between the four aspects. The differences between the weighted means of the highest (the structure aspect) and the lowest (technical process) was only 0.21.

Figure 4.8: Distribution of the weighted mean of the four aspects of quality

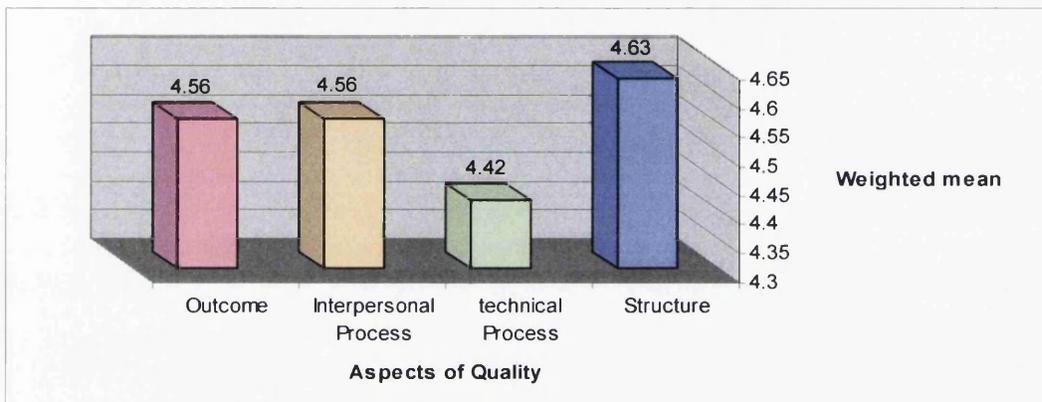


Table 4.9, shows the ranking order of the four aspects of quality. They were ranked according to their importance; the structural aspect was ranked as the most important aspect, whereas, the interpersonal processes and the outcome had the same level of importance with weighted means equal to (4.56).

Table 4.9: Ranking order of the four aspects of quality according to their importance

Aspect of Quality	Rank	Class	W.M.	Not important at all		Not important		Neutral		Important		Very important	
				%	Freq	%	Freq	%	Freq	%	Freq	%	Freq
1. Structure	1	Very important	4.63	0.3	19	0.8	50	6.4	385	20.8	1249	71.6	4298
2. Technical process	3	Very important	4.42	0.6	54	2.2	194	10.7	965	28.0	2519	58.5	5269
3. Interpersonal process	2	Very important	4.56	0.5	32	1.1	69	6.9	417	24.9	1500	66.5	4008
4. Outcome	2	Very important	4.56	0.5	23	1.0	44	6.8	307	25.5	1147	66.2	2978

Tables 4.10 and 4.11 show the distribution of the ranking order and class, weighted means of four quality aspects as perceived separately by the PHC providers and by the PHC consumers. All four aspects of quality; Structure, Personal process, Technical Process and Outcome were perceived by both groups as very important (weighted mean more than 4.2). The ranking order was very similar between the two groups with only minor differences.

Table 4.10: Distribution of the importance level of the four aspects of quality as perceived by the PHC providers (N=342)

Aspect of Quality	Rank	Class	W.m	Not important at all		Not important		Neutral		Important		Very important	
				%	Freq	%	Freq	%	Freq	%	Freq	%	Freq
1. Structure	1	Very important	4.59	0.2	3	0.4	5	8.0	108	23.0	312	68.4	927
2. Technical process	4	Very important	4.40	0.6	13	2.1	42	11.1	224	28.6	579	57.6	1165
3. Interpersonal process	3	Very important	4.55	0.1	2	1.0	13	7.2	98	27.1	367	64.5	873
4. Outcome	2	Very important	4.56	0.3	3	0.3	3	7.7	78	27.0	274	64.7	657

Table 4.11: Distribution of the importance level of the four aspects of quality as perceived by the PHC consumers (N=1175)

Aspect of Quality	Rank	Class	W.m	Not important at all		Not important		Neutral		Important		Very important	
				%	Freq	%	Freq	%	Freq	%	Freq	%	Freq
1. Structure	1	Very important	4.64	0.3	16	1.0	45	6.0	277	20.2	937	72.5	3369
2. Technical process	4	Very important	4.42	0.6	41	2.2	152	10.6	741	27.8	1940	58.8	4104
3. Interpersonal process	2	Very important	4.56	0.6	30	1.2	56	6.8	319	24.2	1133	67.1	3135
4. Outcome	2	Very important	4.56	0.6	20	1.2	41	6.6	229	25.1	873	66.6	2321

Table 4.12 displays the distribution of the frequency, percentage and weighted means of the 16 PHC services as perceived by both the PHC providers and consumers.

The respondents were asked to indicate the degree of their opinions for each of the given 16 PHC service by making a score of one of these choices:

- (1) "Poor",
- (2) "Satisfactory",
- (3) "Good",
- (4) "Very Good",
- (5) "Excellent" and
- (6) "Don't know"

The sixth "Don't Know" category was included in the scale to given the possibility of admitting ignorance, where it was expected that some of the respondents they really do feel neutral and have no opinion about a particular issue or have no previous experience with the certain service, and those don't like to be forced to express a definite opinion one way or the other. The six-point scale that included the "Don't Know" was used previously in literatures to measure patients' evaluations of general practice such as **Vingerhotes, et. al., (2001)**. However, the frequencies of the "Don't Know" opinion was not included (the researcher have discarded the "Don't Know" as having no opinion and in effect excluded them from the data), rather "Don't Know" responses were calculated and presented on the separate column.

In addition, there were numerous missing data, where the sum of frequencies of each item was not equal to 1517 (the total number of respondents). Total frequencies for each items is calculated in column called Total of Frequency (T.F). The missing data is calculated and presented in column called Missing Data (M.D). The number of missing data is ranged from 11 as in the "Vaccination" item and to 55 as in "Environmental Health" item.

Table 4.12: Distribution of frequency, percentage of the 16 PHC services as perceived by both the PHC providers (N= 342) and consumers (N= 1175)

M.D	Don't know	T.F	Bad		Satisfactory		Good		V. good		Excellent		PHC services
			%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	
11	109	1397	1.3	18	2	28	8.9	124	19.7	275	68.1	952	Vaccination
22	194	1301	3.3	43	5.6	73	16.4	213	30.8	401	43.9	571	Children clinic
23	336	1158	4.6	53	7.5	87	17	197	27	313	43.9	508	Antenatal clinic
51	263	1203	14.6	176	17	204	19.5	235	22.6	272	26.3	316	Dental clinic
40	427	1050	4.8	50	9.2	97	19.9	209	32.4	340	33.7	354	Chronic disease clinic
24	110	1383	6.4	89	14.4	199	22.6	312	30.4	421	26.2	362	Provision of medications
33	194	1290	9.1	117	17.1	220	24	310	24.6	317	25.3	326	Health education
41	319	1157	18.1	209	17.4	201	23.2	268	20.6	238	20.8	241	Community participation
29	370	1118	7.9	88	14.5	162	22.2	248	27	302	28.4	318	Infection control
55	457	1005	11.5	116	16.6	167	26	261	23.9	240	22	221	Environmental health
30	251	1236	9.1	113	16.8	208	22.6	279	25.7	318	25.7	318	Laboratory service
54	549	914	16.7	153	14.9	136	22.8	208	22.5	206	23.1	211	Radiology service
25	257	1235	5.1	63	12.1	150	20.9	258	28.7	354	33.2	410	Referral system
50	380	1087	13.5	147	12.1	131	22.4	243	25.4	276	26.7	290	Emergency service
33	275	1209	3.3	40	10.8	130	20.3	245	32.2	389	33.5	405	Treatment room
15	169	1333	9.8	130	13.3	177	20.3	271	26.6	355	30	400	Continuity & follow-up

Table 4.13 and figure 4.9 display the quality level of PHC services as perceived by both the PHC providers and consumers. The weighted means (W.M) of the level of judgmental opinions for each of the PHC service were calculated, and then categorized into five categories that were equally spaced along a continuum. The space between the categories is equal to 0.8. This figure was calculated by dividing the number of spaces between categories (which were four) by the number of categories (which were four) (i.e. $4/5=0.8$) **Brown, J. D. (1988)**.

The five classes of importance are as follows:

< 1.8 = Poor

1.8 – 2.5 = Satisfactory

2.6 – 3.3 = Good

3.4 – 4.1 = Very Good

4.2 – 5.0 = Excellent

Only vaccination service was perceived as the highest quality level of PHC services, it was perceived as "Excellent" service (weighted mean = 4.51). While four services were perceived as "Good" (weighted mean were ranged between 3.09 – 3.29): Dental clinic, Community participation, Environmental health and Radiology service, the rest of the services were perceived as "V. Good" (weighted mean were ranged between 3.49 – <4.32). These were: Antenatal clinic, Dental clinic, Chronic disease clinic, Provision of medications, Health education, Infection control, Laboratory service, Referral system, Emergency service, Treatment room, Continuity and follow-up.

Moreover, the table 4.13 shows the ranking order of the 16 PHC services, which are ordered as the following; the highest quality service is up on the list, and the least quality service is down:

Table 4.13: Distribution of the quality opinions of PHC services as perceived by both the PHC providers (N= 342) and consumers (N= 1175)

PHC services	W.M	Class	Rank
1. Vaccination	4.51	Excellent	1
2. Children clinic	4.06	Very Good	2
3. Antenatal clinic	3.98	Very Good	3
4. Treatment room	3.82	Very Good	5
5. Chronic disease clinic	3.81	Very Good	4
6. Referral system	3.73	Very Good	6
7. Provision of medications	3.56	Very Good	7
8. Infection control	3.54*	Very Good	8
9. Continuity & follow-up	3.54*	Very Good	9
10. Laboratory service	3.42	Very Good	10
11. Health education	3.40♣	Very Good	11
12. Emergency service	3.40♣	Very Good	12
13. Dental clinic	3.29	Good	13
14. Environmental health	3.28	Good	14
15. Radiology service	3.20	Good	15
16. Community participation	3.09	Good	16

* The third dissimilar number (which was not included) shows the different between the two figures.

♣ The third dissimilar number (which was not included) shows the different between the two figures

Figure 4.9: Distribution of the quality opinions of PHC services as perceived by the both PHC providers (N= 342) and consumers (N= 1175)

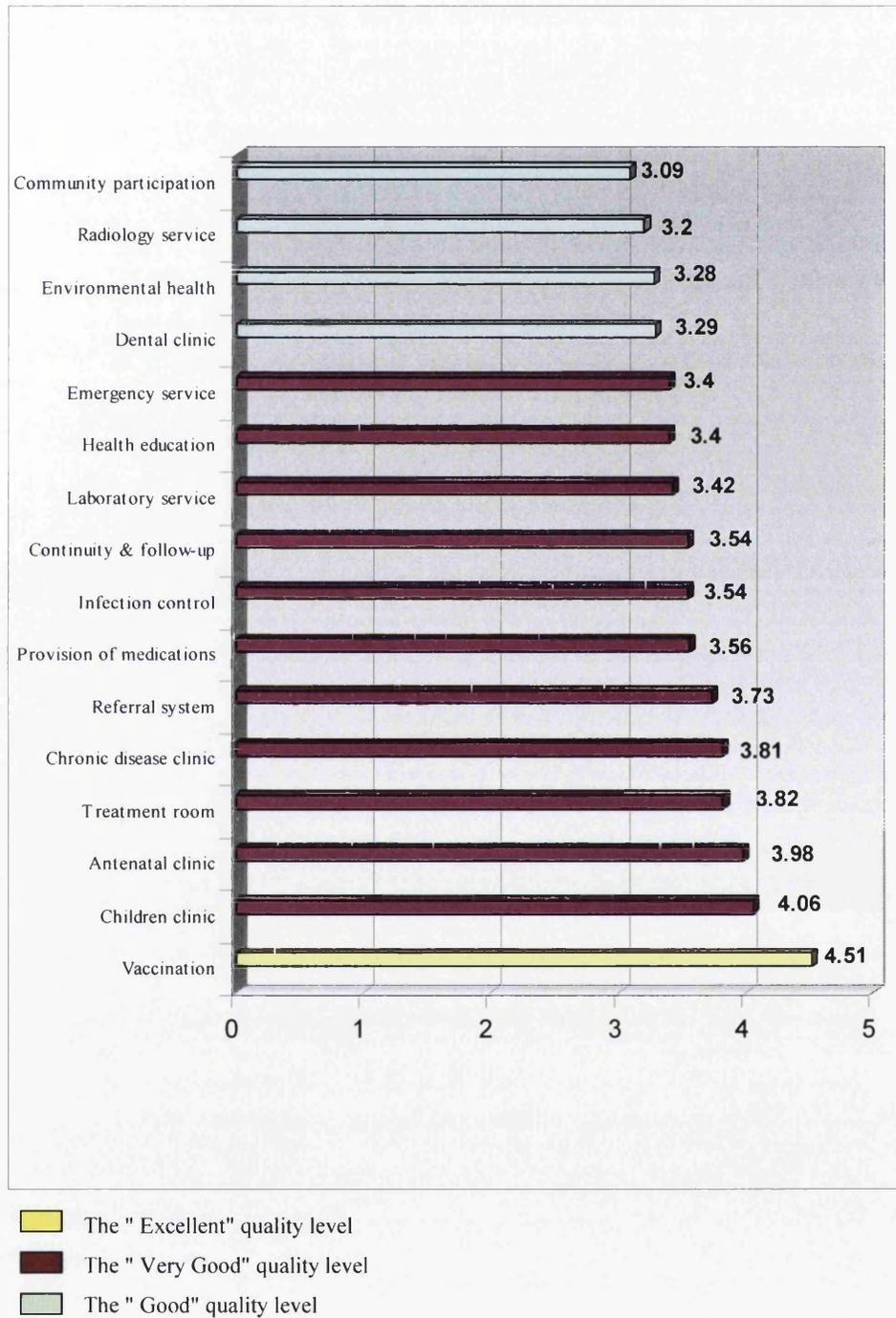


Table 4.14 displays the distribution of the frequency, percentage and weighted means of the 16 PHC services as perceived by PHC consumers. Table 4.15 displays the quality level of PHC services as perceived by the PHC consumers and their ranking order. Vaccination service was also perceived as the highest quality level of PHC services, it was perceived as "Excellent" service (weighted mean = 4.51). While only three services were perceived as "Good" level (weighted mean were ranged between 3.16 – 3.25), there are: Dental clinic, Community participation, and Radiology service. The rest of services were perceived as "V. Good" services (weighted mean were ranged between 3.40– 4.03), there were: Children clinic, Antenatal clinic, Treatment room, Chronic disease clinic, Referral system, Continuity and follow-up, Provision of medications, Health education, Laboratory service, Emergency service, and Environmental health.

Table 4.14: Distribution of frequency, percentage of the 16 PHC services as perceived by the PHC consumers (N= 1175)

M.D	Don't know	T.F	Poor		Satisfactory		Good		V. good		Excellent		PHC services
			%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	
11	101	1063	1.4	16	1.9	22	8.2	96	18.1	211	61.7	718	Vaccination
10	176	989	3.2	37	5.1	59	14.2	166	25.8	301	36.6	426	Children clinic
21	317	837	3.7	43	6.1	70	12.3	142	19	219	31.5	363	Antenatal clinic
30	249	896	13.2	151	12.8	146	16.2	185	17.3	198	18.9	216	Dental clinic
34	407	734	3.4	39	6.5	74	13.8	158	20.1	229	20.5	234	Chronic disease clinic
21	101	1053	6.3	73	13.3	153	19.7	227	25.6	295	26.4	305	Provision of medications
24	176	975	6.6	76	13.8	159	19.8	228	20.9	240	23.6	272	Health education
31	276	868	11.4	130	11.5	131	17.8	204	17	194	18.3	209	Community participation
25	326	824	4.4	51	8.8	101	15.1	174	20	230	23.3	268	Infection control
41	404	730	5.8	66	9.9	112	16.8	191	16.2	184	15.6	177	Environmental health
21	238	916	8	92	12.1	140	17.7	204	20.4	235	21.2	245	Laboratory service
47	434	694	11.3	127	8.9	100	14.2	160	13	147	14.2	160	Radiology service
20	243	912	5	58	10.2	118	15.8	183	21.6	250	26.2	303	Referral system
32	354	789	9.7	111	8	91	13.6	155	17.9	205	19.9	227	Emergency service
26	268	1149	2.6	30	8.5	98	14.7	169	24.1	277	26.7	307	Treatment room
12	154	1163	7.7	90	11.5	134	16.7	194	22.7	264	28.1	327	Continuity & follow-up

Table 4.15: Distribution of the quality opinions of PHC services as perceived by the PHC consumers (N= 1175)

PHC services	W.M	Class	Rank
1. Vaccination	4.50	Excellent	1
2. Children clinic	4.03	Very Good	2
3. Antenatal clinic	3.94	Very Good	3
4. Treatment room	3.83	Very Good	4
5. Chronic disease clinic	3.74	Very Good	5
6. Referral system	3.68*	Very Good	6
7. Infection control	3.68*	Very Good	7
8. Continuity & follow-up	3.60	Very Good	8
9. Provision of medications	3.58	Very Good	9
10. Health education	3.49	Very Good	10
11. Laboratory service	3.44♣	Very Good	11
12. Emergency service	3.44♣	Very Good	12
13. Environmental health	3.40	Very Good	13
14. Community participation	3.25	Good	14
15. Dental clinic	3.20	Good	15
16. Radiology service	3.16	Good	16

* The third dissimilar number (which was not included) shows the different between the two figures.

♣ The third dissimilar number (which was not included) shows the different between the two figures

Table 4.16 displays the quality level of PHC services as perceived by the PHC providers. Table 4.17 displays the quality level of PHC services as perceived by the PHC providers and their ranking order. Again, vaccination service was perceived as the highest quality level of PHC services, it was perceived as "Excellent" service (weighted mean = 4.56). With contrast with the consumers, eight services were perceived as "Good" level (weighted mean were ranged between 2.58– 3.37), there are: Laboratory service, Continuity & follow-up, Radiology service, Emergency service, Health education, Infection control, Environmental health and Community participation. Whereas, only seven services were perceived as "V. Good" services (weighted mean were ranged between 3.49– 4.17), there were: Children clinic, Antenatal clinic, chronic disease clinic, Referral system, Dental clinic, and Provision of medications.

Table 4.16: Distribution of frequency, percentage of the 16 PHC services as perceived by the PHC providers (N= 342)

M. D	Don't know	T.F	Bad		Satisfactory		Good		V. good		Excellent		PHC services
			%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	
8	8	326	0.6	2	1.8	6	8.4	28	19.2	64	70.1	234	Vaccination
11	18	313	1.8	6	4.2	14	14.2	47	30.5	101	43.8	145	Children clinic
2	19	321	2.9	10	5	17	16.2	55	27.6	94	42.6	145	Antenatal clinic
21	14	307	7.8	25	18.1	58	15.6	50	23.1	74	31.2	100	Dental clinic
6	20	316	3.3	11	6.8	23	15.2	51	33	111	35.7	120	Chronic disease clinic
3	9	330	4.7	16	13.6	46	25.1	85	37.2	126	16.8	57	Provision of medications
9	18	315	12.3	41	18.3	61	24.6	82	23.1	77	16.2	54	Health education
10	43	289	23.8	79	21.1	70	19.3	64	13.3	44	9.6	32	Community participation
4	44	294	10.9	37	18	61	21.9	74	21.3	72	14.8	50	Infection control
14	53	275	15.2	50	16.8	55	21.3	70	17.1	56	13.4	44	Environmental health
9	13	320	6.3	21	20.4	68	22.5	75	24.9	83	21.9	73	Laboratory service
65	57	220	9.4	26	13	36	17.3	48	21.3	59	18.4	51	Radiology service
5	14	323	1.5	5	9.5	32	22.3	75	30.9	104	31.8	107	Referral system
18	26	298	11.1	36	12.3	40	27.2	88	21.9	71	19.4	63	Emergency service
7	7	328	3	10	9.6	32	22.7	76	33.4	112	29.3	98	Treatment room
3	15	324	11.8	40	12.7	43	22.7	77	26.8	91	21.5	73	Continuity & follow-up

Table 4.17: Distribution of the quality opinions of PHC services as perceived by the PHC providers (N= 342)

PHC services	W.M	Class	Rank
1. Vaccination	4.56	Excellent	1
2. Children clinic	4.17	Very Good	2
3. Antenatal clinic	4.08	Very Good	3
4. Chronic disease clinic	3.97	Very Good	4
5. Referral system	3.85	Very Good	5
6. Treatment room	3.78	Very Good	6
7. Dental clinic	3.54	Very Good	7
8. Provision of medications	3.49	Very Good	8
9. Laboratory service	3.37	Good	9
10. Continuity & follow-up	3.35	Good	10
11. Radiology service	3.33	Good	11
12. Emergency service	3.29	Good	12
13. Health education	3.13*	Good	13
14. Infection control	3.13*	Good	14
15. Environmental health	2.96	Good	15
16. Community participation	2.58	Good	16

* The third dissimilar number (which was not included) shows the different between the two figures.

Table 4.18 and figure 4.9 display the general satisfaction level with the quality of PHC services as perceived by the both PHC providers and consumers. The level of satisfaction was calculated by using the five-points rating responses scale. Respondents were asked to rate their general level of satisfaction with the quality of the PHC center's services. Each degree of satisfaction was given a score ranging from 1 to 5, the higher the score the higher the level of satisfaction, as the following:

1. "Not satisfied at all"
2. "Not satisfy "
3. "Neutral"
4. "satisfy " or
5. "Very satisfy"

The weighted mean of the general level of satisfaction was calculated, and it was categories as the following:

- < 1.8 = Not satisfied at all
- 1.8 – 2.5 = Not satisfy
- 2.6 – 3.3 = Neutral
- 3.4 – 4.1 = satisfy
- 4.2 – 5.0 = Very satisfy

The result showed that respondents (PHC providers and consumers) were "satisfy" (weighted mean = 3.51) with the quality of the PHC center's services that are provided by the PHC 'centres. The percentage of satisfaction was 70.2%.

Table 4.18: General satisfaction level with the quality of PHC centres' services as perceived by both PHC providers (N= 342) and consumers (N= 1175) total =1517

%	Class	Wm	Not satisfied at all		Not Satisfy		Neutral		Satisfy		V. Satisfy	
			%	F	%	F	%	F	%	F	%	F
70.2	Satisfy	3.51	4.0	61	10.8	164	33.6	509	34.0	517	17.6	266

Figure 4.10: General satisfaction level with the quality of PHC centres' services as perceived by both PHC providers (N= 342) and consumers (N= 1175) total =1517

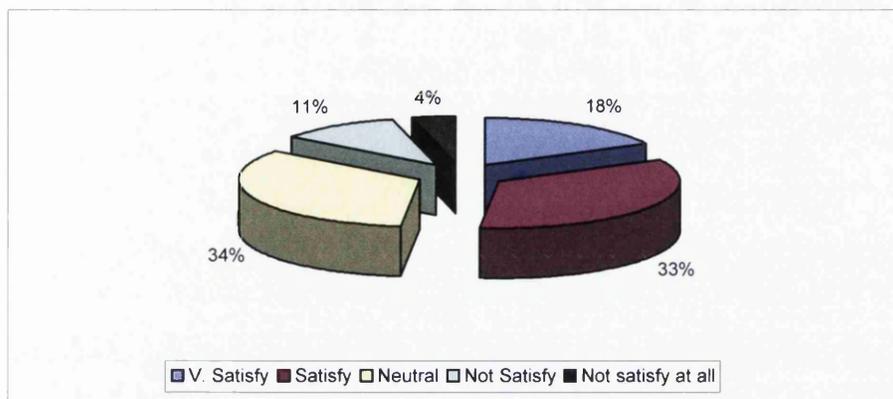


Table 4.19 displays the General satisfaction with the quality of PHC services as perceived by the PHC consumers. They perceived the level of satisfaction with the quality of PHC services as "satisfy" level 70.6% (weighted mean = 3.53).

