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Evaluating the Suitability and
Relevance of the *SERVQUAL* Concept
in the Health Care Delivery System in
Kuwait

Measurement of the quality of service

Thesis submitted in accordance with the requirements of the
School of Health Science at University of Wales Swansea for the
degree of Doctor of Philosophy

by

Abdulhadi Ahmad

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ABSTRACT

Evaluating the Suitability and Relevance of the *SERVQUAL*

Concept in the Health Care Delivery System in Kuwait

The measurement of service quality has been studied in depth by a number of researchers; Zeithaml, Berry and Parasuraman (1988) have been recognized as leaders in the field. This prospective study was aimed at examining the quality of service in general hospitals in the Ministry of Health in the State of Kuwait, by evaluating the suitability of *the SERVQUAL* instrument to be used in the health care delivery system in Kuwait.

In relation to methodology of the study, the researcher used an adapted *SERVQUAL* instrument as a self – administered questionnaire. The survey was conducted on the public hospital services in Kuwait

Of the 520 patients (who were admitted to hospital for more than 24 hours) and selected for participation in the survey, 415 (79.9%) completed the questionnaire.

Service Quality (SQ) is measured by calculating a *SERVQUAL* score, defined as the perceived score minus the expectation score. Overall *SERVQUAL* was calculated, as well as *SERVQUAL* for each of the five service quality dimensions. The association between SQ and selected background variables was calculated. All data were stored and analyzed using SPSS (10.0). Results of the research study showed that overall service quality is (-1.46), the service quality for different dimensions was as follows: Tangibles (-1.56), Responsiveness (-1.28), Reliability (-1.46), Assurance (-1.47) and Empathy

(-1.52). Regarding educational level, the gap between patients' perceptions and expectation was wider among respondents with high school education (-1.87). Females were found to perceive less of gap in service quality (-1.38) in comparison to males (-1.54). With regard to age, older people were found to perceive a wider gap in service quality (-2.14) compared with younger people. The overall satisfaction of patients from the service provided was found to be 6.92 out of 10. The results indicate that SERVQUAL appears to be a consistent and reliable scale to measure health care service quality.

Discussion of the results of the study focused on measuring service quality in relation to selected socio – demographic characteristics. The measurement of service quality for different dimensions was discussed. Finally, specific recommendations are offered for improving the health delivery system. The recommendations are based on empirical findings and are to be respectfully commended to strategists concerned with improving the health care delivery system in Kuwait.

DEDICATION

To my parents, wife, and four children, Areej, Aseel, Fatmah and Aysha. My career has been illuminated by their patience, encouragement, and prayers throughout the years of my study.

ACKNOWLEDGMENTS

I would like to take this opportunity to thank some of the extraordinary people who have guided me through this study.

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Chapter One:

Introduction

1.0: Introduction

Measuring the quality of a service is considered a crucial element of competitiveness. Service quality can help an organization to differentiate itself from other organizations and give a competitive edge. Superior service quality is the key to improving customer satisfaction.

Nowadays measurement of service quality tends to play an important role in many service industries including the health services.

In the health care delivery system, excellent service quality is not only an optional competitive strategy; it is an essential part in the maintenance of profitability and survival. Current policies highlight the need to improve the quality of care and involve patients in decision making in health care. Recognizing patients' expectations and perceptions on service delivery is a method of pro – actively dealing with service shortcomings.

Two forms of quality are relevant to service – providing organizations: technical quality and functional quality (Grönroos 1984). In health care, technical quality is referred to as the quality of diagnosis and procedure. Various techniques for measuring technical quality have been proposed by health care accreditation organizations.

Functional quality refers to the manner in which the health care service is delivered to the patient. This can be measured by different methods. Zeithaml, Berry and Parasuraman (1988) have been recognized as leaders in the field. They developed a measurement tool, SERVQUAL, to be used in a variety of service industries. SERVQUAL has been tested in a number of service settings, including the health sector. In the state of Kuwait to date no study

has been conducted to measure the applicability of SERVQUAL to the hospital environment (In patients).

Therefore, the purpose of this study is to assess the applicability of the SERVQUAL instrument and to contribute to improving the quality of service in public health care facilities in the state of Kuwait.

1.1: Research problem

Service has been defined as “Work done by a person or group for the benefits of another”

Juran (1988) defines service quality as the same as that for the product quality “Fitness for use”. According to Juran’s definition, service users are the persons, who have to decide the parts of service most beneficial to them, rather than service providers.

Measurement of service quality is considered a crucial element of competitiveness. By measuring service quality one can pinpoint the weaknesses in service that affects customer satisfaction, while also improving profitability.

In the health service, measuring service quality is considered the main concern of policymakers in the field. Quality concern is widespread in the health service sector of Kuwait which aims to improve the level of service being provided to users and the satisfaction experienced by patients.

In Kuwait, the health service has developed very rapidly during the last four decades. Today, there are 77 primary health care centres, 6 general hospitals and 19 tertiary health care centres around the country (MoH, 2002).

This rapid development of health services has had some undesirable consequences, one of which is the weakness of the quality of the health services being provided to patients.

Even after spending 6.6% of GNP on health services, people are still complaining about the quality of health services provided by the Ministry of Health. These complaints are there in newspaper reports as well as discussions at public forum, called "Dewanya", and in the National Assembly.

Many studies indicate that the measurement of quality of a service could help in improving the standard of the service being provided to people by identifying the specific reasons for the shortfalls in quality. It will also help in giving a chance to decision makers to improve the service by identifying the minimum requirements of the customer.

This research is an attempt to report the shortfalls of the quality of service of Kuwaiti health care facilities, from the point of view of health care users.

Evaluating the areas of concern of the health care user will help in examining the service delivery process for weak points.

It is important to determine the performance standards targeted by the health care facilities through identification of the minimum requirements of the customer.

1.2: Identifying the problem

In the research reported in this thesis it was established that the measurement of the quality of the service of health care facilities of the Ministry of Health was the first step in understanding the patient's perception of the whole service provided.

The patient's needs, perceptions and expectations have to be known in order to attain patients' satisfaction of the service being provided by the Ministry of Health in Kuwait.

Finding a proper tool for measuring the quality of health care service has been the main issue confronting researchers for the last two decades. Different tools are there for measuring the quality of service of industrial organizations. SERVQUAL was one of the main tools adapted for measuring the quality of service of health care (Parasuraman *et.al.* 1988).

The problems addressed in this research can be summarized as follows:

- Is there a gap between customer expectations of the quality of service and customer perceptions?
- Can the SERVQUAL instrument be used for measuring the quality of service of health care?
- Can SERVQUAL help the policymaker to specify the main dimensions that could be used in improving the quality of service?

1.3: Purpose of the study

In view of the above mentioned issue, it was considered appropriate to implement a SERVQUAL instrument for measuring the quality of service of the Ministry of Health general hospitals of the State of Kuwait.

The main dimensions of service quality, which were measured, were:

1. *Tangibility*: physical facilities, equipment and appearance of personnel
2. *Reliability*: ability to perform the promised service reliably and accurately.
3. *Responsiveness*: willingness to help customers and provide prompt service.
4. *Assurance*: knowledge and courtesy of employees and their ability to inspire trust and confidence.
5. *Empathy*: caring, individualized attention provided to customers.

The purposes of this study are to:

1. Gain a better understanding of patient perceptions and expectations of health services.
2. Demonstrate the use of an instrument SERVQUAL for measuring patient perceptions of health care quality in Ministry of health hospitals in Kuwait.

1.4: Research Objective

This study aims to:

1. Measure the quality of services in Ministry of Health hospitals
2. Evaluate the suitability of SERVQUAL instrument.
3. Examine the relative impact of five service quality dimensions on in-patients in Ministry of Health hospitals.
4. Identify the shortcoming aspects of the quality of service from the patients' point of view.
5. Recommend realistic solutions for the shortcoming aspects, and suggest the proper action to be taken to improve the quality of service provided to patients.
6. Draw the attention of health administrators to the importance of applying quality improvement principles for overcoming service problems.

1.5: Research Hypotheses

This research was designed with the following null hypotheses:

- (H1) There are no gap between what patients are expecting from the service quality being provided by the Ministry of Health and their perceptions of the level of service being provided.
- (H2) There are no gap between quality dimensions of health service, results of perceptions and expectations of patients and the total quality perceptions of the service.

1.6: Research Methodology

The study used the SERVQUAL methodology because it is an invaluable tool for organizations intending to better understand customers' values and how well their current organizations are meeting the needs and expectations of customers. SERVQUAL provides a benchmark based on customer opinions of an excellent hospital.

A questionnaire was distributed among the in - patients admitted in each hospital for a period of more than 24 hours. The questionnaire asked clients to evaluate items on a Likert scale of 1 to 5. They were asked to fill in both columns, one measuring expectations and the other perceptions (22 questions in each). Questions were similar and included the factors of tangibility, reliability, responsiveness, assurance and empathy.

1.7: Study Framework

Several models for measuring quality of service have been developed in recent years. Since 1985, SERVQUAL tool was first published, its innovators Parasuraman, Zeithaml and Berry, have further developed, promulgated and promoted the tool through a series of publications (Parasuraman *et al.*, 1985; 1988; 1990; 1993; 1994; Zeithaml *et al.*, 1990; 1993; 1996).

The instrument depends on the principle that consumers evaluate service quality by comparing expectations to performance on five dimensions of reliability, responsiveness, empathy, assurance and tangibles both on expectations and perceptions.

Based on these dimensions, Parasuraman *et al.* (1988) developed a series of standard questionnaires to measure the service quality for each dimension.

Quality of service is measured as perception minus expectations for each pair of questions and the summary score across all questions was the measure of quality.

1.8: Organization of the Study

In formulating the structure of the thesis, the following stages of research were taken into consideration: (1) construction of the problem, by a literature review and analysis of problematic factors. (2) Description of the problem, by data collection and data analysis. (3) Clarification of the problem, by relating research findings to the theoretical and practical understanding of the problem. (4) Prescribing of practical solutions, theoretical solutions and recommendations.

Based on the above stages, the research report is organized into the following chapters:

Chapter (1) Introduction

This chapter presents an overview of the research problem, identifies the problem, discusses the purpose of the study, the research objective and finally the study framework.

Chapter (2) Health service in Kuwait

In this chapter the researcher attempts to give the reader background information about the system of health services in Kuwait after exposing the reader to general information about the state of Kuwait.

Chapter (3) Literature Review

This chapter is organized so as to review pertinent literature related to quality and quality of service in general and in the health sector in particular.

Chapter (4) Research design and Methodology

This chapter describes the questionnaire and the methods and techniques used to collect data, the study samples, the pilot study and ethical considerations.

Chapter (5) Data analysis and Interpretation

In this chapter data will be analyzed by using different statistical analyses which will lead to Interpretation of the results.

Chapter (6) Discussion

Based on analysis of results, the discussion will focus on the quality of service in health care and the shortfall of the services.

Chapter (7) Conclusions and Recommendations

In view of the discussion, specific conclusions followed by recommendations will be offered towards improving the health care delivery system in general hospitals in the Ministry of Health in the State of Kuwait.

Chapter Two:

Health Services in Kuwait

This chapter offers a brief description of the health services in the state of Kuwait to give an overview of the health facilities as they operate in the country.

The chapter starts by giving an historical overview of the State of Kuwait and then of the health service.

2.1 Historical background and Geographical location

The modern history of Kuwait began in the 18th. Century when Al-Sabah founded the city of Kuwait.

During the 19th. Century Kuwait tried to obtain British support by signing an agreement with the United Kingdom for protecting Kuwait against the designs of foreign powers.

On June 19, 1961, Kuwait became fully independent following an exchange of notes with the United Kingdom.

The State of Kuwait is located to the Northwest of the Arabian Gulf, between latitudes 28°30' and 30°06' north and between longitudes 46°30' and 48°30' east. To the northwest. it shares a border with the Republic of Iraq, to the south and southwest with the Kingdom of Saudi Arabia and to the east with the Arabian Gulf.

Kuwait's northern border with Iraq dates from an agreement made with Turkey in 1913. Iraq accepted this claim in 1932 upon its independence from Turkey. However, following Kuwait's independence in 1961, Iraq claimed Kuwait, under the pretence that Kuwait had been part of the Ottoman Empire subject to Iraqi suzerainty. In 1963, Iraq reaffirmed its acceptance of Kuwait's sovereignty and the boundary that it agreed to in 1913 and 1932, through the

agreed minutes between the State of Kuwait and the Republic of Iraq regarding the restoration of friendly relations, recognition, and related matters”.

In August 1990, Iraq nevertheless invaded Kuwait but was forced out seven months later by a United Nations coalition led by the United States.

2.2 Demographics of Kuwait

Kuwait's population is 2,270,865 out of which Kuwaitis number 786,010 (34.6%) while Non- Kuwaiti's are 1,484,855 (65.4%) (PACI, 2002). The population growth rate for Kuwait in 2000 was 3.44%, the age structure for year 2002 remains as it was in year 2000 (PACI 2000).

Table 2.1: Kuwaitis population by age group

Age	Male	Female
0 – 14 years (29.36%)	295,102	284,327
15 – 64 years (68.32%)	860,318	488,004
65 and over (2.32%)	29,544	16,277

The sex ratio in the Kuwaiti population is 1.5male(s) / 1female. Life expectancy for the total population is 76.08 years. For males: 75.27 years and for females: 76.92 years.

2.3 Health Care System

Health services in Kuwait have gone through three phases:

- The first phase was prior to 1912 when the health services in Kuwait were predominantly based on traditional medical practices depending on herbs and plants for both preventive and curative needs.
- The Second phase was in 1912, when the American mission to Kuwait established the first American clinic. The clinic provided health care to all Kuwait residents.
- The Third phase began in 1936 with the establishment of the public health administration. The administration established clinics, which provided health care, acquired necessary medical equipment, and appointed doctors, pharmacists and nurses in different fields to provide the best medical services.

In 1961, when Kuwait became independent from Great Britain, and with the flow of oil a comprehensive plan to provide free of charge health services to all Kuwait citizen and residents was established.

In 1962, the Public Health Administration became the Ministry of Public Health as per the Amiri Decree 2, as part of a reorganization programme of all ministries.

From that time, health services in Kuwait have seen tremendous development. The number of general hospitals reached 6, primary health clinics 77, and dental centres reached 222 clinics.

As the health service in Kuwait expanded, the country was divided into six comprehensive health regions, based geographically and according to population:

Table 2.2: No of population and No. of hospitals and primary Health Care in Health Regions

Health region	No. of population	No. of hospitals	No. primary health care centres
Capital	388,663	1	20
Farwanya	544710	1	17
Ahmadi	373,494	1	19
Jahra	282,731	1	11
Hawali	631,109	1	15
Sabah*	All population	1	15 tertiary care centres

* Specialized health region for Tertiary health care

The health service in each health region consists of a general hospital and a number of primary health care clinics, with the exceptions of Sabah which consist of 15 specialized centres providing tertiary health services to all Kuwait citizens and expatriates.

The service is provided through a system of three levels of care:

First Level:

- Primary health care: This service is provided through primary health care centres distributed around the country.

Second Level:

- Secondary health care: The service is provided to patients referred by the primary health care clinics to respective general hospitals. The services are providing by six such general hospitals,

one in each health region. Secondary health care includes; In-patient, outpatient and emergency services.

Third Level:

- Tertiary health care: This service is provided through fifteen specialized centres located in the area of Sabah health region.

These Centres are:

- Maternity and Gynaecology
- Physical and Rehabilitation
- Psychiatric
- Neurology
- Chest disease
- Cancer control
- Orthopaedic
- Infectious diseases
- Ophthalmology
- Organ Transplant
- Allergic diseases
- Dermatology
- Genetic diseases
- Speech and hearing
- Islamic Medicine (alternative medicine)

In Kuwait, health services are considered to be one of the services provided to citizens free of charge. The government spends 6.6% of GNP on health (MoH, 2002) and that gains its legitimacy from the constitution, which contains four articles that provide the foundation of the state's philosophy of health care:

Article 9

The family is the cornerstone of the community. Religion, morality and patriotism of the homeland form the foundation for the family. Its existence is preserved by law, which strengthens its ties and consequently protects the mother and child.

Article 10

The state provides care to the young and protects them from exploitation and from moral, physical and spiritual neglect.

Article 11

The state ensures aid to citizens in old age, illness or inability to work, and provides them with services of social security and health care.

Article 15

The state is responsible for public health and the means of prevention and treatment of disease and epidemics.

Kuwait was one of the countries that responded positively to the World Health Organization's declaration of "Health for all by the year 2000" by instituting a team and establishing an office for National Health Planning. The team was linked directly to the Minister of Health and all resources and facilities were made available to fulfil the stated objectives.

The country was under Iraqi occupation from August 1990 to February 1991, which resulted in the total collapse of the basic constitution of the health services in Kuwait. The damage delayed the development of the health services to international standards and the government had to pull it back to re-build the infrastructure.

After liberation of Kuwait by allied forces, tremendous work was done to rebuild the health service in Kuwait, starting with rehabilitating the health facilities and ending by bringing experts in health care from outside to help in improving the health service in Kuwait.

2.4: The Health strategy in Kuwait

At present time, the government policy on health services is moving fast toward “privatization”, as a result of increasing financial burden on providing quality health services and also due to the economic recession that prevails in the area.

The government plans to continue with the privatization policy of the health service in the country. In addition, the health insurance scheme and charging a consultation fee for primary health care have been adapted as part of the policy.

The new health care strategy for the Ministry of Health in Kuwait, which has been titled *The Strategy of Health Security for Kuwait for the period (2003 – 2012)*, has four different dimensions:

1. Health sector economies

Due to the increase in health care cost, it is essential to find an alternative source for the Ministry of Health budget. This will support the provision of proper health care for every body in Kuwait.

Health insurance is considered as a solution to solve the problem of increasing the cost of health care; therefore, the Ministry's policy is to initiate a health insurance scheme for all citizens in Kuwait through the involvement of the private sector.

Promotion of health investments

This can be seen as supporting the private sector and initiating the building of insurance hospital by the private sector in each health region.

Directing the proper use of the sources and stopping the waste in medications and reagents will save more than 10% of the Ministry's' annual budget.

1. Technical and professional

- Manpower:

Improving manpower resource was the main objective of the technical and professional dimension in the health strategy, and this will be shown in:

- Competency testing for all professions
- Continuing professions education

- Hospital accreditation:

The project of hospital accreditations started in 2003 by establishing a new department for quality and accreditation in the Ministry of Health. This was a unit in the department of Infectious diseases control.

- Hospital and Primary Health Care computerization:

This project is divided into 5 stages:

First stage: computerizing all Primary Health Care Centres

Second Stage: Computerizing all general hospitals

Third Stage: linking all primary health care centres with all general hospitals

Fourth stage: connecting Administrative departments to the health centres.

Fifth stage: starting e-Health as part of the government strategy for starting e- government.

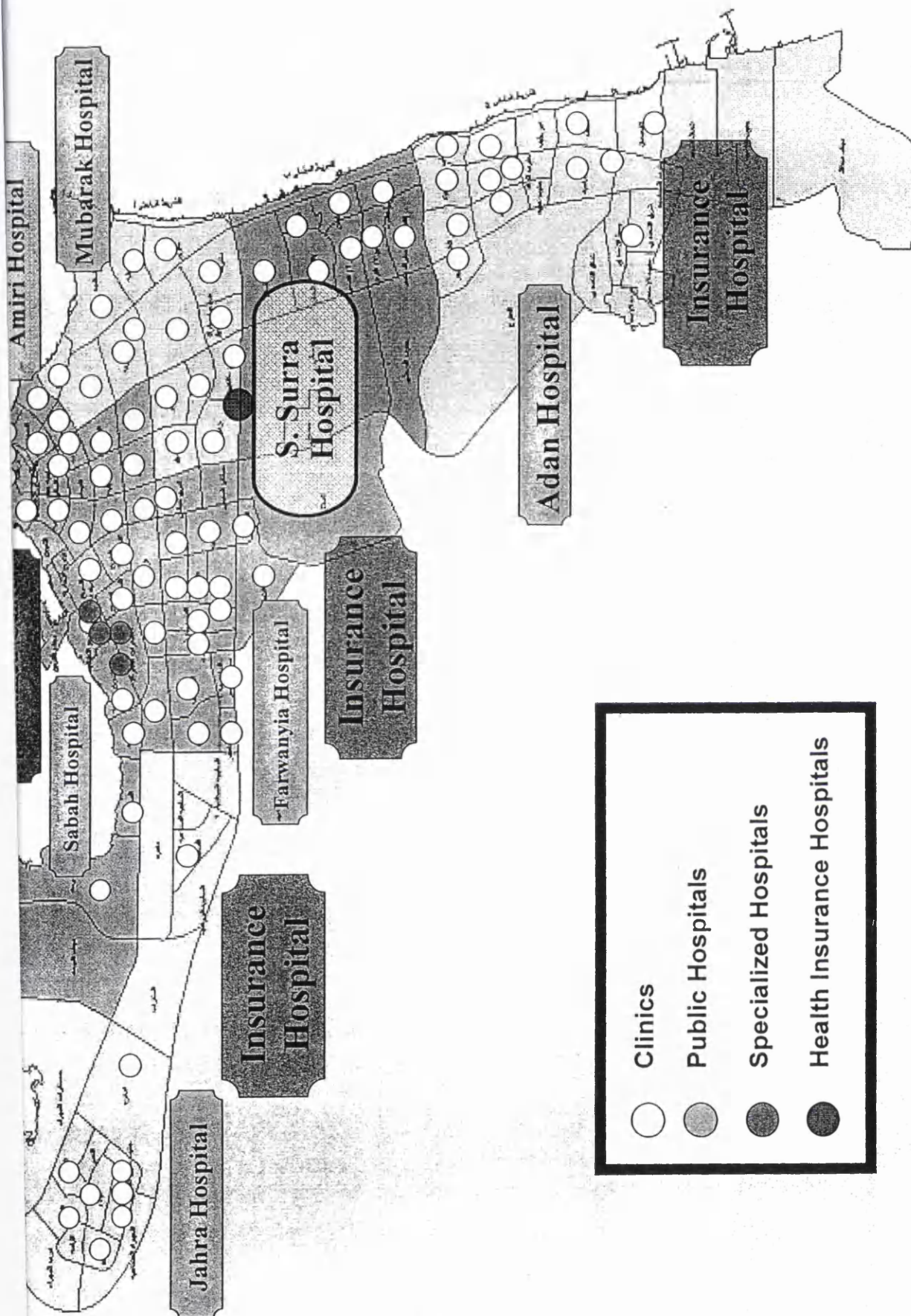
2. Public health

In the dimension of public health, three different programmes will be activated:

- The National project for prevention of Diabetes Mellitus.
- The National project for prevention of Cancer.
- The project for managing clinical waste.

3. International health relationships

Ministry of Health strategy emphasizes need to establish an excellent relationship with international health organizations.



Chapter Three:

Literature Review

3.1: Quality - Definition and Appreciation

Quality is one of the most important issues in business today. There is hardly an issue in a business magazine without an article about quality. The definition of quality and its essential components has broadened, Webster's seventh New Collegiate Dictionary defines quality as "*an inherent feature; a degree of excellence; superiority in kind; a distinguishing attribute*".

Crosby (1979) stated "Quality means conformance. Non-quality is therefore, non-conformance, instead of thinking in terms of goodness or desirability, we are looking at it as a means of meeting requirements. Therefore, we must define quality as conformance to requirement if we are to manage it effectively". The British Standards Institution looks at quality in the fitness for purpose sense; is the product designed and constructed to satisfy the customer's needs. Deming (1986) defines quality as a predictable degree of uniformity and dependability, at low cost and suited to the market, while Juran (1988), defines it as fitness for use. The European Organization for Quality Control (EOQC) defined quality: "as the totality of features of a product or service that bear on its ability to satisfy given needs". Flood (1993) states, "Quality means meeting customers (agreed) requirements, formal and informal, at lowest cost, first time every time".

Feigenbaum (1983) developed the following definition "Quality is a customer determination. It is not a marketing determination or a general management determination. It is based upon a customer's actual experience with the product or service, measured against his or her requirements – stated or unstated, conscious or merely sensed, technically operational or entirely subjective and always representing a moving target in a competitive

marketplace”. We can say that quality means different things to different people; a customer may have a different view than a producer.

In summary, we can say that each quality definition has a different view, in relation to measurement and generalizability, managerial usefulness, and consumer relevance.

Definitions of quality also vary in their usefulness to managers. Quality defined as excellence can provide powerful motivation to a workforce. Quality defined as value or conformance to specifications can lead an organization to focus on efficiency, and quality defined as meeting and exceeding expectations compels management to keep abreast of changes in consumer demands.

3.1.1 Quality from the customer’s perspective

Quality can be the result of a comparison between what the customer required and what was provided. It is judged not by the producer only but by the receiver (customer). The judgement can either be made by intention, as is the case when selecting a supplier or an output as is the case when purchasing a product or a service. One of the core concepts of the Baldrige Award criteria is that quality should be customer – driven (National Institute of Standards and Technology, 1993).

The organizations providing the service must consider how the consumer defines quality. Deming (1986) says, “The customer is the most important part of the production line. Quality should be aimed at the needs of the consumer’s present and future”.

Product and service quality is determined by what the consumer wants and is willing to pay for. Commonly used definitions of quality as a service’s or

product's perspective, "fitness for use", how well the product or service does what it is supposed to do, this will lead us to identify the different dimensions of the quality of services which can be stated as the following: (1) time and timeliness (i.e. how long a customer must wait for a service) (2) completeness (i.e. Is every thing the customer asked for provided?) (3) courtesy (i.e. how the customer is treated by the employees) (4) consistency (i.e. is the same level of service provided for all customers?) (5) accessibility and convenience (i.e. How easy it is to obtain the services) (6) accuracy (i.e. is the service performed right every time?) and (7) responsiveness (i.e. how well the company reacts to unusual situations).

So, for many commentators, customer satisfaction is the only true measure for accepting quality. If customers are satisfied with the products or services afforded then the organization has correctly interpreted customer needs and expectations and provides products or services of an acceptable quality.

Customer satisfaction takes into consideration both the objective and subjective interpretation of the needs and expectations of customers.

3.1.2 Quality from the Producer's perspective

Service providers see quality as "conformance to requirements" as defined by Crosby (1979) and making sure the product or service is produced according to design at an acceptable cost. Achieving quality of conformance involves design, materials, equipment, training, supervision and control.

3.2 The importance of quality

Organizations worldwide are under continuing pressure to control costs, maintain high levels of safety and meet customer's expectations. Researchers indicate that delivering high quality service produces measurable benefits to an organization, these benefits can include:

1. Reducing the cost

It is always cheaper to do a job right the first time than to do it over, beside that quality means that the features of some products or services make people willing to buy them, so its orientation has an effect on income. Quality also means freedom from trouble, freedom from failure. This is cost – oriented. If things fail internally it costs the company, in these cases quality costs less.

2. Increased productivity

The productivity of a process is the ratio of the value added by the process to the value of the labour and capital consumed. Improving quality generally leads to higher productivity and reduces cost.

3. Customer satisfaction

Satisfaction is an evaluation reaction resulting from the interaction of the product / situation with the individual's expectations (Hunt, 1977).

3.3 History of Quality

Quality as a desirable attribute has been around for hundreds of years and this demonstrates that we continue to admire the quality of the civil engineering of Roman roads, buildings, aqueducts, sewers and bridges built during that time.

Products were produced by individual workers, who monitored the quality of products to keep their professional reputation among their people, then the concept of quality changed and developed as the craftsman satisfied the consumer's needs in a customized fashion, where the quality depends totally on the craftsman's proficiency, training, experience and manual dexterity

Nowadays, thinking about the preservation of quality has spread across the entire manufacturing and service process and extends to all management functions.

The issue and approaches of ensuring quality have changed during different eras. Industrial quality control started with on - line inspections sorting items and taking corrective action, identifying source of non-conformance and dealing with them. It was more of a visual qualitative examination than a precise qualitative measurement.

The lack of effective process control resulted in wasted material, labour, time and increased production costs and ended with dissatisfied customers.

What was needed at that time was a systematic form of process control.

In the early 20th Century (fig 3.1), quality control focused on the systematic control of the manufacturing process and resulted in a product Quality was shown up by Shewhart, who published his theories on applying statistics to process quality control.

