



University of Bahrain

College of Business Administration

Graduate Studies Program

A Master Graduation Project (MGT 698) Titled:

**Medical Institutions' Quality Dimensions and
Their Relationship with Patients' Satisfaction at
Private Sector Hospitals in Bahrain**

Submitted By:

Mohamed S Sultan

(ID# 20121025)

Supervised By:

Professor. Minwir Al Shammari

January/2016

Declaration



Name: Mohamed Salah Eldin Sultan

ID Number: 20121025

I hereby declare that this document is an outcome of my own efforts with the exception of what is stated between quotations throughout the text, in which have been suitably acknowledged.

Signature:

Date:

Acknowledgments

I would like to start this text by expressing my deepest, and sincere expression of gratitude firstly to my beloved father, Professor Salah M Sultan (FRSC, CChem). Without him I would have never been the man I am today nor have made it this far in life, and I would be honored to dedicate this piece of writing as well as my whole life to him, as a mere thank you note would never suffice.

Secondly but not underrating the loving women in my life; my dear mother, my wife, and my two daughters. Wishing that I could one day repay them the amount of warmth they fill my life with.

Thirdly and undoubtedly, I would not forget all the professors and instructors who were the torch that lit my way throughout my years during this program. As well as a special regard to Professor Minwir Al Shammari who made this journey as enlightening and mind expanding as it could get.

Thank you.

Mohamed Sultan

Abstract

In this project, our patients' satisfaction as a construct has been measured based on patients' direct input from our research tool. A survey has been executed by designing a questionnaire comprised of 16 questions distributed to patients in 3 predetermined private sector hospitals in Bahrain. The Statistical Package for Social Studies (SPSS) computer program has been utilized for correlating seven Quality Dimensions with Patients Satisfaction. The data collected from a total of 387 personnel have been implemented to generate the result outcome on patient satisfaction. The correlation analysis results indicated all quality dimensions under study showed impact correlation with patient satisfaction. The relative significance of the quality dimensions was found to be in the following order from higher to lower respectively; Hospital Services, Communication, Technical Quality, Time Spent with Doctors, Accessibility and Convenience, Interpersonal Manner, and Financial Aspects.

Table of Contents

<u>Contents</u>	<u>Page Number</u>
Chapter 1	
Introduction.....	1
1.1 Background and Problem Statement.....	2
1.2 Objectives of the Study.....	3
1.3 Conceptual Framework.....	3
1.4 Significance of the Study.....	4
Chapter 2: Literature Review	
2.1 Introduction.....	5
2.2 Quality Models.....	6
2.3 Patients' Satisfaction.....	9
2.4 Medical Institutions.....	10
2.5 Summary.....	14
Chapter 3: Research Methodology	
3.1 Introduction.....	15
3.2 Striving For Anonymity.....	16
3.3 Research Design.....	16
3.4 Operational and Conceptual Definition of Variables.....	17
3.5 Population of the Study.....	21
3.6 Sampling Procedure and Sample Size.....	21
3.7 Instrument.....	22
3.8 Data Analysis.....	23
Chapter 4: Results and Findings	
4.1 Demographic Profiles of Respondents.....	24
4.2 Correlation Analysis.....	25

Chapter 5: Discussion, Conclusion and Recommendations

5.1 Discussion.....	27
5.2 Recommendations	29
5.3 Recommendations for Further Study.....	29
5.4 Conclusion.....	30
References.....	31

List of Tables

1. Table 1: Conceptual Definitions of the Quality Dimensions.....	17
2. Table 2: Chronbach's Alpha Reliability Test Result.....	22
3. Table 3: Demographics Statistics.....	25
4. Table 4: Correlation Analysis Results.....	26

List of Figures

1. Figure 1: Adopted Conceptual Framework for the Study.....	4
--	---

Chapter 1

Introduction

The aim of conducting this project rose out of the interest of presenting valid and practically useful information aiming at improving medical institutions' practical conducts on daily basis. And since all medical institutions are of most importance when considering the general well being of communities, it is of most importance to continue maintaining and improving their practices rigorously. Considering this improvement approach from a business perspective, private sector medical institutions are non the less important when conducting a project that has direct implementation on service organizations.

Prior to thorough research, a realization was apparent that conducting a research combining all quality aspects of hospital services previously proven to have significant relation with patients' satisfaction is of most importance to private medical institutions. As they strive at improvement and strong market share in the long run, by retaining and attracting loyal customers for their survival in this turbulent industry.