Table 4.19: General satisfaction with the quality of PHC centres' services as perceived by the PHC consumers (N= 1175)

%	Class	Wm	Not satisfied at all		Not Satisfy		Neutral		Satisfy		V. Satisfy	
			%	F	%	F	%	F	%	F	%	F
70.6	Satisfy	3.53	3.9	46	10.9	128	32.5	383	33.7	396	19.0	222

Table 4.20 displays the General satisfaction with the quality of PHC services as perceived by the PHC Providers They perceived the level of satisfaction with the quality of PHC services as "satisfy" level 68.6% (weighted mean = 3.43).

Table 4.20: General satisfaction with the quality of PHC centres' services as perceived by the PHC providers (N= 342)

%	Class	Wm	Not satisfied at all		Not Satisfy		Neutral		Satisfy		V. Satisfy	
			%	F	%	F	%	F	%	F	%	F
68.6	Satisfy	3.43	4.1	14	10.2	35	37.1	127	35.7	122	12.9	44

4.3. OPEN QUESTION ANALYSES:

The open-ended question was "what are the most important (three) criteria that you depend on to judge the poor quality of the PHC centres' services in Saudi Arabia?" This question allowed the respondents to respond in their own words, in narrative fashion. Accordingly, the responses consisted of related and unrelated information.

The analysis of this question was done via a coding system. The researcher began by reviewing a sizable portion of the data to get a feel for the content, and then she developed a category scheme. The scheme was reflected the poor quality of the centres' services. The categories were both mutually exclusive and collectively exhaustive. There were some missing data where no response was available. Some respondents refused to answer the question or some wrote, "don't know".

Table 4.21 shows the analysis of the criteria that are used to judge the poor quality of the PHC centres' services according to the PHC providers (N=336). More than 30 criteria were mentioned by the PHC providers, only twenty nine criteria were listed on the table. Those selected criteria were mentioned by more than 10 subjects. "Deficiencies of medical equipments and materials" was the most frequently mentioned criteria among the PHC providers (31%). Whereas, the least frequently mentioned criteria was "Unavailability of all essential PHC services as expected by the clients" (3.2%).

Table 4.22 shows the analysis of the criteria that are used to judge the poor quality of the PHC centres' services according to the PHC consumers (N=907). Again, twenty-nine criteria were listed on the table; more than 10 subjects mentioned those selected criteria. The most frequent mentioned criteria among the PHC providers (21%) was (Provider show no courtesy and have bad manner attitude when dealing with customers). Whereas, the least frequently mentioned criteria was "Unavailability of dermatologists" (1.6%).

Table 4.21: Criteria that judge the poor quality of the PHC centres' services according to the PHC providers (N*= 336)

Rank	The criteria of poor quality	Freq.	%
1	Deficiencies of medical equipments and materials	105	31%
2	Deficiencies of essential medications	76	22%
3	Shortage of health care professionals (doctors, nurses, and others)	65	19%
4	Inappropriateness of the building design to be a PHC centre	56	16%
5	Unavailability or deficiencies of Radiological services	52	15%
6	Crowdedness of customer and poor control of their attendance and Poor appointment system	52	15%
7	Poor competency of the PHC professionals (doctors, nurses and others)	42	12%
8	Unavailability or deficiencies of Laboratory services	40	11.6%
9	Unavailability or deficiencies of dental clinic services	38	11%
10	Poor administration, poor scrutiny, poor supervision	32	9.3%
11	Narrowness of building	32	9.3%
12	Uncooperativeness of Customers and didn't show respect to the providers	30	8.8%
13	Poor emergency services and unavailability of 24 hours emergency	29	8.5%
14	Unavailability of specialized physicians	25	7.3%
15	Poor cleanness of building	25	7.3%
16	Poor maintenances services	23	6.7%
17	Unsuitability of duty' hours (two shifts)	22	6.4%
18	Poor team work	20	5.8%
19	Deficiencies and ineffectiveness of health education activities	20	5.8%
20	Provider show no courtesy and have bad manner attitude when dealing with customers	20	5.8%
21	Provider show no Credibility and Responsiveness in providing services	17	5%
22	Inappropriateness of location of the building	16	4.6%
23	Unavailability of all essential PHC services as expected by the clients	16	4.6%
24	Poor medical record system	15	4.3%
25	Not enough time for medical consultation	15	4.3%
26	Unavailability of female Obstetricians	14	4%
27	Poor community participation	12	3.5%
28	Poor system of continuity and medical follow-up	11	3.2%
29	No discipline in attendance and leaving of the PHC employees	11	3.2%

* Not all respondents answered this question

Table 4.22: Criteria to judge the poor quality of the PHC centres' services according to the PHC customers (N*= 907)

Rank	The criteria of poor quality	Freq.	%
1	Provider show no courtesy and have bad manner attitude when dealing with customers	190	21%
2	Unavailability or deficiencies of dental clinic services	152	16.7%
3	Deficiencies of essential medications	143	15.7%
4	Shortage of health care professions	130	14.3%
5	Unavailability or deficiencies of Radiological services	94	10.3%
6	Deficiencies of medical equipments and materials	89	9.8%
7	Provider show no Credibility and Responsiveness in providing services	68	7.5%
8	Narrowness of building	66	7.2%
9	Poor cleanness of building	65	7.1%
10	Long waiting time	65	7.1%
11	Unavailability or deficiencies of Laboratory services	63	6.9%
12	Unavailability of specialized physicians	59	6.5%
13	Disorder and no discipline in entering to the doctor's clinic	57	6.3%
14	Crowdedness of customer and Poor appointment system	50	5.5%
15	Poor emergency services and unavailability of 24 hours emergency	49	5.4%
16	No discipline in attendance and leaving of the PHC employees	47	5.2%
17	Inappropriateness of the building design to be a PHC centre	47	5.2%
18	Poor competency of the PHC professions (doctors and nurses)	41	4.5%
19	Poor administration, poor scrutiny, poor supervision	40	4.4%
20	Unavailability of all essential PHC services as expected by the clients	36	3.9%
21	Frequent absenteeism of the PHC employees and taking hours leave	32	3.5%
22	Unavailability of adequate and suitable waiting area	30	3.3%
23	Unsuitability of duty' hours (only day time)	28	3%
24	Unavailability of enough dental appointments or their delay	26	2.8%
25	Poor referral system	23	2.5%
26	Poor system of continuity and medical follow-up	22	2.4%
27	Inappropriateness location of the building	20	2.2%
28	Unavailability of female Obstetricians	16	1.7%
29	Unavailability of dermatologists	15	1.6%

* Not all respondent answered this question

4.4 COMPARISONS BETWEEN CONSUMERS AND PROVIDERS:

Table 4.23 and figure 4.11 demonstrate the comparison of the level of importance for quality attributes between PHC providers and consumers. Eight out of seventeen of the quality attributes their levels of importance were significantly different between PHC providers and consumers. Moreover, these eight attributes have different significant level, ranging from highly significant ($p \leq .005$) to borderline statistically significant ($p \leq .05$). The importance of the three attributes: accessibility, administration and management and teamwork were perceived highly different (highly significant) between the two groups with p value; .002, .002, .000 respectively. The importance of time factor attribute was moderately significant ($p \leq .01$). The tangible, staffing and manpower, range of services, continuity and follow-up were perceived less differently between the PHC providers and consumers ($p \leq .05$).

Whereas, the difference between the two groups in the perceived importance of the rest of attributes (9 attributes) were not statistically different ($p \geq .05$), those attributes were the following: (1) Competency and Reliability, (2) Security and confidentiality, (3) Community participation, (4) Courtesy, (5) Consumer/provider Communication, (6) Credibility and Responsiveness, (7) Therapeutic outcome, (8) Prevention outcome, and (9) Providers and Consumers' Satisfaction.

Table 4.23 shows also the difference in the rank order of the 17 attributes between the PHC providers and consumers. Although there was significance differences between their levels of importance as perceived by the two groups, the ranking order of the attributes were not that much difference (almost the same). Where, tangible attribute has been perceived as the most important attributes from the few points of both groups, and community participation attribute has been perceived as least important by also both groups. The rest of attributes (that were arranged between the top and the bottom) were demonstrated only few differences in ranking order between the PHC providers and consumers.

Table 4.23: Comparing the level of importance for Quality attributes between PHC providers (N= 342) and consumers (N= 1175)

Quality attributes	PHC Consumers			PHC Providers			t	p-value	Sig.
	M	SD	Rank	M	SD	Rank			
1. Tangible	4.76	.56	1	4.84	.50	1	-2.419	.016	Sig*
2. Accessibility	4.44	.75	14	4.59	.67	10	-3.139	.002	Sig***
3. Staffing and Manpower	4.63	.68	3	4.73	.66	2	-2.341	.019	Sig*
4. Range of services	4.57	.69	6	4.67	.60	4	-2.399	.017	Sig*
5. Competency and Reliability	4.58	.72	5	4.64	.64	6	-1.355	.176	Not Sig
6. Time factor	4.49	.75	10	4.37	.79	15	2.596	.010	Sig**
7. Security and confidentiality	4.40	.83	15	4.40	.78	14	-.005	.996	Not Sig
8. Continuity and follow-up	4.37	.84	16	4.26	.95	16	2.186	.029	Sig*
9. Administration and Management	4.47	.74	12	4.61	.68	9	-3.063	.002	Sig***
10. Community participation	4.18	.92	17	4.23	.85	17	-.956	.339	Not Sig
11. Courtesy	4.57	.74	6	4.63	.67	8	-1.382	.167	Not Sig
12. Consumer/provider Communication	4.48	.77	11	4.54	.70	11	-1.399	.162	Not Sig
13. Credibility and Responsiveness	4.59	.68	4	4.64	.66	6	-1.160	.246	Not Sig
14. Team work	4.51	.73	9	4.70	.64	3	-4.210	.000	Sig***
15. Therapeutic outcome	4.54	.70	8	4.52	.72	12	.484	.628	Not Sig
16. Prevention outcome	4.68	.59	2	4.67	.64	4	.263	.792	Not Sig
17. Providers and Consumers' Satisfaction	4.47	.79	12	4.48	.79	13	-.280	.780	Not Sig
Mean	4.51	.45		4.55	.45		-1.721	.086	Not Sig

*** Highly significant ($p \leq .005$)

** Statistically significance ($p \leq .01$)

* Borderline statistically significant ($p \leq .05$)

Figure 4.11: Comparing the level of importance for Quality attributes between PHC providers (N= 342) and consumers (N= 1175) according to the weighted means.

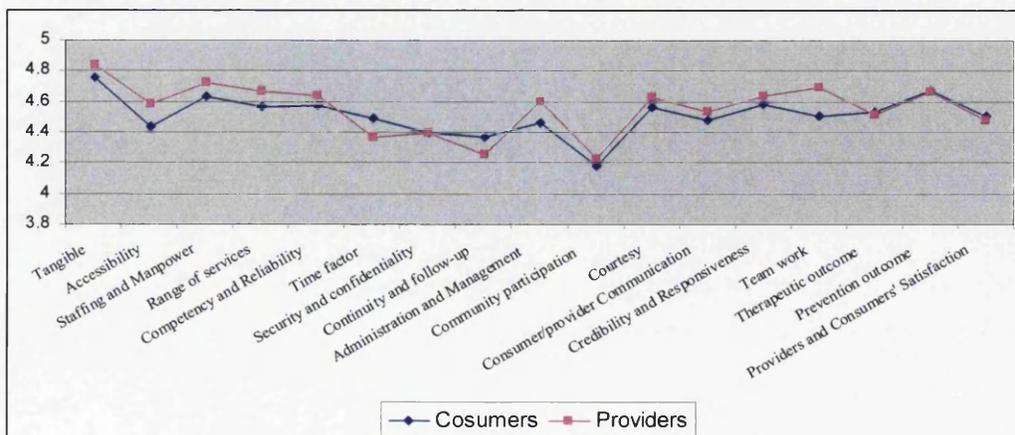


Table 4.24 and figure 4.12 present an analysis of the comparison between the PHC providers and consumers regarding their opinions of quality level of PHC services. It shows there are significant differences in their opinions. Generally, provider rated their services higher than consumers did. There were obvious differences in the ranking order of the services according to their opinions. The opinions of the quality of the dental clinic, chronic disease clinic, health education, community participation, infection control, environmental health, and continuity and follow-up were highly significant different between the two groups ($p \leq .005$). However, the opinions of more than half of the services (9 out of 16) were not significantly different ($p \geq .05$).

Table 4.25 shows the comparison of criteria which judge the poor quality of the PHC centres' services between the PHC providers and consumers according to their ranking orders. There were differences in the ranking orders between the two groups. 'A deficiency of medical equipments and materials' was ranked as number one criteria that determined the poor quality of PHC services according to PHC providers. Whereas, according to the PHC consumers; 'Provider shows no courtesy and have bad manner when dealing with customers' was given the higher priority among the criteria which determined the poor quality of PHC services. Moreover, there were some criteria mentioned by the PHC providers and those criteria not mentioned by the PHC customers at all, those are:

1. uncooperativeness of customers and didn't show respect to the providers,
2. Poor maintenances services,
3. Poor medical record system
4. Not enough time for medical consultation
5. Deficiencies and ineffectiveness of health education activities, and
6. Poor community participation.

In contrast, some criteria mentioned by the PHC customers and did not mention by the PHC providers, those are:

1. long waiting time,
2. Frequent absenteeism of the PHC employees and taking hours leave,
3. Unavailability of adequate and suitable waiting area.
4. Unavailability of enough dental appointments or their delay
5. Poor referral system, and
6. Unavailability of dermatologists

Table 4.24: Comparing the quality opinions of PHC services between the PHC providers (N= 342) and consumers (N= 1175)

PHC services	PHC Consumers			PHC Providers			t	p-value	Sig.
	M	SD	Rank	M	SD	Rank			
1. Vaccination	4.50	0.86	1	4.56	0.77	1	-1.223	0.222	Not Sig
2. Children clinic	4.03	1.09	2	4.17	0.97	2	-1.916	0.056	Not Sig
3. Antenatal clinic	3.94	1.18	3	4.08	1.05	3	-1.835	0.067	Not Sig
4. Dental clinic	3.20	1.41	13	3.54	1.33	7	-3.675	0.000	Sig***
5. Chronic disease clinic	3.74	1.16	5	3.97	1.07	4	-2.955	0.003	Sig***
6. Provision of medications	3.58	1.24	8	3.49	1.08	8	1.115	0.265	Not Sig
7. Health education	3.49	1.27	9	3.13	1.28	13	4.278	0.000	Sig***
8. Community participation	3.25	1.37	12	2.58	1.33	15	7.258	0.000	Sig***
9. Infection control	3.68	1.22	6	3.13	1.28	13	6.651	0.000	Sig***
10. Environmental health	3.40	1.26	11	2.96	1.33	14	4.899	0.000	Sig***
11. Laboratory service	3.44	1.30	10	3.37	1.23	9	0.791	0.429	Not Sig
12. Radiology service	3.16	1.41	14	3.33	1.32	11	-1.574	0.116	Not Sig
13. Referral system	3.68	1.23	6	3.85	1.04	5	-2.245	0.025	Sig*
14. Emergency service	3.44	1.38	10	3.29	1.27	12	1.669	0.095	Not Sig
15. Treatment room	3.83	1.12	4	3.78	1.07	6	0.717	0.473	Not Sig
16. Continuity and follow-up	3.60	1.30	7	3.35	1.30	10	2.972	0.003	Sig***
Over all mean	3.53	1.04		3.43	0.98		1.576	0.115	Not Sig

*** Highly significant ($p \leq .001$)

* Borderline statistically significant ($p \leq .05$)

Figure 4.12: Comparing the quality opinions of PHC services between the PHC providers (N= 342) and consumers (N= 1175) according to the weighted means.

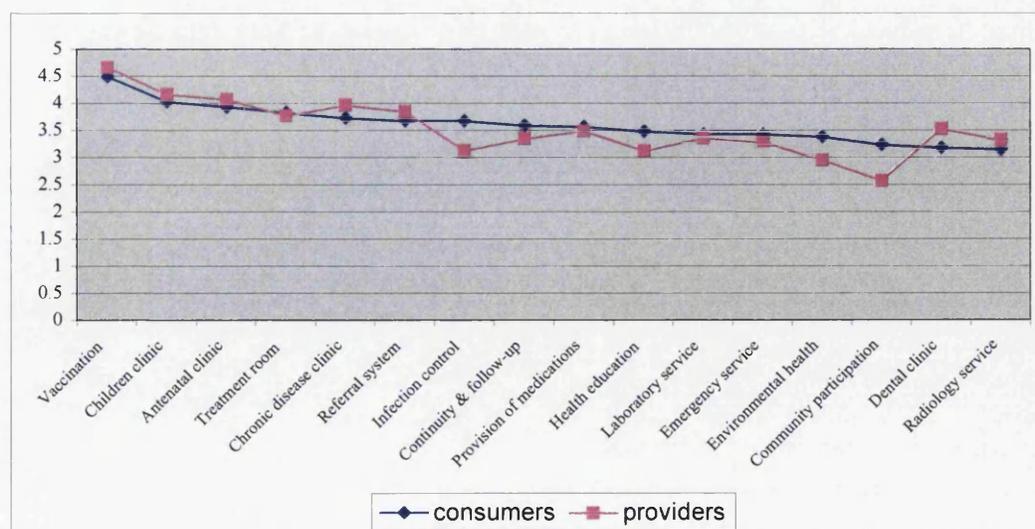


Table 4.25: Comparison of criteria used to judge the poor quality of the PHC centres' services between the PHC providers and consumers according to their ranking orders.

The criteria of poor quality	Providers Rank	Customers Rank
Deficiencies of medical equipments and materials	1	6
Deficiencies of essential medications	2	3
Shortage of health care professions	3	4
Inappropriateness of the building design to be a PHC centre	4	17
Unavailability or deficiencies of Radiological services	5	5
Crowdedness of customer and Poor appointment and attendance system	6	14
Poor competency of the PHC professionals (doctors, nurses and others)	7	18
Unavailability or deficiencies of Laboratory services	8	11
Unavailability or deficiencies of dental clinic services	9	2
Poor administration, poor scrutiny, poor supervision	10	19
Narrowness of building	11	8
Uncooperativeness of customers - did not show respect to the providers	12	NA
Poor emergency services and unavailability of 24 hours emergency	13	15
Unavailability of specialized physicians	14	12
Poor cleanness of building	15	9
Poor maintenances services	16	NA
Unsuitability of duty' hours (two shifts)	17	23
Disorder and no discipline in entering to the doctor's clinic	18	13
Deficiencies and ineffectiveness of health education activities	19	NA
Provider show no courtesy and have bad manner when dealing with customers	20	1
Provider show no Credibility and Responsiveness in providing services	21	7
Inappropriateness location of the building	22	27
Unavailability of all essential PHC services as expected by the clients	23	20
Poor medical record system	24	NA
Not enough time for medical consultation	25	NA
Unavailability of female Obstetricians	26	28
Poor community participation	27	NA
Poor system of continuity and medical follow-up	28	26
No discipline in attendance and leaving of the PHC employees	29	16
Long waiting time	NA	10
Frequent absenteeism of the PHC employees and taking hours leave	NA	21
Unavailability of adequate and suitable waiting area	NA	22
Unavailability of enough dental appointments or their delay	NA	24
Poor referral system	NA	25
Unavailability of dermatologists	NA	29

NA = Not Applicable = Not mentioned at all

NA = not mentioned by the providers

NA = not mentioned by the consumers

Table 4.26 shows the comparison of the overall satisfaction level with PHC services between the PHC providers and consumers. There were no significant differences ($p = .115$) between the two groups. Both groups perceived the satisfaction level with PHC services as satisfied level (weighted mean = 3.4 – 4.1).

Table 4.26: Comparison of the general levels of satisfaction with the quality of PHC services, between the PHC providers (N= 342) and consumers (N= 1175)

General satisfaction with the quality of PHC centres' services	Providers		Consumers		t	p-value	Sig.
	Mean	SD	Mean	SD			
	3.53	1.04	3.43	.98	1.576	.115	Not Sig

Statistically significance ($p \leq .01$)

Table 4.27 shows the comparison of the overall satisfaction level with PHC services according to gender. There were significant differences ($p = .008$) between the males and females in perceiving the satisfaction level with the PHC services. Females were more satisfied (weighted mean = 3.59) than males (weighted mean = 3.42).

Table 4.27: Comparison of the general levels of satisfaction with the quality of PHC services, according to gender

General satisfaction with the quality of PHC centres' services	Male		Female		t	p-value	Sig.
	Mean	SD	Mean	SD			
	3.42	1.06	3.59	1.03	-2.654	.008	Sig

Statistically significance ($p \leq .01$)

Table 4.28 shows the comparison of the overall satisfaction level with PHC services according to age. There were no significant differences ($p = .098$) between the six age's groups in perceiving the satisfaction level with the PHC services.

Table 4.28: Comparison of the general levels of satisfaction with the quality of PHC services, according to age

Age	Mean	SD	F	p-value	Sig.
<20	3.65	1.08	1.866	.098	Not Sig.
20- <30	3.46	1.04			
30- <40	3.51	1.05			
40- <50	3.64	.94			
50- <60	3.45	1.03			
60+ more	4.33	.82			

Statistically significance ($p \leq .01$)

Table 4.29 shows the comparison of the overall satisfaction level with PHC services according to the Nationality. There were highly significant differences ($p = .000$) between the Saudis and non-Saudis in perceiving the satisfaction level with the PHC services. Non-Saudis were more satisfied than Saudis did.

Table 4.29: Comparison of the general levels of satisfaction with the quality of PHC services, according to nationality

General satisfaction with the quality of PHC centre services	Saudi		Non Saudi		t	p-value	Sig.
	Mean	SD	Mean	SD			
	3.43	1.06	3.85	.93	-5.812	.000	Sig

Highly significant ($p \leq .005$)

Table 4.30 shows the comparison of the overall satisfaction level with PHC services according to the respondents' educational level. There were highly significant differences ($p = .000$) between the three groups of educational levels in perceiving the satisfaction with the PHC services. People with lowest level of education (can read and write) were more satisfied with services than others.