Shewhart in (1931), published his classic contribution *Economic Control of Quality of Manufactured Product* in which he defined concepts of statistical quality control and demonstrated how to apply several tools for quality control analysis including: measurement of central tendency, use of control charts, establishment of a control range, probability analysis, scatter diagrams and the use of check lists and frequency distributions.

Shewhart's statistical quality control approach was an improved means of assessing conformance to production design specifications and this resulted in manufacturers reducing the volume of rejected products and improving general product reliability.

Following World War II, the practice of quality management in the industrial field began to grow apart especially in industry where, they began to respond to statistical quality control showing signs of revitalization. In the 1940s a group of quality professionals joined together to establish the American Society for Quality Control (ASQC) which grew to become the dominant American organization for quality professionals.

In the 1950s, the focus of quality gradually moved from product control to process improvement and from inspection to prevention. The view of quality as a source of adding cost gradually changes so that it brings cost reductions and improves productivity.

Deming taught the importance of organizational commitment to continuous quality improvement as evidenced by customer satisfaction while J. Juran introduced the statistical quality control (SQC) to Japanese industry and he emphasized that quality should be evaluated through the entire life cycle of a product.

In the 1960s, the concept of quality was shifted from the focus on the factory floor to the entire production process. This change was promoted by Feigenbaum in his book *Total Quality Control: Engineering and Management*, argues that total quality control (TQC) is “an effective system for integrating quality development, quality maintenance, and quality improvement efforts of various groups in an organization so as to enable production and service at the most economical levels which allows for full customer satisfaction”.

In the 1980s, Philip Crosby started his revolution on sensible mass reaction to quality by publishing his book *Quality is Free* and establishing a college in Florida to deliver his messages regarding quality.

In 1985, Ishikawa published his book *What is Total Quality Control?* where he expresses that quality depends on the proper functioning of all aspects of an organization – all the people, process technology, information and management.

Both Deming and Juran have been recognized by the Japanese for wielding an extraordinary influence on Japan’s development of winning industrial systems by growing the practice of quality to reach the level of implementing principles of Total Quality Management (TQM).

In 1990s, the development of the International Standard Organization (ISO900) internationally acknowledged quality management standards and was the main quality story in that decade. The organization developed standards in order to provide quality assurance requirement and guideline for suppliers.

History of Quality

TQM 1990s

Total Quality Management
(Deming, Crosby & others) 1980s

Zero Defects
(Crosby 1970s)

Quality Assurance
(Deming, Juran, Ferigenbaurn 1960s)

Total Quality Control
(Deming, Juran, Ferigenbaurn 1950s)

Process Improvement
(Deming & Juran 1940s)

**Statistical Process
Control**

**Statistical Quality
Control**
(Shawhart 1920s)

Figure 3.2: History of quality during different periods

3.4: Total Quality Management (TQM)

Total Quality Management (TQM) is a relatively new concept, which integrates all functions and processes within an organization in order to achieve continuous improvement of the quality of goods and services. The goal is customer satisfaction. TQM has attracted much attention in the literature over the past 20 years. Empirical evidence has been generally supportive, although some notable failures have also been observed. For instance, an early attempt in the UK attributed the failure of the British health service to establish adequate benchmarks, to align the quality strategy with business strategies among other cultural factors (Kogan, 1991). Other research has demonstrated how TQM often fails through an inability to implement the changes required fully, and at all levels of an organization (Ferlie and Shortell, 2001; Nwabueze, and Kanji. 1997; Zabada, et al, 1998). The failure to implement TQM fully does not detract from the central idea which has found widespread support. The idea of continuous quality improvement is, for example, a central tenet of the UK government's current quality agenda for the NHS,

The American Federal Office of Management (1990), defined TQM as the total organization approach for meeting customer needs and expectations that involve all managers and employees in using quantitative methods to continuously improve the organization's processes, products, and service.

The main philosophy of TQM is prevention rather than eliminating problems after they happen.

TQM is total in the sense that it must involve in the organization and is the result of every single step or job process seen as opportunity to eliminate

error or waste and that everyone should take responsibility for and participate in it.

Total quality is a management led effort that involves the entire organization in continuously improving all work processes; this effort is customer focused and uses objective data to eliminate waste of all kinds. The goal is to achieve a breakthrough in quality in order to reach unprecedented levels of performance. TQM focuses on:

- The process instead of the end product
- The customer with specific needs
- Quality from being the responsibility of a department to being the responsibility of every body
- Decisions based upon objective data
- Total employee involvement decision

There is a vast amount of research on TQM and related topics, which describes the success of the companies in improving the quality and the newest techniques to satisfy customers. However, the number of TQM studies related to health care systems is relatively small and recent in comparison to the industrial field. Kunst and Lemmink (2000), conclude that “progress in TQM in health sector leads to higher business performance of the hospital, indicating the efficiency cost effect, and to a higher perceived service quality by patients, indicating the effectiveness”.

A principle concept of TQM is the management of process variation, which seeks to identify special and common needs.

Most of the TQM concepts, which apply in the health field are borrowed from the industrial organizations with modifications of the implementing methods.

TQM Model

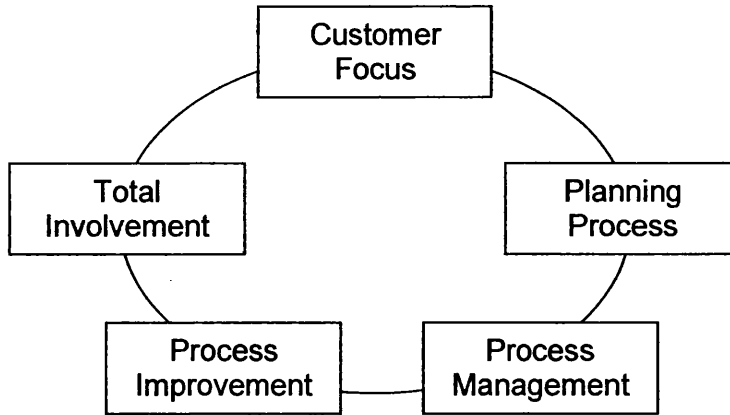


Fig 3.3: Total Quality Management Model

Customer Focus:

The organization has two sets of customers: the internal customer, the person or work unit that receives the product or the service of another within the same organization. The external customer is the end user of the product or service. World class organizations have developed processes that identify today's customer needs and try to anticipate customer needs in the future.

Planning process:

Planning should translate customer needs into actions that are essential for success.

Process Management and Improvement:

Managing the core processes to consistently deliver high quality products or services. Many techniques are used but the most common is: plan-do-check-act (PDCA), statistical process control (SPC) and design of experiment (DOE) are frequently used.

In the Arabic world, the concept of TQM has neither been applied nor accepted in both the industrial and the health sectors and this might be due to the nature of the culture of organizations in the industrial and health field.

In Kuwait, no study has been conducted on a TQM implementation in the health or industrial fields, but a strong demand for getting ISO9000 approval is developing in the industrial and business fields, which might open the way for implementation of TQM systems.

3.5 Quality pioneers

During our presentation of the history of quality, different names cropped up that had influence and added effect to this science. These scientists' contributions had the greatest effect on establishing the fundamental standards of the science of quality control. These contributions follow in succession to this day in this field, therefore, it was an essential matter to expose their contributions in the development of the fundamentals and principles of quality. The point of this brief review of the main 'quality gurus (Deming, Juran, Crosby, and Ishikawa) are simply to permit comparison. A summary table will therefore be provided later on. The review also demonstrates how their ideas were focused on industrial production, rather than health care or delivery of services.

3.5.1: W. Edwards Deming

In the 1940s, Deming started out on his quality endeavour. He started by focusing on statistical sampling technique where he first used it in changing the Census method for the US Department of Census. After completing the 1940 census based on sampling, he began introducing statistical quality control into industrial operations. Deming began teaching statistical quality control. He stated that to achieve quality in production one should locate the cause of variability by correctly diagnosing the most important source of variation by using statistical process control (SPC) charts, then reducing or eliminating them. This led to less variability and greater consistency in output. This would enhance the product's reputation.

Deming's contribution was mainly implemented in Japan, especially after World War II. Once he was asked by a magazine interviewer why the Japanese had applied his teachings so successfully when American managers had not. In response, Deming (1980) said, "I think there is something fundamentally different (between the Japanese and American business manager). The best description I can think of is that the people have roots, and the roots are the company.

During his working period in Japan all sorts of honours were bestowed upon him including Japan's premier imperial honour.

In 1980, Deming's later work focused on the Western organisation. Here he came up with the core seven deadly diseases to tackle in the American management organizations. These diseases are:

1. Lack of constancy of purpose to improve products and service by providing resources for long-range planning, for research and training.
2. An emphasis on short -term profits and the quarterly dividend.
3. Individual performance evaluations through merit ratings and annual reviews.
4. Managers who are highly mobile and hop from company to company.
5. Use by management of numbers and figures that are visible and available with no thought for the information that may be needed but unknown or hidden.
6. Excessive medical costs.
7. Excessive legal liability costs, contingency fees lawyers who work on contingency fees can swell.

Later Deming stated fourteen points for the transformation of a company from one state into another:

1. Create constancy of purpose for improvement of product and service.
2. Adopt the new philosophy.
3. Cease dependence on mass inspection.
4. End the practice of awarding business on price tag alone.
5. Improve constantly and forever the system of production and service.
6. Institute training.
7. Institute leadership.
8. Drive out fear.
9. Break down barriers between staff areas.
10. Eliminate slogans, exhortations, and targets for the work force.
11. Eliminate numerical quotas.
12. Remove barriers to pride of workmanship.
13. Institute a vigorous program of education and improvement.
14. Take action to accomplish the transformation.

W.Edwards Deming has established a widely known element of TQM: **Plan – Do – Check – Act (PDCA)**, a problem solving cycle, which becomes the corner stone of TQM movement.

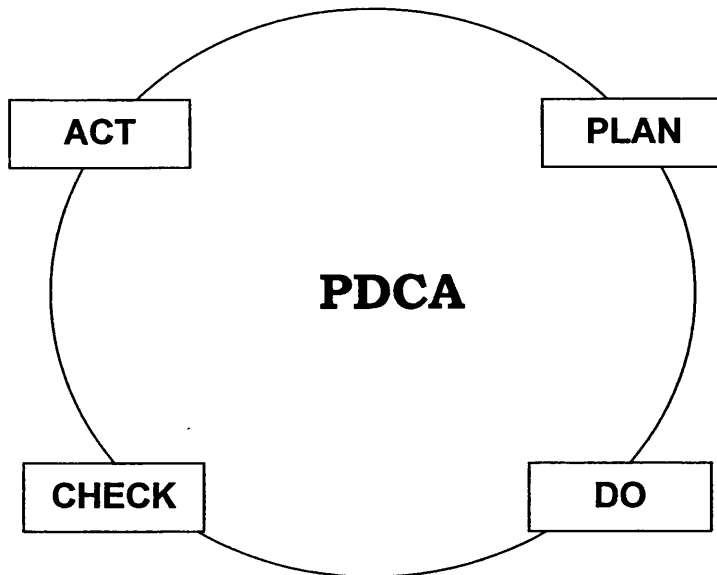


Fig 3.4: Plan – Do – Check – Act Cycle

The problem solving process is activated as the follows:

Plan – Step 1: identify the problem by: (a) Select the problem to be analyzed (b) Clearly define the problem and establish a precise problem statement (c) Set a measurable goal for the problem solving effort (d) Establish a process for coordinating with and gaining approval of leadership.

Plan – Step 2: Analyze the problem by: (a) Identify the processes that impact the problem and select one. (b) List the steps in the process as it currently exists. (c) Map the process. (d) Validate the map of the process. (e) Identify potential cause of the problem. (f) Collect and analyze data related to the problem. (g) Verify or revise the original problem statement. (h) Identify root causes of the problem. (i) Collect additional data if needed to verify root causes.

Do – Step 3: Develop Solutions by: (a) Establish criteria for selecting a solution. (b) Generate potential solutions that will address the root causes of the problem. (c) Select a solution. (d) Gain approval and support the chosen solution. (e) Plan the solution

Do – Step 4: Implement a solution by implementing the chosen solution on a trail or pilot basis

CHECK – Step 5: Evaluate the results by Gathering data on the solution and analyze the data on the solution.

ACTION – Step 6: Standardize the solution by: (a) Identify systemic changes and training needs for full implementation. (b) Adopt the solution. (c) Plan ongoing monitoring of the solution. (d) Continue to look for incremental improvements to refine the solution. (e) Look for another improvement opportunity.

3.5.2: JOSEPH M. JURAN

An engineer, who specialized in manufacturing quality control, went to Japan in the 1950's. His early achievements in Japan were rewarded with Japan's premier imperial honour. Juran's view is that the vast majority of quality issues are the direct responsibility of management. His approach was the message that quality does not happen by accident, it must be planned for and is part of a quality Trilogy: quality-planning, quality control, and quality improvement.

Quality planning has the following steps:

1. Determine quality goal.
2. Implementation of plans to meet those goals.

3. Identify the resources to meet those goals.

4. Translate the goals into quality.

Quality control means having a simple feedback structure:

1. Monitor performance.

2. Compare performance with a achievements.

3. Take action to reduce the gap.

Quality improvement means : (a) Reduce waste. (b) Improve delivery. (c)

Enhancing employee's satisfaction. (d) Becoming more profitable. (e)

Ensuring greater customer satisfaction.

Juran insisted that for applying quality these main management task must be the primary concern.

The customer, according to Juran, should be both internal and external; i.e. anyone who we are providing a product or service to.

Juran emphasizes the need for continuous awareness of the customer in all functions and this is reflected in his "quality - planning road map", which has nine junctions:

1. Identify the customer (internal and external)

2. Determine the needs of those customers.

3. Translate those needs into your language.

4. Develop a product that can respond to those needs.

5. Optimize the product features to help meet your needs as well as the customer's needs.

6. Develop a process that is able to produce the product.

7. Optimise the process.

8. Prove that the process can produce the product under operating conditions.
9. Transfer the process to operations.

Supporting this fundamental approach by designing quality into the systems and processes Juran's "ten steps "for continuous quality improvement has stated:

1. Create awareness of the need and opportunity for quality improvement.
2. Set goals for continuous improvement.
3. Build an organization to achieve goals by establishing a quality council, identify problems, selecting a project, appointing teams and choosing facilitators.
4. Give everyone training.
5. Carry out projects to solve problems.
6. Report progress.
7. Show recognition.
8. Communicate results.
9. Keep a record of successes.
10. Incorporate annual improvement into the company's regular systems and processes and thereby maintain momentum.

Juran shows awareness of the phenomenon of resistance to change, which is so common in organization. He believed that "resistance to a technological change is due to social and cultural factors". Juran proposes two principles to deal with this (1) those affected by changes should be allowed to participate (2) management should allow time for change to be accepted.

3.5.3: PHILIP B. CROSBY

Crosby's philosophy can be found in his five absolute quality management criteria indicators, which are:

1. Quality is defined as conformance to requirements, neither as 'goodness' nor 'elegance'
2. There is no such thing as a quality problem.
3. It is always cheaper to do it right first time.
4. The only performance measurement is the cost of quality.
5. The only performance standard is zero defects (Zero defects means that errors should not be expected or accepted as inevitable).

Crosby added more recently that there is no such thing as quality problems, he meant that poor management creates problems; they are not created by themselves.

Crosby came up with a 14 steps programme for quality improvement:

1. Establish management commitment.
2. Form quality improvement teams.
3. Establish quality measurement.
4. Evaluate the cost of quality.
5. Raise quality awareness.
6. Take action to correct problems.
7. Zero defect planning.
8. Train supervisors and managers.

9. Hold a 'Zero defects' day to establish the attitude and expectation within the company.
10. Encourage the setting of goals for improvement.
11. Set – up obstacle reporting.
12. Initiate recognition for contributors.
13. Establish quality councils.
14. Do it all over again.

Crosby provides a number of tools to help operate the 14 -step method that includes:

1. Quality Maturity Grid - It provides a way for management to measure their progress as a quality company.
2. The Make Certain Programme.
3. Management style evaluation - encourage managers to evaluate themselves for the following: Listening, Cooperating., Helping, Transmitting, Creating, Implementing, Learning, Leading, Following, and Pretending.
4. Quality Vaccine - to vaccinate the organization against non-conformance which can be administered through Determination, Education and Implementation?

3.5.4: KAORU ISHIKAWA

Ishikawa (1986) was cited as the “father of quality circle” he defined quality as meaning (not only the quality of the product, but also of after sales service quality of management, the company itself and the human being).

Ishikawas' approach being created through:

1. An atmosphere where employees are continuously looking to resolve problems.
2. Greater commercial awareness.
3. A change of shop floor attitude in aiming for ever increasing goals.

The principles promoted by Ishikawa in quality include: systemic approach advocated by (group - wide quality) by involving both vertical (between managers, supervisors and the workers) and the horizontal (end customer and quality that supplies offers. Participation, active and creative cooperation between the affected. Participation in the quality circle was created where a number of workers from the same area of activity were gathered to discuss and identify problems and recommend solutions. And communication through two strands of thinking simplicity of analysis and method and commonality of language.

The quantitative techniques of Ishikawa's approach are referred to as the (seven tools of quality control). They are a picture of quality, representing in the diagrammatic, or chart form as the following:

- | | |
|-------------------------|--|
| 1. Pareto chart | Used to identify the principal causes of problems. |
| 2. Ishaikawa / fishbone | Chart of cause and effect in process diagram |
| 3. Stratification | Layer charts which place each set of data successively on top of the previous one. |
| 4. Check sheet | To provide a record of quality |
| 5. Histogram | Graphs used to display frequency of various ranges of values of a quantity. |

6. Scatter graphs Used to help determine whether there is a correlation between two factors.
7. Control chart Used as a device in statistical process control.

Ishaikawa considered that all staff should be trained in these techniques.

Table 3.1: A summary of the contribution of gurus in improving quality principles

W. Edwards Deming	<ul style="list-style-type: none"> - Seven Deadly Diseases - Fourteen points for transformation of a company from one state to another - PDCA
Joseph M. Juran	<ul style="list-style-type: none"> - Steps for Quality Planning - Quality Planning road map - 10 steps for continuous quality improvement
Philip B. Crosby	<ul style="list-style-type: none"> - Five quality management criteria indicator - 14 steps program for quality improvement - Tools to operate 14 steps method
Kaoru Ishikawa	<ul style="list-style-type: none"> - Quality circles - Seven tools of quality control

From the review of quality pioneers, it is clear that their works are all about production and have very little to say about health care. Therefore, a review of the ideas and concepts of quality in health care will be discussed in next section.

3.6 Quality in health service

Quality assessment in health care is undergoing a relatively recent revival when we consider Florence Nightingale established the concept of a systematic approach to collecting and analyzing information on differences in mortality rates across hospitals in the 1860s. She evaluated the effects of introducing improvements in cleanliness and nutrition on the death rates of the sick and wounded soldiers treated during the Crimean war.

In 1913, the American College of Surgeons (ACS) was asked to develop minimal essential standards of care for hospitals as a first step toward the provision of quality care in the hospitals. In 1951, the hospital standardization program (a private, non-profitable, voluntary agency) became the Joint Commission on Accreditation of Healthcare Organizations (JCAHO). In the 1960s, individual professionals who practiced a craft were delivering health care, or art, which was learned by apprenticeship and, worked independently in a decentralized system.

In the 1980s and 1990s changes described as “the industrialization of health care” let the focus of quality services to shift from defining quality in terms of technical and structural excellence, to the process of the services to satisfy the customer and to meet or exceed his needs.

The growing attention to quality improvement in health care developed because of certain important trends characterizing the health care system, which are:

1. Reduction of health care error
2. Cost effectiveness
3. Efficiency
4. The market has become progressively more competitive.
5. There has been growth in the consumption of private health service.
6. A marked growth in consumers' awareness of their rights in the area of health care services.
7. Customer satisfaction.

Just as in industry, quality in health has several differing definitions, "the degree to which health services for individuals and populations increases the likelihood of desired health outcomes and are consistent with current professional knowledge" (Lohr 1992, as cited by Jencks 1995).

The concepts of quality in health services are not totally different from concepts in the industrial field. Quality has been defined as the optimal achievable result for each patient, the avoidance of physician – induced complications and the attention to patient and family needs in a manner that is both cost-effective and reasonably documented.

In health care services, the quality of service is frequently viewed as having two dimensions:

1. Technical : The accuracy of medical diagnosis and procedures, and this can be dealt with in three categories:

A. Structure: the availability of knowledge, skills and resources to diagnose and treat patients effectively according to the standards by ensuring the right elements are in place to be able to provide a quality service.

B. Process: whether diagnosis and therapeutic interventions are applied appropriately and by asking are the right things done to the right people at the right time?

C. Outcome: professional and technical resources and inputs produce the expected effect i.e. is the result as good as it should have been given current knowledge.

2. Functional: The way health care services are delivered to the patients. (Processes of Service Delivery).

Bowers *et al.*(1994) have shown that the quality of technical parts falls short of being a truly useful measure for describing patients expectations for the quality of service and, that for this reason most patients do not have the knowledge and ability to effectively evaluate the quality of diagnosis and therapeutic interventions. Patients' evaluations should always be based on interpersonal and environmental factors which medical professional have always regarded as less important.

Ware and Snyder (1976), emphasize that most patients cannot distinguish between "caring" as a functional performance and the "curing" as a technical performance of the medical care provider.

In health care, quality can be dealt with as the result of the patient's comparison of his perception of the medical service encounter experiences and his pre-encounter expectations (Grönroos, 1984).

Consumer quality might mean the ability of providers to make a diagnosis and implement a treatment plan for administrators; quality is the ability to deliver the greatest number of services at the lowest possible cost.

Therefore, we can say that the quality of health care can be defined in many ways depending on the perspective from which it is viewed. Quality measurement is a concept that all health care programs must consider. It is critically important in health care programs because it can play a significant role in outcomes of health care, health care costs and consumer information and choice.

3.7 Quality and customer Services

Customers are often part of the production and delivery processes for many services. Velury (1996) concludes, "The focus of organizations that implement the standards should be to build a quality system that understands the needs of the customer, and systematically transforms them into manageable procedures and specifications and then produces a product that meets customer needs"

Customer services are a philosophy that goes beyond "client – focus" which is not only incorporated into counselling and clinical services. Customer services expand clients' focus to include everything that happens within and around the clinic, from staff greeting the clients, to the atmosphere in the waiting room to the way of handling clients' complaints.

Providing excellent customer services yields many benefits to the organization, including: generating new demand for products and services, bringing customers back and reducing per-customer costs (Caruana 2002).

The concept of TQM that emerged from the work of Deming identifies strongly the need for customer – directed definition of quality.

Measuring quality of service has included considerable examination of the relationship of customer expectation and customer satisfaction.

Service quality focuses on meeting customers' needs and requirements and asking how the service delivered will match customers' expectations of it. In recent years greater emphasis has been placed on the need to understand the role of expectations.

3.8 Managing service quality

The service sector has been the major growth industry during the last 30 years, improving service quality is of paramount importance to all organizations. A large number of services are provided by government bodies that constitute a major drain on financial resources.

As the references below indicate, service quality is recognized as being, to some degree, dependent upon the interactive process between service provider and the service receiver. Companies providing high service quality as perceived by their customer tend to be the most profitable companies, on the other hand poor services has been identified as the primary reason why customer switch to competitors.

Service quality is a concept that has been a topic of considerable interest and debate in research literature because of the difficulties in both defining and measuring it with a consensus for both is still missing.

Service quality (SQ) has been defined in different ways: Peters and Austin (1985) defined SQ as a product of the effort that every member of the

organization invests in customers satisfaction Zeithamal and Bitner (1996), defined SQ as the delivery of excellent or superior service relative to customer expectation.

Harvey (1995) defined SQ as behaviour – an attitude – that says you will never settle for anything less than the best in service for your stakeholders, with whom you work every day.

Boomsma (1991) emphasizes that where we want to be effective, delivering good quality to the customer, we must produce services that meet as much as possible the needs of the consumer.

Lewis (1989) defined SQ as providing a better service than the customer expects.

MacKay and Crompton (1990) defined SQ as "the relationship between what customers' desire from a service and what they perceive that they receive".

According to Zeithaml et al. (1990), the difference between customers' desires, expectations and their perception of service quality, is known as service gap. The four main service quality gaps (fig 3.4) identified by Zeithaml et al are: (1) not knowing what customers are expecting from a service, this may be due to a lack of marketing research orientation, does not interact properly with the customers in order to get feedback from them, finally this can be caused by inadequate internal communication or defect in organizational structure that caused poor communication between organization levels. (2) Using the incorrect service – quality standards, which is defined by Zeithaml et al. (1990) as the discrepancy between managers' perceptions of customers' expectations and the actual specifications they establish for service quality. This may be due to unwillingness or inability from the company to change the

way a service is delivered to the customers in order to meet his expectations.(3) Service performance, this gap is referred to the inability or unwillingness of the staff in the organization to perform a service at the level of expected by customers. This gap is related to the human elements involved in service delivery and it can be caused poorly motivated workers, a lack of proper supervision, or lack of skilled workers. (4) Promises regarding the service which fails to match delivery, this gap results when an organization pledges a level of service it cannot deliver.

In order to provide quality service, it is vital not only to know what level of service the customer expects but also what level of service customers perceive that the organization provides.

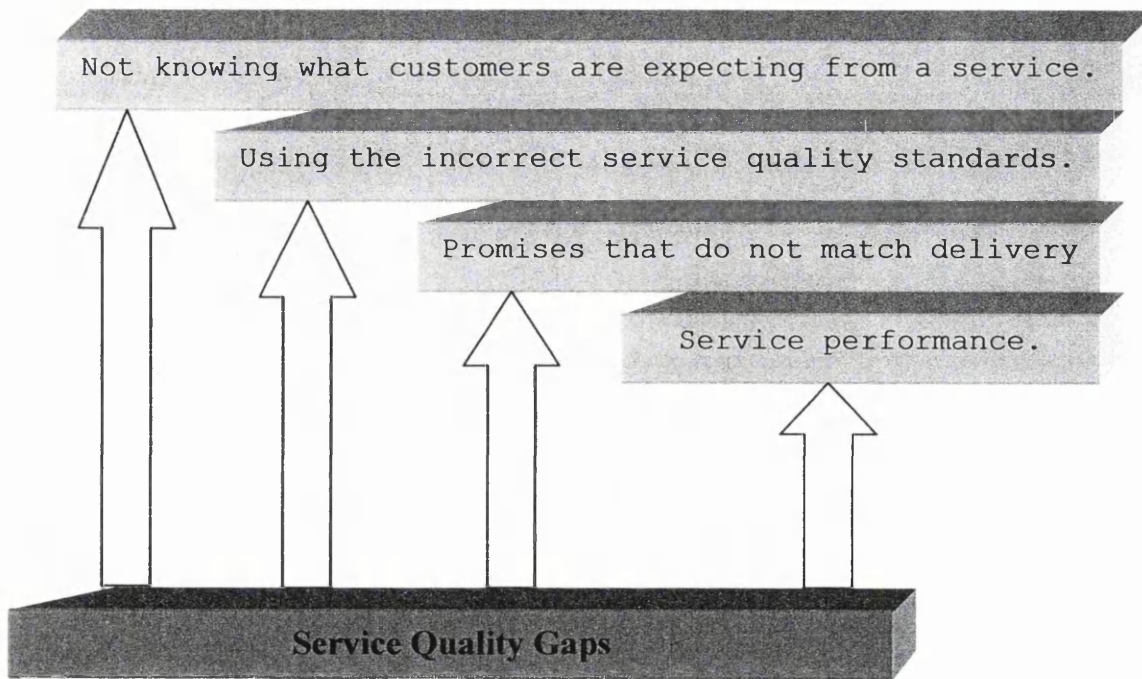


Fig 3.5: Service quality gaps

Zeithaml et al. (1990) have identified four factors (Fig 3.5) that influence customer expectations of service quality. The first of these factors is word of mouth communications from other customers. Feedback from customers who have used the service can "make or break" a service provider. The second factor is the personal needs of the customer, different people have different needs from any facility in an organization. The third factor that can influence customer expectations of service quality is past experiences. According to Hawat et al. (1993), "the quality of service expected by customer will generally be influenced by their previous experiences for a similar or complementary service". Finally, customers will base their expectations on external communications from the service provider and the price – quality relationship.