Table 4.30: Comparison of the general levels of satisfaction with the quality of PHC services, according to education

Education	Mean	SD	F	P-value	Significance
University or postgraduate	3.25	1.00	20.45	.000	Sig.
Secondary or preparatory	3.60	1.05			
Read and write	3.80	.96			

The least significance difference (LSD) test shows significance difference between all the three groups of education.

Table 4.31 shows the comparison of the overall satisfaction level with PHC services according to Duration of using the PHC centre or being employee. There were no significant differences ($p = .701$) between the four groups periods of duration in perceiving the satisfaction level with the PHC services.

Table 4.31: Comparison of the general levels of satisfaction with the quality of PHC services, according to the duration of time either as a user or as an employee of the PHC

Duration	Mean	SD	F	p-value	Significance
Less than 1 year	3.44	1.07	.473	.701	Not Sig.
From 1 – less than 3 years	3.50	1.00			
From 3 – less than 5 years	3.50	1.02			
5 years or more	3.53	1.01			

Statistically significance ($p \leq .01$)

CHAPTER V
DISCUSSION

5. DISCUSSION

In this section of the study, the researcher will discuss the findings within the framework of the six study objectives that have been stated previously.

5.1. OBJECTIVE 1: To generally assess the structure of the selected PHC centres at Jeddah.

This objective raises the following question:

- What are the conditions of the Jeddah's PHC centres?

In order to answer this question, the researcher made several field visits to the targeted 18 PHC centres and to the MOH Directorate of PHC at Jeddah city. The necessary information about the organizational and operational systems of PHC centres at Jeddah city were obtained through interviewing the PHC authorities and completion of the assessment instrument which was developed and which aimed to provide brief description of the conditions of the Jeddah's PHC centres. The structural assessment included; the physical structure of the buildings, the population served attendance rate and staffing issues. The partial assessments carried out in this study do not provide any representative account of the whole structural picture of the PHC service in Saudi Arabia. Structure refers to "the setting in which" the process of care "takes place and the instrumentalities of which it is the product" (Donabedian, 1969 page 189). To capture the entire structural picture would require more elements such as the qualifications of medical staff, organizational structure, financial policies, the operation of programmes, membership, funding, premises, equipment, as well as rules and regulations. This detailed assessment is beyond the limit of the current study. However, limited descriptive information obtained during the current study provides a general picture of the Saudi PHC structural elements and highlighted some crucial deficits that require radical improvement. In-depth assessment or research would be needed to determine all strengths and weakness of the Saudi PHC structural elements.

The 18 PHC centres included in the study constitute around (50%) half of Jeddah's PHC centres (18 out of 37 PHC centres). They serve almost a third of Jeddah's population (485,825 out of 1500,000 Jeddah's population). They are geographically distributed among the Jeddah's districts (three centres are located at east side of Jeddah, three at north, four at south, and four located at west). Although, the majority of

centres were constructed in the 1980s, they now look old, probably because of the lack of continuous maintenance of the buildings. This lack of maintenance seems to be a common problem in most of Saudi PHC centres. **Mansour and Al-Osimy (1996)** mentioned this problem in their report of evaluation study of the resources available in three PHC centres in Riyadh city.

Out of 18 centres, only three (16.7%) are owned by the government (not rented) and they are designed to be PHC centres. This has a great effect on the quality of buildings in that most have an inadequate layout for running PHC services. For instance, not all clinics have sinks for hand washing, the emergency exits are not appropriate for the crowded conditions and the large number of actual consumers, and the space for pharmacy, laboratory and radiology services are not suitably designed. In addition, the multiple numbers of floors could worsen the conditions in Jeddah's PHC centres. A majority of the centres have two floors and this creates difficulties for the sick, disabled, pregnant, and old clients trying to benefit from the centres' services. For example, sometimes they have to climb several stairs to reach the radiology or laboratory services. **Al-Qatari and Haran (1999)** indicated that there is greatest association between the perceived satisfaction of Saudi PHC clients and the type of the PHC centre building (purpose-built or rented); the respondents were highly satisfied with the governmental (purpose-built) PHC centres.

Another problem associated with the buildings not being purpose-built and the multiple floors is the space being insufficient. The floorspace among the 18 centres ranges between 400 m² to 200 m². Although this range of floorspace seems good enough for an ordinary apartment, it is actually quite small for the smooth operation of PHC centres. For instance, the waiting areas are very small - especially the areas provided for male clients. Sometimes the researcher observed that male clients were standing on the corridors or along the stairs while they waited. Moreover, the researcher observed, in some centres there were no spaces for the treatment room. As a result, the treatment rooms were located in the small areas that were constructed originally as the kitchens of the apartments. This problem also seems to be a common problem among the Saudi PHC centres. **Kanan (1989)** addressed this problem in his study at PHC centres in Arar region, he found that (13.9%) of the problems mentioned

by the consumers were due to shortage of manpower, overcrowding in the centres, and inadequate space in the buildings.

However, the lack of space is logically associated with the overcrowding of clients. Overcrowding was detected in several studies (Saeed, et al., 1992; Al-Faris et al. 1996). As reported in this study, the 18 PHC centres serve around half a million people. Each centre served an average of 26,990 population. The small centres (which have floor space equal to 200-250 m² are visited by not less than 80 clients per day and 1400 per month, while the larger (which have floor space equal to 300-400 m² are visited by 300 clients per day and 7000 clients per month. The average of clients' visits per day for the 18 centres is (162 visits) per day and (3,373 visits) per month. Around 80% of visitors are Saudis and only 20% are non-Saudis. The attendance rate increases during the afternoon duty (after 14:00), which coincides with the official end of the period of duty for Saudi governmental employment (other than health care organizations). The clients usually find it difficult to be released from their official employment time if they want to attend at the PHC centres during the morning time.

Generally, there are high attendance rates at Jeddah's PHC centres. Although the private health dispensaries providing PHC services for a fee are readily available in Jeddah city, the fact is that a majority of Jeddah's PHC clients do not prefer to shift to the private sector. This fact should encourage the PHC decision makers to raise the quality of the services and meet or exceed their clients' expectation, in order to enhance the health level of Saudi population.

The Jeddah's PHC centres are following two types of duty hours system; continuous duty, one long shift (07:00-18:30) and interrupted duty, two short shifts (07:30-13:00) and (16:00-07:30). The total hours of duty are eight hour per day. Only 5 centres out of the 18 centres are working continuous shifts. When the researcher asked about the reason for existence of two types of duties, she learned that in the past all the Jeddah's PHC centres were working two shifts, and have only recently has the system changed to one continuous shift. But the application of this new system has not yet been carried out in all centres. Only few centres have been changed their duty hours. Moreover, the feedback about this change has not been yet been studied, either from the viewpoint of PHC providers or that of consumers. In addition, among the satisfaction studies conducted in Saudi Arabia, the issue of duty hours has only been raised in one

study based in Riyadh city. **Ali and Mahmoud (1993)** documented that 19.4% of the PHC clients complained that the working hours of the centre (two shifts) were not suitable. Recently, in March 2005, the system of working a continuous shift has been applied to all PHC centres.

A shortage of PHC manpower, especially physicians and nurses, was a common complaint, raised in several satisfaction studies conducted in Saudi Arabia (**Monsour and AL-Osimy, 1993; Bakhawain, 1995; Al-Faris et al. 1996**). This study found that the average numbers at each centre is 5 physicians and 14 nurses and the average number of clients' visits are around 162 per day. This revealed a reasonable average client/physician rate per day (32 clients/one physicians). This rate can provides an average estimation of the consultation time, of around 15 minutes (32clients/8hours = 4clients/one hour). For the purpose of workload assessment, physicians can be assumed to spend 6 minutes per case on an average¹. Theoretically, this result indicates that PHC physicians do not suffer from an excessive workload. This result is consistent with the results of a previous study conducted at Riyadh city which found that the attendance rate was high and the average consultation time was short (5.09 minutes) (**Al-Faris, et al., 1994**).

Moreover, this theoretical measurement seems unrealistic. Interestingly, during the visits of the researcher to the Jeddah centres, the most repeated complaint among the doctors and nurses was the large number of visiting clients and a lack of any control over their attendance. Usually, there is variation on the attendance rate between the two working shifts. **Al-Faris, et al (1994)** reported that there was an uneven patient attendance rate during the working hours of the study week with 10.16 consultations per doctor per hour in the evening compared with 5.58 in the morning. In addition, the study found that there are large variations between the physicians regarding doctor/patient ratio per day. While some physicians are struggling with how to manage seeing all their patients within the available time (those physicians with a doctor/patient ratio of more than 1:50), other physicians have only a 1:13 doctor/patient ratio.

From the researcher's point of view, the problem might be related to two main points. First, regardless the fact of physician shortage, the human resource system can

¹ Available at : <http://www.moh.gov.om/hrguidelines.htm>

be observed to be poor and disorganized. The distribution of the physicians among the centres is not carefully managed according to the estimated number of population served. For example, Al-Balad PHC centre has 9 physicians to serve 14049 people, while the Al-Aaziziah PHC centre has only 6 physicians to serve a population of 57097. Second, there is the lack of an efficient appointment system. The attendance rate is usually unpredictable and is determined by flow of clients because the centres use a "walking in system" (patients can use any PHC services without appointment). Thus, some days the centre becomes crowded by a flood of clients, while on other days the centre looks as quiet as an uninhabited house. Even though the two clinics (prenatal and vaccination) are supposed to be running an appointment system, the system is not effective. Although there is evidence that the absence of an appointment system is one of the causes of PHC consumers' dissatisfaction in Saudi Arabia (**Al-Faris et al. 1994**), the application of this system is facing great reluctance from PHC clients. **Al-Shammari (1992)** investigated the reasons for failing to keep PHC appointments in Saudi Arabia: he found that transport difficulties (particularly among women), unclear appointment details, availability of "walking in system", and forgetfulness as main reasons for defaulting. Therefore, adequate control of PHC clients' flow rate needs to be investigated thoroughly and practical solutions ought to be applied.

It is well known that reforms in health care in developing countries are being driven by cost concerns, not concerns over quality or access. Saving money often translates into restricting access to care, negotiating reduced reimbursements for providers and facilities. **MacStravic (2005)** pointed out that the biggest challenge to structural accountability is financial, generating enough revenue margins to enable the capital and operational investments required for an excellent structure. Given that in Saudi Arabia the PHC services are provided free of charge, this challenge may be greater. In general, with the absence of private medical insurance coverage, healthcare expenditure creates a great burden on the Saudi government. The Saudi MOH provides over 60% of health services free of charge, another 20% of the health service is delivered free through other government agencies, and only 20% is provided by the non-government sector. The deficiencies of Saudi PHC resources could be related to the unequal distribution of budgets among the three levels of care: primary, secondary, and tertiary care. It is obvious that generous funding is given to the secondary and tertiary care sectors that have priority. This trend is noticeable over the specialized hospitals and

specialized medical centres such cardiology service and oncology services, where they are continuously supplied with the recent medical technology materials and equipments. In contrast, budget cutting is continuously applied into the PHC services, which are supplied either with old (over-used) materials and equipment or where there is a deficiency of essential medications and dental care equipment. Thus, without full awareness of the capability and limitation of PHC services, proper consumer protection, and quality monitoring of the structure, process and outcome of the PHC services, these cost-cutting measures create precarious incentives to underserved patients and pose tremendous threats to the quality of care.

Fortunately, the Saudi government authorities are aware of the existing weakness of the structure of the PHC centres, and they are generally concerned about the improvement of health care services in Saudi Arabia. Within this context, the chief executive director of MOH PHC services at Makka region (including Jeddah), announced at the beginning of year 2003, two important promises:

- (1) During the seventh developmental plan (2005-2010), the number of the Jeddah's MOH PHC centres will be increased so that each of Jeddah's district will be covered by one PHC centre.

- (2) There will be a change of location for many of Jeddah's PHC centres so that most of the old, small and inadequate rented building will be changed to modern rented buildings.

If these and others promises are achieved, tremendous improvement is expected to happened in Jeddah's PHC system. However, structural accountability is not limited to the tangible elements, such as the building, physical facilities, equipment and materials, drugs, etc., more important elements such as rules, policies, regulations, management, and organizational structure are crucial for delivery efficient PHC system. These elements, indeed, need careful consideration in Saudi Arabia. The poor administrative and management aspect of Saudi PHC is reflected in a lack of organizing policies, lack of community empowerment, poor resource allocation, weakness of leadership, and inadequate training of health manpower. The researcher here argues that resource scarcity is not the only challenge faced in improving the quality of the PHC service in Saudi Arabia, but organizing and managing these services is the most significant challenge for the PHC authorities.

5.2. OBJECTIVE 2: To measure the level of importance of 17 selected PHC quality attributes in defining and measuring the quality of PHC services as perceived by PHC consumers and providers.

This objective raises this question:

- What do PHC consumers and providers perceive to be the important attributes in defining and measuring the quality of PHC services?

Although there is a considerable amount of published studies on identification of the quality attributes of general health care, there are few published studies which identify specific PHC quality attributes. No previous study has identified the quality attributes of PHC from perspectives of both PHC providers and customers. This study attempted to contribute to this crucial area and bridge that gap in knowledge.

The attributes that define service quality have been identified and measured by a considerable number of authors through the past three decades. The most well-known model for measuring quality of health care (structure, process and outcome), developed by **Donabedian (1980)**, was the main theoretical structure used in this study to formulate the components of the quality attributes lists. Furthermore, the "process aspects" of this model were subdivided into technical processes and interpersonal processes. Moreover, the SERVQUAL attributes identified by (**Parasuraman, et al., 1985**) were included in the lists.

In this study, the specific attributes assumed to be the important attributes in defining and measuring the quality of the PHC services were identified and listed as 17 attributes. These attributes were divided into four groups based on the four aspects of health care quality (structure, technical process, interpersonal process and outcome). Although these four aspects are the most common formula in discussions concerning the definition and measurement of health care quality worldwide (**Donabedian, 1992; Aquilina, 1989**) and in Saudi Arabia (**AL-Mazrou and Farag, 1994**), this study aims to provide evidence that these four aspects have specific importance also for defining and measuring the quality of the PHC services.

As expected by the researcher, the results of the study indicated that both PHC consumers and providers perceived the four aspects as very important in defining and

measuring the quality of the PHC services in Saudi Arabia (weighted mean ≥ 4.2). Although the four aspects were perceived as very important, variations were detected in their ranking order (summarised below). The structure was perceived as the most important aspect, and the technical aspect was the least important for both groups. This is consistent with another study of this topic (**Al-Qatari and Haran, 1999**) which found the waiting area, measures to ensure confidentiality, and the environmental structure caused most concern to service users. This is inconsistent with results from a previous study aimed to identify the client's expectation of the National Guard PHC services, conducted by the researcher herself. There, it was found that the centre's environmental structure was not considered as important among expected services (**Bargawi, 2001**). This may simply because the Ministry of Health centres are built to lower standards than the National Guard PHC centre.

The seventeen attributes which were subjected to measurement for their importance in this study included the SERVQUAL attributes. These were considered in relation to differences in level of education, health awareness, decision making, and language differences used between the Saudi and western culture. To make it easy for respondents to differentiate between the scale items, some closely related SERVQUAL attributes were merged and considered as one item. So, reliability was merged with competency; responsiveness was merged with credibility. As a result, the SERVQUAL attributes are condensed into seven items instead of ten. In addition ten other attributes were selected by the researcher as having specific importance in the Saudi PHC system. Those were: preventive services, staffing and manpower, range of services, time factor, therapeutic services, administration and management, provider and customer satisfaction, team work, continuity and follow-up, and community participation.

There is evidence that the selected seventeen quality attributes which, were derived from previous studies, are important attributes that define and measure the quality of health care services. The respondents were given free opportunities to state the level of their importance. The scale was developed in a way that allowed respondents to grade their responses on five levels: "Not important at all", "Not important", "Neutral", "Important", "Very important". However, the questionnaire was translated into Arabic language, a detailed explanation and operational definition was made for some terms to convey the precise meaning of the term.

All the selected seventeen quality attributes were perceived as important attributes. Actually, they rated 16 of them as "very important" while only one attribute (community participation) perceived as "important". The ranging of their weighted means were (4.19-4.78). This result shows that the Saudi PHC customers (providers and consumers) are demanding the best from PHC services. This is consistent with the previous study done by the researcher herself, which aimed to measure the level of Saudi PHC client's expectations toward PHC services, where the result revealed that the Saudi PHC clients generally have high level of expectations and they are demanding extra or better PHC services (**Bargawi, 2001**).

The seventeen attributes were ranked according to their level of importance from the viewpoint of both PHC providers and consumers, where, number (1) is the most important attribute and number (17) the least important:

- | | |
|---------------------------------------|---|
| (1) Tangible, | (10) Administration and management, |
| (2) Preventive services, | (11) Consumer /provider communication and understanding |
| (3) Staffing and manpower, | (12) Accessibility, |
| * (4) Competency and reliability | (13) Provider and customer satisfaction, |
| * (4) Credibility and responsiveness, | (14) Team Work, |
| (6) Range of services, | (15) Security and confidentiality, |
| (7) Courtesy, | (16) Continuity and follow-up, |
| (8) Time factor, | (17) Community participation, |
| (9) Therapeutic outcome | |

In relation to the SERVQUAL approach, it was found that both PHC providers and consumers perceived the SERVQUAL attributes as important. This result indicated three important points. First, although the SERVQUAL approach did not originate from and has not previously been tested in a PHC context, the result of this study is highly supportive of the propositions of the SERVQUAL authors (Parasuraman, et al.) in the way that the SERVQUAL attributes define the service quality and satisfaction of its users at any service organization. Second, the differences between the PHC system and other health care systems are not that as great as indicated by **Palmer (1991)**, when he stated that: "Ambulatory care has suffered similarly by having imposed on it systems, including quality assurance systems, that were designed for the very different circumstances of hospital care." Third, other specific attributes could be identified for capturing the whole context of the PHC service quality. This point was first made by

* Both attributes get the same weighted means = 4.60

Carman (1990), when arguing that service-specific dimensions other than those in SERVQUAL may need to be added to completely capture the consumer's definition of service quality.

In this study, the "tangible attribute" was the most important attribute. This result indicates that layout and physical structure - including the equipment and the facilities of the centre - has a priority of concern among both Jeddah's PHC providers and consumers. This aspect of quality could be perceived as the most important attribute due to the obvious deficiencies of adequate physical structures (especially the medical equipment and materials) at most of Jeddah's PHC centres. This situation is not limited to Jeddah's PHC centres only, but it is a nationwide problem (**Dodd, 1986; Sebai, 1988; Mansour and Al-Osimy, 1996; AL-Juhani, 1994; Bakhawain, 1995**). It is well known that the Saudi population – especially urban residents – are concerned with the condition of the facilities they use. **Al-Qatari and Haran (1999)** found that environmental structure was the area that caused most concern to Saudi service users. In this view, Saudi PHC authorities, while planning the CQI programmes should focus seriously on the "tangible attribute" by finding all possible ways to improve it. It is recommended to put this aspect on the top of their action plan agenda. As discussed before, the competitive health care environment and insurance system could play a major role in improving the tangible aspect of the health facilities.

Contrary to expectations, the second important attribute was the "preventive outcome" for both PHC providers and consumers. Such high priority indicates a very good and healthy awareness about the important role of preventive measures such as screening, health habit counselling, and immunization, for effective and efficient PHC outcomes. This result argues against the conclusion of **De Sa (1993)** that most people in developing countries consider curative care to be more important. Prevention is accorded priority in Saudi PHC theory, yet investigation showed that the major demand on the Saudi PHC centre is for curative care (**Sebai, 1988; and Al-Shammari, et al., 1996**). No doubt, delivery of preventive health services can reduce many common causes of morbidity and mortality (**Frame, 1986 and Hayward, et al., 1991**), and PHC providers are in a unique position to deliver these services (**Pommernke and Weed, 1991**).

Despite the recognition of Saudi PHC providers and decision makers of the importance of preventive services, current levels of preventive activity by Saudi PHC providers fall far below recommended levels. The community in which the practice is located has important implications for the delivery of clinical preventive health services (**Jaen, et al., 1994**). In Saudi Arabia, the "Bedouin" community is in great need of such service. Moreover, given that Saudi PHC services suffer from a shortage of health personnel (especially physicians), this should bring strong motivation for strengthening the preventive activities among the Saudi population. But actually, PHC providers are likely to be overwhelmed by the demands of sick patients that consume most of their energies in curative medicine. Nearly twenty years ago, the **MOP (1984)** identified this issue in a report regarding the utilization of Saudi PHC services. The report documented a heavy focus on providing curative services, with over 90% of PHC activities directed toward individual patient care. No recent studies could be identified that indicated the current percentage for provision of preventive and curative services in Saudi PHC centres. However, some relatively recent studies were designed to measure the pattern of utilization of PHC centre. But those studies were limited to specific period of time which was the summer time and specific country region which was the Asir region. These studies found that more than 90% of summer visitors attended for curative purposes (**Mahfouz and Hamid, 1993; Al-Sharif, et al., 2000**).

Chronic diseases such as diabetes mellitus (DM) and hypertension have higher prevalence among the Saudi adult population. The overall prevalence of DM and hypertension are 23.7% and 30% in KSA, respectively (**Al-Nozha, et al., 2004 and Kalantan, et al., 2001**). It can therefore be expected that a majority of Saudi adults would seek to use the PHC centres for therapeutic purposes. **Al-Shmmari, et al (1996)** conducted a study over a one year period to identify chronic morbidity among the Saudi adult: they found that 2990 patients attended a PHC centre in Riyadh city, and of these, 33.5% had chronic disorders. The five common chronic disorders were: musculoskeletal disorders 38%, diabetes mellitus 36%, digestive disorders 24%, clinically significant obesity 24.5% and cardiovascular disease 22%. On the other hand, the prevalence of chronic disease among Saudi population should act as a spur to greater activity and investment in preventive services at the Saudi PHC centres.

The conflict between preventive and curative care is apparent at the community level, among health workers from all levels of the health system, and among policy makers **(De Sa, 1993)**. Community members are sometimes willing to pay for curative services but not preventive services. Further, they believe that they already know enough to prevent illness. However, finding ways to consistently deliver preventive services to Saudi population is a prerequisite for the success of PHC services and an important clinical and public health challenge.

The third important attribute identified was "Staffing and manpower". This attribute was discussed in previous Saudi research, dealing with evaluation and satisfaction aspects of Saudi PHC services. The shortage of health care manpower is a continuing problem. Estimates show that the percentages of Saudi doctors, nurses and paramedics were 18.7%, 18%, and 43% respectively, of the health service workforce in 1998 **(ARAMCO, 1998)**. In view of the rapid population growth in the country (crude birth rate per 1000 population= 35.2) **(WHO, 2000b)**, these figures pose a challenge to the smooth running of the health system by Saudi manpower. It is calculated that there will be a total of 15226 Saudi doctors in the Saudi health workforce by the year 2020, representing only 32% of the total health manpower **(Sebai, et al., 2001)**. A similar shortage is also envisaged among Saudi nurses **(Luna, 1998)** and other health personnel. This situation is demanding an urgent need to accelerate the training of the Saudi work force in all health fields. It seems that, the country's dependence on expatriates to fill the health care professional posts will continue for long time. What makes the situation worse is the fact that the majority of those expatriates are non-Arabic speaking (Philippines or Indians) **Al-Shehri and Stanley, 1993; Al-Shammari and Khoja, 1994; Jarallah, et al., 1998)**, while there is evidence that Saudi PHC clients prefer the centre to be staffed by Moslem Arabic speaking staff who can communicate and run effective PHC programmes **Bargawi, 2001; Al-Khaldi, et, al., 2002; and Saeed and Mahmamed, 2002)**. Furthermore, **Ali and Mahmoud (1993)** found that 19.4% PHC users were dissatisfied with the PHC services because of language barriers with physician and nurses. **Saeed and Mohamed (2002)** found that manpower factors particularly availability of skilful physicians and having an Arabic speaking health team were the factors most likely to encourage utilization of PHC centres. Such evidence should encourage the MOH to recruit PHC professionals from Arabic speaking countries.

The fourth most important attribute identified was a combination of competency, reliability, credibility and responsiveness. They are interrelated and determine the quality (knowledge, skill and attitude) of the provider to performing his/her job. This result implies that the quantity of the PHC manpower should not be the only area of concern, but their level of quality should also be considered. Some studies reported that PHC working staff have insufficient knowledge of and negative attitudes towards PHC (El-zubier, et al, 1995; Al-Omran and Albar, 1995, and Basulaiman and Elzubier, 1996). Furthermore, the researcher argues here that, although it is well documented that health care consumers do not evaluate the technical aspects of quality but rather the human aspects (Boweres et al., 1994), the availability of competent and skilled providers is desired and recognisable. Clinical competency was identified among consumers' expectations, determining the quality of PHC services in Saudi Arabia (Bargawi, 2001), and is one of the factors that affect the utilization of PHC in Saudi Arabia (Al-Omar and Bin Saeed, 1999). The accuracy of judging the quality performance of the PHC providers from the viewpoint of consumers is questioned for several reasons (Spiegel, 1980; Jackson, et al. 1994). Sometimes, consumers' views are said to depend on the deep-rooted beliefs and attitudes and not on actuality. This problem applies in Saudi Arabia, where the majority of Saudi PHC consumers have believed that physicians with certain nationalities (Pakistanis and Indians) do not have the required competency, reliability, credibility and responsiveness to carry out their job efficiently. What makes the situation worse is that Saudi PHC is provided by a large numbers of physicians with these nationalities.

From another perspective, the quality of PHC encompasses more than the right assortment of clinical competencies; quality has to be grounded in and realized at the individual level where provider and consumer meet and interact over time. Hence, clinical competency should be accompanied with reliability, credibility and responsiveness. This discussion thus rests on the assumption that PHC is a process of care rather than a collection of skills (Mottur-Pilson, 1995), its quality is best understood as a relationship (Sherdon, 1988), it is a communication between patients and providers (John, 1991), it is not the actions and behaviour of skilled staff that is assessed but the way in which consumers themselves perceive and interpret these actions (Garvin, 1983). Saudi health care authorities need to improve these aspects among the PHC providers and ensure all PHC staff are oriented towards the concept of

PHC. Systematic provision of on-site clinical supervision and provision of regular in-service training sessions should be applied to remedy this situation. Moreover, public sector health professionals in Saudi Arabia have no financial risk in the event of poor performance or inefficient use of resources. The lack of financial incentives, the lack of cost-consciousness, and the lack of effective supervision, may lead to a tendency for PHC providers to lose their interest in improving their performance.

The least perceived important attribute was "community participation". The low importance attached to community participation can be partly explained through unfamiliarity. If so, then this result was not surprising, because it is quite normal for a person to underestimate the importance of something if its meaning and benefits are not known. This situation reflects exactly what is happening with the concept of the community participation in Saudi PHC. Although the concept is one of the eight essential elements of PHC services, and it has taken a large space in the quality assurance manual for PHC services in Saudi Arabia in 1994, its practical application is still far from reality. Unfortunately, it is seldom investigated or mentioned in the Saudi studies. Only one old Saudi study was found where, in a short conclusion statement, the author recommended that greater community participation should be encouraged (**Banoub, 1982**). It is true that some PHC centres have formed what are called "Health friends group" committees through which lay people participate in some of centres' activities such as annual polio immunization campaign, but this participation is very limited and not well organized.

People in Saudi Arabia constitute a major resource which is not tapped. They should participate in health planning, programming, implementation and evaluation. According to the Alma Ata resolution on PHC, community participation is the process by which individuals and families assume responsibility for their own health and welfare and for those of the community, and for developing the capacity to contribute to their and the community development (**WHO/UNICEF, 1978**). The Saudi community are an interactive community and lay people are willing to participate in the health activities if they are well informed of the objectives and possible outcome of their involvement. Consequently they should be given more opportunity to contribute with PHC providers to enhance the health level of Saudi population. As discussed previously, 83.3% of the PHC centres were located in rented buildings. The Islamic rules do value

donation behavior, where, it is written in the noble Qur'an that: 'Do good, truly, Allâh loves the good-doers'² (verse 195). Islamic teaching has a great effect on the behaviour of Saudi people. Accordingly, the businessmen and the rich citizens could be encouraged to provide the buildings freely, which would save the PHC centre the rental cost. In fact, there are some previous experiences in this regard which indicate that such contribution is achievable. The Al-Salama PHC centre has been built and equipped completely via a generous fund provided by a well-known Saudi businessman called Mr. Esmaeel Abodawood. Another example is the Eye Laser centre at the Jeddah eye hospital, where its building and equipment resulted from a donation provided by another Saudi businessman called Mr. Abdullateef Jameel.

Although each one of selected seventeen attributes has been identified as important quality attributes in many previous studies, but there is no previous study that has mentioned all those attributes together as important quality attributes. Furthermore, no published study has attempted to rank the attributes identified as perceived by both PHC providers and consumers. The studies identified were either qualitative (using focus group interviews), such as **Delbanco (1992)**, or comparative, such as **Wensing, et al (1996)**. The previous studies' results and the current study's result support the idea that the service quality construct is widely held to be multidimensional in nature and the number of attributes appears to vary from study to study. The multidimensionality of health care quality is addressed by many authors, such as **Woodside (1991)**. Generally there is an assumption that all attributes are generated from several values such as experience, need, idealism, and cultural norms, and are based on comparison between the perceptions and expectations. **Gronroos (1984) and Parasurman, et al (1985)** have supported this view and suggested that consumers view service quality as a comparison between the services they expect and perceptions of the services they receive. Accordingly, if the key word is "expectations", this assumption could be the cause of a well-known dilemma for ensuring health care quality. This is especially the case given that Saudi PHC services are used by consumers who are not aware of service objectives and limits (**Ali and Mahmoud, 1993**), and provided by providers who are not well oriented with the PHC concept (**El-zubier, et al., 1995**). These situations create two kinds of unrealistic expectation: underestimation of the PHC validity and over-expectation of its outcomes.

² Qur'an : Sûrah (chapter) 2, part 2, verse 159.

5.3. OBJECTIVE 3: To reveal various discrepancies and similarities among the PHC providers groups and consumers groups in the perceived importance of determinants of PHC quality attributes.

This objective raises this question:

- Do discrepancies exist between the PHC providers and consumers in the perceived importance of determinants of PHC quality at Saudi Arabia?

Regarding the differences in the ranking order, it was found that there was not much difference between the PHC providers and consumers. Both groups ranked "tangible" aspects as most important, and "community participation" as least in the rank. In addition, there were similarities between the PHC providers and consumers in the importance with which they perceived more than half of the attributes. No significant differences ($p \geq .05$) were found among 9 attributes out of 17. Those attributes were the following: Competency and Reliability, Security and confidentiality, Community participation, Courtesy, Consumer/provider Communication, Credibility and Responsiveness, Therapeutic outcome, Prevention outcome, and Providers and Consumers' Satisfaction.

This result supports the conclusions that provided by **Jung, et al (2002)** and **Rashid (1989)**, where they stated that patients' and GPs' views on what relatively best or worst in general practice care were remarkable similar. Both patients and GPs evaluated the doctors-patient relationship and the organisational aspects 'providing quick services for urgent health problems' and 'helpfulness of staff' most positively. Patients and GPs can be partners in selecting topics for quality improvement.

Based on the assumption that consumers and providers should be partners in the selection of topics for quality improvement, it is reassuring to see that consumers and providers generally have a shared view of what constitutes important attributes of quality care. However, this similarity does not grantee that there is any absence of discrepancies between the two groups in the way they prioritise the importance of these attributes. The differences in interests between health care providers and consumers have been addressed in studies, such as **Vedsted, et al (2002)**. They compared patient and GP priorities for general practice care and indicated that priorities were highly correlated between the two groups. They also found out that patients gave higher

priority than GPs to availability and accessibility of the practice and seeing the same GP. The health care providers are usually more interested in their own priorities and in trying always to provide care depending on these priorities.

The result revealed that the perceptions of the PHC providers and consumers in prioritising the importance of quality attributes were significantly different in eight attributes ($p \leq .05$). Those were:

- (1) Tangible,
- (2) Accessibility
- (3) Staffing and Manpower,
- (4) Range of services,
- (5) Time Factor,
- (6) Continuity and Follow-up,
- (7) Administration and Management, and
- (8) Team Work.

Out of those eight attributes, six attributes: Tangible, Accessibility, Staffing and Manpower, Range of services, Administration and Management, and Team Work, were perceived as more important by the providers than by the consumers. Consumers perceived 'Time Factor', and Continuity and Follow-up, as of higher importance. This result is logical given that the six attributes, which were perceived by the providers as more important, are more relevant to them in performance of their activities at the PHC centres. While the two attributes (Time Factor, Continuity and Follow-up) which were perceived as more important by the consumers, are more related to how services are provided to them but, as mentioned above, more attention should be paid to consumers' priorities in order to achieve the best quality of care. Therefore, the quality of the two attributes (Time Factor, Continuity and Follow-up) should be assured during providing the PHC services. Saudi health care planners must be prepared to focus on these two aspects of care as indicators of potential opportunities for improvement.

The relationship between waiting time and patient dissatisfaction was reported in several international studies (such as **Ortola, et al., 1993; and Gogorcena, et al., 1992**). Actually, long waiting time (more than two hours) was the main cause of dissatisfaction (first cause) for the users of Saudi PHC centres (**Ali and Mahmoud, 1993; Monsour and AL-Osimy, 1993; AL-Juhani, 1994; Bakhashwain, 1995; Al-**

Faris et al. 1996; Al- Qatari and Haran, 1999). However, some studies failed to demonstrate such a relationship (such as **Saeed, et al., 1992**). The concept of timeliness is usually different for consumers and providers. For instance, to the patient timeliness may mean staff is arriving thirty minutes early, so they can relax, have some coffee, and then begin working while they are ready and relaxing. To employees, timeliness usually means arriving at the scheduled hour; they would value flexibility over timing in case something prevented them getting to work on time. This is especially true for female providers as they have transportation difficulties (women are not allowed to drive vehicles on Saudi Arabia). So, it is important to advise employees to allow adequate time for arriving at an assignment. Furthermore, waiting time is considering a sensitive issue for the PHC consumers, where, males usually need permission from their employers to leave their duties for in order to visit the PHC centres in addition, Females were also concerned about the time spent at the centre. They are fully occupied by raising their young children. So, any delay on times spent outside their home is unacceptable. **Bursch, et al (1993)** found that the total time spent in the ER was not as important as the amount of time it took before the patient received care. These results show that waiting times, even if they cannot be shortened, they need to be managed more effectively to improve patient satisfaction. **Al-Faris et al (1994 and 1996)** suggested that administering an appointment system in Saudi PHC centres, can spread work evenly, reduce waiting time and increase consultation time and these would improve the patient satisfaction. The researcher also supports this suggestion. In fact, some PHC centres in Saudi Arabia have already started to implement appointment systems (**Al-Faris et al. 1996**), but these initiatives are facing numerous obstacles. These were investigated by **Al-Shammari (1992)** who identified the reasons for failure keeping appointments in Saudi Arabian PHCs.

Absence of continuity of care (follow-up) was ranked fifth as a cause of dissatisfaction and was addressed by several studies (**Monsour and AL-Osimy, 1993; Al-Faris et al. 1996; Makhdoom et al., 1997**). **Makhdoom, et al (1997)** reported that the mean satisfaction score regarding continuity of care was the lowest one, hardly approaching 70% of the total possible score. The quality of continuity and follow-up could mean to the PHC consumers that they are seen by the same doctor each visit or at least seen by only a few doctors they have collaborated and are familiar with patient's treatment plan. Unfortunately, physicians and nurses are frequently moving from posts

in the PHC and this is a persistent problem for the Saudi PHC system. It annoys both PHC providers and consumers. Furthermore, this continuous movement of the PHC professionals undermines the important PHC attribute of continuity and follow-up. This seems to be a universal problem - where transfers of staff from one place to another take place and it is a well recognized cause of patients' dissatisfaction with care (**Hjortdahl and Laerum, 1992**).

Only very few studies have compared GPs' and patients' priorities and evaluations of general practice care (**Rashid, 1989; Jung, et al., 1997; Jung, et al., 2002; Vedsted, et al., 2002**). Moreover, the ability to respond favourably to health care consumers' expectations and priorities requires knowledge of where these priorities match or clash with those of the caregivers, policy makers and administrators (**Vedsted, et al., 2002**). The researcher reviewed some observational studies (**Sivak, et al., 1980; Hinshaw, et al., 1983; Kane, et al., 1985; Rubin, 1990**) which compared patient and staff evaluations or ratings of care. All of these studies had important design flaws that limited their use in validating comparisons: most notably, they failed to match the components of care that patients and staff were asked to rate, or they used different methods for patients and staff, e.g., modes of survey administration, timing, or response scale. This probably led to an underestimated of agreement between patients and others. If content and methods differ, differences between patient and staff judgments may reflect disagreements between methods rather than between judges.

Despite this imperfect matching, most studies have found staff and patient evaluations concur with regard to quality of care. Components of care for which staff ratings have been shown to be associated with evaluations by patients include: overall quality of nursing care, overall quality of medical care, and structure in general (**Rubin, 1990**). In addition, **Hinshaw et al (1983)** found that nurses' assessments of the quality of care they delivered were related to patient evaluations of overall nursing care. **Elbeck (1992)** asked staff and patients to evaluate ward atmosphere along several dimensions of care, and found that they ranked wards in identical order, despite the use of different survey instruments and methods. These findings support the results of the current study. The priorities and perceptions of PHC providers and consumers were relatively matched between the two groups, although, they were given an opportunity to prioritise and differentiate sufficiently through using the five points rating responses. In addition, it is

supported by the IOM's definition of quality "Quality of health care is the degree to which health services for individuals and populations increase the likelihood of desired outcomes and are consistent with current professional knowledge". On this point, the researcher contends that 9 of the attributes (where their levels of importance were significantly matched between the two groups) are unquestionably defining and measuring the quality of PHC.

Thus, it is important to highlight a certain methodological limitation which could in turn render a limitation when making conclusions about the above issue. Previous studies point out that in order to gain statistical validation of the questionnaire, it is better if the provider's questionnaire uses exactly the same wording as the consumer's questionnaire (Wensing, et al, 1996; Spivak, et al., 1980; Vedsted, et al., 2002; Jung, et al., 2002; Rashid, et al., 1989). Taking into consideration that the level of knowledge and the educational level and background of lay people and health care professionals in Saudi Arabia are dramatically different, each concept of the listed attributes could be interpreted differently. Although, the operational definition of each concept was briefly stated on the questionnaire, these few description words could not be enough to capture the entire concept and provide a similar understanding background. For instance, *Team work* (effective coordination & communication between the health care personnel), could be understood by lay people as just as the presence of a strong social relationship and the absence of conflict between the staff, accordingly they might consider it an unimportant attribute.

However, regardless of the above possible limitation, this result provides a valuable data for initiating PHC improvement programs. If consumers and providers differ considerably in their perception of important of quality attributes, they might also differ in those aspects they would like to improve. However, if they match in their perception there is a higher chance that both of groups are motivated to improve the most important aspects of care which gain agreement from both of them. If providers are poor estimators of consumers' perceptions and base their selection of topics for improvement on their own perceptions, they might choose poorly. Without partnerships between health professionals, and lay people, the improvement agenda will meet only professional criteria.

5.4. OBJECTIVE 4: To measure the level of quality opinions toward the 16 selected PHC services as judged by PHC consumers and providers.

This objective raises this question:

- What are the quality opinions of the PHC services as judged by the PHC consumers and providers?

El-Shabrawy (1992) argues that what we define as "good quality" is determined by value judgments that can vary widely with time and among different groups. Evaluation of the quality of medical practice rests on the assumption that quality has a positive relationship to effectiveness. That is, by improving the quality of medical practice there will be an actual improvement to the services given. From this perspective, the researcher in this study designed a scale for measurement the quality of the common health services which are provided in Saudi PHC centres.

The 16 PHC services selected for this study constitute the majority of services provided by Saudi PHC centres. They are as the following: vaccination, children clinic, antenatal clinic, dental clinic, chronic disease clinic, provision of medications, health education, community participation, infection control, environmental health, laboratory service, radiology service, referral system, emergency service, treatment room, and continuity and follow up. However, these services are not provided as a whole to all Saudi PHC centres. Fortunately, the 18 PHC centres in this study provide the 16 mentioned services, but they are provided with very different quality levels. Exceptionally, the radiology service is not exclusively provided within each centre, but instead, this service is provided mainly through the referral system. Of the 18 centres only 9 centres provided it. So, elsewhere, the patients needing this service are just referred to the nearest centre that provides it. Actually, there are dramatic differences in the quality and quantity of the health care professionals and in the administration and organizational system at each centre. **Al-Ahmadi and Roland (2005)** concluded that there is substantial variation in the quality of Saudi primary care services. Good access and effective care were reported for certain services including: immunization, maternal health care, and control of epidemic diseases. Poor access and effectiveness were reported for chronic disease management programs, prescribing patterns, health education, referral patterns, and some aspects of interpersonal care including those caused by language barriers.

In Saudi Arabia, evaluation of health care service or judgment of its quality is almost always performed by the health care providers through the task force, auditing activities or specialized committees such as quality committee. In Saudi Arabia, up until now, the traditional method used to assess service quality is Donabedian's structure-process-outcome model (1980) where the structure includes the settings of the health care facility, the process refers to how care is technically delivered and outcome refers to the result of medical care on the health or welfare of the patient. This model diagnosed quality as technical in nature since it viewed quality from the perspectives of the service provider. Health care professionals often assume that patients cannot assess the quality of their services, health care being considered as high in technical attributes. In other words, patients do not possess the medical knowledge sufficient to evaluate whether health care services have been performed properly.

Elsewhere in the world, the voice of health care consumers is given higher priority in evaluation. In the UK, the 1984 Griffiths report suggested that monitoring the health service at the local level should incorporate the opinions and perceptions of patients (Khayat and Salter, 1994). It is now a major element of NHS reform (DoH, 2000). In the USA, Consumer Reports organization concluded that while cooperation and responsiveness to providers' needs can improve ultimate performance, regulators should never consider the providers of care to be their customers (Consumer Report 1996).

The 1980s was the era of economical revolution, a heady time of hyper inflated budgets, rapid expansion, and acquisition of high medical technology in Saudi Arabia. Unlike Saudi Arabia, where health care services are mostly provided free, especially at 1980s when they were completely free, health care in many developed countries is highly influenced by the service marketing approach. Research in the area of services marketing increased in the 1980s and this era saw the evolution of different theoretical perspectives on service quality. The service marketing approach is different from traditional health care research in that it looks at quality from the recipient's viewpoint rather than from the service provider's perspective. Given the highly technical features of health care, patients employ different evaluation processes to assess the quality of medical treatment they receive from a physician. In particular, they are prone to look for cues or signals that they can use to gauge the quality of service provided by the physician. The physician's office, time spent waiting for the consultation, courtesy of

staff, careful listening to patients' problems by the physician are some of the factors, which can influence patients' perceptions of service quality (**Ramsaran-Fowdar, 2005**). From the practical viewpoint, this approach has not gained much interest in Saudi Arabia, perhaps because of the absence of the marketing of competitive health care services. It is simply that, if the consumer does not like the quality of services he/she could seek these services in private PHC dispensaries, which are widely distributed in urban areas. It seems that, this behaviour (shifting the patient from the MOH PHC centres to the private PHC dispensaries) is encouraged by the PHC providers who can then take advantage of a reduced workload.

Regardless of the economic impact on the health care system, the health care system is now entering an age of "accountable consumerism" in which patients demand service excellence (**Vinn, 2000**). Consumers and health care providers need each other more than ever. The scope of quality measurement has shifted from a bias reflecting professional consensus to a shared expression that includes the patient's real and perceived expectations of quality. Given that "quality is the right and ethical thing" **Leebov and Ersoz (1991)**, this researcher believes the health consumers' voice should be raised in Saudi Arabia and considered as one of the patients' rights. A majority of Saudi people (60%) are served by the MOH PHC services, and a majority of those have no choice but to select other PHC facilities. This is because some cannot afford the expense of private PHC services, and others are not eligible to use the other governmental PHC services such as the National Guard or the armed force agencies. In addition, in rural areas there are no PHC services available other than those provided by the MOH. Considering these circumstances there should be greater pressure on PHC authorities to apply all possible measures for enhancing the level of quality. To meet the expectations of health care consumers, providers will need to continually improve quality and increase consumer satisfaction. Only by identifying the issues that are important to patients and their perceptions of quality can health providers truly focus on improvement.

Patients' evaluations of health care are increasingly seen as an important outcome (**Richards, 1999**), although doubts have been raised as to whether patients have the capacity to evaluate all aspects of care (**Williams, 1994**). Some professionals contend that health care consumers' perception of quality service is distorted. The patients'

views are seen as inaccurate because they often lack requisite knowledge for judging technical competence. Patients do, in fact, evaluate their care – for example, in the way they deal with treatment regimens (compliance) (Vuori, 1991), re-attendance (Scott and Smith, 1994), choice of care provider (Weiss and Senf, 1990), and even health status (Kaplan and Ware, 1989). In addition, Hall and Dornan (1988b), cite two studies which indicate that patients can judge the technical quality of their care (Roter, et al., 1987 and Linn, 1982). Furthermore, in one study, over a third of respondents (38%) felt patients were knowledgeable enough to judge their doctors (Khayat and Salter, 1994). Nearly as many (36%) were unsure about how knowledgeable patients were, while 23% felt patients were not able to judge their doctors' skills. Whether or not patients are regarded as competent judges of medical care, the fact is that they do make such judgments that must influence their perceptions of the encounter. These judgments are, therefore, relevant to research on quality improvement.