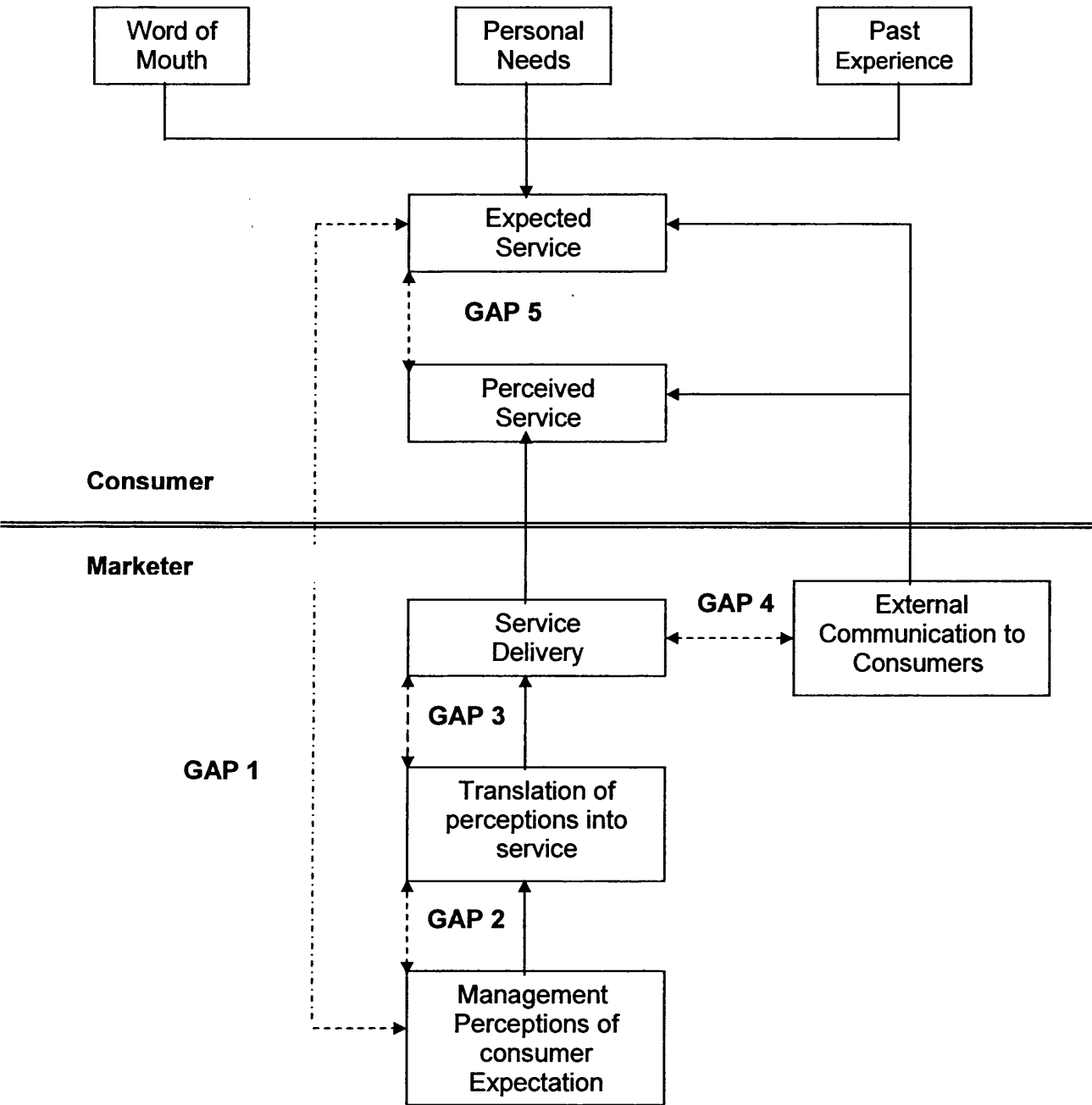


Fig 3.6: Conceptual Model of Service Quality

3.8.1: What is service?

The concept of service comes from business literature. Many scholars have offered various definitions of service. Ramaswamy (1996) described service as "the business transactions that take place between a donor (service provider) and receiver (customer) in order to produce an outcome that satisfies the customer.

In public services, service has been defined by many different definitions during different era. In 1960s and 70s (Crosby 1979), a service was defined as something which can be bought and sold but which you cannot drop on your feet.

Grönroos (1990), defined service as a process consisting of a service of more or less as intangible activities that normally, but not necessarily, take place in interactions between the customer and services employees and / or physical resources or goods and / or systems of the service provider, which are provided as solutions to customer problems.

Kotler (1995) offers the following definitions of service "a service is any activity or benefit that one party can offer to another that is essentially intangible and does not result in the ownership of anything. It may or may not be tied to a physical product".

3.8.2: Characteristics of services:

Most services share the same basic characteristics, which are identified by Grönroos (1990), and Kotler and Andreasen (1995) as the following:

- Services are intangible:

This means that services cannot be touched, grasped or measured. Service is performances, rather than objects. The lack of tangible attributes means that it is difficult for the producer to describe the service and for the consumer to ascertain its likely virtues.

- Variability or heterogeneity:

Quality of services can vary substantially with the person performing the service delivery process, depending on employee skill and moods; therefore, it is difficult to produce services consistently and exactly.

The potential of high variability in the performance of services from producer to producer, from client to client and from day to day, makes quality assurance and control difficult.

- Inseparability or interrelatedness

Production and consumption of service can only take place simultaneously through extensive buyer – seller interactions. Goods are first produced, then sold and finally consumed; services are first sold, then produced and consumed simultaneously.

- Perishability:

Services cannot be stored in one time period for consumption at a later date, therefore it is impossible to have a system of final checks for service while it is possible for goods. This is the reason why service providers need to get the service right first time, every time.

The characteristics of the service make it very different from the goods; therefore, a special strategy for dealing with each characteristic is highly required, for having a high quality service.

Services are not only differentiated from goods by their unique characteristics, but they also differ within a service firm. Zeithaml, Parasuraman and Berry (1988) conclude from their findings that different service qualities exist within service firms, not just between service firms and goods firms.

Eiglier and Langeard (1987) suggest that "a good quality service is one that satisfies the customer", similarly Parasuraman *et al* (1984) identified service quality as relation and dependent on expectation and performances.

3.8.3: Service quality

Service quality is a matter of knowing your customer, designing service to meet the customer's needs, and finally managing the service production and delivery process to the customers' satisfaction.

Defining and measuring the quality of service is quite a complex task as it is determined by imprecise individual factors such as perceptions, expectations and experiences of customers and providers.

Service quality has been defined by Robinson (1999) as "an attitude or global judgment about the superiority of a service". Grönroos (1990) defined service quality as the result of the comparison that customers make between their expectations about service and their perceptions of the manner in which service has been performed.

Service quality perceptions result from a comparison of consumer expectations with actual service performance. Quality evaluation for a service involves evaluations of the process of service delivery.

Research in service quality has focused on perceived service quality. Which is defined as the customer's assessment of the overall excellence or superiority of service (Zeithaml1988).

Parasuraman *et al.* (1985; 1988) consider that a customer's assessment of overall service quality depends on the gap between expectations and perceptions of actual performance levels.

Service quality can be defined as the difference between a customer's expectation and perceptions of delivered services. This view is shared by many researchers (Grönroos 1984, Kettinger and Lee 1995); this must fully and clearly explicate the gap model of Parasuraman *et al.* (1988).

Perception gaps occur when the service provider believes that they are delivering the proper quality of service while the customer thinks otherwise. Therefore, to overcome this situation, the strategy is to narrow and eventually close the gaps. When these gaps are close, the right quality, the perfect fit is achieved.

Many of the key aims that underpin the quest for quality service delivery in the private sector, i.e. customer retention, profitability and limiting costs. This view must be modified when looking at the public sector where service quality is not linked to long – term profitability, but rather to concepts such as "value – for – money", equity, public accountability and Citizen Charter Standards as well as effectiveness in achieving desired outcomes.

The link between service quality and customer satisfaction has been intensively studied by leading researchers including Bitner and Hubbert (1994) and Bolton and Drew (1994).

3.8.4: Service quality and customer satisfaction:

Gerson (1993) defined satisfaction as the customer perception that his or her expectations have been met or surpassed.

There is confusion as to the relationship between consumer satisfaction and service quality. Service providers need to know whether their objective should be to have consumers who are "satisfied" or to deliver the maximum level of "perceived" service quality. Parasurman, Zeithaml and Berry (1988) sought to resolve this argument in proposing that higher levels of perceived service quality results in increased consumer satisfaction.

Oliver (1993) defined satisfaction as "the summary psychological state resulting when the emotion surrounding disconfirmed expectations is coupled with consumer's prior feeling about the consumption experience".

Bolton and Drew (1991) assumed that service quality is analogous to an attitude as basis to suggest that satisfaction is an antecedent of service quality.

Oliver's customer satisfaction model (1993) Fig 3.7 indicates that satisfaction is the result of customer expectations and perceived quality.

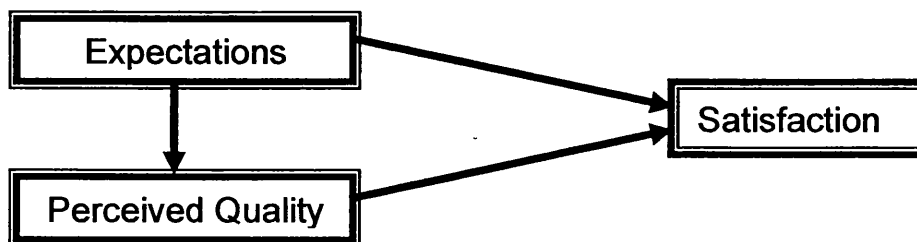


Fig 3.7: Oliver's customer satisfaction model, 1993.

Service quality has been defined as a product of the effort that every member of the organization invests in satisfying customers. Boomsma (1991) stated that when we want to be effective – delivering good quality to the customer – we must produce services that meet "as much as possible" the needs of the consumer. If service quality is to have merit as a source of sustainable competitive advantage, the positive effects of service quality should lead to customer satisfaction.

Rapert (1998) stated that quality of service has a particularly strong impact on customer satisfaction and the overall image of the organization.

There are different perspectives on the relationship between satisfaction and service quality:

The first perspective suggests that satisfaction is antecedent to perceived service quality. The basis of this perspective is that service quality, considered conceptually "similar to an attitude" (Parasuraman, Zeithaml and Berry 1988).

The second, and alternate perspective, suggests service quality as antecedent to satisfaction (Cronin and Taylor 1992) meaning that service quality, as a cognitive evaluation precedes the more emotive satisfaction evaluation.

The third, conceptualization of the relationship between satisfaction and service quality reflects an emerging perspective that tentatively suggests that a non – recursive relationship exists between the constructs.

Fig 3.8 illustrates customer perceptions of quality and customer satisfaction, it shows that situational factors, price, product quality and service quality are the factors that lead to customer satisfaction.

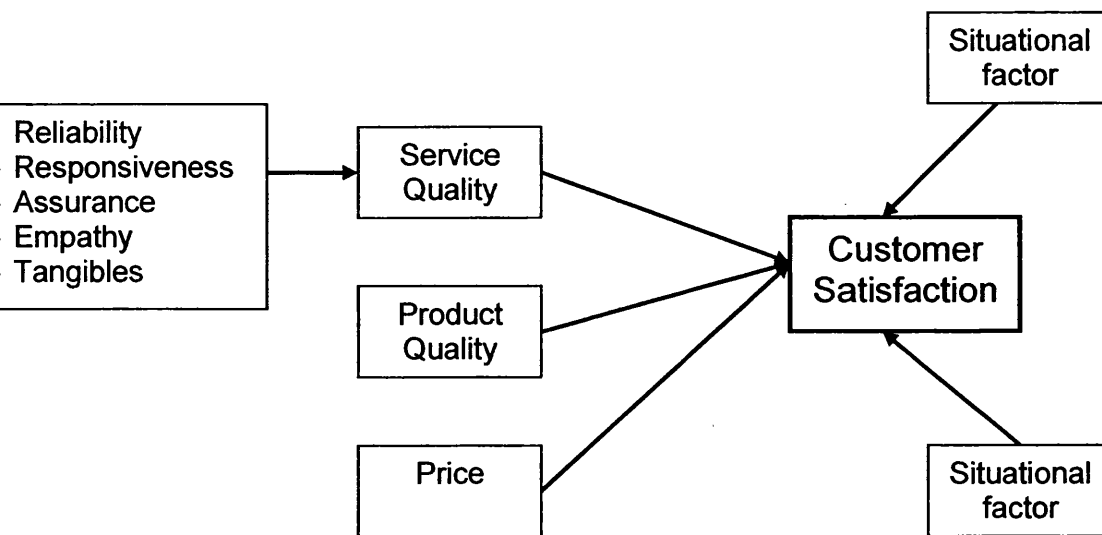


Fig 3.8: Customer perceptions of quality and customer satisfaction

Policymakers are increasingly using patient satisfaction measures to assess the performance of health care organization (Hibbard and Jewett 1996; Zaslavsky et al.2000).

3.8.5: Service quality in the health sector

Donabedian (1980) defined the quality of service in medicine, "it is that kind of care which is expected to maximize an inclusive measure of patient welfare, after one has taken account of the balance of expected gain and losses that attend the process of care in all its parts". Many policymakers in the health field are convinced that attention must be paid to the quality of care across the entire system. In particular, one must ask whether all parts of the

population have access to needed and appropriate services, whether services meet or exceed their expectations.

Many researchers have explored a variety of health care service quality dimensions that may influence patient satisfaction, such as continuity of care, physician expertise, the concern shown by the medical staff, and physical facilities (Ware, Davies – Avery, and Stewart 1978; Ware, Snyder, and Wright 1976).

Findings from these researches suggest that patients as clients are not homogeneous in what they expect from care provider (Reidenbach and Sandifer – Smallwood 1990), and that different patient subgroups (e.g. old versus young and chronic versus acute).

Jun et al. (1998) sums up the dilemma of service quality measurement “Unlike a manufactured product, where quality can readily be assessed, service quality is an elusive and abstract concept that is difficult to define and measure”. Ross (1995) states that “services are not actions and behaviours in and of themselves, but the way customers perceive and interpret those actions, Services in health care 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, either directly or vicariously from outside sources, is frequently the only means of verifying whether health care services meet manifest quality”.

The nature of health service performance differs 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. Patients' needs frequently vary from person to person and from visit to visit. Health care, production and consumption are inseparable. The services are consumed when they are produced, which makes controlling the quality difficult; therefore, the management of health care quality cannot be separated from the management of its provision. The customers usually serve as participants in the service act.

3.9: Models of measuring service quality

In the management literature, different models have been developed in order to find out the determinants of the concept of service quality as well as the appropriate quality measurement techniques, all of them refer to the concept of service quality as a multidimensional phenomenon. The emergence of service quality in Scandinavia was marked by the conceptual work of Grönroos (1983) and Lehtinen (1982). In the United States the pioneering work of Parasuraman, Zeithaml and Berry produce a widely used conceptual framework commonly known as the Gap Model or SERVQUAL for assessing service quality.

3.9.1: Grönroos service quality model:

The model depends on illustrating how the customer perceives the quality of a given service. It divides customers' perceptions of any service into two dimensions (fig 3.8):

- Technical (or output): which demonstrates what the consumer receives, the technical outcome of a process.

- Functional (or process): how the consumer receives the technical outcome, what Grönroos calls “expressive performance of service”

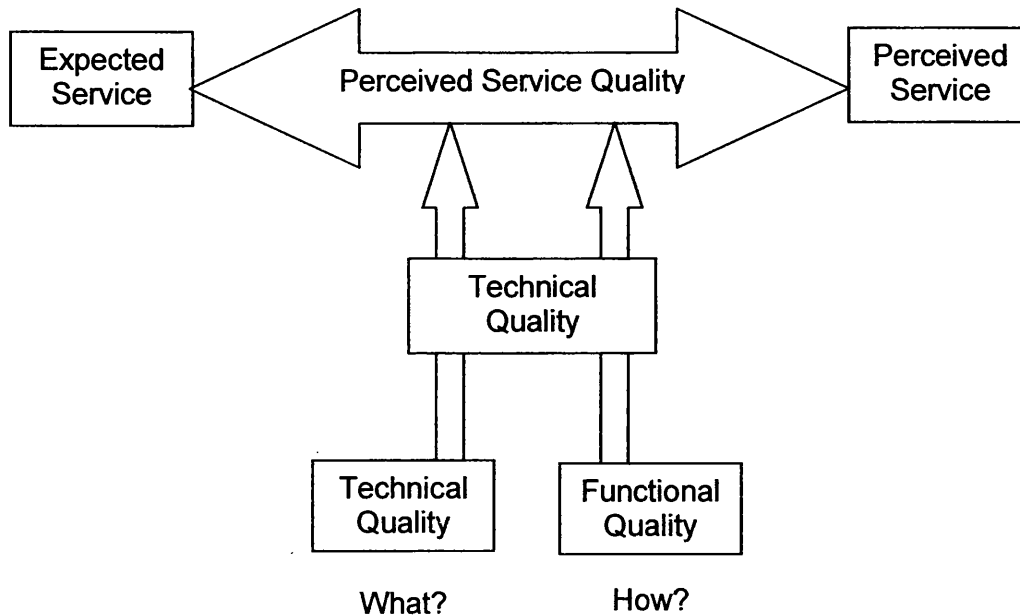


Fig 3.9: Grönroos quality model

3.9.2: The Gap Model by Parasuraman et al.

Identifying the customer needs provides an instrument by which all-critical process in the product or services can be measured. As indicated earlier, the development of the SERVQUAL scale by Parasuraman in 1988 has provided an instrument for measuring functional service quality applicable across a broad range of services.

SERVQUAL is a multiple – item scale for measuring customer perceptions of service quality. The SERVQUAL methodology is well – known in TQM circles as probably the most systematic approach to the measurement of perceptions of quality in service industries. A fundamental principle in this approach is that

it is necessary to measure the difference between consumers' prior expectations of service and the quality of the service as actually experienced.

The SERVQUAL scale has been widely used in research and its psychometric properties have also been examined by a number of studies (Babakus and Boller 1991 and Carman 1990).

SERVQUAL is a multiple – item scale for measuring consumer perception of service quality. The instrument was established as a skeleton for measuring the quality of different services depending on the principle that clients judge service quality by using the same general criteria. Parasuraman et al. (1985; 1988) measured service quality in the following set of organizations: retail banks, a long distance telephone company, a securities broker, an appliance repair and maintenance firm and credit card companies. Parasuraman concluded that consumers perceive service quality by comparing expectations to performance and evaluate the quality of service in different dimensions.

Parasuraman *et al.* (1985) identify five gaps or discrepancies in their conceptual model of service quality (fig 3.5), these gaps have been identified as the following:

Gap (1): the difference between what customers expect and what management perceives they expect.

Gap (2): the discrepancy between managers' perceptions of customers' expectations and the actual specifications they establish for service delivery.

Gap (3): the service – performance gap that is the difference between service specifications and the actual service delivery.

Gap (4): the discrepancy between what an organization promises about a service, as communicated in their slogans, advertising or public relations, and what it actually delivers.

Gap (5): the discrepancy between the customer's expectations and perceptions and reflects the customer's overall service quality assessment.

Parasuraman *et al.* (1985) identify the ten core components of service quality as reliability (consistent performance and dependability), responsiveness (willingness/ readiness to serve), competence (possessing knowledge and skills), access (approachability and ease of contact), courtesy (politeness, consideration and friendliness of staff), communication (updating and listening to customer interests at heart), security (freedom from danger and risk), customer knowledge (understanding needs and personalized attention), as well as tangibles (facilities and physical features).

In subsequent research, Parasuraman *et al.* (1988, 1991, 1994) the service dimensions are collapsed into five categories (dimensions) (fig 3.10).

The five dimensions of service quality and their characteristic serve as a basic structure of the service quality domain from which items were derived for SERVQUAL scale.

The dimensions are:

1. Tangibles: physical facilities, equipment and appearance of personnel
2. Reliability: ability to perform the promised service dependably and accurately
3. Responsiveness: willingness to help customers and provide prompt service

4. Assurance: knowledge and courtesy of employees and their ability to inspire trust and confidence.
5. Empathy: caring, individualized attention the firm provides its customers.

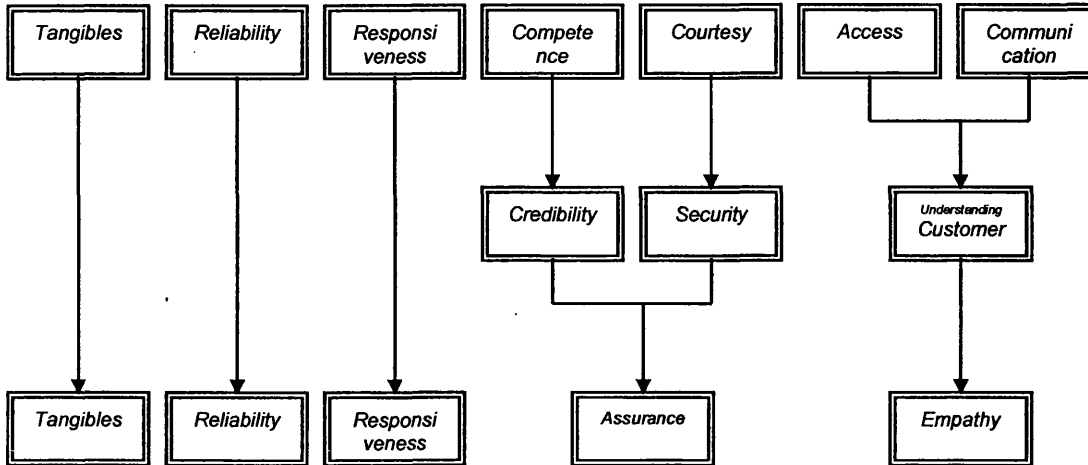


Fig 3.10: Dimensions of service quality

Each item was recast into two statements: one to measure customer expectations about the service provided, and the other about customer perceptions for the same service. A seven - scale answer ranging from “strongly agree” for no. 7 to “strongly disagree” for no. 1. with no verbal labels for scale point 2 through 6.

The average interrelation between the five dimensions varies between 0.21 and 0.26 depending on the service sector studied. Alpha values vary between 0.72 and 0.86, proving that the scale possesses good reliability.

In 1991 Parasuraman, Zeithaml and Berry modified the SERVQUAL scale by changing orientation from the level of service that should be provided and the

transformation of all negatively worded items into positively worded statements.

Parasuraman *et al.* (1985) suggest three underlying themes in the academic literature on services, which are:

- Service quality is more difficult for the consumer to evaluate than goods quality.
- Service quality perceptions result from a comparison of consumer expectations with actual service performance.
- Quality evaluations are not made only on the outcome of service; they also involve evaluation of the process of service delivery.

The basic assumption underlying the SERVQUAL scale is that performance below expectation (obtains a negative score) leads to a perception of low SQ, while exceeding expectations (obtaining a positive score) leads to a perception of high SQ.

Perceived service quality is the result of the customer's comparison of expected service with the service received. They identify the differences between customers' expectations and perceptions using three possible sceneries to define how SQ is perceived by customer:

- a. Expectations of SQ are exceeded (quality exceeds expectations):

$$PS > EX \text{ or } PS - EX > 0$$

- b. Expectation of SQ are achieved (quality is acceptable)

$$PS = EX \text{ or } PS - EX = 0$$

- c. Expectation of SQ are not achieved (quality is unacceptable)

$$PS < EX \text{ or } PS - EX < 0$$

The approach of Parasuraman et al represents the customer entertaining expectations of performance on the service dimensions, observing performance and later forming performance perceptions. Thus, the SERVQUAL instrument illustrate the core of what SQ may mean, namely a comparison to excellence is service by customers.

The work of Parasuraman et al has been used to evaluate health care in Hong Kong, US, Bangladesh and Finland using a method known as SERVQUAL (Lam 1997; Parasuraman, Zeithaml and Berry 1988, Andaleeb, 2001 and Hiidenhovi *et al.* 2002). This has shown that health care service users evaluate the quality of their health care on environmental and interpersonal factors. SERVQUAL aims to establish the gaps between the perceptions of service users and providers (Zeithaml, Parasuraman and Berry1990).

Parasuraman argues management needs to be concerned when:

1. Providers don't know what 'customers' want
2. Quality measurement measures the wrong things
3. Services do not meet expectations
4. Promises do not match delivery

Although initially developed for retailing, SERVQUAL has been found useful in both health care and medical environments (Dean 1999). It has also been used to assess service user views of primary health care teams (Goñi 1999). Use of the SERVQUAL scale has demonstrated that health administrators were most likely to accurately estimate the service expectations of patients, while medical and nursing students were most likely to underestimate them (O'Connor, Trinh and Shewchuk 2000).

Used in health care, the SERVQUAL scale measures:

Assurance - Courtesy displayed by physicians, nurses, or office staff and their ability to inspire patient trust and confidence.

Empathy - Caring, individualized attention provided to patients.

Reliability - Ability to perform the expected service dependably and accurately.

Responsiveness - willingness to provide prompt service.

Tangibles: physical facilities, equipment, and appearance of contact personnel.

Although generally reliable the validity of SERVQUAL has been questioned because the length of the questionnaire and the mental effort in completing it was seen to influence the response (Lee *et al.* 2000). This article questions whether SERVQUAL is valid in all dimensions. The five dimensions that been presented in SERVQUAL are considered as the main skeleton for any services to be measured therefore, I think that it can be used as main dimensions for measuring service quality in health sector.

SERVQUAL is the most extensively used instrument (Choi *et al.* 2004). Its principal weakness is that it is based on expectancy-disconfirmation. Identifying gaps may be inappropriate in health care because patients have few prior expectations.

The instrument "can be adapted or supplemented to fit the characteristics or specific research needs of a particular organization" (Parasuraman, Zeithaml and Berry 1988).

For the a above mentioned reasons I found that the gap model established by Parasuraman is the most flexible and adaptable model to be used as an instrument for this research which is concerned with health services in Kuwait.

3.9.3: Applications of SERVQUAL

The SERVQUAL has been used to assess customer perceptions of service quality in a variety of settings. Its' purpose is to serve as a diagnostic methodology for uncovering broad areas of the organization's service quality shortfalls and strengths.

The instrument SERVQUAL has been applied to different organizations. Published studies include; tyre retailing (Carman, 1990) hotels(Saleh and Ryan, 1992) travel and tourism (Fick and Ritchie, 1991), car servicing (Bouman and Van der Wiele, 1992), business schools (Rigotti and Pitt, 1992), information service (Pitt *et al.* 1995) higher education (Ford *et al.*, 1997), hospitality (Johns, 1993), business to business channel partners (Kong and Mayo, 1993), accounting firms (Freeman and Dart, 1993), architectural services (Baker and Lamb, 1993) recreational services (Taylor et al, 1993), airline (Forst and Kumar, 2000), ocean freight services (Durvasula and Mehta, 1999), banking (Newman, 2000; Kwon and Lee, 1994; Wong and Perry, 1991), apparel retailing (Gaglino and Hathcote, 1994) large retail chains such as KMart, WalMart and Target (Teas, 1993); and local government (Bryslan and Curry, 2001; Wisniewski2001; Scott and Shieff, 1993).

Health care services applications are numerous (Lim and Tang 2000), (Bebko and Garg 1995), (O'Connor et al. 1994), (Babakus and Mangold 1992), (Lytle and Mokwa 1992), (Reidenbach, Sandifer – Smallwood, 1990) and (Woodside

3.9.4: Limitations of the SERVQUAL Model

Despite the plurality of studies and research that have been conducted to support the use of SERVQUAL as a tool for measuring quality of service and approve its reliability in different organizations, some studies appeared on the surface to criticize this instrument and were uncertain about its reliability and validity.

Bebko (2000), Teas(1993), Cornin and Taylor(1992) and Carman(1990) conclude that there are problems with relying on the SERVQUAL method for measuring quality involving the use of gap scores in the measuring of service quality.

The more commonly reported criticisms of the SERVQUAL approach include: from a conceptual point of view: SERVQUAL assumes customers evaluate service quality by comparing service received against that expected, this might not be so, just because a service aspect exceeds expectations does not necessarily mean it is a desirable thing from the customer's point of view, By concentrating on measuring satisfaction and expectation there is danger of not connecting customer needs and business activities and the complex nature of service quality means that it is unlikely that any single approach can fully capture and explain it.

Wong (2002) stated that "The use of SERVQUAL is recommended if knowledge of the pattern of trend expectation is of important in managerial

decision making, other wise, using perception of performance measures appears sufficient to assess service quality".