All Saudi evaluation studies of PHC have addressed user satisfaction rather than patients' opinions regarding quality of care, while the latter appears to be a more useful approach. As Calnan (1998a) pointed out, patients' evaluation of quality of care is not necessarily expressed in terms of satisfaction, and as Cleary (1998) indicated, the measurement of satisfaction does not necessarily reflect the perception that patients have of quality of care. In this study, the researcher not only investigated the quality opinions of the PHC services from the viewpoint of the consumers but also integrated them with the view of the PHC providers. Moreover, the scale provided for wide variations of opinions for respondents to choose from.

The result reveals that the only PHC service that gained an "Excellent" quality score (weighted mean = 4.51 out of 5.0), from the viewpoint of both PHC providers and consumers, was the vaccination service. This indicated that the efforts of the Saudi MOH general directorate of PHC centres have succeeded in providing an excellent quality vaccination service. From the research view, this level of excellence is crucial for providing such services among such a young country as Saudi Arabia, where 40.8% of population are under 15 years old (MOP, 2000). The vaccination service in Saudi Arabia is congruous with the international Extended Programme of Immunization (EPI). Since 1984, the immunization programme has been implemented in Saudi Arabia as an essential and integrated element of PHC. Primary health centres'

surveillance data indicate a high coverage level of immunization against the six target diseases (tuberculosis, poliomyelitis, pertussis, diphtheria, tetanus and measles). Moreover, the morbidity and mortality among children from those target diseases have decreased throughout the country over the last 20 years (**MOH, 2001**). Child health care (well-baby clinic) in Saudi Arabia aims at promoting and protecting the health of children, so that all children will have the possibility for healthy growth and development and so contribute to the well being of the whole nation. It is a vital part of national strategies and of the PHC approach to ensure the optimum care is given to this group of the population. In Saudi Arabia children less than five years (the most vulnerable group) account for 22.5% of the total population (**MOH, 2001**).

On other hand, only four services; dental clinic, environmental health, community participation, and radiology service were judged as having "Good" levels of quality (their weighted mean ranging between 3.09-3.29). It is observed that among the 18 PHC centres studied that these four services have many deficiencies and have limited resources (manpower, equipment, and facilities).

Although, the importance of dental service was evidenced within the context of the PHC (**WHO, 1984**), this service was not given enough consideration within the Saudi PHC system (**Al-Malik, et al., 2002; Wyne, et al., 2002a**). PHC consumers expected higher quality levels of dental services than those that exist; they expect PHC providers to provide enough dental appointments and to increase the number of dentists, and to supply the dental clinic with sufficient and modern equipment (**Bargawi, 2001**).

Saudi Arabia has achieved some improvement nationally in environmental health, for example, the average total coverage of safe drinking water sources has reached 97%, and an appropriate sewage disposal system is available for more than 80% of the population (**Al-Mazrou and Farag, 1994**). However, these achievements reflect rather limited efforts. MOH is requested to pay more attention to this issue and more achievements in this regard are claimed. Unfortunately, for the purposes of comparison, there are no previous Saudi PHC studies that evaluated the environmental health and the community participation (not within a group of services nor as a separate service).

On the other hand, **Al-Doghaither and Saeed (2000)**, has evaluated radiology services separately, where they found this service scored a low satisfaction rate. **Saeed et al (1992)** reported that provision of good quality radiology service is a genuine request highlighted by many patients. From the researcher's point of view, these four services require special attention by the quality improvement decision makers and need to be subjected to in-depth investigation and assessment and appropriate improvements should be applied.

The majority of the 16 PHC services (11 out of 16) were judged as "Very Good" (weighted mean ranging between 3.40– 4.06). This result was contrary to the researcher's expectation, because she has continually encountered complaints of poor quality of PHC services from the Saudi community which were either PHC users, or non-users. This disparity could be explained in this way: first, the poor reputation was merely spread through the community without scientific evidence. Secondly, the frequent PHC users can be expected to express positive opinions toward the services they are using, while those who do not use or who are infrequent users are usually biased in their judgment. Thirdly, the study participants may not have expressed their opinions honestly. The result of this study cannot be compared with any previous one (there was no previous study investigating this issue in Saudi Arabia). The judgment of the PHC services did not reveal any poor services provided in Jeddah's PHC centres. The consensus agreement on the acceptability level of quality of the PHC services, however, does not mean it is a permanent opinion and there is no room for more improvement. On the contrary, this puts a great responsibility on the provider to ensure ongoing improvement to meet increased expectations.

While some argue that patients cannot judge the technical quality of health care services, others recognize they do evaluate quality, whether the providers think they are capable of this or not. The judgments of health care consumers are useful. For instance, a low quality judgment implies either that the patient's expectations of the health services are too high or that the quality of the health services is poor, which is an input for the circle of quality improvement (**Overtveit, 1992**). However, **Ware (1995)** pointed out that, when these "uninformed" consumers rate their medical care as excellent, about 85% of them recommend their health services to another. For very good care, this figure drops to 50%, and it decreases to less than 10% for good care. It is

possible that those rating their services as excellent are "delighted" patients, just as those rating their services as very good are "satisfied" patients, and those rating their services as good are "not dissatisfied patients. If this is true, then "good is not good enough" in the health care industry. Health care consumers want more than just basic medical service. Dissatisfaction with health services is the outcome of the perception of a quality aspect that is not up to expectations. In brief, quality judgment (QJ) is equal to perception (P) minus expectation (E): $QJ = P - E$ (Campen, et al. 1995). This suggests Saudi PHC centres that go beyond avoiding dissatisfaction by promoting satisfaction, and even delight, are likely to be the most prosperous in the dynamic health care industry.

In comparing the quality opinions of 16 PHC services between PHC consumers and providers, the results revealed that there are significant differences between the two groups in judging half of the PHC services (8 out of 16). Providers rated their services higher than consumers did and this result is consistent with previous results (Stevenson, et al., 2003). This result again emphasizes the assumption of the differences between the health care providers and consumers perceived levels of quality, as shown in several studies previously mentioned. For example, Dun (1990) conducted an urban community health survey in the UK, and found that lay and professional viewpoints are radically different - in some cases reversed. He provided a conclusion, supported by the current study, that lay definitions of health, and what affects it, are so broad that to satisfy them is a task beyond the scope of PHC system alone. There is need for more detailed studies in Saudi Arabia to determine why the levels of quality services are judged differently from the viewpoints of consumers and providers. Consensus agreement on the level of quality of PHC serves between the consumers and the providers is highly required to planning and implementing a quality improvement strategy.

Thus, this result considers primarily, providing opportunity for judging the quality of the PHC services. It needs to be repeated in further studies conducted over different Saudi regions, and by using different methodological approaches. Studies that provide a detailed evaluation of each service would be necessary to effective judging the entire picture of the service.

5.5. OBJECTIVE 5: To state the criteria used to judge the poor quality of PHC services as perceived by PHC consumers and providers.

This objective raises this question

- What criteria PHC consumers and providers used to judge the poor quality of the PHC services?

The researcher used the open-ended form of question to achieve this objective. As mentioned earlier (in the methodology chapter) this type of question provides freedom for respondents to express their points of view more subjectively. Qualitative methods can contribute to the selection of indicators for assessment of the quality of health care in areas where scientific evidence is limited or where patients' and providers' preferences are particularly important. It is important to note that this question was optional (i.e. responses to this question were not used as a condition when considering the questionnaire completed). Accordingly, the response rate of this question was not 100% as with the other questions. Actually, there was a low response rate among PHC consumers. Only 907 out of 1175 (60%) of PHC consumers answered this question, while there was a high response rate (98%) among providers and only six out of 342 PHC providers did not answer the question. Although both PHC providers and consumers had stated more than 35 criteria for judging poor quality of PHC services, only those criteria which had a frequency of more than 10 were recorded in this study. This selection yielded twenty-nine criteria which were mentioned by PHC providers: the same number (29) of criteria was mentioned by PHC consumers. These criteria might be used by those who wish to develop sensitive instruments for evaluating and monitoring the quality of PHC services in Saudi Arabia. However, the researcher will only discuss the three most important criteria mentioned. They offer sufficient insights into how both groups judge quality. Such qualitative information will highlight areas that must be addressed if the CQI programme is to be introduced into PHC services.

Although some studies have shown that patients may have specific criteria and priorities regarding the quality of technical, interpersonal and organizational aspects of care (Donabedian, 1992; Fletcher, et al., 1983), the pilot study (carried out for the purpose of validating the study's questionnaire) revealed that the PHC consumers were more interested in discussing criteria of poor quality of services than criteria for good quality. The pilot test indicated that identification of criteria for determining what is

good quality is a difficult mission for users of PHC services. In contrast, they are willing and enthusiastic to identify and detect deficiencies or poor services provided to them. Accordingly, the question was altered to identify the most important criteria of poor service. However, identification of criteria used to judge poor quality of service are the opposite of the criteria used to judge when quality is good. So, it is recommended for the PHC decision makers should put these criteria on the quality improvement agenda and make all efforts to measure the progress of quality initiatives against them.

The result shows that the most three frequent criteria indicative of poor quality, identified by the PHC providers (physicians=15.2%, nurses=35.4%, technicians=12.9% and others PHC employees=36.5%), were related to structural aspects of quality. They are as follows:

1. Deficiencies of medical equipment and materials (31%)
2. Deficiencies of essential medications (22%)
3. Shortage of health care professionals (doctors, nurses, and others) (19%)

If Saudi health care organizers and decision makers believe in the importance of health care providers' perception about the quality of care provided, those three mentioned criteria create significant challenges requiring large efforts by PHC organizers and decision makers. This is especially true if we consider that several Saudi studies have demonstrated that most PHC centres in Saudi Arabia are not provided with adequate medical equipment and materials, essential drugs and manpower (**Bakhashwain 1995; Sebai, 1988; Dodd, 1986; Monsour and AL-Osimy, 1993**).

Considering the economic situation of Saudi Arabia, which is an oil-production country, those deficiencies should not exist. The fact is that, the Saudi MOH is functioning with some dualism; it encourages and supports the preventive services (PHC centres) theoretically but is practically occupied and concerned with increasing the effectiveness of curative services (secondary health care). While, great improvement plans and inspired strategies about the PHC have continuously been published since the third developmental plan of the country (1980-1985), it is the practical improvement and continuous enhancement in secondary health levels (hospitals) that is noticed.

The deficiencies of medical equipment and materials were stated by 105 PHC providers, constituting 31% of respondents. This result is consistent with another study conducted to measure job satisfaction among MOH PHC physicians at Jeddah city which demonstrated that the highest cause of job dissatisfaction and stress was the insufficiency of medical equipment and materials (**Mutbouly, 1998**). The MOH needs to be concerned with the provision of adequate medical equipment and materials for the PHC centres. This will enhance job satisfaction of PHC professionals, optimize medical practice arrangement, and increase user confidence in the PHC centres. **El-Shabrawy (1992)**, for instance, found that 16.7% of PHC users lost confidence in the PHC centre due to bad experiences.

The next most frequent mentioned criterion was deficiencies of essential medications. This was stated by 76 PHC providers (22% of respondents). This is an interesting issue, because the deficiency of drugs was also a main concern of PHC consumers. **Haddad, et al (1998a)** and **Keramat, et al (1991)** concluded that the availability of drugs is known to be of prime importance to users of PHC services in developing countries and is among the main reasons for resorting to private care. When PHC providers pay great attention to the provision of medication and make it an important criterion to judge quality of services, this might reflect two important issues: either the pharmacies of PHC centres are suffering from marked deficiencies of medicines, or it reflects their interest in prescribing more variety of medicines than have been determined as essential PHC medicines. The first view is limited by the word "essential", if PHC pharmacies are failing to supply those essential PHC medicines, then the quality of PHC centres would be in danger. The second view of the Saudi PHC providers (mainly physicians) is congruous with what was indicated regarding their attitude to providing curative services more than preventive services. **Banoub (1982)** addressed this issue in his evaluation of Saudi PHC centres. He reported that the services provided are mostly curative and mainly treat sick people visiting the units, and they are mostly provided through a rapid examination leading to a provisional clinical impression for which drugs are prescribed mainly as tonics, antibiotics, and analgesics. Health Promotion and preventive services are minimal.

The third most frequent criterion was the shortage of health care professionals (doctors, nurses, and others). This was expected, because providers are more sensitive to

the shortage of staff, which might highly affect their performance and job satisfaction (**Mutbouly, 1998**). As mentioned earlier, deficiencies in the numbers of Saudi health professionals is a great problem in Saudi Arabia and the poor human resource system is compounding the problem. In order to fill that gap, health care expatriates are hired continuously. However, there is an association with language barrier and other cultural differences with dissatisfaction (**Ali and Mahmoud, 1993; Bakhshwain, 1995; Al-Faris et al. 1996**). So this hiring of expatriates should be a temporally solution only and hopefully, in future, PHC centres will be staffed completely by Saudis. This is an important issue since satisfaction tends to be associated with the social relationships between PHC staff and their clients (**Ross, et al., 1982**).

The study shows that the most three frequent criteria indicative of poor quality of service mentioned by the PHC consumers (N=907) were as follows:

1. Providers show no courtesy and have bad manners and attitude when dealing with customers (21%).
2. Unavailability or deficiencies of dental clinic services (16.7%)
3. Deficiencies of essential medications (15.7%).

"Providers show no courtesy and have bad manners and attitude when dealing with customers" was the most frequently mentioned criterion stated by 190 PHC consumers out of 907 (21%). This result was expected, given the findings of previous work by this researcher which found that the most important expected quality service among the Saudi PHC clients is good interpersonal client/doctor communication (**Bargawi, 2001**). The finding demonstrated the continued importance of the more diffuse social and psychological aspects of PHC to the consumer. This result is consistent with other findings (**Avis, et al., 1995; Andrzejewski and Laguna, 1997; and Bertakis, et al., 1991**).

In contrast to health care providers, it has been suggested that patients may assess the quality of health care services by their impressions of level of caring, professionalism, and competence displayed by the staff (**Guillory-Dunbar, 1994**). Impressions of caring are formed through interactions that reflect warmth, sensitivity, comfort, and compassion. Impressions of professionalism are formed when the patient perceives providers exhibit integrity in prescribing and administering treatment. Finally,

impressions of competence are formed when providers appear to be skilled, accomplished, and capable. Patients rely on cues such as whether the services were provided in an organized fashion, with sufficient attention to particulars. Perception of high quality, then, is influenced by a combination of experiences (**Lin and Vassar, 1996**).

However, studies examining patient priorities for care have varied considerably in the aspects of care that were addressed. Typical domains included in satisfaction instruments are humaneness (warmth, respect, interpersonal skill, willingness to listen), informativeness (explanations of procedures), overall quality (including time with providers), competence (technical performance), availability/accessibility (convenience, hours, waiting time), and facilities (aesthetics, parking, adequacy of equipment) (**Hall and Dornan, 1988a**). These domains rank high among topics that patients nominate as their highest priorities for care

What was interesting in this issue is that, while some Saudi studies found that poor PHC client/providers communication was an important factor causing dissatisfaction amongst PHC clients (**Al-Doghaither and Saeed, 2000; and Al-Dawood and Elzubair 1996; Ali and Mahmoud, 1993**), other Saudi studies found that the highest mean satisfaction score was related to humaneness of the PHC providers and their way of receiving the attendees (**Makhdoom, et al., 1997; and Mansour and AL-Osimy, 1993**). Given that these studies were conducted in different settings and at different times, this conflict may reflect the real differential attitude and courtesy of providers from one setting to another and from one time to another. It is also possible that the PHC consumers might have avoided criticism of the staff for one reason or another. This could be especially true if given that the studies, which showed the high satisfaction rate with staff, used an interview method for data collection.

There is evidence that users of general practice rate the doctor's interpersonal skills (capability) more highly than other practice issues (capacity) (**Greco, et. al., 2001**). **Gabbott and Hogg (1994)** indicated that satisfaction was significantly higher if physicians were friendly and the patient's expectations about treatment and information were fulfilled. To a large extent, health care personnel are judged by the manner in which they receive and communicate with their clients. According to most people, the

good doctor is someone who receives you very well, listens and looks at you carefully, greets you, explains and illustrates the health problems and the methods of treatment, is very happy with you, and does not neglect or rush you. Related research indicates that patients are more strongly influenced by interpersonal/functional factors rather than technical factors (**Koenig and Kleinsorge, 1994**). The problem of lack of humanity and poor listening to patients needs to be corrected. The majority of Saudi patients believe that listening carefully to patients' complaints is an important characteristic of ideal physicians (**Al-Faris, et al., 1996**). Studies have confirmed that physicians can enhance satisfaction by allowing sufficient time for exchange, with more understandable explanation and information (**Daniel, et al., 1999; Gross, et al., 1998; Young, et al., 1998; Sixma, et al., 1998; and Whitworth, et al., 1999**)

In addition, PHC services are strongly associated with preventive activities such as health habit counselling which involves discussion of diet, exercise, and more sensitive issues. Good communication between patient and physician may facilitate delivery of these particular services (**Flocke, et al., 1998**). Moreover, some have suggested that poor interpersonal communication between the patient and physician may be the most important barrier to preventive service delivery (**Pommerenke, Dietrich 1992**). Giving that, Saudi people are in great need for such preventive services (health education and counselling), good manners and courtesy are very important skills that PHC providers need to acquire successfully and incorporate into their practice.

The second most frequently mentioned criterion was "Unavailability or deficiencies of dental clinic services". This was mentioned by 152 out of 907 PHC consumers (16.7%). Saudi health authorities should pay attention to this result: it raises a challenging issue. Although the PHC centres provide dental clinics, these clinics are usually running with marked shortages of equipment and staff. PHC consumers are expecting enough dental appointments to be provided by the PHC centres and there needs to be an increase in the number of dentists and equipment to cope with the large number of adults and children who are complaining of dental problems.

According to WHO/FDI global goals for oral health, by the year 2000, 50% of children at the age of 5-6 years should be free of dental caries, and no more than three decayed, missing or filled teeth at the age of 21 years should be present (**WHO, 1984**).

Unfortunately, Saudi oral health care is presently far from achieving that goal. Dental caries prevalence among Saudi children falls into the category of high caries level. The studies conducted in different regions of Saudi Arabia revealed high prevalence of caries among pre-school children in Jeddah (73%) **Al-Malik, et al (2002)**; in Al-Hasa region (62.7%) **Wyne, et al (2002a)**, and among schoolchildren in Riyadh (94.4%) **Wyne et al (2002b)**, in Abha region (85.4%) **Abolfotouth, et al (2000)**. Accordingly, provision of adequate oral health services - not only curative but also preventive - is highly necessary in Saudi PHC centres and they are a valuable quality indicator for PHC services.

Again, deficiencies of essential medications were stated by 15.7% of PHC consumers as an important quality criterion. This agreement between the PHC providers and consumers about the important of this aspect indicates it has a crucial impact on the quality of PHC services. It seems that the existing deficiencies of medications are alarming PHC providers and consumers. Previous studies reported that problems faced by patients attending PHC centres included insufficient drug supply, inadequate and delayed laboratory and radiology services (**Al-Faris, et al., 1996; and Al-Doghathiare and Saeed, 2000**). Furthermore, **Bargawi (2001)** pointed out that availability of all prescribed medications in the pharmacy at the PHC centre is an important expected service that has higher priority for the Saudi PHC clients. However, people are sometimes not aware of the objectives and limits of PHC services, which are not identical to secondary (hospital) services. There are separate policies governing the type of medications to be offered in PHC.

Operationally, distinguishing providers' perceptions of quality from consumers' perceptions of quality will undoubtedly prove important if TQM strategies are to be successfully employed in health services organizations (**Brown and Swartz, 1989; Counte, et al., 1992**). **Brown and Swartz (1989)** provide an initial step in this direction by suggesting that the number of gaps implicit in measuring the differences between the providers versus the consumers of health care may not be the same as other services industries. Certainly, more research is warranted relative to these important issues.

Very few studies have compared PHC providers' and consumers' priorities and evaluations of general practice care (Vedsted , 2002; Jung, et al., 2002; Rashid, et al., 1989 and Jung, et al., 1997), even if such knowledge is crucial to the organization of PHC. Moreover, the ability to respond favourably to health care consumers' expectations and priorities requires knowledge of where these priorities match or clash with those of the providers. Accordingly, the researcher attempted to draw out some significant indicators from this comparison.

A comparison of the ranking order showed that there are differences and only weak correlations between the PHC providers and consumers in perceiving the importance of the criteria that determine poor service quality. This result is consistent with Stevenson, et al (2003) and Dun (1990) but inconsistent with other studies (Vedsted, et al., 2002; Jung, et al., 2002; Jung, et al., 1997). Those studies concluded that patient and GP priorities for primary care were highly correlated. In contrast, this study indicates that there are large and controversial areas of difference between the two groups. The criterion "deficiencies of medical equipment and materials" was ranked number 1 by the providers, whereas, given number 6 by the consumers. On other hand, the criterion "providers show no courtesy and have bad manners when dealing with consumers" was ranked number 1 by the consumers, whereas, given number 20 by the providers. This result indicates there are differences in the area of interest and concerned between the two groups. Generally, providers usually are concerned about the technical aspects of care, whereas consumers concerned about the interpersonal aspect of care. These differences should be acknowledged when organizing and developing CQI programmes.

A cause for concern is that there were six criteria that PHC providers stated they would use to judge the quality of services that are far being the concerns of PHC consumers concerned. Some are not mentioned at all by the consumers. These criteria were: uncooperativeness of customers and didn't show respect to the providers; poor maintenance of services; deficiencies and ineffectiveness of health education activities; poor medical record system; insufficient time for medical consultation; and poor community participation. Most of these criteria were technical services. This supports the idea of the "technocratic" perspective of health care professions (Boland, 1989). Providers are usually concerned with their professional standards. They conceptualized

the quality of service by the degree to which the service matches these standards. Deficiencies and ineffectiveness of health education activities; poor medical record system; insufficient time for medical consultation; and poor community participation, are indicated as missing or deficient among expected PHC services, when matched against ideal PHC standards. This result supports **Haddad, et al, (1998a)** who suggested that health care providers rely on a normative definition of quality: services are judged to be of good quality as soon as they reach defined standards.

In contrast, there were some criteria that were stated by PHC consumers but not mentioned at all by the providers. These were: long waiting time; frequent absenteeism of the PHC employees and staff taking hours leave; unavailability of adequate and suitable waiting areas; unavailability of enough dental appointments or delay; poor referral system; unavailability of dermatologists.

One ultimate goal of this study is to bridge the gap between the providers and the consumers and these findings spotlights this gap. So, it is crucial for PHC providers to be familiar with consumer criteria, which are usually either underestimated or hidden. We should question whether it is acceptable for providers to be ignorant of consumer criteria such as long waiting times, when it is among the most common complaints of the Saudi PHC consumers (**Ali and Mahmoud, 1993; Monsour and AL-Osimy, 1993; Al- Qatari and Haran, 1999**). Waiting time is a determinant of the utilization of PHCs (**Saeed, et al., 1992; Bakhawain 1995**). Providers may be excused for not mentioning 'the frequent absenteeism of the PHC employees and taking hours leave'. Although this criterion was not identified in previous studies, it is very important to highlight. It reflects the providers' level of reliability and credibility, which are essential quality attributes.

In addition, Saudi authorities should be more aware of consumer criteria and their importance in drawing attention to providing effective PHC service. They should not just be concerned with opening new centres and searching for cost containment. The acceptance and agreement of the consumers is a very important factor for achieving successful implementation of any new plans. Although, it is well known that there are different concerns and expectations between the suppliers and the receivers of services, ignoring consumers' inputs is a familiar behaviour of the health decision makers. Within this framework, **Haigh-Smith and Armstrong (1989)** conducted a very interesting

study, where they asked patients to rank a list of quality criteria according to its importance. The list was a group of criteria originated by both patients and the decision makers. The result showed that the three criteria most highly ranked by all patients were the criteria that were originated by patients. The government originated the three least highly valued criteria.

The researcher would like to highlight an important point, which could enhance bridging the gap between the providers and consumers. It is not enough to provide such information (judgment criteria) to only the PHC providers and the higher authorities, it is crucial to make this information available for the lay people (PHC consumers). They need to be aware of how providers think and what their main concerns are. By doing this, the different perspectives could be appreciated by everyone concerned and the existing gaps between the two groups might be reduced. It is a common practice that the Saudi researchers (especially health care researchers) tend to limit dissemination of their results to health professionals. Although lay people may be the only respondents in studies intended to improve current services, they are not usually provided with the results of such studies. Usually those studies are written in the English language and published in professional journals, while a majority of the Saudi population do not have any command of the English language or have access to medical journals. Accordingly, the researcher suggests results need to be made accessible if they are to have any impact on lay people, and they should be made available in Arabic. The accessibility of the researches' results could be enhanced through activating several channels of distribution such as popular mass media or publishing them in a form which could be distributed through PHC centres.

It is interesting to highlight that both groups considered the aspect of effective communication and mutual respect between them as important criteria against which to judge the quality of services provided. However, their views of respect were different to some extent. PHC providers claimed respect from their consumers would mean that they would be cooperative, follow their orders, comply with treatment regimes, and treat them with dignity. PHC consumers, on the other hand, wanted providers to understand them, show good manners, gentility and politeness, and to treat them with modesty. So, it seems that the felt 'superiority' of providers does not satisfy consumers and any assertiveness of consumers does not satisfy providers. Therefore, it is very

crucial to meet both providers and consumers' expectations, which are particularly important in building relationships and trust between them.

Several studies (**Sanchez-Menegay and Stalder, 1994; Laine, et al., 1996; Roter, et al., 1997**) have clearly shown that doctors and patients have different views on what makes good and effective communication. These differences influence the quality of interactions between providers and consumers, as well as compliance, patient education, and health outcomes. Within this context, the researcher agreed with **Sherdon (1988)** when concluding that service quality is the personal relationship between a customer and the particular employee that the customer happens to be dealing with.

Health providers' communication styles and behaviours have been shown to have a significant impact on the quality and quantity of information received, patient satisfaction, and physiological outcomes (**Leopold, et al., 1996**). Satisfaction with health care increased as physicians used an affiliation style of communication and decreased as physicians used a more controlling communication style (**Buller and Buller, 1987**), patient activation style, counselling style and preventive service style (**Bertakis, et al., 1991**). Those styles were found to be significantly associated with improvement of health status (**Bertakis, et al., 1998**). Accordingly, the PHC provider in Saudi Arabia must consider and be trained in communication styles: this should facilitate building the trusting relationship that is needed.

Identification of the criteria, which are used to judge the poor quality of PHC services, provides important data and contributes new knowledge for assessing the quality of the PHC services in Saudi Arabia. It is not just a dissatisfaction list; it is beyond the short-term expectations and the affective emotional judgements, which are usually identified by the satisfaction surveys. It highlighted some of the poor structural factors, process and outcome of the services, which tend to be ignored by PHC authorities. Meeting the criteria positively will be a challenging task, but it is required in order to enhance the level of PHC services.

5.6. OBJECTIVE 6: To correlate the general satisfactory level of the PHC quality services with the selected sociodemographic categories.

This objective raises this question:

- Do some selected sociodemographic categories significantly influence the general level of satisfaction with the quality of the PHC services?

The general satisfaction level was identified by asking one rating responses question: are you generally satisfied with the quality of PHC centre services? The responses were graded on five levels (1= Not satisfied at all, 2= Not satisfied, 3= Neutral, 4= Satisfied, 5= Very satisfied). It is rather surprising that general satisfaction with the quality of the PHC services as perceived by both PHC providers and consumers scored a rating of 70.2 % (weighted mean=3.51 points out of 5). This is contrary to the usual belief that Jeddah's population are not satisfied with the quality of the PHC services provided.

As mentioned earlier, all the previous Saudi studies that are concerning about the satisfaction with the PHC services in Saudi Arabia were intended to measure the level of satisfaction toward the PHC service and this study was uniquely intended to test the respondents' opinion toward the quality of this service. But the result was unexpected by the researcher, where she assumed that when asking people "are you satisfied with the service?" they might answer differently than when they have been asked, "are you satisfied with the *quality* of the service". This assumption was supported by several researchers such as **Calnan (1998)** who argued that patients' evaluation of quality of care is not necessarily expressed in terms of satisfaction, and **Cleary (1998)** who concluded that measurement of satisfaction does not necessarily reflect the perception that patients have of quality of care. The satisfaction score toward the quality of service which was obtained in this study is consistent with the satisfaction score toward the service provided which was obtained by a previous study conducted in Jeddah city, **Al-Doghaither and Saeed (2000)** found that the overall consumers' satisfaction with services among four PHC centres was 75%. And it is also within the range reported in previous studies conducted in other Saudi cities where satisfaction rates varied from moderate to relatively high (ranging from 60% to 90%). The literature review of the client satisfaction with the PHC services in Saudi Arabia indicated that the overall satisfaction rates vary: 60% (**Ali, and Mahmoud 1993**), 63.3% (**Monsour and AL-**

Osimy, 1993), 75.2% (AL-Doghaither and Saeed, 2000), 75.4% (Saeed et al., 2001), 79% Al- Qatari and Haran, 1999), and 80% (Saeed et al., 1992), 90% (Makhdoom, et al., 1996), and 90% (Al-Faris, et al., 1996). This variation in satisfaction rates may be genuine or may be due to differences in populations studied, methodologies or sampling procedures used. In addition, these satisfaction scores are comparable to similar studies conducted in other Gulf countries (the United Arab Emirates, Qatar, and Kuwait) where overall satisfaction rates were estimated to be 81%, 60%, and 62% respectively (Harrison, 1996; AbdAl-kareem, et al., 1996; and Al-Doghaither, et al., 2001). But they are a little lower than the reported findings of many worldwide studies, which ranged from 75% to 97% (Kurata-Nagawa, et al., 1992; Gonzales, et al., 1998; Calnan, et al., 1994). The variations in the satisfaction rates in these studies may be genuine or may be due to sampling procedures used or could be something wrong with the idea of measuring 'satisfaction' which, as have been indicated earlier, is rather a problematic concept.

On other hand, this result is supported in the literature, where there is a positive relationship between service quality and patient satisfaction (Sorensen, et al., 1979; Houston and Pasanen, 1972). Since a majority of PHC services were judged as having "very good quality" rather than "excellent", and the numbers responding saying they were "satisfied with the quality of PHC services" rather than "very satisfied" are clearly indicative of the standing of Saudi PHC services. Saudi authorities need to step up PHC services so they exceed expectations and contribute to community health improvement.

Although the general satisfaction with the quality of PHC services was perceived by PHC providers and consumers (as one group) as "satisfied" (70.2%), there was some difference between the PHC providers and consumers (as two groups) in the degree they perceived this satisfaction. The result indicated that PHC providers were less satisfied with the PHC services than the PHC consumers were. The general satisfaction rate as perceived by the PHC providers and consumers were 68.6% (weighted mean=3.43) and 70.6% (weighted mean=3.53), respectively. This result was congruent with a study conducted in the UK that found GPs to be less satisfied than their patients (Rashid et al., 1989). This may reflect their greater knowledge of when they fail to meet their own ideal standard. Mutbouly (1998) measured the job satisfaction among the PHC physicians at Jeddah city; the result showed their job satisfaction was low (60%). The

comparison of consumers and providers views of the clinical encounter has considerable intuitive appeal as a means of indicating where patient satisfaction might be raised.

The sociodemographic characteristics that were selected for this study were gender, age, nationality, and education. While sociodemographic variables have been studied on numerous occasions, a consistent picture of their effect on patient satisfaction has not emerged. According to **Weiss (1988)** this may be because studies have varied widely in the nature of the sample studied, the specific package of background characteristics examined, and whether a singular global item or multi-item scale was used to measure patient satisfaction. **Like and Zyzanski (1987)** suggest that these conflicting results may be accounted for by: (1) whether patients are being asked about a specific clinical encounter, their own doctors, or doctors in general; (2) whether patients are asked when they are actively seeking health care as opposed to when they are healthy and not seeking care; and (3) whether the data is gathered by interview or questionnaire. Regardless of these variations in the methods used, a number of consistent findings can be identified in the literatures that relate the socio-demographic characteristics (mostly gender, age and education) of the patients to their level of satisfaction with the health care provided.

5.6.1 Gender

The result of the study showed almost two third (63.7%) of the respondents were female, while males constituted only 36.3% of the respondents. This result is consistent with some of the results of previous studies conducted on the PHC centres in Saudi Arabia, where they showed that female participants usually outnumbered male participants (**Al-Omer, 2000; Al-Qatari and Haran, 1999; Makhdoom, et al., 1997; Al-Shammari, et al., 1996; Al-Faris, et al., 1996; Al-Faris, et al., 1994**). This could be explained by the fact that the female PHC consumers are more in number than the males, they constitute about 63% of the total PHC consumers³. This fact was also reported internationally. Studies of women's health care utilization patterns in United States of America show that women are a majority of health care consumers, make about 60% of outpatient visits, and use a wider array of primary care providers (**Scholle, et al., 2000; and Bartman and Weiss, 1993**). On other hand, this result could be

³ Source: MOH, Jeddah's PHC Administration (2003)

explained by the greater willingness of women to participate in the research than the men. Or it could be explained by a possible distribution bias, where, the female medical staff were more active in performing the distribution task than the male medical staff (the PHC centres are separate into two sections one is serving the men and staffing with mainly men personnel, while the other section is serving the women and mainly staffing with women staff).

Some data suggest that there may be important differences in how women and men evaluate health care. A study of gender differences in the predictors of patients' overall satisfaction with their PHC physicians in one managed care plan found that the direction of effects for most independent variables were similar for women and men but that effect sizes differed by genders (**Kolodinsky, 1997**). The current study's result shows that there were significant differences between the males and the females in perceiving the level of general satisfaction with the quality of PHC services. Females were more satisfied than males. This could be related to the possibility that Saudi women are less demanding than men. Some studies support this finding where they identified women as being slightly more satisfied than men with medical care received (**DiMatteo and Hays, 1980; Zastowny, et al., 1983; Patrick, et al., 1983**). In contrast, some studies found that women were less satisfied than men (**Biderman, et al., 1994; and Al-Dawood**) and they were more critical of PHC services than men (**Khayat and Salter, 1994**).

However, most previous studies have found that satisfaction is unrelated to the patient's gender, in Saudi Studies (**Al-Dogaither and Saeed, 2000; Makhdoom, et al., 1997; and Al-Qatari and Haran, 1999**), and in other countries (**Greenley and Schoenherr, 1981; Krol and Nordlund, 1983; Pope 1978; and Weiss, 1988**). As a conclusion, the existing literature contains conflicting reports regarding the relationship between gender and satisfaction with health care. In a meta-analysis of 110 studies of satisfaction with inpatient and outpatient care, **Hall and Dornan (1990)** concluded that there is no average difference in satisfaction with medical care (both inpatient and outpatient) between men and women.

5.6.2 Age

The middle age (30 - < 40 years) was the largest group among the age categories among the providers (47.4%), while younger age categories (20 - <30 years) was the largest group among the consumers (37.8%). Other categories constituted only small proportions (ranging between 14% and 0.6%) among both groups. In comparison with the age percentages found in previous studies in Saudi Arabia, where the majority of respondents' age were ranging between 15 - <30 years (**Al-Doghaither et al., 2001; Saeed, et al.2001; Al-Faris, et al., 1996**), this result was in line with expectations.

While, it is generally reported that older patients tend to be more satisfied with health care than their younger counterparts, the result of the current study indicated that there were no significant differences between the age groups in perceiving the level of general satisfaction with the quality of the PHC services. Although many studies performed in the last decade have found no relationship between age and patient satisfaction (**Al-Doghaither et al., 2001; Doyle and Ware, 1977; Romm and Hulka, 1979; and Krol and Nordlund, 1983**), other studies have. Typically, these studies have reported that older patients express more satisfaction with medical care received (**Ware, et al., 1978; Pope, 1978; DiMatteo and Hays, 1980; Haddad, et a., 2000; Williams and Calnan, 1991a; Sitzia and Wood, 1997; Hall and Dornan, 1988b; Locker and Dunt, 1978; Kinnersley, et al., 1996; and Pascoe 1983**). However, it is not clear whether this association represents a difference between generations or whether individuals per se become more satisfied as they grow older. **DiMatteo and Hays (1980)** speculate that physicians may feel a greater sense of urgency in treating older patients and actually provide them with better care. Alternatively, the older patients simply may view physicians more favourably or that the older generation may have a greater degree of deference and respect for the medical profession as a whole, although this may be “strategic” in that they use the professional medical care more often than their younger counterparts. In addition, **Al-Doghaither et al (2001)** suggested that the older subjects are generally more conservative and less demanding than the younger subjects. While, **Al-Qatari and Haran (1999)** argued that the higher satisfaction of older people seems to be particularly true in relation to communication and attitude of health care staff but less true in terms of access to care and outcomes of care.

5.6.3. Nationality

The result shows that Saudis constitute the majority of the respondents with percentage of 80.2% whereas, non-Saudi constituted only 19.8%. The influence of nationality on the consumers' satisfaction with PHC services was not found as an aspect of study among the worldwide literature reviewed, but it seems to be a significant aspect for study in Saudi Arabia. Interestingly, its association with satisfaction has reported different findings. While, **Al-Osaimy (1994)** and **Al-Qatari and Haran (1999)** found no significant difference between Saudis and non- Saudis in perceiving their level of satisfaction with the PHC services, another study which treated the use of the PHC centre as a proxy for satisfaction, showed that nationality was associated with satisfaction and utilization of the PHC centre (**Saeed, et al. 1992**). The current study showed that non-Saudis were more satisfied with the quality of PHC services than Saudis. This may reflect the two main reasons. First the non-Saudis may be more appreciative of their free access to the Saudi PHC services, so this may prevent them expressing any negative comments about the quality of services provided. A second reason could be that non-Saudis, which usually come from poor neighbouring countries (such as Yamen, Sudan, Egypt and Syria), are usually comparing the lower level of PHC services in their countries and the relatively higher quality level of services in Saudi Arabia.

5.6.4. Education

More than half of the respondents (55.1%) had only secondary/preparatory education, and only (32.5%) had university / postgraduate education, while, a small proportion (12.4%) have elementary education or less. This result is consistent with previous studies, where it was found that more than 50% of the target population (the PHC consumers) had an intermediate level of education (secondary/ preparatory) (**Al-Faris et al., 1996; Al-Doghaither, and Saeed, 2000; Saeed, et al., 2001; Saeed, et al., 1992; Al-Omar, 2000; Al-Omar and Bin Saeed, 1999**). However, the high proportion of the less educated PHC consumers in this study is not consistent with those found in western counties, where less educated adults have fewer outpatient visits. For example, children with parents with less than a high school education have 30% fewer outpatients visits than do those with parents with a college education and are significantly more likely not to be seen at all (**Fiscella, et al., 1998**).

Research relating patient's educational background and satisfaction also produced inconsistent findings. Most studies have reported that educational attainment does not influence satisfaction (**Romm and Hulka, 1979; Greenley and Schoenherr, 1981; Krol and Nordlund, 1983; and Breslau and Mortimer, 1981**), while some studies have reported that educational attainment and patient satisfaction are positively related (**Hulka et. al., 1971; Zastowny et al. 1983**).

Some studies (such as **Ware, et al., 1978**) suggest that less educated persons tended to be less satisfied with the conduct of health care providers. **Fiscella (2002)** found that less educated patients had similar overall visit satisfaction, but were slightly less likely to have their expectations met. In a meta-analysis of 41 small studies in which physician behaviour was objectively assessed, **Hall et al (1988a)** reported that physicians provided slightly less information to less educated patients. Similarly, **Waitzkin (1985)** found that physicians spent slightly less time per visit and provided fewer multilevel explanations to lower socio-economic patients. **Fiscella (2002)** reported that with less educated patients, physicians spent a slightly higher percent of the visit time on history taking, assessing patients' health knowledge, and negotiation, and a lower percent of the visit on physical examination.

However, other studies found that dissatisfactions tend to be expressed by the better-educated (**Lewis, 1994; and Chaska, et al., 1980**). The current study supports this result: it was found that the lower educated group (elementary education) were more satisfied with the services than the higher educated group (university or postgraduates). Similarly Saudi studies **Makhdoom, et al., 1997; and Al-Qatari and Haran, 1999**) have found satisfaction to be lower among the more highly educated (more educated = less satisfied). The educational level of the consumers should not affect the provision of quality health service. The Components of Primary Care Index emphasizes important aspects of the doctor-patient relationship (**Flocke, 1997**), and the lack of differences between educated and less educated patients indicates that the important relationship context of care does not differ by education.

5.6.5. Duration:

Relatively large proportions (more than 40%) of the respondents were working at the PHC or using its services for five years and more. It was estimated that the

familiarity with the services could be an influencing factor in changing the users' expectations, satisfactions, and opinions about the quality of health services. **Bargawi (2001)** found that people who are visiting the PHC centre occasionally or less than once per three months expected much more service than the other; the author related this to the assumption of that people who visit less do not have enough information about the centre's strengths and weakness, its limitations and opportunities. **Weiss (1988)** showed that being a regular user is a predisposing factor for satisfaction; he suggested that this is probably due to familiarity with the personnel and the setting in the centre, as well as the fact that regularity reflects an ongoing relationship with personnel in the health facility. In supporting this view, **Greco, et al (2001)** reported that lower scores have been detected for patients who attended the practice for the first time than for the regular patients and for those who patients who had attended the practice for less than two years than for other long attending patients.

However, in the current study it was found that the duration of using the PHC services did not make any difference in perceiving general satisfaction with the quality of the services. This result is consistent with **Khayat and Salter (1994)**, who found that patient opinions are not affected by familiarity with service.

In conclusion, previous studies have shown no consistent picture of the effect of socio-demographic characteristics on satisfaction, and that satisfaction is multi-factorial with only a limited proportion of the variance of satisfaction that can be explained by individual characteristics. Although the current study revealed that some socio-demographic characteristics (gender, education and nationality) were significantly associated with the perception of satisfaction, generally, the researcher concurs with **Weiss (1988)** who concluded that factors other than socio-demographic characteristics are keys in influencing level of general satisfaction.

It is clearly desirable to increase the involvement of PHC consumers in health service research in Saudi Arabia, and specifically in quality initiatives researches. A more participative form of service evaluation avoids treating consumer' experiences as objects for quantification and, more importantly, can lead to improvements in care which are grounded in consumers' expressed values and aspirations rather than those of the managers, clinicians, policymakers or researchers.

Finally, the researcher believes that the result of this study should be shared with the people who plan and manage the PHC service in Saudi Arabia. As stated earlier, authorities in Saudi Arabia are concerned to raise the standards of the PHC services, continuously searching for appropriate application of quality improvement activities, and consequently trying to satisfy both the PHC providers and consumers. Limited documented information has prevented the challenge being met fully and there is still some way to go toward reaching the desired outcomes regarding designing and applying an effective PHC Continuous Quality Improvement (CQI) program. Assessment of the structure of the PHC centres which was perceived as the most important aspect and identifying their weakness points will guide the PHC decision makers to provide more appropriate PHC centres. Identifying what PHC attributes are important from the viewpoint of both PHC providers and consumers could help the CQI to prioritise their intervention. Determining the level of the quality of PHC services according to the opinions of both PHC providers and consumers could encourage the PHC decision makers to take practical action toward the improvement. Knowledge about the criteria PHC consumers and providers used to judge whether quality is poor could inspire the PHC decision makers to detect some hidden poor practice and make effort to mend the weakness. There are a number of policy implications arising from the current study's findings. First, policy formulations must focus on a collaborative multidisciplinary approach to the delivery of PHC. Second, PHC administration needs more empirical evidence linking providers' perceptions of diminished quality of care to consumers' perceptions prior to the formulation and implementation of any health policies directed at this issue. Therefore, continuous surveillance of consumers' and providers' perceptions is imperative in order to explore the potential linkage of professional practice to patients' outcomes. Third, it could be argued that as consumers become more well-informed about the standards of PHC services, more direct questions should be posed related to their perceived level of satisfaction with the quality of both service and clinical care (e.g. received the correct medication, correct diagnosis and/ or treatment). Thus, the researcher is planning to communicate the study's results to the PHC authorities through making the copy of the thesis available to them, arranging of thesis's presentation that would be attended by group of Jeddah PHC decision makers, participating in the annual Saudi PHC symposium and presenting the thesis results as a scientific paper, and finally through voluntary participation on the CQI committee of the nursing services.

CHAPTER VI

CONCLUSION

6. CONCLUSION

Achieving and sustaining a reputation for quality and continuous improvement are both ethical and business necessities in our present health care environment (**Leebov and Ersoz, 1991**). In order to achieve a universally agreed definition of quality and its operational equivalents for measurement purposes, one must look at the entire context, including the structure in which care is rendered, the processes within which health providers perform the care, and the outcomes.

MOH PHC centres in Saudi Arabia provide their services free of charge. These services are playing a major role in influencing the health status of Saudi and non-Saudi population. Thus, paying attention to the quality services of those centres is an important issue and should be put at the top of the MOH action plan. There is general consensus among public authorities in the Kingdom of Saudi Arabia, including PHC professionals, supervisors, administrators, that quality assurance is already included in the PHC program and the Kingdom has endorsed that quality assurance since 1983. However, the SCQA PHC quality assurance manual drew attention to a very important issue - that informal arrangements and theoretical planning to assure the quality of services cannot alone be considered sufficient. Quality assurance should be implemented through a well-defined, well-established, continuous and non-biased system. That system should be subjected to continuous revision and reorientation in the way that all inherent and potential problems should be eliminated, all threats and challenges should be overcome and all strengths and opportunities which facilitate the achievement of PHC goals and objectives should be grasped.

The value of this research lies in the pioneering nature of the study, which adopted a unique approach in surveying both the PHC providers and consumers. It did not aim to evaluate the quality of the Saudi PHC centres and judge their quality, but rather aimed to identify the attributes and dimensions, which define the quality of PHC services, determine what criteria used to measure the quality of PHC services, and explore opinions about the quality of PHC services. This should serve as the basis for further in-depth studies to collect data for planning action in Saudi PHC services. Although the study was exploratory and limited to a numbers of PHC centres in one Saudi city, this study provides valuable indicators about the changes that should be made to promote the quality of PHC services in Saudi Arabia.