From a methodological point of view: respondents fatigue at having to rate all service attributes twice, they also tend to rate most dimensions as being highly important, since they are unable to distinguish between aspects that are very and extremely important, and respondents may interpret the expectation/importance questions in different ways.

Criticisms concerning the research instrument are as follow: there is some dispute over which scale is most appropriate and the number of points to include on it, there are some who say the number and dimensions of service quality vary depending on the context and culture involve.

Cornin and Taylor (1992), compare these expectations – perception gaps versus perceptions only, which they call SERVPERF and conclude that the measuring of service performance alone is adequate. They tested the importance of weight SERVPERF, and found a high correlation between weighted and unweighted measures. They conclude that unweighted SERVPERF is sufficient.

Despite the criticisms of SERVQUAL instrument the confidence of many who specialize in the field of measuring the quality of service is unshaken. They continue to employ it and to work to develop it further. As Rust and Zahorik (1993) have observed, "the general SERVQUAL dimensions ... should probably be put on any first pass as a list of attributes of service".

The SERVQUAL measuring scale is one of the most widely used and practically applied instruments for measuring service quality. For this reason, it was selected as the basis to measure the quality of service perceived by

inpatients in Kuwait's public hospitals. This scale enabled us to obtain information about customer (patients) expectations to be gained. This is knowledge which is fundamental SERVQUAL was also used as the basis for determining the level of quality perceived by our customers in terms of these expectations and the service offered, as well as the importance attributed to the observed dimensions of quality.

3.10: Customers' Expectations

Customer expectation has been defined by Brian (2002) as the consumers' subjective evaluation of the value of the attribute at a particular point in time. On the other hand Teas (1993), defines expectations as "desires or wants of the consumer", i.e. what they feel a service provider should offer rather than would offer.

Oliver (1993) defines expectations as "consumer defined probabilities of the occurrence of positive and negative events of the consumer who engages in some behaviour".

Expectations are viewed as the desires or wants of consumers, i.e. what they feel a service provider should offer rather than would offer (fig 3.10). In the *Oxford Advanced Learner's Dictionary of Current English* by Hornby (1974), expectation is defined as "thought or believe that will happen or come, wish for and feel confident that or will receive".

Olson and Dover (1979) stated that the customers' expectations are pre-trial beliefs about a product that serves as standard, or reference, points against which product performance is judged.

Expectation has a different definition when used in service quality from the way it is used in the consumer satisfaction literature. In service quality (fig. 3.11) expectation is what consumers feel a service provider should offer rather than would offer.

In consumer satisfaction, expectation is defined as a prediction made by consumers about what is likely to happen during an impending transaction or exchange.

Zeithamal (1993) developed a conceptual model of customer service expectations. The model clarifies the distinction between customer satisfaction and service quality assessment within a single framework by specifying three different levels of customer expectation:

1. Desired service – Level of service that the customer hopes to receive, what the customer believes. This reflects what the customer wants. Desired service level can be raised due to customer experience and expectations of an affiliated party rise. Sources that influence the desired service level are: (1) personal needs, which include; physical, social, psychological and functional, (2) enduring services intensifiers, which includes; derived service expectation and personal service philosophy.
2. Adequate service – The level of service that the customer will accept, is the minimum tolerable expectation, the bottom level of performance acceptable to the customer, the standard that customers are willing to accept. Sources that influence adequate service levels are: (1) transitory service intensifiers, (2) perceived service alteration, (3) customer self – perceived service role, (4) situational factors, (5) predicted service.
3. Predicted service – the level of service customers believe is likely to occur.

A zone of tolerance separates the desired service level from the adequate service level (fig 3.9), the zone of tolerance represents the difference between desired services and the level of service considered adequate.

Customer expectations are formed by many uncontrollable factors ranging from experience of customers with other companies and their advertising to a customer's psychological state at the time of service delivery.

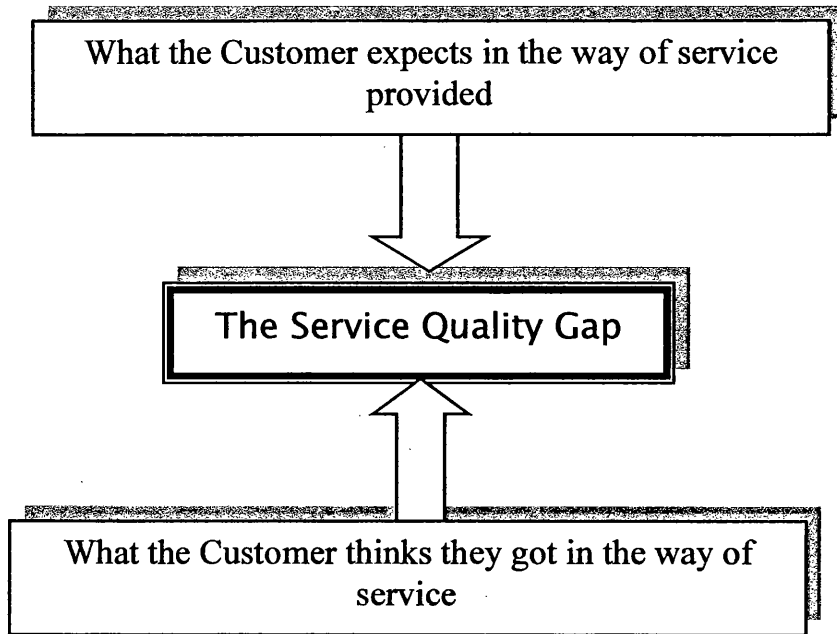


Fig 3.11: The service quality gap

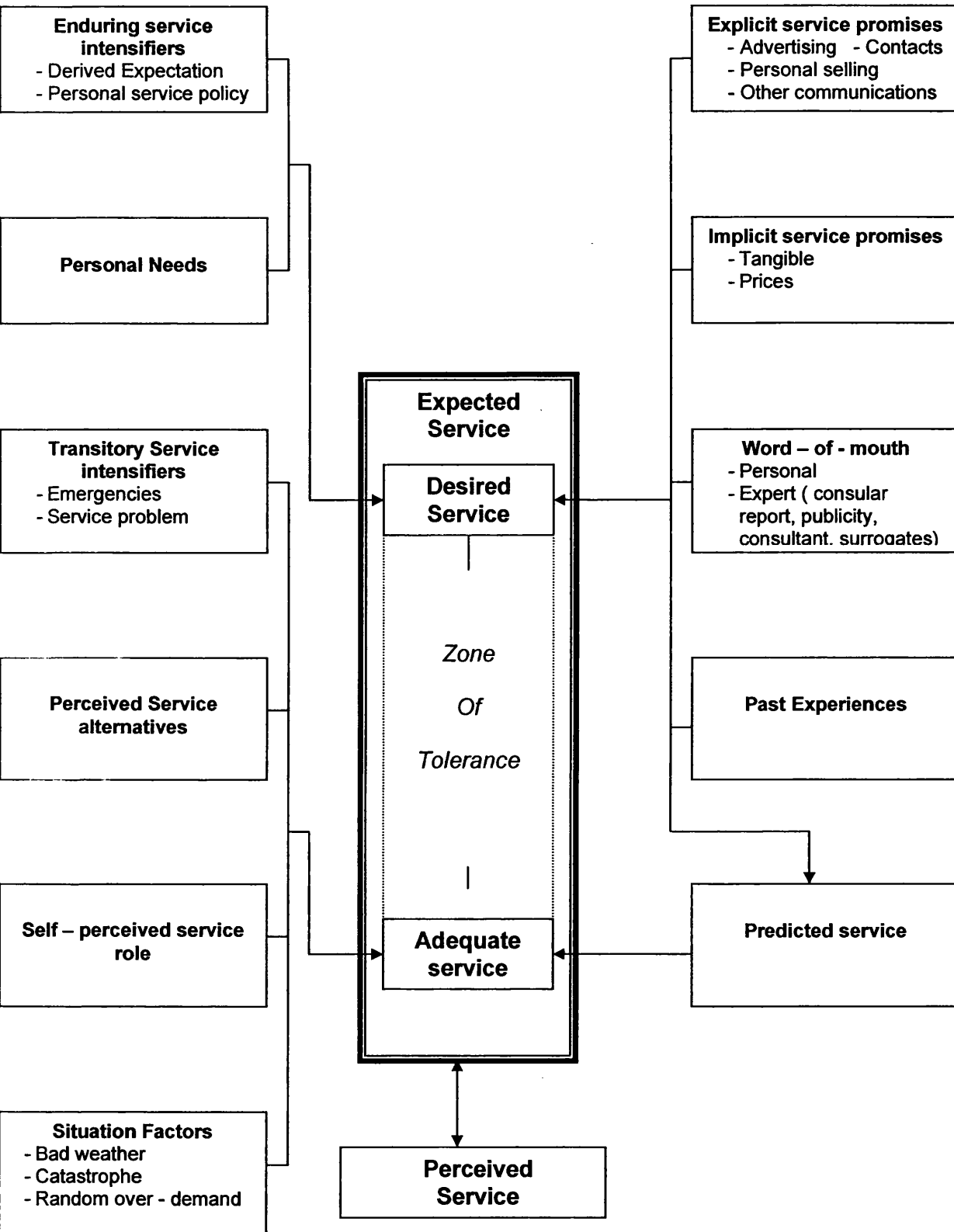


Figure 3.12: Nature and Determinants of Expectations of service

Customer service expectations can be categorized into five overall dimensions:

- Reliability: The ability to perform the promised service dependably and accurately.
- Tangibles: The appearance of physical facilities, equipment, personnel communication material.
- Responsiveness: The willingness to help customer and provide prompt service.
- Assurance: The knowledge and courtesy of employees and their ability to convey trust and confidence.
- Empathy: The caring, individualized attention provided to the customer.

3.11: Customer's Perceptions

Perception is defined in the *Oxford Advanced Dictionary* as a process by which we become aware of changes (through the senses of sight, hearing etc), it is the act or power of perceiving. The *Encyclopaedia Britannica* defines perception in humans as the process whereby sensory stimulation is translated into organized experience; that experience or precept, is the joint product of the stimulation and of the process itself.

Perceptions vary from person to person and different people perceive different things about the same situation.

Factors that influence customer perception of service:

(1) Service encounters:

The most important part of the service is the actual service encounter, when the customer interacts with the service firm, there are three general types of service encounters:

- remote encounter, without direct human contact.
- phone encounter
- face – to – face encounter.

(2) The evidence of service

Three major categories:

- a. people: contact employees
- b. process: operational flow of the activities, steps in the process flexibility vs. standard technology.
- c. physical evidence: tangible communication and technology.

(3) Image: a customer's perceptions of a service can be influenced by the image or reputation of the institute.

(4) Price: The price of the service can influence perceptions of quality, satisfaction and value.

Customer perceptions can be organized in terms of:

(1) Quality of the service: This is defined as delivering an excellent or superior service relative to customer expectations and following the discussion above about SERVQUAL can be defined by five different dimensions: Reliability, Tangibles, Responsiveness, Assurance and Empathy.

(2) Satisfaction with service:

(3) The overall value of service:

The customer compares each set of normative expectations with his perceptions of associated actual behaviour of employees and customers in order to develop service quality perceptions for each of the components.

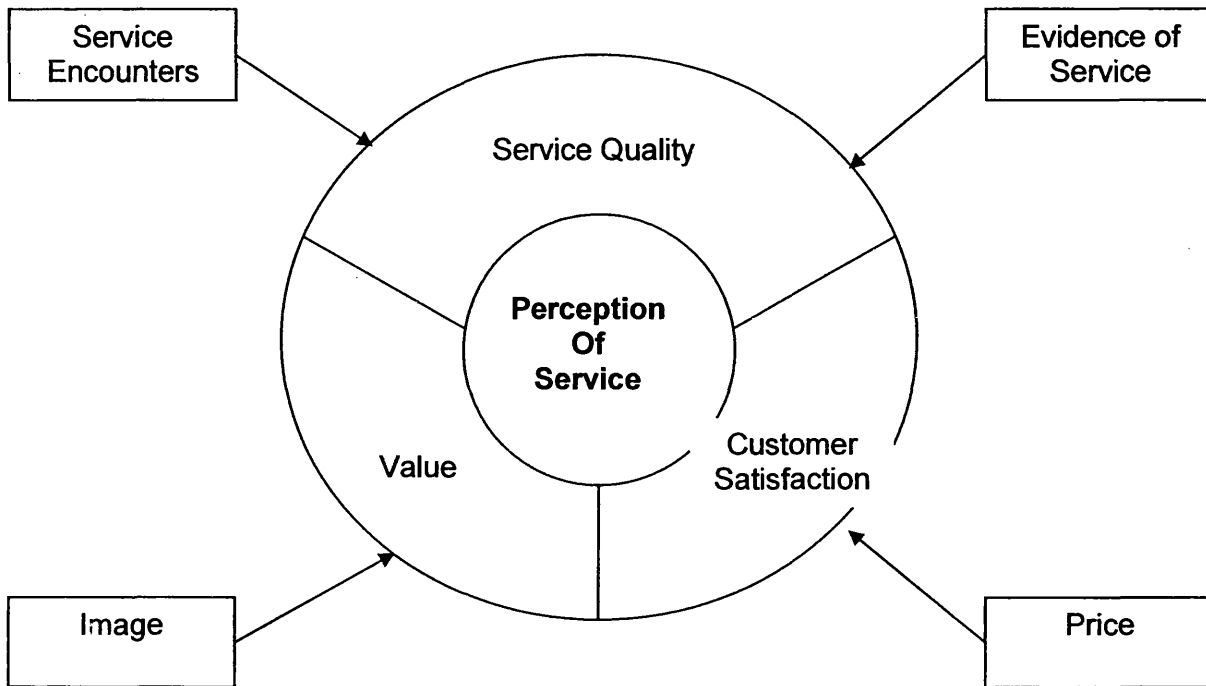


Fig 3.13: Factors that influence customer perceptions of service:

In health services it is very important to measure patient's perception so that services can be improved. This aspect is ignored in developed countries as stated by Andaleeb (2001) "Patients' perceptions about health services seem to have been largely ignored by health care providers in developing countries".

Summary

The literature review has provided a basic understanding of the field of service quality in general and health care specifically through a general review of the extant literature. A review of the studies in the field of measuring service quality by SERVQUAL instrument in industrial fields and in health sector is presented in depth.

Extensive review of the SERVQUAL instrument has shown that challenges and tests of the SERVQUAL model have produced a variety of supporters and opponents. From reviewing different studies it has been found that various researchers have different concepts in modifying the SERVQUAL instrument in a way it suits an organization in environments in a specific country.

It is noted that most researches that have replicated the SERVQUAL model, were generally supportive of the model. Findings from these studies showed that the different dimensions can be used for most services including health care services. It is also noted that some studies have rejected the SERVQUAL model for measuring quality of service, preferring other models.

Despite the fact that the research into SERVQUAL model has resulted in some criticisms, Parasuraman *et.al.* work has had a tremendous influence on presenting a pioneer instrument for measuring quality of service.

As shown from the literature review there are very few studies that have been conducted in the health care services in the region of Middle East and rarely in Arabian Gulf states, therefore, evaluating the suitability and relevance of SERVQUAL model in health care delivery system in Kuwait will add a great knowledge to the field of quality of service in the health sector and

will make the availability of a good instrument for measuring quality of service that suit organizations in this part of the world.

Chapter Four:

Research Design and Methodology

The purpose of this chapter is to describe the methodology and procedures that were used throughout the study to achieve its objectives.

A clear description and explanation for the method used in this research will be discussed and the reason and criteria for the selection of the method used in this research. The chapter starts by defining the words; method and methodology, research design, research method, study sample and data collection.

4.1: Methodology

Methodology is a word coined by two Greek elements: *meth* – an element meaning “after”, *odos* – means “way”, therefore, a method means following the way that someone found to be effective in solving problems, or reaching an objective in getting a job done. So methodology can be defined as the study of a particular method for reaching a desired end.

Dorland (1981), in his illustrated medical dictionary defined methodology as a term used to present different techniques for research design. Dorland defines methodology as “the science of method; the science which deals with the principle of procedure in research and study.

Nachmias and Nachmias (1992) rightly point out "Science is not united by its subject matter but rather by its methodology".

In the present study a quantitative questionnaire was formulated. Quantitative research is best able to correctly represent information about a problem. As Burns and Grove, cited by Cormack (1991), point out quantitative research is a formal, objective, systematic process in which numerical data are utilized to obtain information about the world.

4.2: Research Design

In this study, an exploratory / descriptive design was used. Carter (1991) defines descriptive research as “research which involves the systematic collection of information which aims to discover and describe new facts about a situation, people activities or events”

In this regard Adams and Schivaneveldt (1985) explain that the purpose of exploratory research is to seek out new insights, ask questions, and assess phenomena in different perspectives. It serves three main purposes: (1) to satisfy curiosity, (2) to build methodology that can be used in later, more tightly designed research, and (3) to make recommendations regarding the likelihood e.g. continuing with additional research on the topic.

Leedy (1991) defines the characteristics of descriptive survey in the following way:

- The descriptive survey methods deals with a situation that demands the technique of observation as a prime means of collecting data.
- The population for the study must be carefully chosen, clearly defined and specifically determined in order to set precise parameters for ensuring discreteness to population.
- In descriptive survey, data must be organized and presented systematically so that valid and accurate conclusions can be drawn from them.
- Data in description survey is susceptible to distortion through the introduction of bias into the research design.

Burns and Grove (1993) and Carter (1991) identify a number of measures to be taken to achieve protection against bias, which are:

1. Clear definition of variables.
2. Proper sample selection and size.
3. Using a valid and reliable instrument.
4. Data collection procedures that achieve some environmental control

Schallock (1995) identifies that the approaches of recipients of services are no more passive. He identifies an expectation by service users to be treated as customers, with the associated demands for quality and satisfaction from the service they receive.

The SERVQUAL instrument had been identified within the literature review as being a broad – based instrument of quality evaluation that can be applied across the range of service industries. Parasuraman, Zeithamal, and Berry (1988), pointed out “SERVQUAL can be adapted or supplemented to fit the characteristic or specific research needs of a particular organization”.

In this study, service expectations and perception were measured using a modified version of a SERVQUAL questionnaire which has been used by Babakus and Margold (1992), Vandamme and Leunis (1993).

All questions were altered to a positive format according to Parasuraman et al. following their recommendations as stated in their 1991 refinement of the SERVQUAL instrument where Parasuraman and his colleagues acknowledged that negatively worded questions had created consumer confusion.

The instrument depends on a five point likert scale ranging from [1] strongly disagree to [5] strongly agree which can reduce the complexity of data, create

simplicity in summarizing several observed variables in a meaningful way to simplify the analysis and finally improves the reliability and validity of measurements.

4.3: Research Method

This research deals with service expectations and perceived performance using a modified SERVQUAL questionnaire. The most recent refinement of the original SERVQUAL instrument Parasuraman *et al.*, (1991) and three versions of SERVQUAL modified by Vandamme (1993), Edrees (1996) and Simon (1997), for the use in health service were used as an initial matrix for instrument development.

Besides modifying the instrument for use in measuring the quality of service in the health field, further modifications were made to adapt the instrument to take into account the sociological perspective of the Kuwaiti patients because health care in Kuwait is available free of charge.

In general, only very limited modifications were carried out on the original instrument to make it more suitable for measuring quality of service in health sector. These modifications were limited so that the instrument used in this study would no less reliable and valid as in the original.

These modifications can be listed as the following:

1. Items were re- worded to be suitable for health sector.
2. The seven point scale format was modified to five point scale to reduce frustrations anticipated among patients/respondents.
3. All negatively worded statements used the original instrument were converted to positive statements.

4. A question about the patients' overall rating of hospital quality of service was added.
5. A group of questions were added at the beginning (part one) of the questionnaire to establish what kind of previous experience patients had with health care.

Parasuraman (1991) emphasizes that SERVQUAL "can be adapted or supplemented to fit the characteristic or specific research needs of a particular organization"

Edrees (1996) concluded that the SERVQUAL instrument contributed to discover the gap between patient expectation for quality of health service and patient perceptions in health field.

Simon (1997); concluded that SERVQUAL appears to be a consistent and reliable scale to measure health care service quality.

Babakus et al (1992), emphasizes that the "scale can be successfully used to assess the magnitude of the gap between patients perceptions and expectations".

In Kuwait, no previous research has been carried out to specify the usefulness of SERVQUAL instrument to be implemented in health services in the public sector.

4.4: The Study Sample

The research was conducted on the public health services in the state of Kuwait. The target populations for this study were patients between the ages of 18 and 65 years who were admitted to the hospital for more than 24

hours. The number of patients admitted to the hospital in the age group mentioned for more than 24 hours are estimated to be (67204) patients for the year 1999 (MOH 1999). A sample of predetermined size was selected from the population of interest. Care was taken to ensure that the sample would represent the total population. As Allen and Skinner (1991) stated: "When a sample from a group of individuals or units is taken and a measure made on that sample (the proportion of individuals with a given attitude, for example) this measure is used to estimate the characteristic of the whole group".

The researcher used a convenience sample technique. The convenience sample technique (also known as accidental sampling) is a form of non probability sampling (Brink and Wood 1988, LoBiondo –Wood 1990, Burns and Grove1993). Subjects who were available at the setting and time of the study and met the criteria for inclusion were requested to participate. The advantage of this sampling method was that it made it easier for the researcher to obtain enough participants. This is a very appropriate method when detailed information about the subjects is not possible to have a sampling from. As convenience samples tend to be self - selecting there is a possible risk of bias LoBiondo-Wood (1990). To overcome this problem a clear defined criterion for inclusion was followed, and this is explained in section 4.6 below (patients admitted to the hospital for more than 24 hours).

Table 4.1: No. of patients admitted to general hospitals in each health Region /1999

Health Region	General Hospital	No. of patient admitted
Capital	Al-Amiri	8620
Sabah	Sabah	9350
Jahra	Jahra	10930
Farwanya	Farwanya	10931
Ahmadi	Adan	18079
Hawali	Mubarak	9294

Source: Ministry of Health (1999), Annual statistic book

4.5: Data Collection

A self- administered questionnaire was used for data collection (see *appendix C*). Burns and Grove (1993) describe questionnaires as a printed self- report designed to obtain information through the written responses of the subject.

A questionnaire has the following advantages:

1. Less expensive in term of time and money for gathering data.
2. Subjects feel greater sense of anonymity. Which encourages open responses to sensitive questions?
3. The format is standard for all subjects and is not dependent on the mood of the interviewer.
4. Large number of respondents, covering wide geographic areas, compensate for the expected loss of subjects. Fraenkel and Wallen



(1996) point out that one of the advantages of questionnaire is that they can be distributed to a large number of people simultaneously.

5. A greater amount of data over a broad range of topics may be collected as mentioned by Brink and Wood (1988)

The aim of the questionnaire is to measure some of the characteristics or opinions of its respondents. Black and Champion (1976) have claimed that the questionnaire is probably the most widely used data collection tool.

According to Sarantakos (1993), questionnaires differ from other methods of data collection because of their unique structure and they provide a type and an amount of information that other methods cannot.

The questionnaire is considered to be one of the main tools of collecting data and is particularly useful when information is to be collected from a large number of people. In this regard, Bell (1993) makes the point that questionnaires are a good way of collecting certain types of information in a quick and relatively inexpensive manner.

Despite the many advantages of using questionnaires to measure opinions, some limitations to their use must nevertheless be taken into consideration.

Gruneberg (1979) explains that it is well established that people often give socially acceptable rather than 'real' responses to questions, they often expend little time and effort in filling in questionnaires, and are often influenced by the way the questions are phrased. Sometimes, the questionnaire can function as an instrument that provides answers suggested by the researcher rather than the interpretative viewpoints of respondents.

Furthermore, Sarantakos (1993) mentions another limitation, which is the identity of the respondent. In addition, the conditions under which the

questionnaire is answered are not known. Therefore, researchers are not sure whether the right person has answered the questions. Finally, questionnaires do not provide an opportunity to collect additional information while they are being completed. There is no researcher present, for instance, to make observations while the questions are being answered

The design of method for this research has sought to align the examination of customer views of service quality. The SERVQUAL instrument had been identified within the literature review as being used as a broad based instrument of quality evaluation that can be applied across the range of service industries. This is why the SERVQUAL instrument, in which a gap analysis is applied to customer expectations and perceptions, was selected.

The questionnaire developed was modified from that used by Parasuraman (1991), and additional questions developed by the researcher based on the literature review and consultation with health planners from Ministry of Health and faculty staff in University of Kuwait. The questionnaire consists of three major parts:

The first part: Demographic /background information:

This part of the survey instrument comprises nine questions to measure individual attributes in terms of age, sex, marital status, and nationality. A second category is related to patient's background regarding his health status.

The Second part: Measuring patients' expectations and perceptions:

The design of the second section of the questionnaire was based on that utilized by Parasuraman et al, in their multiple item scale for measuring customer perceptions of quality (SERVQUAL).

The questionnaire consisted of 22-paired questions of likert – type items, and adapted from the work of Parasuraman, et al, (1988).

Both the scales for patients' expectations and perceptions were put on one side of the questions to make it easy for the patients to answer the questions.

Questions in the second part measure the five major dimensions of service quality which are:

Dimension	Question No.
Tangibles	1,2,3&4
Reliability	5,6,7,8&9
Responsive	10,11,12&13
Assurance	14,15,16&17
Empathy	18,19,20,21&22

The third part: Patients' comments:

This part consists of 5 direct questions that deal with customer comments on the service provided.

The overall item list of the SERVQUAL instrument was partial, adapted to take into consideration, both the suggestions found in the health – care literature and recommendations from local hospital staff during a pilot study.

All items included in the questionnaire were positively worded to avoid misreading as in the hospital study discussed by Carman (1990).

Likert scales were used. These are particularly useful for situations in which it is desired to measure respondents' attitudes or opinions are targeted. Attitudes are most commonly defined as consistency maintained emotions. The respondents are asked to indicate the strength of agreement or disagreement, scales of five are used in this study in which the respondent were asked to check a 5 point Likert – type scale from strongly agree (5 point) to strongly disagree (1 point) was adapted instead of the original seven point scale format. This modification was in response to patient's requests during the pilot study and was aimed at reducing the frustration level of the respondent patients, and thereby increases the response rate and quality of the responses.

Anderson et al; (1983) point out that "Likert scales are the popular method of choice and usually employ five choices expressing different degree of agreement or disagreement that yields ordinal measurements".

The English version of the questionnaire was translated into the Arabic language by the researcher in consultation with an Arabic linguist from the College of Art, University of Kuwait Health professionals with Arabic as their first language reviewed the Arabic version to judge its validity.

A package consisting of a covering letter outlining the objectives of the study, the questionnaire for the patients' expectations and perceptions for the quality of the service in the hospital was given to random samples of patients aged from 18 – 65 years who were admitted to the wards for more than 24 hours.

4.6: Sample and Response Rate:

The sample was composed of patients admitted to the hospital for more than 24 hours.

The response rate for the distributed questionnaire was 79.9%, of the 520 surveys that were distributed, 415 were returned, which is an acceptable rate of responses.

The response rate was as follows:

Gender:

Female: (204) Male (211)

Age:

18 – 24 (93) 25 – 39 (228)
40 – 45 (82) More than 55 (12)

Education Level:

Intermediate (22) high School (117)
Diploma (160) University (104)
Others (12)

4.7: Pilot Study

The pilot study is very important in a research investigation as it helps the researcher to see how the questionnaire will be conducted at the time of the main study and it gives the investigator a chance to make necessary modifications to the questionnaire.

Philip, et al (1994) stated that “the use of a pilot study is essential, where the draft questionnaire is tested on a small group of people, who have the same characteristics as the sample group to be used for the main study”.

Similarly, Allen and Skinner (1991) point out that "Pilot work is essential not just to test your measurement instruments also in order to make sure that you have clarified and refined your research objective before you begin your main data collection".

The pilot study of this research was carried out at Al-Amiri general hospital – Capital Health Region. The pilot investigation involved twenty-three patients and 5 health professionals, with the aim of testing the methods and procedure of the study. They were asked to comment on questions and discuss anything that was vague to verify the extent of the clarity of the questions and instructions of the survey, the researcher also asked the following questions to persons who filled in the questions:

- Were the instructions clear?
- Were any questions unclear or ambiguous? If so, Please say which? And Why?
- How long did it take you to complete the survey?
- Was the layout of the questionnaire clear/ attractive?
- Any other comments?