What was previously known about this topic in Saudi Arabia?

- . The Continuous Quality Improvement (CQI) effort of PHC in Saudi Arabia is conceptualized using Donabedian's theoretical model.
- Saudi lay people are not well-oriented to the capabilities and limitations of PHC services, and they tend to by-pass PHC services and go directly to the secondary care of hospitals.
- The PHC services are heavily focused on providing curative services, with over 90% of its activities directed towards individual patient care.
- The majority of PHC centres in Saudi Arabia (either in urban or rural areas) are not provided with adequate facilities and manpower to support their activities.
- Research and evaluation of PHC services have addressed user satisfaction rather than patients' opinions regarding quality of care.
- PHC clients' satisfaction rates in Saudi Arabia vary from moderate to relatively high (ranging from 60% to 90%) whereas satisfaction rates among PHC physicians are lower (not more than 60%).
- PHC services are provided by staff with insufficient knowledge of and negative attitudes toward the PHC concept, and they are serving consumers who generally have a high level of expectations, demanding extra or better PHC services.
- Some studies reported that the respondents faced certain difficulties with the MOH PHC facilities and these difficulties influence their attitudes towards the PHC approach in general. Complaints included slowness in the provision of services, long waiting times before being seen by a doctor, unhelpfulness among receptionists, problems with communication, a feeling that many doctors ignored patient's feelings and a shortage of the equipment at the PHC centres.
- Some Saudi studies found that poor PHC consumer/provider communication was an important factor in dissatisfaction amongst PHC clients, while other studies found that the highest mean satisfaction score was related to humaneness of the PHC providers.
- Socio-demographic factors played only a minor role in deciding the extent of satisfaction among Saudi PHC consumers.

What this study adds

- PHC providers and consumers in Saudi Arabia perceived four aspects of quality (structure, technical process, interpersonal process, and outcomes) as very important, and they perceived structural aspect as having greater importance than the others.
- The SERVQUAL attributes could be used to define and measure PHC service quality. However, additional attributes may be needed to capture completely the definition of PHC quality.
- Although the MOH PHC centres are suffering from insufficiency of supplies and resources and the consumers are just moderately satisfied with their services, the utilization rate of the PHC centres in Saudi Arabia is high (average 162 visits per day).
- The three most important PHC attributes are tangible, preventive services and staffing and manpower, while the least important attribute is community participation.
- Tangible, Accessibility, Staffing and Manpower, Range of services, Administration and Management, and Team Work criteria, were perceived as more important by the providers than by the consumers. Whereas, the Time Factor, Continuity and Follow-up, were perceived as more important by consumers.
- The vaccination service is judged by both PHC providers and consumers as an "Excellent" service, whereas, Community participation, Environmental health and Radiology service were judged as "satisfactory" services. While the remaining 12 services were judged as "good" services.
- PHC providers and consumers were moderately 'satisfied' with the level of quality in the PHC services and scored it around 70%.
- PHC providers were less satisfied with the PHC services than the PHC consumers. The general satisfaction rate as perceived by the PHC providers and PHC consumers were 68.6% and 70.6%, respectively.
- "Deficiencies of medical equipment and materials" was the most frequent criteria against which the PHC providers judged the existence of poor quality; whereas, "provider show no courtesy and bad manners when dealing with consumers" was

the most frequent criteria that PHC consumers would use to judge the existence of poor quality.

This research has sought to answer six questions, stated earlier but stated again here with a summary of how they have been answered:

6.1. What are the physical conditions of the Saudi PHC centres?

The structural assessment that was included in this assessment was limited to the physical structure of the buildings, the population served attendance rate and staffing issues. These partial assessments could not provide an account of the whole structural picture of the PHC service in Saudi Arabia. However, this result provides a general picture of the Saudi PHC structural elements and highlighted some crucial deficits that require radical improvement. In-depth assessment or research would be needed to determine all strengths and weakness of the Saudi PHC structural elements.

The physical structure of the Saudi PHC centres is of a lower standard than it is supposed to be. There were inadequacies in the structural layout of the building, working staff, supplying of equipment. It is highly recommended that the current physical condition of Saudi PHC centres be addressed through an effective CQI program. The following provides a summary of the condition of the Saudi PHC centres:

According to the assessment that has been done to the 18 PHC centres in Jeddah, there are great deficiencies in the environmental structure of the centres. The majority of the centres (15 out of 18 centres) are rented apartments and they are not purpose-built as PHC centres. Accordingly, this has a great impact on quality because the buildings have an inadequate layout for running ideal PHC services. For example, there is a lack of adequate space for waiting areas and services are provided in inconvenient places. So, treatment rooms are created in the space designed to be a kitchen; or pharmacy, radiology and laboratory services are created in the spaces designed to bedrooms or small stores. In addition, conditions are worsened when the PHC centre occupies several floor levels. A majority of the centres have two floors and this creates difficulties for the sick, disabled, pregnant, and older clients who sometimes have to climb several stairs to reach radiology or laboratory services.

The lack of space is strongly associated with the over-crowding experienced by PHC consumers. Around 80% of visitors are Saudis and only 20% are non-Saudis. The small centres (which have space floor equal to 200-250 m² are visited by not less than 80 consumers per day and 1400 per month, while the larger centres (which have space floor equal to 300-400 m² are visited by 300 consumers per day and 7000 consumers per month. From this result one could conclude that the utilization rate of the PHC centres in Saudi Arabia is high. Regardless of the insufficiency of supplies and resources for Jeddah's MOH PHC centres and the fact that their reputation among Jeddah's population is not excellent, and despite the fact that Jeddah is well supplied with many private health dispensaries providing good quality PHC services for a cost, the MOH PHC centres are considered as the first choice - if not the only choice - for Jeddah's population to obtain PHC services. The main reasons which limit the choices of the population are that the MOH PHC centres provide complete free of charge services and they are designed via the referral system to be the only gateway to the MOH hospitals.

The study found that the average numbers physicians and nurses at each centre are 5 physicians and 14 nurses and the average numbers of clients' visits are around 162 per day. Considering that the working hours of MOH PHC physicians is eight hours/day. This is equivalent to a reasonable average patient/physician rate per day (32 consumers/one physicians). Around 15 minutes are available for the consultation of each patient, which is congruous with the reasonable consultation time (10-20 minutes). However, this theoretical calculation does not actually reflect the reality of PHC overcrowding which continuously annoys the PHC physicians and nurses, as well as the consumers. The variation between the centres and within each centre could explain such inconsistencies. First: the average number of providers for all centres is not fairly applied to each centre. There is a wide variation in their distribution among the centres, for instance, some centres have only 2 physicians while others have 8 physicians. Second, there is variation in the workload among physicians working in the same centre, for instance, female GPs usually see more consumers in antenatal and vaccination clinics than the male GPs. Third: there is variation in the flow rate of PHC consumers' attendance: attendance is not managed through any sort of appointment system and is usually determined by chance as consumers flow in (walking - in system).

Thus, some days the centre is flooded by consumers, while on other days the centre looks under-used.

6.2. What do PHC consumers and providers perceive to be the important attributes in defining and measuring the quality of PHC services?

The SERVQUAL attributes which were identified by (Parasuraman, et al., 1985) in addition of other attributes those were not mentioned in the SERVQUAL (preventive services, staffing and manpower, range of services, time factor, therapeutic services, administration and management, provider and customer satisfaction, team work, continuity and follow-up, and community participation), are the attributers which are perceived by Saudi consumers and providers to be the important attributes in defining and measuring the quality of PHC services. These attributes were grouped in **Donabedian's** theoretical framework for define and measuring the quality, which is the model of structure, process and outcome. Although each one of these attributes has been identified as important quality attributes in many previous studies, but there is no previous study that has mentioned all those attributes together as important quality attributes. The paragraphs below provide a summary of these attributes:

There is evidence in the literature that the four quality aspects of the health care (structure, technical process, interpersonal process and outcome) are the most common criteria in discussions about defining and measuring the quality of health care in general. This study gives evidence that these four aspects have specific importance also for defining and measuring the quality of the PHC services. Both PHC consumers and providers perceived these four aspects as very important in defining and measuring the quality of the PHC services in Saudi Arabia. Structure was perceived as the most important aspect, and the technical process was the least important aspect according to both groups. This result should encourage the Saudi MOH to take all possible measures to improve the structure of the PHC centres.

It has also been found that 16 out of 17 proposed attributes, which constitute the four aspects of quality; structure, technical process, interpersonal process, and outcome are perceived by both the PHC providers and consumers as "very important" attributes in defining and measuring the quality of PHC services. Only Community participation was perceived as lesser, as "important".

The 17 proposed attributes have been given the ranking order according to their importance, where, number (1) is the most important and number (17) is the least important:

1. Tangible,
2. Preventive services,
3. Staffing and Manpowered,
4. Credibility and Responsiveness,
4. Competency,
6. Range of services,
7. Courtesy,
8. Time Factor,
9. Therapeutic services
10. Administration and Management,
11. Consumer /provider Communication,
12. Accessibility,
13. Providers and customers' satisfaction,
14. Team Work,
15. Security and confidentiality,
16. Continuity and Follow-up,
17. Community participation

Although each one of these attributes has been identified as important quality attributes in many previous studies, no previous study has mentioned all those attributes together as important quality attributes. This result indicates that PHC providers and consumers in Saudi Arabia generally have broad quality perceptions and are demanding extra or better PHC services.

6.3. Do discrepancies exist between the PHC providers and consumers in the perceived importance of determinants of PHC quality?

Yes, to some marginal extent, discrepancies do exist between the PHC providers and consumers in the perceived importance of determinants of PHC quality. But, generally, it could be said that the similarities between the two groups are more obvious than the discrepancies.

Both groups ranked "tangible" aspects as most important, and "community participation" as least. In addition, no significant differences were found among 9 of the attributes. These were as follows:

1. Competency and Reliability,
2. Security and confidentiality,
3. Community participation,
4. Courtesy,
5. Consumer/provider Communication,
6. Credibility and Responsiveness,
7. Therapeutic outcome,
8. Prevention outcome, and
9. Providers and Consumers' Satisfaction.

On other hand, significant differences were found among eight attributes. These are as follows:

1. Tangible,
2. Accessibility
3. Staffing and Manpowered,
4. Range of services,
5. Time Factor,
6. Continuity and Follow-up,
7. Administration and Management, and
8. Team Work.

Of those eight attributes, six were perceived as more important by the providers than by the consumers (Tangible, Accessibility, Staffing and Manpowered, Range of services, Administration and Management, and Team Work). In contrast, consumers perceived Time Factor, Continuity and Follow-up, as more important.

The differences in the interests between the health care provided and consumers have been addressed in several studies. Health care providers are usually shown to be primarily interested in their own priorities and are always trying to provide care depending on these priorities. While, consumers' priorities should be paid more

attention to in order to achieve the best quality of care. Therefore, the quality of the two attributes (Time Factor, Continuity and Follow-up) should be assured during providing PHC services.

Quality in terms of the time factor means providing efficient services within an acceptable time, so is manifest in less waiting time before seeing the physician, having enough consultation time, and provision of timely support from such PHC services as pharmacy, laboratory, and radiology. Occupying patients and informing them of their waiting time can help reduce dissatisfaction, even if the times cannot be shortened. Moreover, punctuality is closely related to the concept of timeliness. More needs to be done to ensure PHC providers are punctual and honest about how they are spending their working hours. **Woerner and Philips (1989)** found that the top three job-related skills identified in the ranking were punctuality, safety awareness, and organizational skills.

To the PHC consumers the quality of continuity and follow-up could signify that they want to be seen by the same doctor each visit or at least seen by doctors who have coordinated with each other. Continuous movement of the PHC professionals is an important and persistent problem in the Saudi PHC system, which frequently annoys both providers and consumers. The PHC consumer is usually dissatisfied if he/she has to see a different doctor on each follow-up visit. **Bargawi (2001)** concluded that while many Saudi PHC clients were aware their doctor might be different; they were expecting plans to have been discussed since any previous appointments and for plans to be shared by the doctors. They also expected any change of plan to be explained to them.

6.4. What opinions do PHC consumers and providers have about the quality of each PHC service?

The result of the quality opinions of the 16 PHC services, which were judged by both PHC providers and consumers, revealed that there are differences in the level of quality between those services.

The ranking order of the opinions of the 16 PHC services is listed below, where, number (1) is the highest rate 'excellent' and number (16) the least rate 'satisfactory':

1. Vaccination
2. Children clinic

3. Provision of medications
4. Continuity and follow-up
5. Treatment room
6. Referral system
6. Antenatal clinic
8. Health education
9. Laboratory service
10. Chronic disease clinic
11. Dental clinic
12. Infection control
13. Emergency service
14. Community participation
15. Environmental health
16. Radiology service

Not surprisingly, across the selected 16 PHC services, vaccination was judged as an "excellent" service provided (it was actually felt to be excellent) and the services with the greatest need for improvement were Community participation, Environmental health and Radiology service, were perceived as "satisfactory" level. Specifically, tremendous efforts are needed for these services to be improved. On the other hand, the remaining 12 services have been judged as "good" services.

The vaccination service in Saudi Arabia is consistent with the international Extended Program of Immunization (EPI), which is mainly targeted at six diseases (tuberculosis, poliomyelitis, pertusis, diphtheria, tetanus and measles). Since 1984, the immunization program has been implemented in Saudi Arabia as an essential and integrated element of PHC. The consensus agreement among both PHC providers and consumers on the excellent quality of the vaccination service provides a great incentive for the MOH to continuously make efforts to maintain this level of quality or even exceed it.

Community participation in Saudi PHC is not well activated and needs much more consideration and care. Within the framework of PHC, it has been stated that communities have both the right and responsibility to be involved in the planning, implementation, and evaluation of their own health programs. This involves a vital and

fast change from the former approach where the community was seen as a passive recipient of services planned and supplied by central government. In many countries, it cannot be expected that this change from centrally managed to community based activity will happen overnight. Saudi Arabia is no exception. Quality is not simply connected with sophisticated technologies and procedures: it has more to do with the reliability and effectiveness of the services, and their provision in ways that promote accessibility and continuity. PHC providers need social skills to interact meaningfully with community members in addressing their health problems. These skills will contribute to the improved delivery of quality services.

The level of the health services provided largely affects health and morbidity problems in a community. It is well known that low levels of environmental health cause more health problems in the community. Disease prevention and health promotion, which are the cornerstones of PHC practice, cannot be implemented without taking care of environmental health. Unfortunately, among the 18 PHC centres, which were investigated during this study, only two centres have a health inspector. Whereas, the health inspector is one of the recommended PHC personnel according to PHC policies as documented on the PHC manual in Saudi Arabia. Thus, supplying the centres with those specialities would play a positive role in activating the environmental health service in PHC centres.

Radiology services in the PHC are one of the supportive services, which help and support the delivery of comprehensive health care. According to the PHC standards in Saudi Arabia, each PHC centre should be provided with simple radiology services. This should include: X-Ray technicians and X-Ray facilities, which contains complete X-Ray machine 50 MA, X-Ray cassettes of different sizes, protective aprons, gloves, dark room and dark room equipment, and film badges. Unfortunately, these simple facilities are either completely unavailable or provided with great deficiencies in most of Jeddah's PHC centres. Accordingly, improvement of this service will enhance the effectiveness of the health care provided and increase the PHC providers and consumers' satisfaction.

6.5. What criteria PHC consumers and providers used to judge whether quality is poor?

The result indicates that the three most frequently mentioned criteria of poor service quality by the PHC providers (physicians, nurses, technicians and others PHC employees) were related to structural aspects of quality. They are as follows:

1. Deficiencies of medical equipments and materials
2. Deficiencies of essential medications
3. Shortage of health care professionals (doctors, nurses, and others)

These three most mentioned criteria present a great challenge to organizers and decision makers if they are to achieve the necessary quality of PHC services. This is especially challenging as several Saudi studies have documented that most PHC centres in Saudi Arabia are not provided with adequate medical equipment and materials, essential drugs and manpower. Improving of structure of PHC services should be given top priority by the MOH. This aspect is a major influence on the progress improvement of the other aspects (process and outcome) of quality.

On the other hand, the study showed that identification of criteria that determine the good quality of the PHC services is a difficult mission for the Saudi lay people. In contrast, they are willing and enthusiastic to identify and detect deficiencies or poor services that are provided to them. The three most frequently mentioned criteria by the PHC consumers as indicators of poor service quality were:

1. Providers show no courtesy and have bad manners and attitude when dealing with customers.
2. Unavailability or deficiencies of dental clinic services.
3. Deficiencies of essential medications.

It is not surprising that PHC consumers gave that much importance to the nature and quality of the provider/consumer relationship. In contrast to more technological forms of medical intervention in the hospital and acute medical services, general practice and PHC remains a relatively low technology in which more diffuse forms of health care are both expected and delivered. Indeed, attentiveness to the psychosocial context within which the illness occurs and the communicative and interpersonal skills of the providers may be one of the most important levers in the therapeutic processes offered by PHCs.

The study gives evidence that PHC consumers are sensitive to the interpersonal relations they have with the PHC providers. As in other studies, the conduct of the health care professionals stands out as a central element of the judgment that consumers make about quality of health services. Dozens of criteria have been established to monitor the technical skills of health providers. Hundreds of evaluations are collected and statistics are kept to document numbers of procedures that health providers perform. Many guidelines have established to ensure that health providers provide technical training in essential areas. Medicine has made many technologic advances and research discoveries that benefit health care consumers. As important as these advances are, they cannot replace a more human approach to health care consumers. Saudi PHC providers must take note that their consumers want proper treatment, but their main concern is to be considered as a person with a health problem rather than as a medical case. PHC providers need to show concern and understanding so that PHC consumers will feel secure and satisfied.

Persistent deficiencies of essential medications in the PHC pharmacies is an alarming issue that challenges the quality provided by Saudi PHC services. Both PHC providers and consumers perceive it as important criterion that determines the poor quality of the PHC services. This agreement between the PHC providers and consumers about the importance of this issue requires it to be at the centre of defining and measuring the quality of PHC services.

Dental caries prevalence among Saudi children is at a high level. Studies conducted in different regions of Saudi Arabia have revealed high prevalence of caries among pr-school and schoolchildren. So, it is expected that consumers would value the dental services and feel it was important that dental care be supplied with good quality throughout the PHC centres. Consequently, unavailability or deficiencies of dental clinic services in PHC centres is a challenging criterion for quality of PHC services. However, patients sometimes expect to have dental services and equipments similar to that found in specialized dental centres. Some Saudi studies have shown that patients expected the PHC centres to offer the same range of dental, radiological, and laboratory services as would be provided by hospitals (**Saeed, et al., 1992; and Bargawi, 2001**). Thus, there seems to be a genuine need for educating PHC consumers about the broader objectives and limits of PHC services.

PHC providers and consumers together identified a long list of criteria that determine the poor quality of PHC services. This list of criteria offers more insight into how both groups judge quality, and might be used by those who wish to develop sensitive instruments for evaluating and monitoring the quality of PHC services in Saudi Arabia. The criteria are listed below, in descending order according to the frequency with which they were mentioned. Where, number (1) is the most frequent criterion and number (20) the least mentioned:

1. Provider show no courtesy and have bad manner when dealing with customers
2. Deficiencies of medical equipments and materials
3. Deficiencies of essential medications
4. Shortage of health care professions
2. Inappropriateness of the building design to be a PHC centre
3. Unavailability of deficiencies of Radiological services
4. Crowdedness of customer and Poor appointment and attendance system
5. Poor competency of the PHC professionals (doctors, nurses and others)
6. Unavailability or deficiencies of Laboratory services
7. Unavailability or deficiencies of dental clinic services
8. Poor administration, poor scrutiny, poor supervision
9. Narrowness of building
10. Poor emergency services and unavailability of 24 hours emergency
11. Unavailability of specialized physicians
12. Poor cleanness of building
13. Unsuitability of duty' hours (two shifts)
14. Disorder and no discipline in entering to the doctor's clinic
15. Provider show no Credibility and Responsiveness in providing services
16. Inappropriateness location of the building
17. Unavailability of all essential PHC services as expected by the clients
18. Unavailability of female Obstetricians
19. Poor system of continuity and medical follow-up
20. No discipline in attendance and departure of the PHC employees

Although there is an acknowledgement that health providers' and health consumers' perspectives are different, they are not as different as some argue. This long list of

negative criteria, which were consistently identified by both groups, provides evidence that health care providers and consumers may share similar interests and concerns when detecting poor quality of health care services. These were certainly annoying to both groups.

In addition, the study detected also that there were some criteria mentioned only by PHC providers. They are as follows:

1. Uncooperativeness of customers and that customers did not show respect to providers;
2. Poor maintenances services;
3. Deficiencies and ineffectiveness of health education activities;
4. Poor medical record system;
5. Not enough time for medical consultation; and
6. Poor community participation.

In contrast, there were some criteria that were stated by the PHC consumers but not mentioned at all by the PHC providers. These were:

1. Long waiting time;
2. Frequent absenteeism of the PHC employees and taking hours leave;
3. Unavailability of adequate and suitable waiting area;
4. Unavailability of enough dental appointments or their delay;
5. Poor referral system; and
6. Unavailability of dermatologists.

Negative performance has a greater impact on satisfaction than positive performance (**Mittal and Baldasare, 1996**). As a result, the limited resources available for the Saudi PHC system are better used identifying and eliminating the negative aspects of services than by increasing the positive aspects only. Focusing on all negatives at once could create frustration and disappointment. This is why the prioritization of criteria discussed above is significant. It takes the quality perceptions of PHC providers and consumers into consideration when prioritising quality improvement efforts. Saudi decision makers and authorized personnel at MOH should pay these negative criteria great attention when they plan and implement any improvement initiatives in PHC services. Managing and eliminating of these negatives could lead to an effective, efficient, and acceptable CQI program for the Saudi PHC centres.

Although the general satisfaction with the quality of PHC services was perceived by both PHC providers and consumers was stated as "satisfied" (70.2%) (weighted mean = 3.51 out of 5), there was some difference between the two groups in the degree they perceived their satisfaction. The result indicated that PHC providers were less satisfied with the PHC services than the PHC consumers were. The general satisfaction rate as perceived by the PHC providers and PHC consumers were 68.6% and 70.6%, respectively. However, these scores were surprising for the researcher, because lower scores were expected (according to the subjective impression about the low quality of the PHC centres, which was gained due to the verbal complain of poor service quality which were frequently receiving from both PHC providers and consumers). Yet, these levels of satisfaction do not seem high and they are considered rather low in contrast with the scores of other international studies.

From the viewpoint of the researcher, this result could be interpreted via either one of the two assumptions or both of them; first: people of Saudi Arabia are very cautious; they do not like to criticize the facilities which provide them with free health care services and document their view formally through researches. People complain routinely of poor service quality, but when they are asked to consider the topic seriously, by a researcher, they seem reluctant to express their frank feelings. Second: the expression of satisfaction could differ to some extent from the perception of quality. One could think that the service is not provided with good or ideal quality, but at the same time, one could express some level of satisfaction. This inconsistency might come from a belief that "idealism is impossible" or from wishing to be "encouraging and appreciation".

6.6. Do some socio-demographic categories significantly influence the general level of satisfaction with the quality of the PHC services?

Yes, but only to limited extent some socio-demographic categories significantly influence the general level of satisfaction with the quality of the PHC services. Only three socio-demographic variables (gender, nationality and education) were significantly associated with the general level of satisfaction. It was found that females were more satisfied than males, non-Saudis respondents were more satisfied than Saudis respondents were, and finally, the less educated were more satisfied than the more highly educated. However, those characteristics were identified among both Saudi and

non-Saudi studies as not significantly associated with satisfaction. In addition, it was found that the age, and duration of use of PHC services, did not make for any differences in perceptions of the general satisfaction with service quality. However, these characteristics were identified among both Saudi and non-Saudi studies as being significantly associated with the general satisfaction. Thus, the current study supports previous studies in showing that satisfaction is multi-factorial with only a limited proportion of the variance of satisfaction explainable by individual characteristics

In short, it is more important than ever before that providers and consumers together lead in the effort to maintain and improve the quality of health care. It is a reality that the economic status of Saudi Arabia has changed and action is needed quickly to participate in these dramatic changes. There are now voices among Saudi authorities, which are calling for a more competitive health environment, and current health care services, which are largely free, will be limited by the insurance system soon to be activated. All across the country, governmental (not-for-profit) hospitals are now moving towards conversion to for-profit status (some part of their services). It can be expected in the future that similar changes may happen among PHC services. Actually, the first step toward this approach has already started. Thus, from March 2005, the non-Saudi residents have to pay for accessing any MOH PHC services, and the cost of services is matching the private dispensaries.

As health plans and facilities in Saudi Arabia vie to gain dominance in the market, the sensitivity to consumer demands is highly recommended. Health care policy and industry analysts claim that the market is becoming more "consumer driven", meaning that the intense competition among health plans makes them highly sensitive to consumer demands and concerns. In addition, the political environment which provides inflexible policies and unshared decisions need to be faded. As a result, consumers and provider will face a future that offers more choice, accountability, consumer protection and quality assurance. Identification of quality attributes of PHC services in Saudi Arabia is only the first step towards overcoming the Saudi PHC quality challenges. Management practice, employees' involvement, user behaviours, and organizational culture all need to change in order to effectly triumph over the PHC quality challenges

CHAPTER VII

RECOMMENDATIONS

7. RECOMMENDATIONS

This chapter is designed to meet the seventh and last study objective which is:

To provide some practical recommendations, which are could be used as a guideline for improvement strategies.

Based on the study's conclusions, the following recommendations are proposed:

- The rented buildings which are designed to be living habitats' apartments are inadequate to be PHC centres, even if they are modernized and have large spaces. So, MOH is recommended to save the money it uses renting many new buildings and spend it instead on building PHC centres which incorporate all that is required of a PHC to meet layout standards.
- It may not be easy to increase the number of the PHC providers in a short time, but the flow rate of the PHC attendees could and should be controlled through application of efficient appointment systems and there should be as many limits as possible on the "walking in" system.
- PHC consumers' satisfaction is constantly measured in Saudi Arabia and focuses on the entire range of patient experiences. However, these surveys are not enough. There must also be a commitment to quality performance at every level of the PHC system and the empowerment of staff to identify and implement opportunities for improvement.
- With the rise of consumer-driven medical care, it is desirable to increase the involvement of consumers in health service planning, implementing and evaluation. Providers need to determine what they are doing least well - through their consumers' eyes. Consumers' perceptions and beliefs are most important in the delivery of medical care. Consumers opinions about the quality of services could be emerge as a key indicator of quality.
- According to the high prevalence of dental caries among pre-school and school age children in Saudi Arabia, provision of adequate oral health services - not only from the curative aspect but also the preventive aspect - is highly required in Saudi PHC centres and should be considered as a valuable indicating criterion for the quality of PHC services.

- Essential PHC medicines need to be provided in the Saudi PHC pharmacies: the agreement shown in this study between the PHC providers and consumers indicates its crucial importance to the quality of PHC services.
- To address complaints about long waiting times, patients could be better occupied by providing them with well-equipped areas for waiting, and enabling them to read health educational materials or to watch videos relevant to health education. This could help reduce dissatisfaction, even if the times cannot be shortened.
- The continuous movement and transfer of PHC professionals between the centres, a constant source of annoyance for both PHC providers and consumers, should be reduced to as few movements as are necessary.
- Community participation, environmental health and radiology services need to be improved to enhance satisfaction and assure quality of Saudi PHC services.
- Within the non-democratic Saudi health care system, where the voices of its users do not reach top-management, the idea of “citizen advocacy” where advocates pursue issues with relevant public authorities on behalf of their clients who are unable to articulate fully their needs and references, could be applied with beneficial effects.
- Regular training refresher courses, backed up by frequent, quality supervision are prerequisites for providing quality services. Refresher courses should be instituted, and the resources required for them provided. A supervision system with clear objectives and with incentives that motivate good performance is an area that requires urgent consideration.
- Providing ongoing training courses about self development and interpersonal skills for PHC providers may allow for the development and improvement of certain necessary interpersonal skills such as communication skills and courteous performance.
- Unfortunately, relations between PHC providers and their consumers in Saudi Arabia are to some extent a reflection of those that exist between people in authority

and the population. An effective democratization and open communication will be able to modify the situation significantly.

- Series of educational programs for lay people are needed to educate them about the philosophy, objectives, strategies and limitations of PHC services. This is an important aspect for increasing utilization and satisfaction with PHC services.
- No doubt, delivery of preventive health services can reduce many common causes of morbidity and, and PHC providers are in a unique position to deliver these services. So, finding ways to consistently deliver preventive services to the Saudi population is a prerequisite for the success of PHC services. PHC providers need to be well oriented about how to deliver this service.
- The researcher believes that health care quality should be data driven. The CQI programs are validated by the documentation. Therefore, without data, quality cannot be measured and improvement cannot be documented. Health care quality requires training in the effective use of meaningful data through proper data collection techniques, appropriate data analysis, a prudent use of tools, and data-management protocols. Identification of improvement opportunities should be based on data analyses and then dealt with appropriately.
- Lacking a competitive environment in PHC centres, weakens the incentives for PHC providers in making quality improvements. A competitive environment could be initiated by applying recognition and reward systems. This should be linked to meeting quality targets and suggesting and making improvement. Regular reward measures such as certificate of appreciations, bonus, remuneration, and time off from duties, could be offered for the centre's employees who contributed with their creativity, imaginatively, and innovation any quality initiatives.
- In order to bridge or reduce the existing gap between providers' and consumers' perceptions, the result of health care studies which have suggest ways to improve current services or introduce new initiatives, could be simplified and made available in Arabic. The accessibility of the researches' results could be enhanced through activating several channel of distribution such as the popular mass media or by

making them available as written materials which could be distributed in the PHC centres.

- Finally, the study findings may form a basis for further related studies. Further research need to be conducted to cover more wide geographical areas and greater number of respondents. Other statistical techniques may also recommend to be utilized.

Finally, Saudi Arabia is one of the countries in the world that is endorsing the goal of "Health for all by the year 2000" and has committed itself to the World Health Organization's protocols regarding implementation of the Primary Health Care concept. However, progress towards successful implementation of a good Primary Health Care system, is dependent on comprehensive understanding of its elements, identification of its quality dimensions, and continuous assessment and evaluation of services rendered. So, it is hoped the results of this study helps to enhance comprehension of quality in the PHC system in Saudi Arabia by identification of its specific quality attributes and criteria. This study has tried to bridge the quality perception gap between PHC providers and consumers by exploring the similarities and discrepancies in their perceptions of various quality attributes and criteria.

APPENDIX I

Health profile of Saudi Arabia

Health profiles of Saudi Arabia (WHO, 2000b)¹



1. Demographic indicators

Demographic indicator	No.	year
Area in square kilometers	2250000	2003
Total population in thousands	21890	2003
Total Saudi citizen	15, 588, 805	2000
% Saudi citizen	74.8	2000
Total non-Saudi residents	5, 258, 079	2000
% non-Saudi residents	25.2	2000
% urban population out of total population	85	2003
Crude birth rate per 1000 population	31	2003
Crude death rate per 1000 population	3	2003
% population growth rate	3.3	2003
% population below 15 years	40.8	2000
% population 65 years and over	3.1	2000
% dependency ratio	80	2000
total fertility rate	4.8	2003
Total life expectancy	71.4 years	1995

¹ World Health Organization (WHO). 2000b. (updated in September 2000, Country profile). Available at <<http://www.208.48.48.190/MNH/WHO/country.statistics.html>>. Accessed on: March 2004
some statistical figures were updated according to the following reference: MOP (2000)

2. Socioeconomic indicators

Socioeconomic indicator	No.	year
Adult literacy, total %	80	1999
Adult literacy, males (%)	88	1999
Adult literacy, females (%)	72	1999
School enrolment ratio, first level - Total	112	1999
School enrolment ratio, first level - male	118	1999
School enrolment ratio, first level - female	106	1999
School enrolment ratio, second level - Total	76	1993
School enrolment ratio, second level - male	81	1993
School enrolment ratio, second level - female	70	1993
Per capita GNP (US\$) of currency adjusted for purchasing power	8485	2002
Unemployment rate (%)	25	2003
Regular smokers total (%)	20	1999
Regular smokers' males + 15 years (%)	38	1999
Regular smokers' females + 15 years (%)	2	1999

3. Budgetary resources indicators

Budgetary resources indicator	No.	year
Allocated to MOH from total government budget (%)	7.1	2001
MOH expenditure as % of GNP	2.0	2001
Total health expenditure as % of GNP	5.3	2000
Annual budget of MOH (per capita us\$)	108.0	1998
National expenditure on health (per capita us\$)	354	2000
National expenditure on health (in thousands of SR)	13,046,500	2000
Total expenditure on health (per capita us\$)	448	2000

4. Human and Material resources indicators

Human & Material resources	No.	year
Physicians per 10000 population	15.3	2001
Dentists per 10000 population	1.8	2000
Pharmacists per 10000 population	2.6	2001
Nursing and Midwifery personnel per 10000 population	32.3	2001
Hospital beds per 10000 population	22.4	2001
PHC units and centers per 10000 population	1.2	2003

5. Health status indicators

Health status indicators	No.	yea
Newborns with birth weight at least 2.5 kg (%)	95	2000
Children with acceptable weight for age (%)	93	1999
Infant mortality rate per 1000 live births	19.1	2001
Probability of dying before reaching 5th birthday per 1000 live births	30	2000
Maternal mortality rate per 10000 live births	1.8	2000
Total life expectancy at birth (years)	71.4	1996
Male life expectancy at birth (years)	69.9	1996
Female life expectancy at birth (years)	73.4	1996

6. Health care professionals in PHC centers, MOH.

Health care professionals in PHC centers	No.	year
Saudi physicians (G.P.)	240	2000
Non-Saudi physicians (G.P.)	3020	2000
Saudi Dentists	155	2000
Non-Saudi Dentists	588	2000
Saudi OBS/GYN	4	2000
Non-Saudi OBS/GYN	32	2000
Saudi Pediatricians	10	2000
Non-Saudi Pediatricians	43	2000
Total of Saudi physicians in PHC	439	2000
Total of Non-Saudi physicians in PHC	3753	2000
Total of physicians in PHC	4192	2000
Saudi Nurses	4058	2000
Non-Saudi Nurses	5790	2000
Total Nurses in PHC	9848	2000
Saudi Assistant health personnel	2886	2000
Non- Saudi Assistant health personnel	2205	2000
Total Assistant health personnel	5091	2000

7. Indicators of coverage with primary health care

Indicators of coverage with PHC	No.	year
Total number of PHC centers	1766	2000
Population with access to local health services, total (%)	99	1996
Population with access to local health services, urban (%)	100	1996
Population with access to local health services, rural (%)	95	1996
Infants fully immunized with BCG (%)	94	2003
Infants fully immunized with DPT (%)	95	2003
Infants fully immunized with OPV3 (%)	95	2003
Infants fully immunized with Measles (%)	96	2003
Infants fully immunized with Hepatitis B vaccine (%)	95	2003
Pregnant women given 2 doses of tetanus toxoid (%)	66.0	1998
Population with access to safe drinking water (%)	98	2000
Population with adequate excreta disposal facilities (%)	86.0	1994
Pregnant women attended by trained personnel (%)	98	2000
Deliveries attended by trained personnel (%)	91.0	2002
Infants attended by trained personnel (%)	96.0	1996
Married women (15-49) using contraceptives (%)	32.0	1997

8. Selected morbidity indicators

Disease	No.	yea
Cholera	38	2002
Malaria	1724	2003
Poliomyelitis	0	2003
Measles	1208	2003
Pulmonary tuberculosis	2 307	2003
Diphtheria	2	2003
Tetanus	12	2003
Neonatal tetanus	31	2003
AIDS	19	2002
Meningococcal meningitis	55	2002

APPENDIX II

**List of country groupings and sub-
groupings for the analytical studies of
the United Nations World Economic
Survey and other UN Reports**

List of Country Groupings and Sub-groupings for the Analytical Studies of the United Nations World Economic Survey and other UN Reports

For analytical purposes, the following country groupings and sub-groupings have been used:¹

Developed economies (developed market economies):

Europe, excluding the European transition economies
Canada and the United States of America
Japan, Australia and New Zealand.

Major developed economies (the Group of Seven):

Canada, France, Germany, Italy, Japan, United Kingdom of Great Britain and Northern Ireland, United States of America.

European Union:

Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, United Kingdom of Great Britain and Northern Ireland.

Economies in transition:

Central and Eastern European transition economies (CEETEs, sometimes contracted to "Eastern Europe"):

Albania, Bulgaria, Czech Republic, Hungary, Poland, Romania, Slovakia and successor States of the Socialist Federal Republic of Yugoslavia, namely, Bosnia and Herzegovina, Croatia, Slovenia, the former Yugoslav Republic of Macedonia, Yugoslavia.

Baltic States Estonia, Latvia and Lithuania.

Commonwealth of Independent States (CIS)

Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Republic of Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine, Uzbekistan.

Developing economies:

Africa

Asia and the Pacific (excluding Japan, Australia, New Zealand and the member States of CIS in Asia)

Latin America and the Caribbean.

¹ Names and composition of geographical areas follow those of "Standard country or area codes for statistical use" (ST/ESA/STAT/SER.M/49/Rev.3), with one exception, namely, Western Asia, which in the Survey includes the Islamic Republic of Iran (owing to the large role of the petroleum sector in its economy) and excludes the transition economies of the region. Also, "Eastern Europe", as used in this Survey, is a contraction of "Central and Eastern Europe"; thus the composition of the region designated by the term differs from that of the strictly geographical grouping.

Sub-groupings of Asia and the Pacific:

Western Asia plus Islamic Republic of Iran (commonly contracted to "Western Asia"):

Bahrain, Cyprus, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, Turkey, United Arab Emirates, Yemen.

Eastern and Southern Asia:

All other developing economies in Asia and the Pacific (including China, unless listed separately). This group has in some cases been subdivided into:

China

South Asia: Bangladesh, India, Nepal, Pakistan, Sri Lanka

East Asia: all other developing economies in Asia and the Pacific.

Sub-grouping of Africa:

Sub-Saharan Africa, excluding Nigeria and South Africa (commonly contracted to "sub-Saharan Africa"): All of Africa except Algeria, Egypt, Libyan Arab Jamahiriya, Morocco, Nigeria, South Africa, Tunisia.

For particular analyses, developing countries have been subdivided into the following groups:

Net-creditor countries:

Brunei Darussalam, Kuwait, Libyan Arab Jamahiriya, Oman, Qatar, Saudi Arabia, Singapore, Taiwan Province of China, United Arab Emirates.

Net-debtor countries:

All other developing countries.

Fuel-exporting countries:

Algeria, Angola, Bahrain, Bolivia, Brunei Darussalam, Cameroon, Colombia, Congo, Ecuador, Egypt, Gabon, Indonesia, Iran (Islamic Republic of), Iraq, Kuwait, Libyan Arab Jamahiriya, Mexico, Nigeria, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, Trinidad and Tobago, United Arab Emirates, Venezuela, Viet Nam.

Fuel-importing countries:

All other developing countries.

Least developed countries:

Afghanistan, Angola, Bangladesh, Benin, Bhutan, Burkina Faso, Burundi, Cambodia, Cape Verde, Central African Republic, Chad, Comoros, Democratic Republic of the Congo (formerly Zaire), Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gambia, Guinea, Guinea-Bissau, Haiti, Kiribati, Lao People's Democratic Republic, Lesotho, Liberia, Madagascar, Malawi, Maldives, Mali, Mauritania, Mozambique, Myanmar, Nepal, Niger, Rwanda, Samoa, Sao Tome and Principe,

Senegal, Sierra Leone, Solomon Islands, Somalia, Sudan, Togo, Tuvalu, Uganda, United Republic of Tanzania, Vanuatu, Yemen, Zambia.

The designation of country groups in the text and the tables is intended solely for statistical or analytical convenience and does not necessarily express a judgement about the stage reached by a particular country or area in the development process.

APPENDIX III

Descriptive statistics about the PHC centers

Descriptive statistics about the PHC centres

Name of the PHC center:

1. The building:

Date of opening:		
Type of building:	Governmental ()	Rented ()
Space of building (m ²)		
No. of floors:		

2. The Working Hours:

Type of Duty	One shift ()	Two shifts ()
	(07:30 – 18:30)	(07:30 – 13:00) & (16:00 – 07:30)

3. The customers:

Items	Number
No. of serviced population	
No. of consumer per day (No. of visits per day)	
No. of consumers per month (No. of visits per month)	

4. The providers:

Items	Number
No. of physicians	
No. of Nurses	
No. of Technicians	
Total No. of employees	

5. Rang of services provided:

PHC services	Availability	
	Yes	No
Immunization clinic		
Well- Baby clinic		
Pediatric clinic (sick children clinic)		
Antenatal clinic		
Dental clinic		
General Adult Clinic		
Chronic disease (Diabetes, Hypertension, Asthma) clinic		
Pharmacy (Provision of essential medications)		
Health education (availability of Health educator)		
Community participation		
Infectious disease clinic		
Environmental sanitation (availability of health inspector)		
Laboratory services		
Radiology service		
Referral system		
Emergency service		
Treatment room		
Appointment system		
Car parking near the centre		

APPENDIX IV

The self administered questionnaire

**Identification of Quality attributes in primary health care services
in Jeddah, Saudi Arabia**

Dear Sir / Madam

This questionnaire is the main data collection tool of study which entitled as: Identification of quality attributes in primary health care services in Jeddah, Saudi Arabia. The aim of the study is to identify special quality attributes in primary health care services in Saudi Arabia. Knowledge about these attributes will help in improving the quality of primary care services and enhance consumers' and providers' satisfaction. In addition, this study is trying to bridge the quality perception gap between PHC providers and consumers.

Participation in the study is voluntary and your anonymity will be secured. By answering the questions honestly and precisely and giving your opinions, you will be helping the researcher to collecting reliable data. This becomes important information for the PHC decision makers when planning for improvement of Saudi PHC services is made, which we hope to enhance their both consumer's and provider's satisfaction.

After completion of the questionnaire, please put it on the box, which is designed for questionnaires' collection, or just give it back to the medical record staff (the receptionists). In advance, thank you for your time and honest answers.

Yours sincerely,
Amina Bargawi, the researcher
A Community health nurse

Part one; Sociodemographic Profile:**Your Telephone Number:** (Optional)

(Please mention your telephone number to contact you in case of any inquiry on your answer)

Name of the PHC centre:

(Please tick (✓) on each chosen option.)

1. Gender (Sex)

- Male.
 Female.

2. Your age?

.....

3. Nationality?

- Saudi
 Non-Saudi

4. Level of education?

- University or postgraduate.
 Secondary or preparatory.
 Read and write.

5. Reason for attending at the PHC centre?

- PHC Client or accompanying with PHC client
 PHC employee.
 Other, Specify

6. How long have you been using the PHC centre or how long have you been an employee?

- Less than 1 year.
 From 1 – less than 3 years.
 From 3 – less than 5 years.
 More than 5 years.

Part two; Quality Perceptions:

The following are list of general quality attributes, would you please state their level of importance in relation to the PHC services, according to you perception?

(Pleas tick (✓) inside the chosen level of important box for each quality attributes)

Quality aspects	Quality attributes	Very import.	Import.	Neutral	Not import.	Not import. at all
Structure	1. Tangible (Good physical facilities, adequate equipment & materials& drugs, general cleanliness, maintenance ...)					
	2. Accessibility (approachability & ease of contact, convenient location & working hours).					
	3. Staffing & Manpower (adequate numbers & specializations of doctors, nurses & other health personnel)					
	9. Administration & Management (availability of good management & administration system that support both the providers & the consumers)					
	4. Range of services (Provision of all essential PHC services as expected by the clients)					
Technical process	5. Competency (Ability to perform the promised service dependably and accurately)					
	6. Time factor (availability of appointment system, short waiting time, enough time for consultations, providing of quick services)					
	7. Security & confidentiality (freedom from danger, risk, or doubt & president of confidentiality)					
	8. Continuity and follow-up (Patient always seen by the same doctor each visit)					
	10. Community participation (sharing people in planning, implementation & evaluation of services)					
Interpersonal process	11. Courtesy (Caring, politeness, respect, consideration & friendliness of staff)					
	12. Consumer/provider Communication (keeping customers informed in language they can understand and listening to them)					
	13. Credibility & Responsiveness (Trustworthiness, believability, honesty and willingness to help customers and provide prompt service).					
	14. Team work (effective coordination & communication between the health care personnel)					
Outcome	15. Treatment services (desired health outcomes)					
	16. Prevention services (effective preventive measures that lead to healthy community)					
	17. Satisfaction (Providers & consumers satisfactions)					

Part three; judging the quality level of selected PHC services:

From your point of view, please state the level of quality for the following PHC services:

PHC services	excellent	v. good	good	satisfactory	bad	Don't know
Vaccination						
Children clinic						
Antenatal clinic						
Dental clinic						
Chronic disease clinic						
Provision of medications						
Health education						
Community participation						
Infection control						
Environmental health						
Laboratory service						
Radiology service						
Referral system						
Emergency service						
Treatment room						
Continuity & follow-up						

Part four; open question:

From your point of view, what are the most (**three**) important negative attributes (weak points) that relate to the poor quality of PHC centres' services? Or in other words, what are the criteria that you depend on to judge the poor quality of the PHC centres' services in Saudi Arabia?

1. -----
2. -----
3. -----

Part five: measuring the general satisfaction of the quality of PHC centres' services?

State your general level of satisfaction toward the quality of PHC centres' services that you are either working in it as a provider or benefit from its services as a customer?

Quality attributes	Very satisfy	Satisfy	Neutral	Not satisfy	Not satisfy at all
are you generally satisfying with the quality of PHC centers' services					

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