This preliminary study was essential as its results caused the researcher to introduce the following changes that the participants suggested:

- Changing the scale from "7" point to "5" point scale which they find to be easier and reliable for the patients and to reduce the frustration level of the respondent patients, and would thereby increase the response rate and the quality of the responses.
- Some modifications concerning the wording.

4.8: Validity of the study

Validity refers to whether or not what we are manipulating, or measuring truly reflects the concept we are presenting.

Babbie (1992) defines validity as "a descriptive term used of a measure that accurately reflects the concept that it is intended to measure."

Brink and Wood (1988) explained that the content validity of a research instrument is frequently estimated from a review of the literature on the topic or through consultation with experts in the field.

Therefore, the researcher followed the following procedure to increase the validity of this study:

- The pilot study gave the researcher the final opportunity to make additions and modifications, before the final distribution of the questionnaire. Moreover, it familiarized the researcher with the environment in which the research was to take place.
- The questionnaire in this study was selected and modified after a careful literature review in the subject.
- After constructing the questionnaire, specialists were consulted. The procedure was accomplished by asking the specialist to complete the questionnaire in order to get feedback from them. Mouly (1978) called this procedure "Consulting Judges" and stated that consulting outsiders is an essential activity because they can see defects that the researcher does not see, that they are more objective. To this end the questionnaire was given to two professors in Faculty of Allied Health, Kuwait University: Dr. Makdom Shah, Vice Dean for Academic affairs and Dr. Nasser Al-Anzi, Vice Dean

for student affairs. These observers detected some defects that the investigator had not noticed and enabled him to amend these defects.

- The pilot study indicated questions that needed modification and those that could be excluded.

4.9: Reliability of the study:

In the Oxford English Dictionary, reliability is defined as “The quality of being reliable”. A reliable tool is one that will yield every similar result on the same population at another time and in another situation.

Consistency is one of the important characteristics of a reliable tool; it is measured by comparing the responses on one-half of the tool with the responses on the other half. Items for each subscale (e.g. Tangible) were subjected to reliability assessment.

There are several methods used to estimate the degree of reliability. The most common method is the Cronbach (1951) alpha statistic.

Cronbach's alpha which is been used for assessing reliability of this study estimates a scale's homogeneity or its degree of internal consistency, that is, it will tell us how well the items in a given scale are interrelated. The higher the interrelationship between the items, the higher the reliability of the scale and the better the scale will reflect the true values.

The reliability coefficients are derived from Cronbach's alpha which is referred to as r_{sb} :

$$\text{Cronbach's } \alpha = (K / (K-1)) \times (1 - \sum (S_i^2) / S_{\text{sum}}^2)$$

(S_i^2) = indicate the variances for the K individual item.

(S_{sum}^2) = indicate the variances for the sum of all items.

If α is close to 1 your test items are reliable.

Table 4.2: Reliability Coefficient for Dimensions

Dimension	Question No.	Cronbach's alpha	
		Perceptions	Expectations
Tangibles	1,2,3&4	0.7228	0.7024
Reliability	5,6,7,8&9	0.8518	0.7583
Responsive	10,11,12&13	0.7709	0.6085
Assurance	14,15,16&17	0.7709	0.6085
Empathy	18,19,20,21&22	0.8272	0.7972

4.10: Letter to patients:

A letter was written to introduce the patients to the purpose of the study and the questionnaire.

The letter included the identity of the researcher and the benefit of doing this study. The letter was included with every questionnaire handed to patients.

(Appendix A)

The head nurse at each ward was approached officially to facilitate the process of distributing and collecting the questionnaires. It was explained to all head nurses in different wards the benefit that the Ministry can gain from the results of this study to improve the quality of service provided to the patients, this benefit can reflect on the employee when achieving patients' satisfaction.

4.11: Ethical considerations:

Permission from the Ministry of Health and hospital director was obtained for starting data collection by distributing the questionnaires (*Appendix B*).

The Head Nurses in each ward, were considered as ward managers, were involved in facilitating research contact with the patients in the ward and they were to monitor the distribution of the questionnaires, after patients' had agreed to answer the questions.

The researcher identified himself to the respondents and sought to assure them to be completely confident of the confidentiality of answers provided.

It was explained to patients that all data collected would be anonymous, that is, not related to names or other forms of identity.

4.12: Questionnaire distribution and completion

The questionnaire was handed to each individual patient directly, with a brief explanation of the way to answer the questions in different parts.

The patient was requested to spend the required time to answer all questions freely and to hand back the questionnaire after finishing to the head nurse in the ward. A letter of thanks was sent to each patient the next day.

4.13: Data Analysis

In order to make the results of the survey more valid and reliable, data-processing flows were conducted. The data-processing flows included: (1) checking the data to identify similarities in the responses and ensure that the answers were categorized into groups; (2) editing; (3) coding the data by translating the information that the survey respondents provided into numerical symbols that could be processed by a computer; and (4) cleaning the survey data to detect and correct errors during computerization. The data analysis was conducted using the SPSS. Allen and Skinner (1991) point out that the SPSS "is a widely used package and is very useful for the routine management and analysis of survey data." In addition, Freed *et al.* (1991) state that the "SPSS is a well established, versatile, and comprehensive statistical package for researchers in the social and behavioural sciences." Several analytical techniques were used to prepare the results of the study. The data were prepared for computer analysis in terms of frequency and percentage distributions for each statement. According to Borg and Gall (1989), "The frequency distribution, which defines a list of each score on a measure and the number of individuals who earned each score, is used to determine the most frequently occurring score and also the dispersion, or variability, of other scores around this central value."

The data from the questionnaires was analyzed to obtain the following information:

- Demographics collectively and for each dimensions of the service quality measured.
- The mean and standard deviation for each item to ensure validity of the results.
- Difference between perceptions and expectations to measure service quality for each item and for collective scores for each dimension.

Chapter Five:

Data Analysis and Interpretation

This chapter is devoted to the analysis of data, and interpretation of the findings that were generated through questionnaires. Descriptive statistics analysis was used to yield summary measures of selected variables in the study. The data were described by using frequency distributions and descriptive statistics.

The SPSS program was used to analyze the data required as follows:

1. Computation of Coefficient alpha (Cronbach 1951) for each dimension to ascertain the extent to which items making up each dimension shared a common core.
2. Measuring t and F values for patients' expectations, perceptions, and total service quality.
3. Measuring the quality of service for each Item by subtracting the mean value of perception from the mean value of expectation.

This study intended to achieve the objectives of the research as to evaluate the suitability of SERVQUAL Instrument for measuring the quality of service in Ministry of Health Hospitals in Kuwait, examine the relative impact of five service quality dimensions on in-patients in Ministry of Health hospitals, identify the shortcoming aspects of the quality of service from the patients' point of view and finally draw the attention of health administrators to the importance of applying quality improvement principles for overcoming service problems.

The results show that the instrument was suitable and relevant to be used for the following reasons:

- The response rate for the distributed questionnaire was 79.9%, which is considered as a high rate of response, this could be due to the simplicity and suitability of the instrument to be used by patients, identifies potential gaps between expectations and perceptions of service delivery and it helps service providers to understand both patient expectations and perceptions of specific service, as well as quality improvements over time.
- As a diagnosis instrument, SERVQUAL has identified where the largest service quality gaps, as perceived by patients' occur across five dimensions. This serves the purpose to give senior management an instrument to assess all aspects of service quality. The results of this study have added values for service provider in Ministry of Health in Kuwait to look at it and consider it as a guide line for improving the services provided to patients in hospitals.

Finally, the strength of using the instrument in that it identifies service quality which can lead to provided suggestions for closing those gaps.

5.1: Features of SERVQUAL

The mean score for patient expectation, perception and service quality was calculated for the 22 items (Table 5.2, 5.3).

From the data presented, patient expectations for items under dimension "assurances" (mean expectation = 4.62) gave the highest responses, as presented in the following questions:

- *"It is easy for me to obtain medical care if I have a problem".*

(mean score = 4.67)

- *"The working hours in the hospital have operating hours convenient to all their patients"*. (mean score = 4.63)
- *"The behaviour of hospital employees used to instil confidence in patients"*. (mean score = 4.61).

The least essential expectation for patients was in response to question no 4, which states, *The meals are adapted to my health status*, (mean score = 4.28). The second least expectation was in response to the question, *"Employees of the hospital used to tell the patient exactly when the services will be performed"* (mean score = 4.32).

The results for patient perceptions from the services in the hospital in general are low, it is lowest in question *"There are enough recreational facilities in the hospital"* (mean score = 2.39) while the question *"The hospital employees are polite and consistently courteous with patients"* has the highest perception was slightly higher (mean score of 3.29).

The SQ which is calculated by subtracting expectation from perception ($P - E$), is favourable when it is more positive and least negative. The values of quality of services are all in negative signs which indicates that patient expectation is higher than their perception of the service. The highest score for the hospital service quality was *"The employee of the hospital used to tell the patients exactly when the service would be performed"* (mean score for SQ = -1.09), the least is *"The hospital employees are polite and consistently courteous with patients"*, (mean score for SQ = - 1.29).

5.2: Calculating service quality for the Dimensions

As shown in table (5.3) the hospital performance for Responsiveness was rated the highest among the dimensions with the best SQ (mean of score -1.28), while the lowest rate was for Tangibles with mean of (-1.56), this may be due to the poor maintenance done for the building.

5.3: Research Hypotheses

The gap between patients expectations from the service quality being provided by ministry of health and their perceptions of the level of service being provided was -1.46, therefore null – hypothesis (H1) is been rejected. Hypothesis (H2) stated that there is no gap between quality dimensions of health service, results of perceptions and expectations of patients and the total quality perceptions of the service. This hypothesis was rejected since the results (table 5.3 and 5.14) show that there are gap between the quality dimensions of health service and the total quality perceptions of the service

5.4: SERVQUAL across Patient Demographics

Data for demographics of respondents in correlation to patient's perception and expectations and service quality are reported in tables (5.4,5.5, and 5.6).The least educated patients rated quality performance the highest among with the most favourable SQ score (-0.77). The second highest rating for quality of service was by the most highly educated patients (University graduates) with SQ score of (-1.17). The lowest SERVQUAL score rate for service quality (SQ score = -1.87) from patients with high school level.

Data related to the sex of respondents (table 13) of the patients shows that female perceptions (mean score 3.10) were much higher than male perceptions (mean score 2.97) while their expectation was about the same (male = 4.51, females = 4.48). General indications for the quality of the service (QS) is higher among female (-1.38) in comparison to males (-1.54).

With respect to the age (table 14), the respondents of ages ranging between 25 and 39 rated the service with the most favourable SQ score (mean of -1.25). However, service quality was rated least by respondents aged 55 years old and higher and this may be due to the psychological conditions for patients at this age and any special care they required.

5.5: SERVQUAL across Patient Experience

In Kuwait, many patients experience receiving a unique health service from well-known health institutes around the world and that can be a major factor that can affect the respondents' expectations about the quality of the service. Tables 5.11, 5.12 & 5.13 show that the score for patients' expectations who received external health care is much higher than those who did not have the chance. This probably shows the effect of past experience factor on the respondents' answers.

5.6: Statistical Analysis of the SERVQUAL

Quality in medical services is a multidimensional concept reflecting a judgment as to whether the service performed for a patient was the most appropriate to produce the best result that could be reasonably expected by the patient, and whether those services were delivered with due attention to

the doctor patient relationship. Besides that, quality is an attitude that is composed of difference between perception (P) and expectation (E).

SERVQUAL Can be used to assess a given firm's quality for each service by subtracting the score of patient expectations from his perceptions, therefore, service quality (SQ) = P – E.

In this study service quality along each of the five dimensions has been calculated by averaging the different scores.

$$SQ(\text{dimension}) = \frac{\sum (P-E)}{n}$$

n = no. of items in the dimension

The assessment of service quality was performed for all of the 22 service features individually and for the five dimensions.

The measurement of overall SERVQUAL is calculated as mean and standard deviation values for perception and expectation (Table 5). The overall mean score of patient expectation found to be (4.49) and the perceptions score was found to be (3.03) on a five-point scale.

Table 5.2 shows that the expectation response score ranged from 4.67 (E16: "It is easy for me to obtain medical care if I have a problem") to 4.28 (E4: "The meals are adapted to my health status"). By contrast, the range of mean perception scores extend from 3.29 (P17: "The hospital employees are polite and consistently courteous with patients") to 2.39 (P1: "There are enough recreational facilities in the hospital").

In SERVQUAL, scores for service quality ranges from (– 4 to + 4) in a 5 point scale negative values indicate that patients perceptions fall short of his expectations, while zero value means that patient perception and expectations

coincide. Positive values indicate that the patients' perceptions exceed their expectations. The SERVQUAL scores for service quality in this study have a mean of (- 1.46), meaning that on average the respondents perceptions fell short of their expectations regarding the service provided in the hospital.

5.7: Reliability Coefficients

Items for each subscale (e.g. Tangible) were subjected to reliability assessment. The coefficient alpha values for the perceptions subscale were 0.72 (Tangibles), 0.85 (Reliability), 0.77 (responsiveness), 0.77 (assurances) and 0.83 (Empathy).

The Expectation subclass coefficient alpha values were 0.70 (Tangibles), 0.76 (Reliability), 0.76 (responsiveness), 0.61 (assurances) and 0.79 (Empathy).

Among the item – to – total correlation for every item, a few had a correlation with total scores that was lower than 0.35, the cut – off value suggested by Saxe and Weitz (1982). These items *The meals are adapted to my health status* had a correlation of 0.31, *The hospital keeps the patients record available for each appointment* had a correlation of 0.26 and *The working hours in the hospital have operating hours convenient to all their patients* had a correlation of 0.19.

The rest of the item – to – total correlation for the expectation scale ranged from (0.35 – 0.78), while perception scale ranged from (0.39 – 0.74).

Item analysis results for both the expectation and perception score are presented in table 5.14.

The reliabilities for linear combinations of the five dimensions were computed to assess the overall internal consistency of expectations and perceptions

measured (Nunnally 1978). The overall alpha values were 0.91 and 0.94 for the expectation and perceptions score, respectively. The results indicate that the values exhibit desirable levels of internal consistency.

5.8: Overall level of satisfaction from the service provided

Patients were asked to rate their satisfaction with the service they obtained in the hospital, from a low of one to a high of ten. Table 5.15 shows that the average rating for the patients is 6.92 out of 10. The overall rating in respect to the age (table 5.16), showed that patients aged 25 – 39 rated the service they got in the hospital higher of all (7.35 out of 10), while patients aged 18 – 29 rated this the lowest (6.01 out of 10).

The overall evaluation for the quality of service provided in respect of Education Level, as shown in table 5.17 indicates that patients with intermediate qualifications were more satisfied with the service provided (rating 8 out of 10) than people with higher or lower of education, while patients with Diploma qualification showed the lowest level score for satisfaction with the service (rating 6.56 out of 10).

Table 5.18 shows that females were more satisfied with the service provided (rating 6.96 out of 10) than males who rated service at 6.87 out of 10.

Non – Kuwaitis show that they are more satisfied by the care obtained in the hospital (rating 6.99 out of 10) than Kuwaitis (rating 6.89 out of 10), (table 5.19).

The patients who had experience of having health care outside of Kuwait , usually in Europe or the United States were shown to be less satisfied (rating 6.53 out of 10) compared to people who did not gain any exposure to health

care from First world countries, (rating 7.20 out of 10) (table 5.20). This confirms that client experiences have an important role in setting service expectations (Parasuraman *et al*, 1985).

5.9: Patients' recommendations and suggestions for improving the health service

Part three of the questionnaire was specifically designed to record patients' feedback regarding their suggestions and recommendations for improving the health service in the Ministry of Health. The recommendations and suggestions were categorized in four different aspects according to questions asked:

Q1: What aspect of the health services do you feel is performed well?

- Most of the patients agreed, that it was easy to reach the health care facility at a proper time.
- Meeting the requested physician was the aspect that satisfied the most patients.
- The simplicity of admission procedure

Q2: what area of the hospital do you think needs improving?

- Nursing care, most of the patients complained about the nursing care during the duty hours, which start at 2pm to 7am next day.
- The availability of some medications
- Visiting time, patients complained (mainly female), that there was no control on the visiting hours.
- Discrimination among the staff to wards or against patients of the same nationality

Q3: How do you feel about the way the hospital staff have been treating you?

- Most of the patients were satisfied about the way the hospital staff treated them, some of them blamed the hospital administrators for the carelessness of some nurses in providing the expected care for them.
- Delay in ambulance services

Q4: Is there a particular department or section that stands out in your mind?

- Some patients did not answer this question. A big variation was detected among other answers covering most of the departments in the hospital.

The results of this study indicate that:

- The scales of SERVQUAL can be successfully used to assess the magnitude of the gap between patient perceptions and expectations.
- The instrument appears to be a concise and practical instrument useful for monitoring service quality in the health sector.
- These results are similar to the results published by Babakus and Mangled (1992).
- The relative impact of five service quality dimensions on inpatients in Ministry of Health hospitals has been presented clearly as shown in table 5.3.
- The shortcomings of the service from the patients' point of view were presented in examining patients perceptions, expectations and

direct questions as shown in patients answers presented in section 5.8.

-General recommendations were presented to the decision makers in the Ministry of Health and drew attention to the importance of applying quality improvement principles for overcoming service problems. That was presented in section7.2.

Table 5.1: Mean values and standard deviation for patients'

perceptions, expectation and service quality,
(N = 415)

Variables	Mean	Std. Deviation
Patients' perceptions	3.03	1.10
Patients' expectations	4.49	0.68
Service Quality	-1.46	-

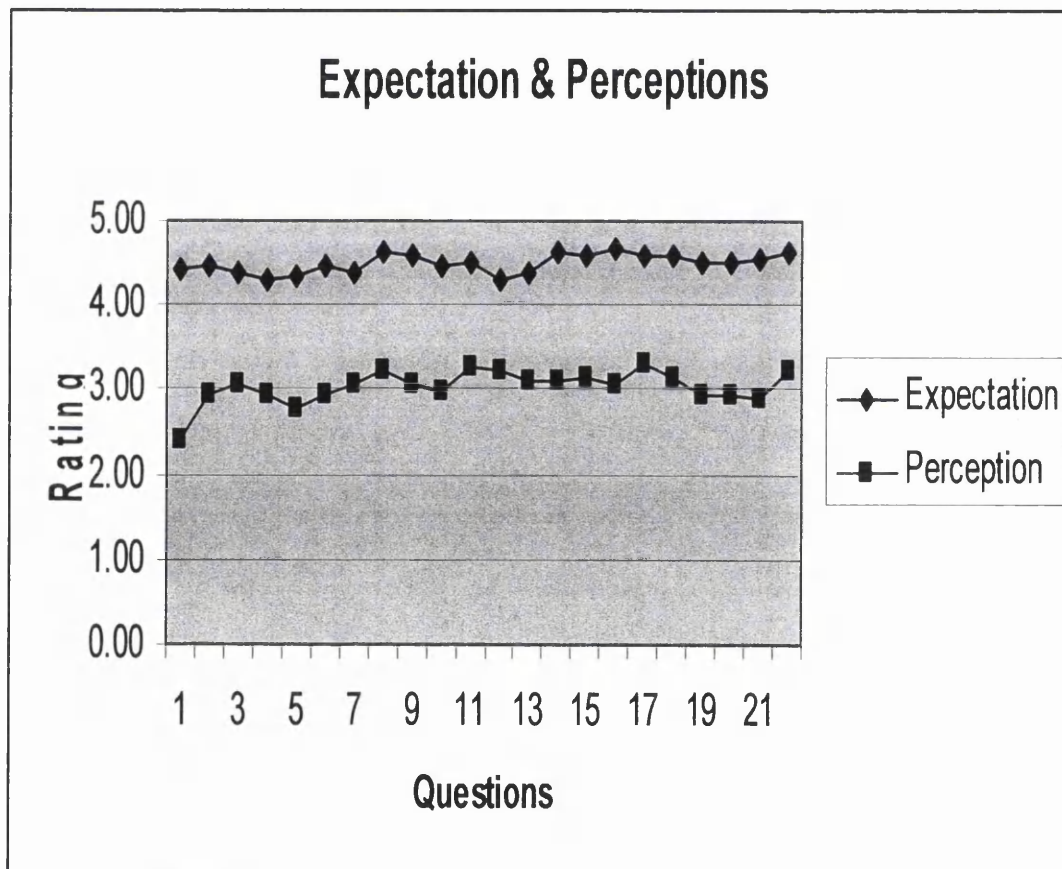


Table 5.2: Expectation, perception and quality of service

Expectation	Mean	SD	Perception	Mean	SD	Quality of service	
E1 There are enough recreational facilities in the hospital	4.42	0.85	P1	2.39	1.19	Q1	-2.03
E2 The physical facilities are visually appealing	4.46	0.91	P2	2.92	1.14	Q2	-1.54
E3 The hospital employees are well dressed and appear neat	4.39	0.85	P3	3.07	1.26	Q3	-1.32
E4 The meals are adapted to my health status	4.28	0.89	P4	2.94	1.32	Q4	-1.34
E5 My room is maintained well	4.36	0.67	P5	2.77	1.11	Q5	-1.59
E6 The hospital provides the service within a reasonable time	4.47	0.65	P6	2.93	1.18	Q6	-1.54
E7 The hospital staff show a sincere interest in solving problems	4.38	0.76	P7	3.08	1.12	Q7	-1.3

E8 The nursing staff is skilful in performing the tasks	4.63	0.54	P8	3.23	1.07	Q8	-1.4
E9 The hospital performs the service right the first time	4.58	0.60	P9	3.07	1.14	Q9	-1.51
E10 The hospital provides the services at the time they promise to do so	4.47	0.60	P10	2.97	1.02	Q10	-1.5
E11 The hospital keeps the patients record available for each appointment	4.52	0.77	P11	3.27	1.02	Q11	-1.25
E12 Employee of the hospital used to tell the patient exactly when the services will be performed	4.32	1.01	P12	3.23	0.97	Q12	-1.09
E13 The employees in the hospital used to be cooperative and give prompt service to patients	4.39	0.75	P13	3.10	0.87	Q13	-1.29

E14 The employees are always willing to help the patients	4.61	0.49	P14	3.10	0.96	Q14	-1.51
E15 The behaviour of hospital employees (physician, Nurses, and Clerks) used to instil confidence in patients	4.61	0.49	P15	3.15	1.10	Q15	-1.46
E16 It is easy for me to obtain medical care if I have a problem	4.67	0.53	P16	3.05	1.15	Q16	-1.62
E17 The hospital employees are polite and consistently courteous with patient	4.58	0.60	P17	3.29	1.20	Q17	-1.29
E18 The hospital employees have the knowledge to answer Patients questions	4.58	0.54	P18	3.16	0.96	Q18	-1.42
E19 The hospital employees give each patient individual attention	4.50	0.72	P19	2.93	1.02	Q19	-1.57

E20 The employees of the hospital understand the needs of the Patients	4.50	0.64	P20	2.94	1.08	Q20	-1.56
E21 The hospital employees have patients interest in their priority	4.55	0.64	P21	2.90	1.14	Q21	-1.65
E22 The working hours in the hospital have operating hours convenient to all their patients	4.63	0.48	P22	3.22	1.25	Q22	-1.41
α	0.91		α	0.94			
Mean	4.49		Mean	3.03		Mean	-1.46

Table 5.3: Mean score of perception, expectation and service quality for the five dimensions

Dimension	Perception (P)	Expectation (E)	Service Quality (SQ)
Tangibles	2.83	4.39	-1.56
Reliability	3.02	4.48	-1.46
Responsiveness	3.14	4.42	-1.28
Assurance	3.15	4.62	-1.47
Empathy	3.03	4.55	-1.52

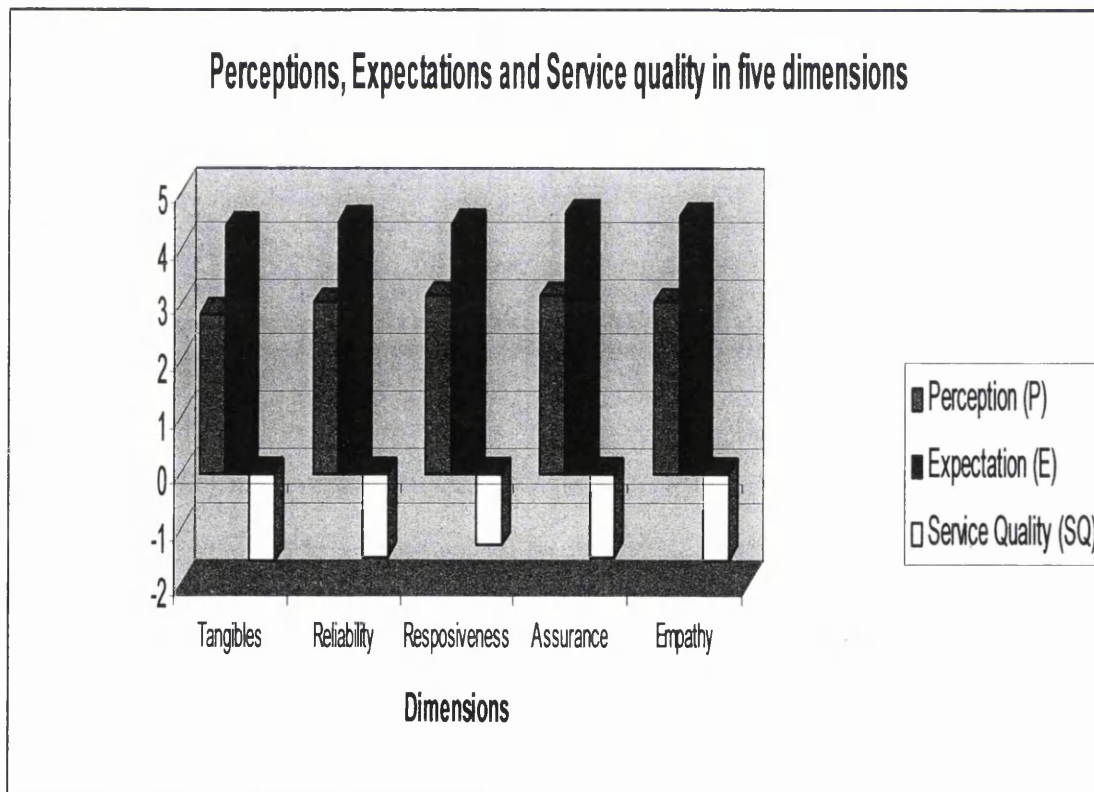


Table 5.4: Perception related to education

		N	Mean	SD	F	Sig.
P1 There are enough recreational facilities in the hospital	Intermediate	22	1.50	0.51	9.33	0.000
	High school	117	2.09	1.13		
	Diploma	160	2.51	1.41		
	University	104	2.79	0.80		
	Others	12	2.64	0.88		
	Total	415	2.39	1.19		
P2 The physical facilities are visually appealing	Intermediate	22	2.00	1.02	16.25	0.000
	High school	117	2.49	1.21		
	Diploma	160	3.01	1.13		
	University	104	3.34	0.82		
	Others	12	4.02	0.98		
	Total	415	2.92	1.14		
P3 The hospital employees are well dressed and appear neat	Intermediate	22	3.02	0.64	13.49	0.000
	High school	117	2.59	1.29		
	Diploma	160	3.20	1.53		
	University	104	3.22	0.42		
	Others	12	4.64	0.38		
	Total	415	3.07	1.26		
P4 The meals are adapted to my health status	Intermediate	22	2.50	1.54	13.87	0.000
	High school	117	2.59	1.57		
	Diploma	160	2.85	1.13		
	University	104	3.32	0.96		
	Others	12	4.84	0.64		
	Total	415	2.94	1.32		
P5 My room is maintained well	Intermediate	22	3.8	0.88	27.64	0.000
	High school	117	2.20	1.25		
	Diploma	160	2.64	1.04		
	University	104	3.34	0.68		
	Others	12	3.00	0.98		
	Total	415	2.77	1.11		
P6 The hospital provides the service within a reasonable time	Intermediate	22	2.50	0.51	5.08	0.001
	High school	117	2.59	1.50		
	Diploma	160	3.14	1.13		
	University	104	3.09	0.87		
	Others	12	3.02	0.78		
	Total	415	2.93	1.18		

P7 The hospital staff show a sincere interest in solving problems	Intermediate	22	3.00	1.02	3.29	0.011
	High school	117	2.87	1.22		
	Diploma	160	3.15	1.26		
	University	104	3.11	0.75		
	Others	12	3.76	1.10		
	Total	415	3.08	1.12		
P8 The nursing staff is skilful in performing the tasks	Intermediate	22	3.12	0.98	10.29	0.000
	High school	117	2.77	1.25		
	Diploma	160	3.42	0.97		
	University	104	3.43	0.97		
	Others	12	3.86	0.78		
	Total	415	3.23	1.07		
P9 The hospital performs the service right the first time	Intermediate	22	4.50	0.51	27.67	0.000
	High school	117	2.39	1.12		
	Diploma	160	3.22	1.08		
	University	104	3.20	0.92		
	Others	12	3.8	0.98		
	Total	415	3.07	1.14		
P10 The hospital provides the services at the time they promise to do so	Intermediate	22	3.20	0.99	6.74	0.000
	High school	117	2.57	0.92		
	Diploma	160	3.08	1.23		
	University	104	3.23	0.79		
	Others	12	3.06	0.98		
	Total	415	2.97	1.02		
P11 The hospital keeps the patients record available for each appointment	Intermediate	22	4.00	1.02	22.12	0.000
	High school	117	2.79	0.97		
	Diploma	160	3.36	1.04		
	University	104	3.33	0.67		
	Others	12	4.02	0.98		
	Total	415	3.27	1.02		
P12 Employee of the hospital used to tell the patient exactly when the services will be Performed	Intermediate	22	2.00	1.02	12.32	0.000
	High school	117	3.30	0.98		
	Diploma	160	3.29	0.96		
	University	104	3.23	0.79		
	Others	12	3.60	0.98		
	Total	415	3.23	0.97		

P13 The employees in the hospital used to be cooperative and give prompt service to patients.	Intermediate	22	3.00	1.02	8.14	0.000
	High school	117	2.87	1.05		
	Diploma	160	3.29	0.87		
	University	104	2.99	0.47		
	Others	12	3.80	1.02		
	Total	415	3.10	0.87		
P14 The employees are always willing to help the patients	Intermediate	22	3.50	1.54	5.37	0.000
	High school	117	3.18	1.06		
	Diploma	160	3.07	0.88		
	University	104	2.88	0.74		
	Others	12	3.04	0.96		
	Total	415	3.10	0.96		
P15 The behaviour of hospital employees (physician, Nurses, and Clerks) used to instil confidence in patients	Intermediate	22	4.00	1.02	13.97	0.000
	High school	117	2.79	1.27		
	Diploma	160	3.43	0.97		
	University	104	2.88	0.89		
	Others	12	3.80	0.97		
	Total	415	3.15	1.10		
P16 It is easy for me to obtain medical care if I have a problem	Intermediate	22	2.94	0.76	12.91	0.000
	High school	117	2.79	1.25		
	Diploma	160	3.29	1.23		
	University	104	3.31	0.81		
	Others	12	2.00	0.97		
	Total	415	3.05	1.15		
P17 The hospital employees are polite and consistently courteous with patient	Intermediate	22	3.00	1.02	12.05	0.000
	High school	117	2.88	1.14		
	Diploma	160	3.49	1.30		
	University	104	3.31	0.95		
	Others	12	4.01	0.98		
	Total	415	3.29	1.20		
P18 The hospital employees have the knowledge to answer Patients questions	Intermediate	22	3.00	1.02	3.13	0.015
	High school	117	2.99	1.19		
	Diploma	160	3.36	0.81		
	University	104	3.09	0.87		
	Others	12	3.00	0.97		
	Total	415	3.16	0.96		
P19	Intermediate	22	2.50	1.54		

The hospital employees give each patient individual attention	High school	117	2.87	1.22	1.79	0.131
	Diploma	160	2.93	0.95		
	University	104	3.10	0.74		
	Others	12	3.20	0.95		
	Total	415	2.93	1.02		
P20 The employees of the hospital understand the needs of the Patients	Intermediate	22	3.00	1.02	5.05	0.001
	High school	117	2.68	1.10		
	Diploma	160	3.01	1.21		
	University	104	2.99	0.82		
	Others	12	3.40	0.95		
	Total	415	2.94	1.08		
P21 The hospital employees have patients interest in their priority	Intermediate	22	3.00	1.02	6.39	0.000
	High school	117	2.55	1.48		
	Diploma	160	3.01	1.08		
	University	104	2.98	0.67		
	Others	12	3.02	1.04		
	Total	415	2.90	1.14		
P22 The working hours in the hospital have operating hours convenient to all their patients	Intermediate	22	3.46	0.67	3.55	0.007
	High school	117	2.98	1.27		
	Diploma	160	3.31	1.49		
	University	104	3.20	0.92		
	Others	12	2.98	0.98		
	Total	415	3.22	1.25		

Table 5.5: Expectation related to education

		N	Mean	SD	F	Sig.
E1 There are enough recreational facilities in the hospital	Intermediate	22	4.50	0.51	4.26	0.002
	High school	117	4.60	0.49		
	Diploma	160	4.37	1.10		
	University	104	4.23	0.79		
	Others	12	4.72	0.54		
	Total	415	4.42	0.85		
E2 The physical facilities are visually appealing	Intermediate	22	3.50	1.54	13.97	0.000
	High school	117	4.80	0.40		
	Diploma	160	4.31	1.15		
	University	104	4.44	0.50		
	Others	12	4.36	0.34		
	Total	415	4.46	0.91		
E3 The hospital employees are well dressed and appear neat	Intermediate	22	4.50	0.51	2.79	0.026
	High school	117	4.39	0.67		
	Diploma	160	4.43	1.04		
	University	104	4.22	0.79		
	Others	12	4.89	0.32		
	Total	415	4.39	0.85		
E4 The meals are adapted to my health status	Intermediate	22	3.00	2.05	22.59	0.000
	High school	117	4.50	0.68		
	Diploma	160	4.43	0.62		
	University	104	3.99	0.82		
	Others	12	4.40	0.60		
	Total	415	4.28	0.89		
E5 My room is maintained well	Intermediate	22	4.80	0.98	11.19	0.000
	High school	117	4.41	0.66		
	Diploma	160	4.43	0.62		
	University	104	4.11	0.74		
	Others	12	4.05	0.65		
	Total	415	4.36	0.67		
E6 The hospital provides the service within a reasonable time	Intermediate	22	3.50	0.51	36.88	0.000
	High school	117	4.81	0.39		
	Diploma	160	4.56	0.63		
	University	104	4.20	0.63		
	Others	12	4.04	0.43		
	Total	415	4.47	0.65		

E7 The hospital staff show a sincere interest in solving problems	Intermediate	22	4.50	0.51	7.43	0.000
	High school	117	4.38	0.81		
	Diploma	160	4.50	0.62		
	University	104	4.09	0.88		
	Others	12	4.47	0.56		
	Total	415	4.38	0.76		
E8 The nursing staff is skilful in performing the tasks	Intermediate	22	4.82	0.53	15.88	0.000
	High school	117	4.69	0.46		
	Diploma	160	4.71	0.46		
	University	104	4.32	0.67		
	Others	12	4.86	0.56		
	Total	415	4.63	0.54		
E9 The hospital performs the service right the first time	Intermediate	22	4.64	0.73	8.21	0.000
	High school	117	4.70	0.46		
	Diploma	160	4.49	0.74		
	University	104	4.55	0.50		
	Others	12	4.62	0.56		
	Total	415	4.58	0.60		
E10 The hospital provides the services at the time they promise to do so	Intermediate	22	4.50	0.51	8.13	0.000
	High school	117	4.39	0.49		
	Diploma	160	4.65	0.61		
	University	104	4.32	0.67		
	Others	12	4.64	0.56		
	Total	415	4.47	0.60		
E11 The hospital keeps the patients record available for each appointment	Intermediate	22	4.67	0.43	6.08	0.000
	High school	117	4.30	0.79		
	Diploma	160	4.56	0.84		
	University	104	4.54	0.70		
	Others	12	4.82	0.64		
	Total	415	4.52	0.77		
E12 Employee of the hospital used to tell the patient exactly when the services will be Performed	Intermediate	22	3.00	2.05	19.34	0.000
	High school	117	4.61	0.49		
	Diploma	160	4.44	1.10		
	University	104	3.99	0.68		
	Others	12	4.67	0.43		
	Total	415	4.32	1.01		
	Intermediate	22	4.00	1.02		

E13 The employees in the hospital used to be cooperative and give prompt service to patients.	High school	117	4.40	0.66	6.68	0.000
	Diploma	160	4.58	0.72		
	University	104	4.20	0.79		
	Others	12	4.23	0.34		
	Total	415	4.39	0.75		
E14 The employees are always willing to help the patients	Intermediate	22	4.50	0.51	15.64	0.000
	High school	117	4.70	0.46		
	Diploma	160	4.71	0.45		
	University	104	4.33	0.47		
	Others	12	4.64	0.74		
Total	415	4.61	0.49			
E15 The behaviour of hospital employees (physician, Nurses, and Clerks) used to instil confidence in patients	Intermediate	22	4.64	0.45	18.29	0.000
	High school	117	4.61	0.49		
	Diploma	160	4.71	0.46		
	University	104	4.33	0.47		
	Others	12	4.82	0.64		
Total	415	4.61	0.49			
E16 It is easy for me to obtain medical care if I have a problem	Intermediate	22	4.5	0.51	9.56	0.000
	High school	117	4.79	0.41		
	Diploma	160	4.72	0.58		
	University	104	4.55	0.50		
	Others	12	4.64	0.64		
Total	415	4.67	0.53			
E17 The hospital employees are polite and consistently courteous with patient	Intermediate	22	4.50	0.51	3.37	0.010
	High school	117	4.60	0.49		
	Diploma	160	4.63	0.62		
	University	104	4.44	0.68		
	Others	12	4.86	0.46		
Total	415	4.58	0.60			
E18 The hospital employees have the knowledge to answer Patients questions	Intermediate	22	4.00	1.02	19.28	0.000
	High school	117	4.79	0.41		
	Diploma	160	4.64	0.48		
	University	104	4.44	0.50		
	Others	12	4.64	0.34		
Total	415	4.58	0.54			

E19 The hospital employees give each patient individual attention	Intermediate	22	3.50	1.54	16.22	0.000
	High school	117	4.69	0.46		
	Diploma	160	4.50	0.62		
	University	104	4.54	0.70		
	Others	12	4.64	0.54		
	Total	415	4.50	0.72		
E20 The employees of the hospital understand the needs of the Patients	Intermediate	22	4.00	1.02	18.24	0.000
	High school	117	4.60	0.49		
	Diploma	160	4.72	0.58		
	University	104	4.21	0.63		
	Others	12	4.24	0.84		
	Total	415	4.50	0.64		
E21 The hospital employees have patients interest in their priority	Intermediate	22	3.50	1.54	23.69	0.000
	High school	117	4.69	0.46		
	Diploma	160	4.57	0.50		
	University	104	4.66	0.47		
	Others	12	4.24	0.64		
	Total	415	4.55	0.64		
E22 The working hours in the hospital have operating hours convenient to all their patients	Intermediate	22	4.64	0.34	38.28	0.000
	High school	117	4.61	0.49		
	Diploma	160	4.86	0.35		
	University	104	4.32	0.47		
	Others	12	4.64	0.35		
	Total	415	4.63	0.48		

Table 5.6: Mean score of expectation, perception and service quality with respect to patients' education level

Education level	Sample Size	Perception (P)	Expectation (E)	Service Quality (SQ)
Intermediate	22	3.00	4.25	-1.25
High School	117	2.72	4.59	-1.87
Diploma	160	3.14	4.57	-1.43
University	104	3.15	4.32	-1.17
Others	12	3.73	4.5	-0.77

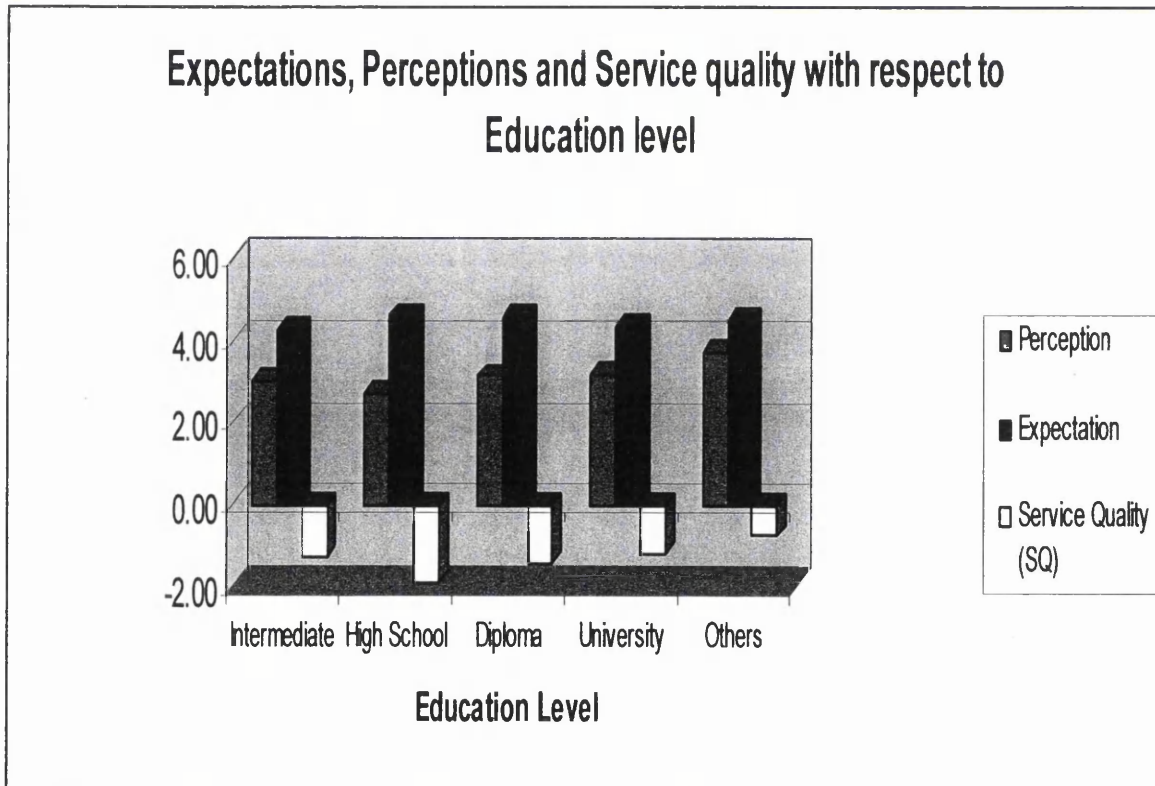


Table 5.7: Perception related to gender

		N	Mean	SD	F	Sig.
P1 There are enough recreational facilities in the hospital	Male	211	2.50	1.22	3.52	0.61
	Female	204	2.28	1.15		
	Total	415	2.39	1.19		
P2 The physical facilities are visually appealing	Male	211	2.78	1.18	6.84	0.009
	Female	204	3.07	1.08		
	Total	415	2.92	1.14		
P3 The hospital employees are well dressed and appear neat	Male	211	3.10	1.25	0.24	0.628
	Female	204	3.04	1.28		
	Total	415	3.07	1.26		
P4 The meals are adapted to my health status	Male	211	2.82	1.35	3.16	0.076
	Female	204	3.05	1.28		
	Total	415	2.84	1.32		
P5 My room is maintained well	Male	211	2.67	1.25	3.70	0.055
	Female	204	2.88	0.94		
	Total	415	2.77	1.11		
P6 The hospital provides the service within a reasonable time	Male	211	3.04	1.13	3.46	0.064
	Female	204	2.82	1.21		
	Total	415	2.93	1.18		
P7 The hospital staff show a sincere interest in solving problems	Male	211	3.21	1.14	5.96	0.015
	Female	204	2.94	1.09		
	Total	415	3.08	1.12		
P8 The nursing staff is skilful in performing the tasks	Male	211	3.04	1.08	14.17	0.000
	Female	204	3.43	1.02		
	Total	415	3.23	1.07		
P9 The hospital performs the service right the first time	Male	211	2.66	1.01	63.56	0.000
	Female	204	3.50	1.12		
	Total	415	3.07	1.14		
P10 The hospital provides the services at the time they promise to do so	Male	211	2.71	0.94	29.29	0.000
	Female	204	3.24	1.03		
	Total	415	2.97	1.02		

P11 The hospital keeps the patients record available for each appointment	Male	211	3.22	1.03	1.12	0.290
	Female	204	3.33	1.00		
	Total	415	3.27	1.02		
P12 Employee of the hospital used to tell the patient exactly when the services will be Performed	Male	211	3.38	0.75	10.92	0.001
	Female	204	3.07	1.13		
	Total	415	3.23	0.97		
P13 The employees in the hospital used to be cooperative and give prompt service to patients.	Male	211	3.04	0.91	2.43	0.120
	Female	204	3.17	0.83		
	Total	415	3.10	0.87		
P14 The employees are always willing to help the patients	Male	211	3.20	1.02	4.29	0.039
	Female	204	3.00	0.88		
	Total	415	3.10	0.96		
P15 The behaviour of hospital employees (physician, Nurses, and Clerks) used to instil confidence in patients	Male	211	3.10	1.11	0.89	0.347
	Female	204	3.21	1.09		
	Total	415	3.15	1.10		
P16 It is easy for me to obtain medical care if I have a problem	Male	211	2.82	1.07	17.14	0.000
	Female	204	3.28	1.19		
	Total	415	3.05	1.15		
P17 The hospital employees are polite and consistently courteous with patient	Male	211	3.14	1.26	6.51	0.011
	Female	204	3.44	1.12		
	Total	415	3.29	1.20		
P18 The hospital employees have the knowledge to answer Patients questions	Male	211	2.88	0.81	39.18	0.000
	Female	204	3.45	1.02		
	Total	415	3.16	0.96		
P19 The hospital employees give each patient individual attention	Male	211	3.09	1.00	10.78	0.001
	Female	204	2.77	1.02		
	Total	415	2.93	1.02		

P20 The employees of the hospital understand the needs of the Patients	Male	211	2.82	1.01	5.11	0.024
	Female	204	3.06	1.14		
	Total	415	2.94	1.08		
P21 The hospital employees have patients interest in their priority	Male	211	2.81	1.26	2.57	0.110
	Female	204	2.99	1.01		
	Total	415	2.90	1.14		
P22 The working hours in the hospital have operating hours convenient to all their patients	Male	211	3.22	1.23	0.000	0.985
	Female	204	3.22	1.28		
	Total	415	3.22	1.25		

Table 5.8: Expectation related to gender

		N	Mean	SD	F	Sig.
E1 There are enough recreational facilities in the hospital	Male	211	4.55	0.60	51.39	0.000
	Female	204	4.29	1.04		
	Total	415	4.42	0.85		
E2 The physical facilities are visually appealing	Male	211	4.72	0.45	38.74	0.000
	Female	204	4.19	1.16		
	Total	415	4.46	0.91		
E3 The hospital employees are well dressed and appear neat	Male	211	4.50	0.60	7.22	0.008
	Female	204	4.27	1.04		
	Total	415	4.39	0.85		
E4 The meals are adapted to my health status	Male	211	4.33	0.67	1.61	0.206
	Female	204	4.22	1.08		
	Total	415	4.28	0.89		
E5 My room is maintained well	Male	211	4.39	0.68	0.838	0.360
	Female	204	4.33	0.66		
	Total	415	4.36	0.67		
E6 The hospital provides the service within a reasonable time	Male	211	4.55	0.60	6.63	0.010
	Female	204	4.39	0.68		
	Total	415	4.47	0.65		
E7 The hospital staff show a sincere interest in solving problems	Male	211	4.32	0.89	2.75	0.098
	Female	204	4.44	0.60		
	Total	415	4.38	0.76		
E8 The nursing staff is skilful in performing the tasks	Male	211	4.55	0.60	10.59	0.001
	Female	204	4.72	0.45		
	Total	415	4.63	0.54		
E9 The hospital performs the service right the first time	Male	211	4.60	0.49	0.671	0.413
	Female	204	4.55	0.69		
	Total	415	4.58	0.60		
P10 The hospital provides the services at the time they promise to do so	Male	211	4.32	0.58	26.65	0.000
	Female	204	4.62	0.59		
	Total	415	4.47	0.60		

E11 The hospital keeps the patients record available for each appointment	Male	211	4.27	0.94	51.39	0.000
	Female	204	4.78	0.42		
	Total	415	4.52	0.77		
E12 Employee of the hospital used to tell the patient exactly when the services will be Performed	Male	211	4.44	0.69	6.15	0.014
	Female	204	4.19	1.25		
	Total	415	4.32	1.01		
E13 The employees in the hospital used to be cooperative and give prompt service to patients.	Male	211	4.32	0.67	3.53	0.061
	Female	204	4.46	0.83		
	Total	415	4.39	0.75		
E14 The employees are always willing to help the patients	Male	211	4.60	0.49	0.11	0.74
	Female	204	4.62	0.49		
	Total	415	4.61	0.49		
E15 The behaviour of hospital employees (physician, Nurses, and Clerks) used to instil confidence in patients	Male	211	4.66	0.47	5.75	0.017
	Female	204	4.55	0.50		
	Total	415	4.61	0.49		
E16 It is easy for me to obtain medical care if I have a problem	Male	211	4.66	0.48	0.061	0.805
	Female	204	4.67	0.57		
	Total	415	4.67	0.53		
E17 The hospital employees are polite and consistently courteous with patient	Male	211	4.55	0.60	0.99	0.322
	Female	204	4.61	0.59		
	Total	415	4.58	0.60		
P18 The hospital employees have the knowledge to answer Patients questions	Male	211	4.72	0.45	26.99	0.000
	Female	204	4.45	0.60		
	Total	415	4.58	0.54		
E19 The hospital employees give each patient individual attention	Male	211	4.60	0.60	9.36	0.002
	Female	204	4.39	0.82		
	Total	415	4.50	0.72		
E20 The employees of the hospital understand the needs of the Patients	Male	211	4.72	0.45	4.11	0.043
	Female	204	4.19	1.16		
	Total	415	4.46	0.91		

E21 The hospital employees have patients interest in their priority	Male	211	4.60	0.49	2.41	0.122
	Female	204	4.50	0.76		
	Total	415	4.55	0.64		
E22 The working hours in the hospital have operating hours convenient to all their patients	Male	211	4.55	0.50	13.39	0.000
	Female	204	4.72	0.45		
	Total	415	4.63	0.48		

Table 5.9: Mean score of expectation, perception and service quality with respect to patients' gender

Gender	Sample Size	Perception	Expectation	Service Quality (SQ)
Male	211	2.97	4.51	-1.54
Female	204	3.1	4.48	-1.38

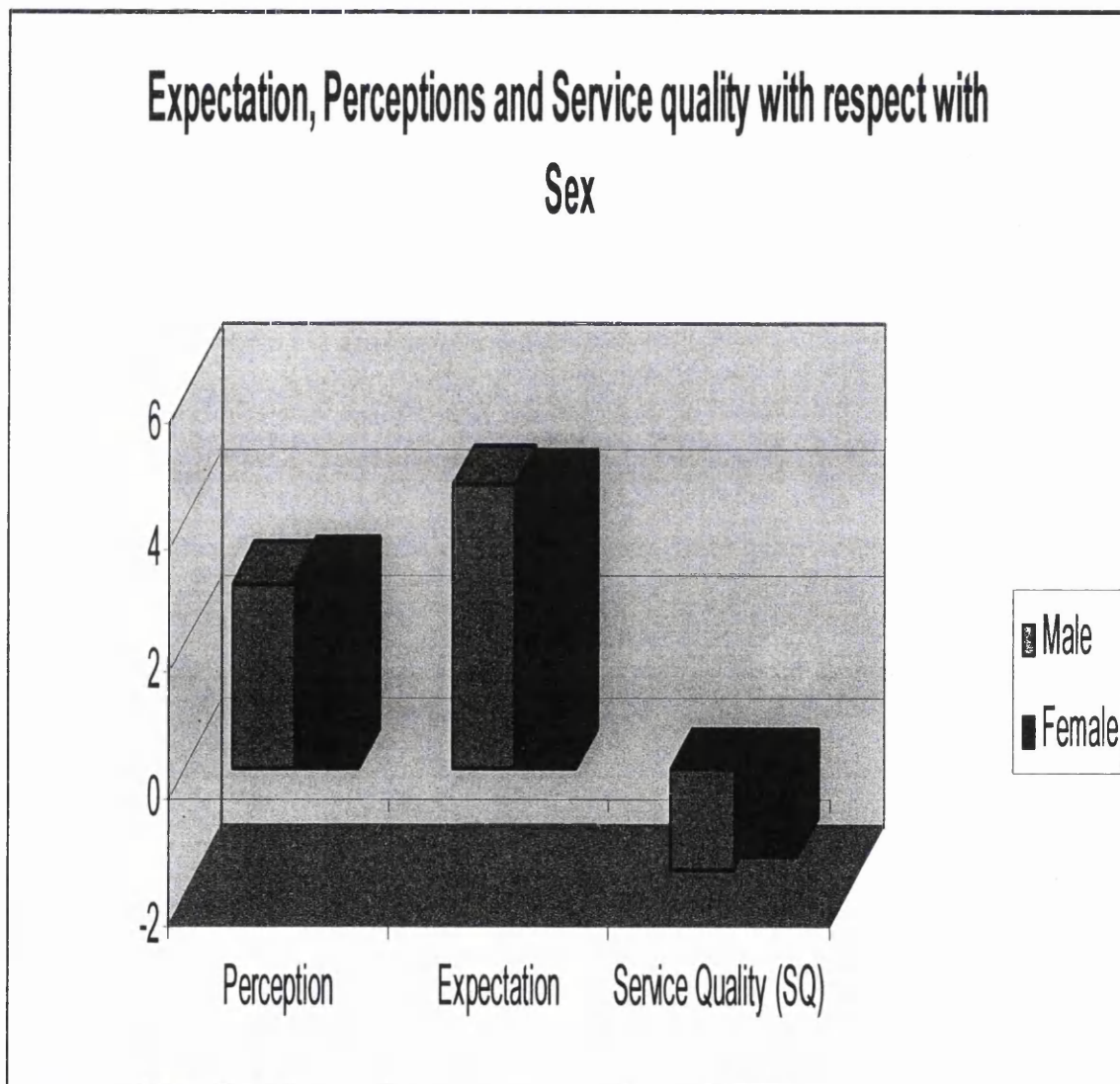


Table 5.10: Mean score of expectation, perception and service quality with respect to age

Age	Sample Size	Perception	Expectation	Service Quality (SQ)
18 - 24	93	2.83	4.4	-1.57
25 - 39	228	3.34	4.59	-1.25
40 - 54	82	2.46	4.29	-1.83
More 55	12	2.68	4.82	-2.14

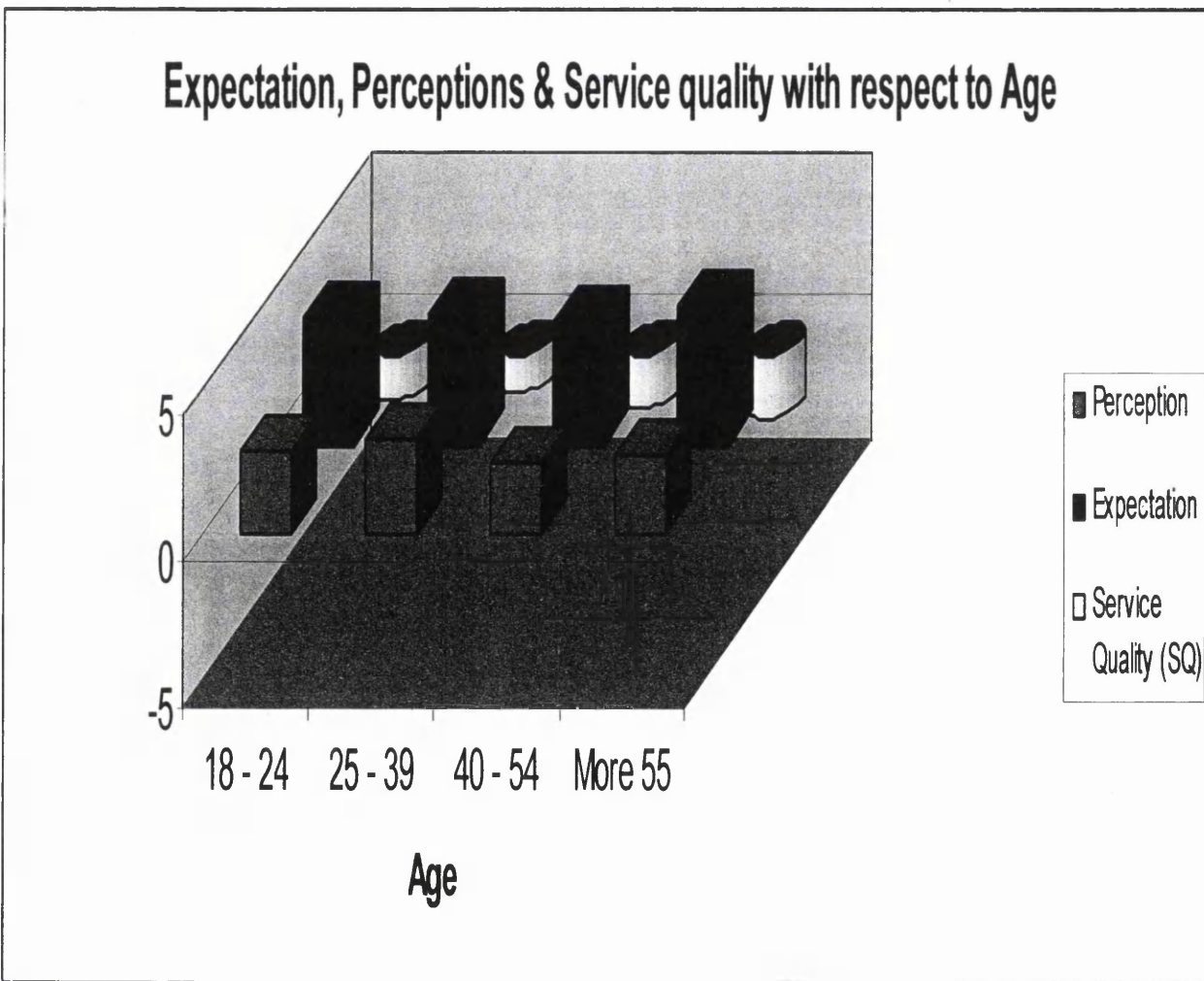


Table 5.11: Perception related to experience of external medical service

		N	Mean	SD	F	Sig.
Perception (1) Having medical service outside Kuwait	Yes	173	2.47	1.15	1.47	0.226
	NO	242	2.33	1.21		
	Total	415	2.39	1.19		
Perception (2) Having medical service outside Kuwait	Yes	173	3.01	1.21	1.66	0.199
	NO	242	2.86	.091		
	Total	415	2.92	1.14		
Perception (3) Having medical service outside Kuwait	Yes	173	3.39	0.96	19.69	0.000
	NO	242	2.85	1.40		
	Total	415	3.07	1.26		
Perception (4) Having medical service outside Kuwait	Yes	173	3.46	1.15	53.07	0.000
	NO	242	2.56	1.30		
	Total	415	2.94	1.32		
Perception (5) Having medical service outside Kuwait	Yes	173	2.99	1.10	11.64	0.001
	NO	242	2.62	1.10		
	Total	415	2.77	1.11		
Perception (6) Having medical service outside Kuwait	Yes	173	3.60	0.87	121.31	0.000
	NO	242	2.46	1.14		
	Total	415	2.93	1.18		
Perception (7) Having medical service outside Kuwait	Yes	173	3.39	1.09	24.87	0.000
	NO	242	2.85	1.09		
	Total	415	3.08	1.12		
Perception (8) Having medical service outside Kuwait	Yes	173	3.32	0.78	2.11	0.147
	NO	242	3.17	1.23		
	Total	415	3.23	1.07		
Perception (9) Having medical service outside Kuwait	Yes	173	3.52	0.88	51.40	0.000
	NO	242	2.75	1.20		
	Total	415	3.07	1.14		
Perception (10) Having medical service outside Kuwait	Yes	173	2.92	1.14	0.55	0.460
	NO	242	3.00	0.92		
	Total	415	2.97	1.02		
Perception (11) Having medical service outside Kuwait	Yes	173	3.73	0.85	71.03	0.000
	NO	242	2.95	1.00		
	Total	415	3.27	1.02		
Perception (12) Having medical service outside Kuwait	Yes	173	3.08	0.99	7.85	0.005
	NO	242	3.34	0.94		
	Total	415	3.23	0.97		

Perception (13) Having medical service outside Kuwait	Yes	173	3.3	0.59	20.74	0.000
	NO	242	2.94	1.00		
	Total	415	3.10	0.87		
Perception (14) Having medical service outside Kuwait	Yes	173	3.39	1.01	27.64	0.000
	NO	242	2.90	0.87		
	Total	415	3.10	0.96		
Perception (15) Having medical service outside Kuwait	Yes	173	3.46	0.89	23.69	0.000
	NO	242	2.94	1.18		
	Total	415	3.15	1.10		
Perception (16) Having medical service outside Kuwait	Yes	173	3.60	1.08	80.73	0.000
	NO	242	2.66	1.04		
	Total	415	3.05	1.15		
Perception (17) Having medical service outside Kuwait	Yes	173	3.65	1.14	29.09	0.000
	NO	242	3.03	1.18		
	Total	415	3.29	1.20		
Perception (18) Having medical service outside Kuwait	Yes	173	3.53	0.80	50.03	0.000
	NO	242	2.89	0.98		
	Total	415	3.16	0.96		
Perception (19) Having medical service outside Kuwait	Yes	173	3.26	0.92	32.40	0.000
	NO	242	2.70	1.03		
	Total	415	2.93	1.02		
Perception (20) Having medical service outside Kuwait	Yes	173	3.20	0.90	17.72	0.000
	NO	242	2.75	1.16		
	Total	415	2.94	1.08		
Perception (21) Having medical service outside Kuwait	Yes	173	3.06	1.07	5.79	0.016
	NO	242	2.79	1.19		
	Total	415	2.90	1.14		
Perception (22) Having medical service outside Kuwait	Yes	173	3.74	1.12	58.87	0.000
	NO	242	2.84	1.21		
	Total	415	3.22	1.25		

Table 5.12: Expectation related to experience of external medical service

		N	Mean	SD	F	Sig.
Expectation (1) Having medical service outside Kuwait	Yes	173	4.47	0.62	0.79	0.374
	NO	242	4.39	0.99		
	Total	415	4.42	0.85		
Expectation (2) Having medical service outside Kuwait	Yes	173	4.61	0.79	8.69	0.003
	NO	242	4.35	0.98		
	Total	415	4.46	0.91		
Expectation (3) Having medical service outside Kuwait	Yes	173	4.33	0.70	1.39	0.238
	NO	242	4.43	0.95		
	Total	415	4.39	0.85		
Expectation (4) Having medical service outside Kuwait	Yes	173	4.27	1.11	0.011	0.917
	NO	242	4.28	0.70		
	Total	415	4.28	0.89		
Expectation (5) Having medical service outside Kuwait	Yes	173	4.60	0.61	42.73	0.000
	NO	242	4.19	0.66		
	Total	415	4.36	0.67		
Expectation (6) Having medical service outside Kuwait	Yes	173	4.61	0.61	13.72	0.000
	NO	242	4.37	0.66		
	Total	415	4.47	0.67		
Expectation (7) Having medical service outside Kuwait	Yes	173	4.60	0.49	25.59	0.000
	NO	242	4.22	0.87		
	Total	415	4.38	0.76		
Expectation (8) Having medical service outside Kuwait	Yes	173	4.66	0.48	0.92	0.339
	NO	242	4.61	0.58		
	Total	415	4.63	0.54		
Expectation (9) Having medical service outside Kuwait	Yes	173	4.73	0.45	19.62	0.000
	NO	242	4.47	0.66		
	Total	415	4.58	0.60		
Expectation (10) Having medical service outside Kuwait	Yes	173	4.60	0.49	13.88	0.000
	NO	242	4.38	0.65		
	Total	415	4.47	0.60		
Expectation (11) Having medical service outside Kuwait	Yes	173	4.79	0.76	40.77	0.000
	NO	242	4.32	0.72		
	Total	415	4.52	0.77		
Expectation (12) Having medical service outside Kuwait	Yes	173	4.28	0.98	0.42	0.516
	NO	242	4.34	1.03		
	Total	415	4.32	1.01		

Expectation (13) Having medical service outside Kuwait	Yes	173	4.46	0.61	3.11	0.078
	NO	242	4.33	0.83		
	Total	415	4.39	0.75		
Expectation (14) Having medical service outside Kuwait	Yes	173	4.46	0.50	28.76	0.000
	NO	242	4.71	0.45		
	Total	415	4.61	0.49		
Expectation (15) Having medical service outside Kuwait	Yes	173	4.66	0.47	4.14	0.043
	NO	242	4.57	0.50		
	Total	415	4.61	0.49		
Expectation (16) Having medical service outside Kuwait	Yes	173	4.73	0.44	5.17	0.024
	NO	242	4.62	0.57		
	Total	415	4.67	0.53		
Expectation (17) Having medical service outside Kuwait	Yes	173	4.53	0.72	1.81	0.179
	NO	242	4.61	0.49		
	Total	415	4.58	0.60		
Expectation (18) Having medical service outside Kuwait	Yes	173	4.61	0.61	0.57	0.452
	NO	242	4.57	0.50		
	Total	415	4.58	0.54		
Expectation (19) Having medical service outside Kuwait	Yes	173	4.53	0.80	0.71	0.399
	NO	242	4.47	0.66		
	Total	415	4.50	0.72		
Expectation (20) Having medical service outside Kuwait	Yes	173	4.60	0.61	7.61	0.006
	NO	242	4.43	0.66		
	Total	415	4.50	0.64		
Expectation (21) Having medical service outside Kuwait	Yes	173	4.54	0.80	0.20	0.654
	NO	242	4.57	0.50		
	Total	415	4.55	0.64		
Expectation (22) Having medical service outside Kuwait	Yes	173	4.73	0.45	11.70	0.001
	NO	242	4.57	0.50		
	Total	415	4.63	0.48		

Table 5.13: Mean score of expectation, perception and service quality with respect of having medical care outside Kuwait

Having Medical Care outside Kuwait	Sample Size	Perception	Expectation	Service Quality (SQ)
Yes	173	3.32	4.56	-1.24
No	242	2.83	4.45	-1.62

Expectations, Perceptions and Service quality with respect to having external experiences

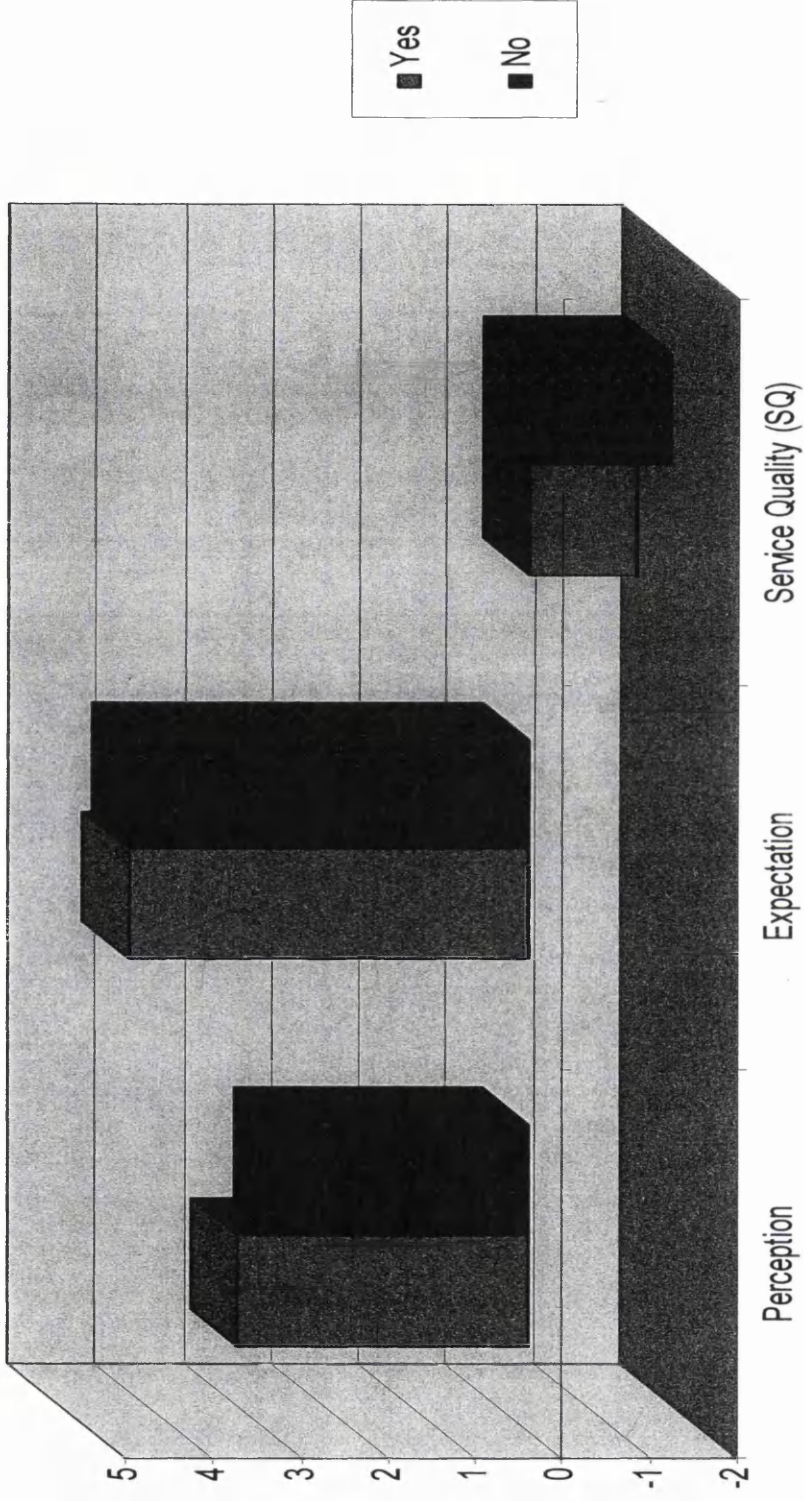


Table 5.14: Expectation and perceptions scale item – to – total correlations, reliability and item means and standard deviation (N = 412)

Item in each dimension	Perceptions (P)			Expectation (E)			Service Quality (P – E)
	X	SD	Item – to – total correlation	X	SD	Item – to – total correlation	
Tangibles	$\alpha = 0.7228$			$\alpha = 0.7024$			
(1) There are enough recreational facilities in the hospital	2.39	1.19	0.39	4.42	0.85	0.36	-2.03
(2) The physical facilities are visually appealing	2.92	1.14	0.63	4.46	0.91	0.70	-1.54
(3) The hospital employees are well dressed and appear neat	3.07	1.26	0.49	4.39	0.85	0.62	-1.32
(4) The meals are adapted to my health status	2.94	1.32	0.55	4.28	0.89	0.31	-1.34
Reliability	$\alpha = 0.8518$			$\alpha = 0.7583$			
(5) My room is maintained well	2.77	1.11	0.64	4.36	0.67	0.55	-1.59
(6) The hospital provides the service within a reasonable time	2.93	1.18	0.61	4.47	0.65	0.46	-1.54
(7) The hospital staff show a sincere interest in solving problems	3.08	1.12	0.59	4.38	0.76	0.58	-1.30
(8) The nursing staff is skilful in performing the tasks	3.23	1.07	0.78	4.63	0.54	0.48	-1.40
(9) The hospital performs the service right the first time	3.07	1.14	0.71	4.58	0.60	0.58	-1.51

Responsiveness	$\alpha = 0.7709$			$\alpha = 0.6085$			
(10) The hospital provides the services at the time they promise to do so	2.97	1.02	0.61	4.47	0.60	0.36	-1.5
(11) The hospital keeps the patients record available for each appointment	3.27	1.02	0.51	4.52	0.77	0.26	-1.25
(12) Employee of the hospital used to tell the patient exactly when the services will be Performed	3.23	0.97	0.46	4.32	1.01	0.57	-1.09
(13) The employees in the hospital Used to be cooperative and give Prompt service to patients.	3.10	0.87	0.38	4.39	0.75	0.62	-1.29
Assurances		$\alpha = 0.7709$			$\alpha = 0.6085$		
(14) The employees are always willing to help the patients	3.10	0.96	0.40	4.61	0.49	0.42	-1.51
(15) The behaviour of hospital employees (physician, Nurses, and Clerks) used to instil confidence in patients	3.15	1.10	0.54	4.61	0.49	0.36	-1.46
(16) It is easy for me to obtain medical care if I have a problem	3.05	1.15	0.56	4.67	0.53	0.41	-1.62
(17) The hospital employees are polite and consistently courteous with patient	3.29	1.20	0.82	4.58	0.60	0.35	-1.29
Empathy		$\alpha = 0.8272$			$\alpha = 0.7972$		
(18) The hospital employees have the knowledge to answer Patients questions	3.16	0.96	0.44	4.58	0.54	0.54	-1.42
(19) The hospital employees give each	2.93	1.02	0.66	4.50	0.72	0.78	-1.57

patient individual attention										
(20) The employees of the hospital understand the needs of the Patients	2.94	1.08	0.74	4.50	0.64	0.65	-1.56			
(21) The hospital employees have patients interest in their priority	2.90	1.14	0.73	4.55	0.64	0.73	-1.65			
(22) The working hours in the hospital have operating hours convenient to all their patients	3.22	1.25	0.56	4.63	0.48	0.19	-1.41			

Table 5.15: Overall level of satisfaction from the service provided, rating from (1 to 10)

Score/10	Frequency
3	23
4	23
5	35
6	34
7	127
8	115
9	58
Mean (x)	6.92

Bar Chart

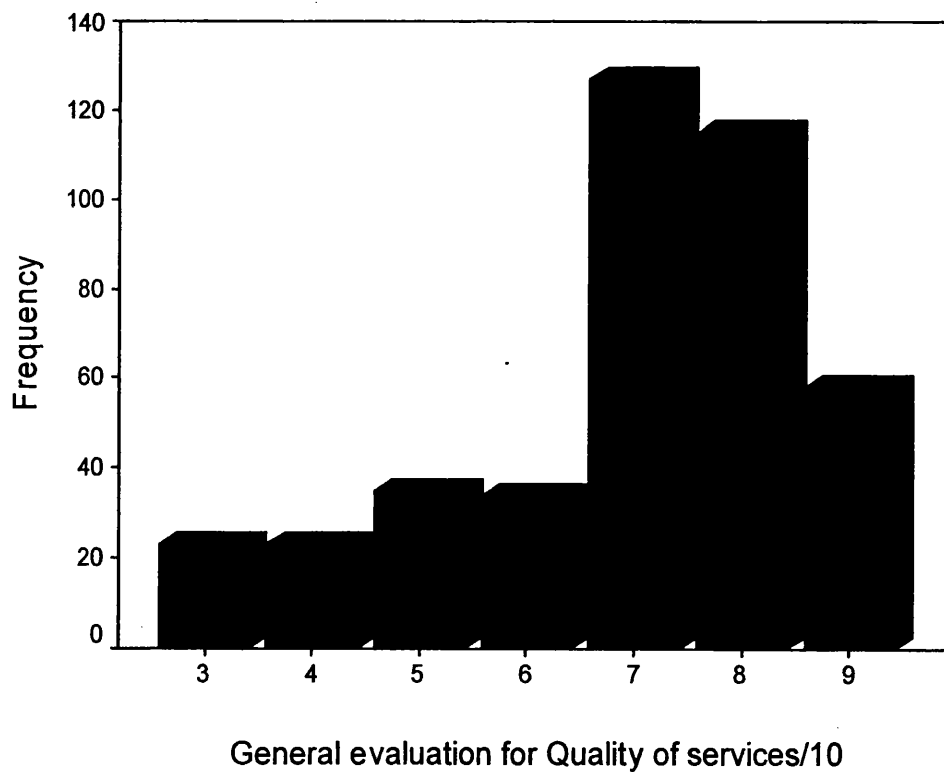


Table 5.16: Overall level of satisfaction from the service provided, rating from (1 to 10) in respect to age.

Age	Mean score / 10
18 – 24	6.01
25 – 39	7.35
40 – 45	7.02
+ 45	0

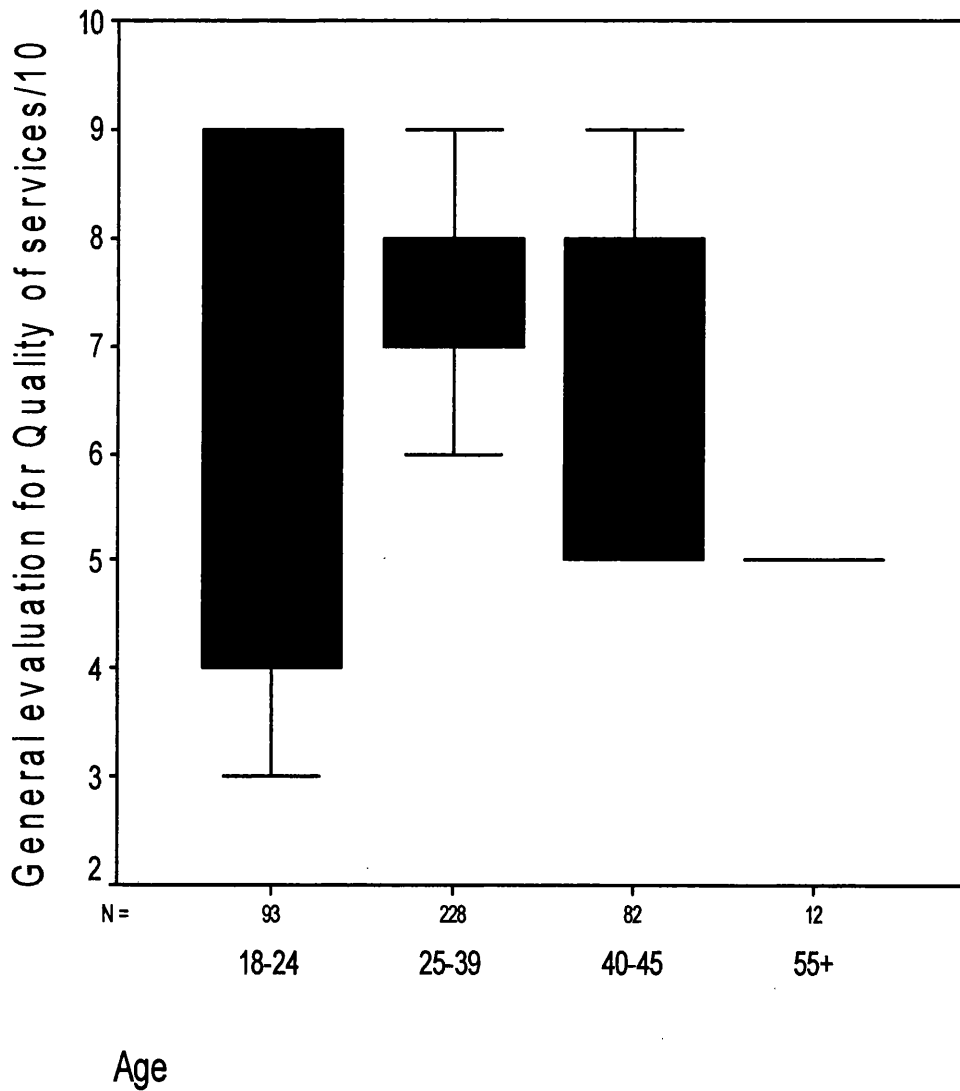


Table 5.17: Overall level of satisfaction from the service provided, rating from (1 to 10) in respect to education.

Education Level	Mean score / 10
Intermediate	8.00
High school	6.91
Diploma	6.56
University Graduate	7.01

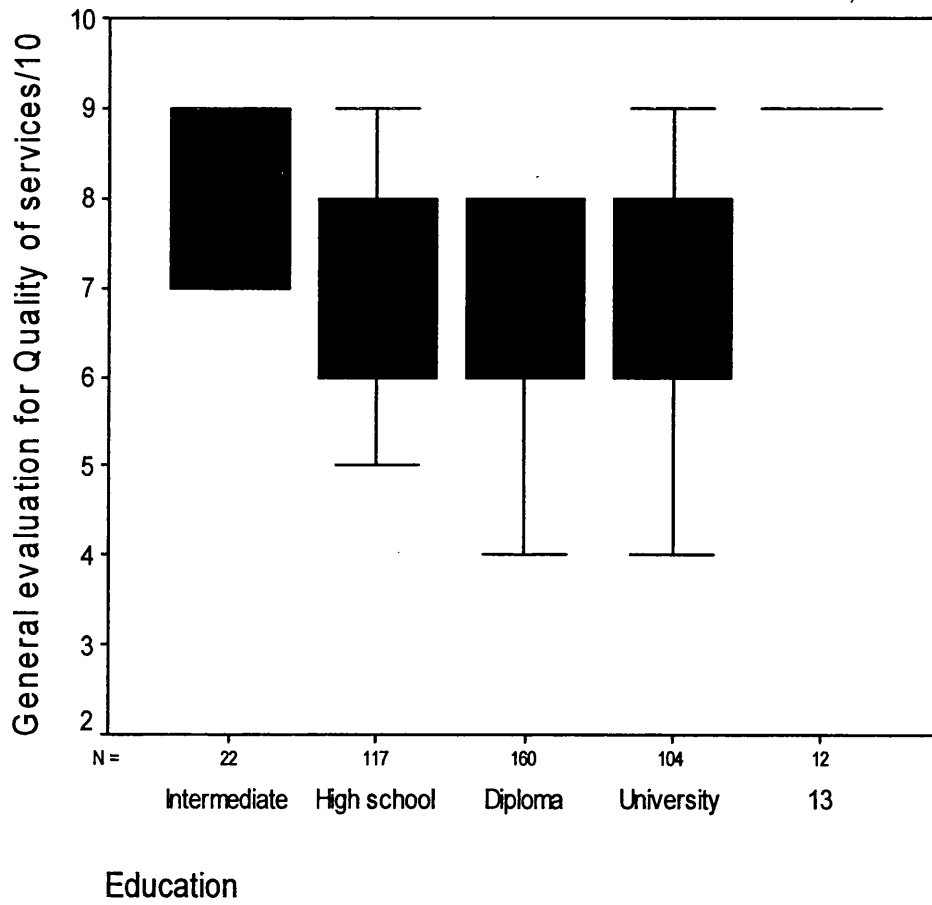
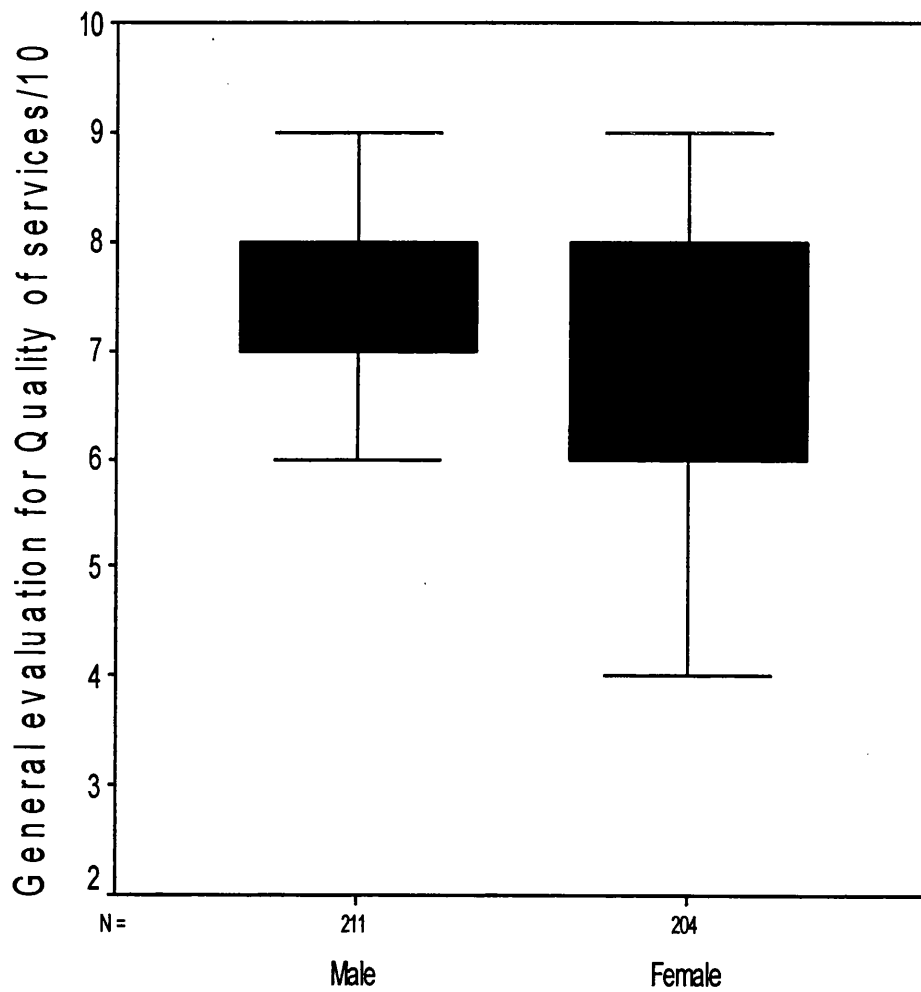


Table 5.18: Overall level of satisfaction from the service provided, rating from (1 to 10) in respect to sex

Sex	Mean score / 10
Male	6.96
Female	6.87



Age

Table 5.19: Overall level of satisfaction from the service provided, rating from 1 to 10 in respect to nationality

Nationality	Mean score / 10
Kuwaiti	6.89
Non - Kuwaiti	6.99

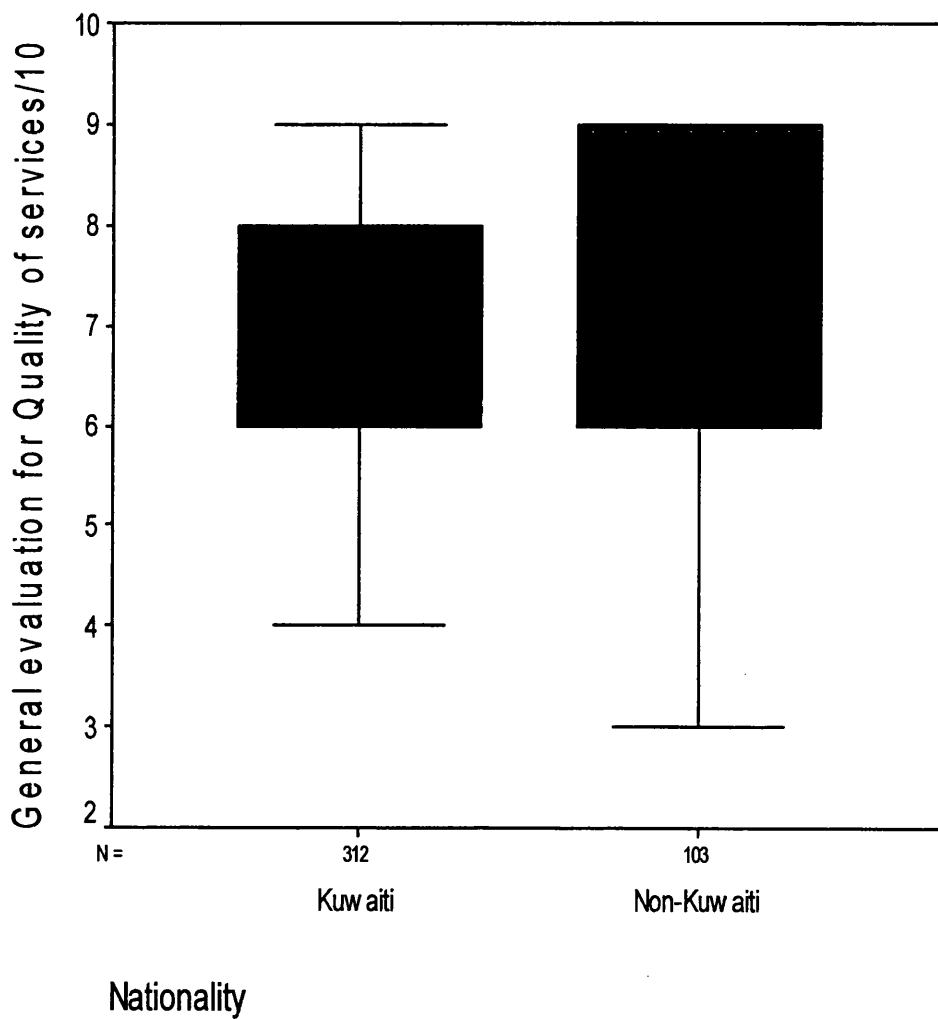
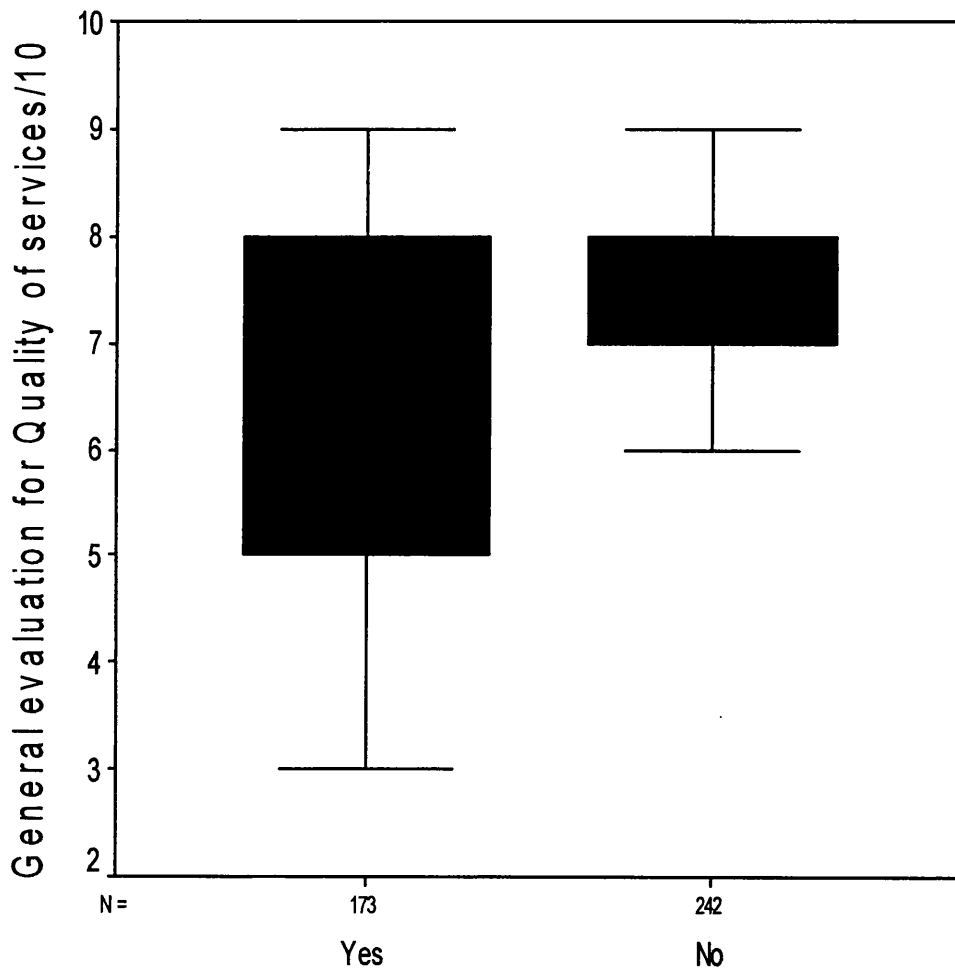


Table 5.20: Overall level of satisfaction from the service provided, rating from 1 to 10 in respect to having external Health care.

Having external health care	Mean score / 10
Yes	6.53
No	7.20



Having medical service outside Kuwait

Chapter Six:

Discussion

Most studies of quality measurement and delivery agree that the customer has an important role in defining service quality. This concept has been clearly proven by the definition of quality by Feigenbaum (1983) "Quality is what the customer says it is".

To improve the quality of service, policymakers in the health sector should start by identifying customer expectations and perceptions on the service. Parasuraman et al (1988), characterized services into five dimensions by within the SERVQUAL measurement instrument.

Health organizations have to define, monitor, and improve the quality of service they are providing. Technical quality alone can not satisfy customers it needs to be worked in parallel to quality of service to improve the total quality of service.

In this study the quality of service in general hospitals in the Ministry Of Health was measured by using a well known instrument, SERVQUAL. Based on the results of analysis presented in the previous chapter, the discussion in this chapter examines the relationship between quality of service vis-à-vis socio demographic characteristics, past experiences, and other factors that were found to affect the quality of service in health sector. Following the discussion, recommendations are offered.

6.1: Summary of findings

The findings of the study are summarized in three sections: socio-demographic characteristics, measuring the quality of service by measuring the difference between patient expectations and perceptions, and patients' comments on the service.

a. Socio – demographic characteristics

With regard to socio-demographic characteristics, male respondents have higher expectations from the service (SQ) = -1.58 in comparison to female where they have (SQ) = -1.38. On the other hands old people (>55 years old) show to have much greater expectation from the service (SQ) = -2.14 than younger people (18 - 24 years old) (SQ) = -1.57. This can be related to that tangible dimension which is concerned with physical facilities and equipments which shows the wider gap among other dimensions (SQ) = -1.56 and older people seems to be most concerned with this dimension of quality.

Respondents with higher standard of education show less gap between their expectations and perceptions from the service (SQ = - 0.77).

b. Gap 5: patient expectations and perceptions

Service quality was measured by the difference between patients' expectations of the service and their perceptions for each question according to SERVQUAL instrument principles.

The mean value for each dimension was calculated (table 5.1) and the results were analyzed as the following:

- (1) In general there is a negative gap between patients' expectations and perceptions (SQ = - 1.46), of the services provided by the general hospitals of the Ministry of Health in Kuwait. This can reflect clearly on patients expectations from the service provided in health sector in Ministry of Health.
- (2) Tangibility and Empathy are the two dimensions that have the highest gap between patients expectation and perceptions (SQ = - 1.56 and –

1.52 respectively). These two dimensions are related to Physical facilities, equipment and staff appearances and caring for patients with individualized attention. These items are considered nowadays in any health organization as a minimum requirement for customer services. The wideness of the gap in these two dimensions should indicate the need for policymakers and planners in the Ministry of Health to restudy their priorities in improving the services provided to patients in general hospitals. In this instance, as in other studies (Curry and Sinclair 2002), satisfaction could be improved by enhancing communication with patients and increasing their access to information mediated to their condition and their treatment.

(3) Reliability and Assurance have nearly the same Gap: (SQ = - 1.46 and - 1.47 respectively). Reliability is considered as a commitment from the health provider to perform the promised services dependably and accurately. When patients expectations exceed their perceptions that means that health providers failed in keeping their commitments and this will lead to patients' discomfort with the service.

Assurance is the knowledge and courtesy of employees and their ability to convey trust and confidence, the negative measurement between patients' expectations and perceptions indicate the weakness of the service provider to improve the service provided.

(4) Although the responsiveness dimension has the least gap among other dimensions, patients' expectations are still higher than their perceptions, resulting in a negative gap. This indicates that those

health providers were currently unable to achieve patients' expectations.

- (5) All items in all dimensions show negative gaps between patients' expectations and perceptions. The highest gaps can be seen in item *"There are enough recreational facilities in hospital"* with gap score of (SQ = - 2.03). Most of the hospitals in Kuwait lack recreational facilities and this can be attributed to the policy of the Cabinet (Council of Ministers) in the early 1980's (when all the general hospitals were built) by giving the authority for all constructions in the country to the Ministry of Public Works, including hospitals. This decision kept away the specialized engineers in health institutes involved in building hospitals causing lack in some facilities in these hospitals.

This problem can be overcome through a Ministerial strategic plan that is creating a National Project for qualifying hospitals. In this project international hospital accreditations standards are used as a guideline. It is hoped that when the project finishes in year 2006, the gap will be positive between patients' expectations and perceptions.

- (6) Item *"It is easy for me to obtain medical care if I have problem"* had the second widest gap between patients' expectations and perceptions. This indicates that the follow up system for patients in Ministry of Health hospitals needs full reviewing in a way that achieves patients' expectations.

c. Patients' Comments on service

Most of the patients' comments were concerned about the communications skills of health workers, especially the physician and nursing staff.

Besides that, there was a big concern regarding the physical facilities and equipment in the hospitals. Involving nurses in non-nursing functions was one of the items that concerned some patients, where they felt this was having a big effect on the quality of nursing services in the wards.

6.2: Discussion of Findings

This study, as mentioned in an earlier section, is the first of its type in Kuwait, with regard to discussing in detail the patient's view regarding health service in Kuwaiti. The pertinent explanations are offered below:

The Tangible dimension, which is concerned with physical facilities, equipment, and appearance of personnel was found to have the wildest gap. A number of explanations can be offered to explain this matter. The invasion of Kuwait by Iraq in August 1990 left the hospitals in a very poor condition especially with regard to their physical facilities. This affects the patients' opinions regarding the service quality in the Tangibles dimension.

On the other hand, in the first few years after liberation of Kuwait, the Ministry of Health was sending patients abroad for treatment; due to the lack of health services. This left many patients with an experience of high standard of care gained from private hospitals in Europe and USA. These experiences reflect directly on patient's opinions about the local service that they are getting. All these factors put together account for a general dissatisfaction on the part of Tangible dimension.

People with higher education, have less gap between their perceptions and expectations from the service. This may due to the fact that people with higher education levels tend to make better decision to circumstances.

Male respondents were found to have a wider gap between their perception and expectations of the quality of health services in Ministry of Health hospitals than females. This could be related to the social position of the Arab females within their societies.

Older people were found to be less satisfied with the service provided in hospitals. Two reasons are suggested as being noteworthy. First, it has been found that most of the hospitals in Kuwait lack the physical facilities that help old people, starting from the parking facilities near the out patient buildings to long waiting times and ending with poor communication skills of workers. Another possible explanation may lie in the fact that nursing staff in the hospitals are from India and the Philippines, and they have difficulties in communicating with patients who did not speak English which most old people did not. (Al-Anzi 1998).

The general evaluation for the service provided by the Ministry of Health in the main hospital was 6.92 out of 10. This average indicates that the quality of service can be improved if real action is taken to overcome the shortfalls in the service as mentioned earlier.

This study shows that SERVQUAL appears to be a consistent and reliable scale to measure health care service quality. On the other hand the study shows that there is a big gap between patients' perceptions and

expectations in general hospitals in Kuwait, which calls for special attention to efforts to improve the quality of service in our general hospitals.

In summary, the researcher would respectfully suggest that this study contributes a great deal to improve the quality of service provided by the Ministry of Health in State of Kuwait to patients in a manner that competes with services provided by the advanced countries.

In the next chapter, specific recommendations are offered for improving the health care delivery system. The recommendations are based on empirical findings, and are to be respectfully commended to strategists concerned with improving the health care delivery system in Kuwait,

Chapter Seven:

Recommendations and Conclusions

7.1: Recommendations:

Complying with the needs of patients by knowing their expectations and perceptions from the service provided is assure recipe for the development of health service in general hospitals of the Ministry of Health in the State of Kuwait.

The discussion chapter in this study shows that despite 6.6% of the national budget being spent on health services, the Ministry of Health's general hospital have failed to meet the expectations of patients through the services they provide.

The following recommendations are offered for the improvement of the quality of service in health case delivery system in hospitals of the Ministry of Health.

1. Reviewing and improving the quality of medical equipment and rehabilitating building structures in a way that will guarantee comforts to patients. Putting into consideration, the needs of old people and the handicapped will add an important value to quality of service. The need for this recommendation was shown in clearly in the wide gap between patients expectations and perceptions in the tangibles dimension (SQ = -1.56) as been presented in page 165.
2. Reconsider the arrangement and organization of the internal departments in the hospitals in a way that will facilitate the movements

of patients within these departments. The need for this recommendation is seen in the gap between patients expectations and perceptions in Empathy dimension (SQ = - 1.52) this was discussed on 166.

3. In addition, special attention should be paid to the general appearance of the employees in the hospital so as to make patients feel more comfortable. The need for this is been presented in difference between patients expectations and perceptions in Tangible dimensions which is been shown in table 5.14.
4. The policy makers at the Ministry of Health in their last strategy paper had put out an integrated policy for the rehabilitation of health establishments. Despite some criticisms levelled against the rehabilitation project, such as ignoring the basic safety precautions in the buildings and deviating form recognized international standards in building health facilities, there are some positive elements in the project that can go a long way to improving patients' expectations form the service related to physical facilities. This was clearly shown by the discussion on page 167 of the two dimensions Tangibility and Empathy where there is the highest gap between patients expectation and perceptions.
5. Improving the training programs and continuous professional education of the ministry's administrative employees in general, and front line

employees in particular, is a very important issue that should be taken into consideration in any future plan of the ministry. These programs have the potential of improving the communication skills of the staff of the ministry which will in turn reflect positively on patients and can reduce the gap between patients' expectations and perceptions of the Empathy dimension. This is discussed on pages 165 and 166.

6. Understanding the special needs for every individual patient in the hospital should be the priority of all hospital employees in seeking the required standard of quality. This recommendations was raised in respond to the different in patients expectations and perceptions in Empathy dimension (SQ = -1.52) as shown in pages 154 and 155.
7. Hospital employees should be sincere and cooperative, having true desire to help the patient and deal with them in an acceptable manner. This approach can be implemented among hospital employees only if they have the job satisfaction which in turn will lead to their loyalty to the establishments they are working in, and this will have a positive reflection on the patients. (Please see the findings presented on pages 166 and 154.
8. Building the confidence between patients and hospital employees is one of the important dimensions in service quality. This can be achieved by meeting the basic needs of patients starting from the

comfortable room up to staff commitment to provide the best services.

(Please see page 168).

In conclusion, we can say that the administration system in hospitals of Ministry of Health is in need of a complete overhaul and reorganization involving proper training of the staff in that field, This is because the physicians are still in control of the whole health process starting from patient registration and reception, ending with dealing with the administrative problems that the patients suffer from the health establishments.

The administrative system in the Ministry of Health hospitals is still unable to provide the proper, well trained administrative staff that can play an important role in the health process.

7.2: Future Research

- (1) This study only examined service quality at patient level. Both the provider and clients must be considered when measuring the quality of service. Brown and Swartz (1989) state that both providers and clients must be considered if a more thorough understanding of service quality is to be gained.
- (2) It is important to start measuring the quality of service in the health sector periodically. This will give a chance to be exposed to clients' expectations and perceptions of the service provided in the health sector. These perceptions and expectations are changeable according to circumstances, time and changes in clients' attitudes.
- (3) The study covers only general hospitals provided by the Ministry of Health, which is considered as the secondary health service, it is strongly recommended in any future study to include health centres (primary health care) and specialized health centres (tertiary health care) beside health service in private sector, to achieve a comprehensive evaluation of the quality of health services in Kuwait.

It will be useful to extend the study to measure patient satisfaction and establish a relationship between quality of service and patient satisfaction.

7.3: Conclusion:

The following are the conclusions drawn from the data analysis and discussions furnished in the previous chapter:

- (1) The SERVQUAL instrument was designed to be applicable across a broad spectrum of services and has already been applied to a number of service categories. The results of the present study suggest that the modified SERVQUAL instrument has excellent internal consistency and reliability, and the data indicate that the scale can be successfully used to assess the magnitude of the gap between patient perceptions and expectations.
- (2) Deficient scores on one or more of SERVQUAL dimensions will signal the existence of a deeper underlying problem in the organization. Therefore the measurement of patient expectations and perceptions provides a valuable dimension of insight into the process by which the quality of the health care service is evaluated.
- (3) It is clear that any improvement in service quality in the health sector should keep in mind the important role that patients' expectations and perceptions play in improving the quality.
- (4) The study pinpoints areas for attention to improve health care service quality. It shows that all patients' perceptions fall short of patient expectations; therefore improvements are needed to meet patients' expectations.

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Appendixes

Appendix (A): Letter to Respondent

Measuring the quality of Health services

Dear Respondent,

Greetings,

I am a Doctoral student in the University of Wales Swansea in United Kingdom, currently conducting a research study on the " Measuring of quality services in health care ". The study aims to achieve a better understanding of needs of patients and cares receiver, and thereby improves the quality of health care service.

May I request you to kindly complete the enclose questionnaire. **The information that you will provide will be treated with strict confidentiality** and your name will not be identified anywhere in the report. Your answer will help me to identify the problems being faced by the the Kuwaiti hospitals, and based on your answers I will be able to make the necessary recommendations to the Ministry of Health to overcome the difficulties and improve the quality of health care services.

You have been selected randomly and your frank and realistic answers are extremely important for the success of this study. May I therefore, request you to please complete the questionnaire without consulting anyone also and return it to the Head Nurse office in the ward or Out patient office in your hospital. If you have any question about this study please contact me at 9173853 (pager).

Thanks for your cooperation

Sincerely

Abdulahadi Ahmad

PhD Student

Appendix (B): Letter "to whom It May Concern"

STATE OF KUWAIT

MINISTRY OF HEALTH

Office Of Under Secretary



دولة الكويت
وزارة الصحة
مكتب وكيل الوزارة

Reference :

المرجع

.....

التاريخ

To Whom It May Concern

Mr. Abdulhadi Ahmad is a doctoral student in the Faculty of Health Care, School of Health Science at the University of Wales Swansea, under the supervision of Dr. David M. Rea.

Mr. Ahmad is currently conducting a research study on:

"Measurement of the quality of service in Health care Delivery system in Kuwait"

The study is aims to achieve a better understanding of patient's expectations and perceptions from the service provided by Ministry of Health general hospitals in Kuwait.

The expected benefit from the results of this study is high and useful for improving the services in health care facilities in Kuwait.

I would appreciate your cooperation to facilitate his mission

Yours Sincerely,

Dr. Nasser Al-Enezi
Assistant Undersecretary
for Administrative affairs

Do this by Marking (/) one of the five numbers next to each statement. If you **strongly agree** that this hospital / Clinic should possess the feature, Mark **under number 5**. If you **strongly disagree** that the hospital should possess a feature Mark **under number 1**. If your feelings are not strong, Mark under one of the numbers in the middle.

No.	Description	Perception					Expectationss				
		1	2	3	4	5	1	2	3	4	5
1	There are enough recreational facilities in the hospital										
2	The physical facilities are visually appealing										
3	The hospital employees are well dressed and appear neat										
4	The meals are adapted to my health status										
5	My room is maintained well										
6	The hospital provides the service within a reasonable time										
7	The hospital staff show a sincere interest in solving problems										
8	The nursing staff is skilful in performing the tasks										
9	The hospital performs the service right the first time										
10	The hospital provides the services at the time they promise to do so										
11	The hospital keeps the patients record available for each appointment										
12	Employee of the hospital used to tell the patient exactly when the services will be performed										
13	The employees in the hospital use to be cooperative and give prompt service to patients.										
14	The employees are always willing to help the patients										
15	The behaviour of hospital employees (physician, nurses, and clerks) used to instil confidence in patients										
16	It is easy for me to obtain medical care if I have a problem										
17	The hospital employees are polite and consistently courteous with patient										
18	The hospital employees have the knowledge to answer patients questions										

19	The hospital employees give each patient individual attention																		
20	The employees of the hospital understand the needs of the Patients																		
21	The hospital employees have patients interest in their priority																		
22	The working hours in the hospital have operating hours convenient to all their patients																		
23	From a low of ONE to a high of TEN , please rate your overall level of satisfaction with your experience at this hospital	1	2	3	4	5	6	7	8	9	10								

إن الهدف من هذه الدراسة هو قياس جودة الخدمة الصحية المقدمة لك في منطقتك الصحية. تتكون الدراسة من ثلاثة أجزاء: الجزء (I) معلومات شخصية ، الجزء (II) ادراكات وتوقعات متلقي الخدمة عن جودة الخدمة المقدمة، (III) توصيات متلقي الخدمة واقتراحاته لتطوير الخدمة الصحية المقدمة للجمهور. يرجى الإجابة على جميع الأسئلة في كل جزء.

الجزء الأول : اختر بوضع علامة () لأنسب تصنيف يناسب اختيارك.

1. العمر (بالسنوات) 18 - 24 25 - 39 40 - 54 55 +
 2. الجنس ذكر أنثى
 3. الحالة الاجتماعية أعزب متزوج مطلق أرمل
 4. الجنسية كويتي غير كويتي
 5. الحالة التعليمية قراءة وكتابة ابتدائي متوسط ثانوي دبلوم مؤهل عالي
 6. عدد أفراد العائلة الذين يعيشون معك بالمنزل :
 7. كم عدد المرات التي زرت بها أنت أو أحد أفراد عائلتك هذا المستشفى خلال السنة الماضية :
 8. هل حصلت أو أحد أفراد عائلتك على الرعاية الصحية خارج الكويت خلال الثلاثة سنوات الماضية :
- إذا كانت الإجابة بنعم متى كان ذلك (السنة) أين (الدولة)

الادراكات		التوقعات المستشفى المثالي				
5	4	3	2	1		

الرقم	الوصف
1	يوجد هناك وسائل استجمام كافية في المستشفى مثل (الاستراحات، مناطق الخدمة، كافتيريا، تواليت)
2	المبنى (الاستقبال والاستراحات) مهية بشكل جيد لاستقبال المراجعين والمرضى
3	مظهر العاملين في المستشفى لائق ونظيف
4	الوجبات الغذائية جيدة وتناسب حالتي الصحية
5	الغرف مرتبة ومهية بصورة تناسب حالتي الصحية
6	يلتزم موظفو المستشفى بتقديم الخدمة بالوقت المحدد والمقبول
7	يتصرف موظفو المستشفى بصدق في تعاملهم لحل مشاكل المرضى والمراجعين
8	المرضات متمكنات ومتميزات بأداء أعمالهم المناطة بهم
9	يؤدي موظفو المستشفى أعمالهم بصورة صحيحة من المرة الأولى
10	يلتزم موظفو المستشفى بأداء الخدمة في الوقت الموعود
11	يحافظ المستشفى بسجلات المرضى بطريقة آمنة ومتوفرة في كل موعد محدد للمريض
12	يوضح موظفو المستشفى للمراجعين الوقت المحدد لتنفيذ الخدمة المطلوبة
13	لدى موظفي المستشفى الرغبة للتعاون وأداء خدمة متميزة للمراجعين والمرضى
14	لدى الموظفين الرغبة لمساعدة المرضى والمراجعين
15	تصرفات موظفي المستشفى (أطباء، الهيئة التمريضية والإداريين) تغرس الثقة في نفوس المرضى والمراجعين
16	من السهولة لي أن أحصل على الرعاية الصحية كلما احتجت لها
17	يتعامل موظفو المستشفى بلطف وأدب مع المراجعين والمرضى
18	لدى موظفي المستشفى المعرفة والإلمام للإجابة عن أسئلة المرضى والمراجعين

الرقم	الخدمة
19	يعطى موظفو المستشفى المراجعين والمرضى اهتمام خاص وفردى لكل شخص
20	يتفهم موظفو المستشفى الاحتياجات الخاصة لكل مراجع ومريض
21	رغبات المرضى والمراجعين من أولويات موظفي المستشفى
22	ساعات العمل والزيارة في المستشفى مناسبة للجميع

10	11	12	13	14	15	16	17	18	19	20	21	22	23
													بصفة عامة ما هو تقييمك ورضائك لجودة الخدمة المقدمة لك، باستخدام التقدير من (1) خدمة سيئة إلى (10) خدمة متميزة

الجزء الثالث: هذا الجزء مخصص لتوصياتك ومقترحاتك لتطوير جودة الخدمة المقدمة للجمهور في منطقتك الصحية، برجاء الإجابة على جميع الأسئلة قدر المستطاع.

1. أي من الجوانب الخدمائية في المستشفى تعتقد أن الأداء به متميز؟

.....
.....

2. أي قسم أو خدمة في المستشفى تعتقد بأنه بحاجة إلى تطوير؟

.....
.....
.....

3. ما هو تقييمك لطريقة معاملة موظفي المستشفى معك ؟

.....
.....
.....

4. هل سبق أن واجهتك مشكلة بالخدمات الصحية في منطقتك نعم لا

5. وهل تم حلها حسب ما ترضيه نعم لا

6. اقترض أنك أحد أعضاء إدارة المستشفى، ما هو الإجراء الذي ستخذه لرفع مستوى جودة الخدمة ؟

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.....
.....