The procedure of this project represented in the following chapters is somewhat directly straightforward; starting with a representation of previous literature conducted on medical institutions, tackling the subject of patients' satisfaction from a service quality improvement approach. Were all the previously significant quality factors are addressed and tested for against their relation with patients' satisfaction. A representation of the findings and a conclusion is drawn and represented along some recommendations for further studies.

This chapter presents the main objectives of this project as well as the conceptual framework adopted and examined throughout the body of this text.

1.1 Background and Problem Statement

The fast pace of this telecommunication and globalization age has many implications on the way individuals perceive and demand quality products and services nowadays. Organizations have to cope with many challenges in order to survive and prosper throughout these demanding new business environments. One of the main challenges organizations have dealt with, as an outcome of this connectivity and globalization is the change of customers' paradigms towards increased awareness of knowledge, products, and their customer rights appointed on organizations. This increased customer awareness and demand of high quality products and services had also sprouted new attention of the need to study and add knowledge to the methods used to address these new emergent business challenges. And since service oriented organizations comprise the majority of matured markets in developed countries, the light was shed on the importance of conducting a practically applicable research on one sector of these service organizations. Hence, medical institutions came on top of the list of service organizations that demand high and unparalleled service quality, since they don't just deal with providing health service to individuals, but for the whole community they serve.

Medical institutions in Bahrain are mainly divided into public sector and private sector organizations. Public health centers are non-profit entities funded by the government and serving all individuals both national citizens and expatriates on non-profit bases, providing health services to all individuals in the community. They are comprised of 24 public health centers distributed around the Kingdom. On the other hand, private sector medical institutions are not less important when considering such an industry of high prominence and impact on communities worldwide. Especially since achieving high rates of customer (patient) satisfaction is a must and not just an option or a luxury when regarding such an industry.

Moreover, and to be able to tackle the issue of customer retention and satisfaction, medical institutions have to periodically conduct studies to examine firstly the level of their customers' satisfaction, and secondly how to retain and increase this satisfaction level throughout its customers. And to add business perspective or related factors, private medical institutions are to be considered in order to fill in for these

perspectives such as the financial aspects that are paramount to privately controlled and managed organizations.

1.2 Objectives of the Study

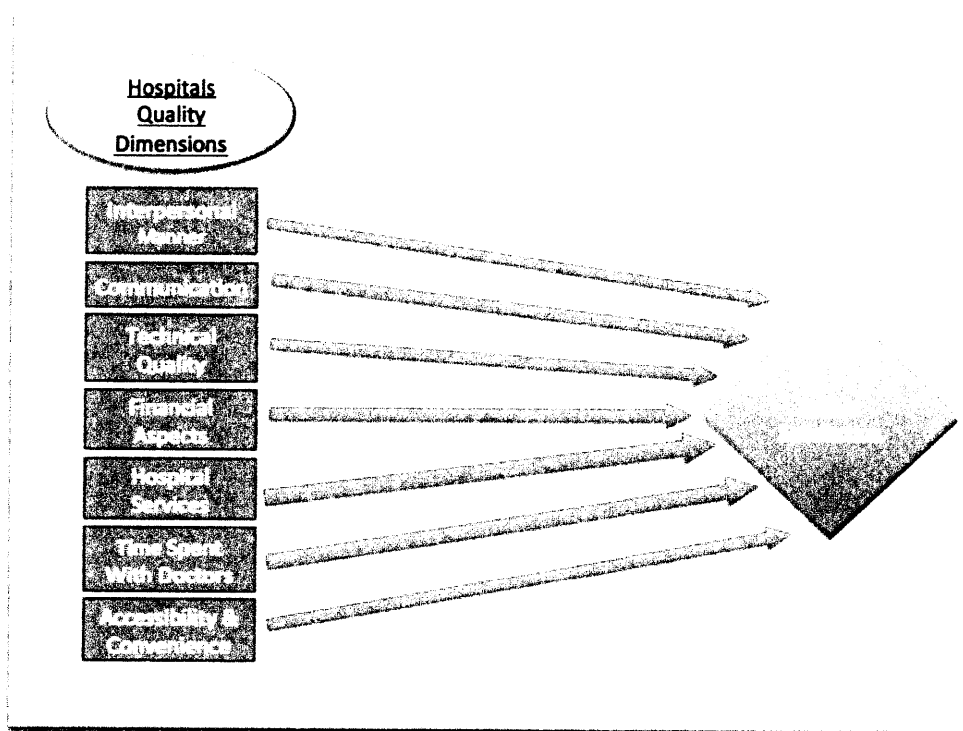
Following is the list of objectives to be addressed and achieved throughout the project:

- To understand patients' perceptions of the quality dimensions found out to be related to patients' satisfaction at private sector hospitals.
- To examine the relationship between each quality dimension and the overall satisfaction levels of patients.
- To assess the relative importance (importance ranking) of hospitals' quality dimensions for private sector patients in Bahrain.

1.3 Conceptual Framework

Upon the review of previously documented literature, this following (Figure 1) is a representation of the adopted conceptual framework similar to the one represented by Sodani & Sharma, (2014).

Figure 1: Adopted Conceptual Framework



1.4 Significance of the Study

Although sufficient research studies reviewed the service sector as a whole, as well as a good amount of documented empirical research conducted on health service organizations worldwide. However, it is apparent that most studies have been conducted in Western countries rather than countries around the gulf region that focuses on the subject of patient's satisfaction.

Hence, in order to fill this gap in literature, the present research project attempts to address the issue of service quality in Bahrain, with a specific focus on medical institutions industry from the patient's viewpoint. This project will also be useful to private sector medical institutions to improve their market share, profits, customer's retention and competency.

Chapter 2

Literature Review

2.1 Introduction

The general subject under “Patients’ Satisfaction” is currently considered a paramount topic as all medical care units and hospitals are putting utmost efforts and care to enhance. Patients’ Satisfaction is a factor to improve quality medical services and hence healthy environment, which leads to prosperous living. At the same time it reflects positively on the marketplace and lucrative business. Health care units and hospitals would rather prefer conducting patient satisfaction survey frequently to ensure continuity in the business.

This topic has been searched thoroughly in literature, and several authors have studied several factors affecting patients’ satisfaction extensively. But no study was found to have touched any health sector organization in Bahrain on a general scale that considers service quality aspects as a business perspective oriented study. Thus one advantage of this project; is that it combines all service quality dimensions related to medical institutions in general found out to be significantly correlated to the satisfaction of patients for private sector hospitals in Bahrain.

This chapter represents the review of previous researchers tackling even the broadest related theories regarding the notion of hospital quality services, as well as work done viewing the business perspective of medical institutes and relating it also to patients’ satisfaction. In which we will extract the quality dimensions of these medical institutions, and test against its direct correlation with the satisfaction of patients as been previously mentioned in the introductory chapter of this project. Adding the effect privatization to this project would aim at finding the effect of the managerial aspects of a service business organization as shown in the body of this chapter.

2.2 Quality Models

Previous seen work by Priporas, Laspa & Kamenidou, (2008) focused on patients' perception of predefined quality aspects and their relation to the total patient satisfaction level at hospitals. By examining the thorough literature that studies the factors influencing be it, or directly affecting hospitals and even medical care units patients' satisfaction levels and experience; they came across many parameters that can govern the relationship between the overall patients' satisfaction, and can be at some instances very influential, such as simply the type of these services given to patients (Ladhari & Rigaux-Bricmont, 2013). Hospital management nowadays faces an enduringly changeable market where externalities appear frequently, and where the notion of "patients' satisfaction" is very complex indeed, even some of the literature appears dubitable in terms of its measurable variables to total patient satisfaction.

In the early work of Locker and Dunt, (1987) we see how difficult it is to state a definition and create a stand-alone concept. Strasser et al., (1993) followed a systematic review and they concluded that most studies on satisfaction have an empirical conclusion without any theoretical construction. This approach led to a methodological variation in the measurement process. The need for a generic model of patients' satisfaction assessment was developed which should pass the analysis of satisfaction's components and standardized approaches.

The research on health services quality can somehow be influenced by marketing methodology as mentioned by Marinova, Ye & Singh, (2008) in a sense that quality is related to forecasting and meeting customer's expectations, but the problem about employing quality measurement was not only a healthcare issue, but is involved in the whole service sector of economy. Researchers in the quality field developed a generic measurement that fits their service sector adequately. Some tools were introduced in the early 1990's as consumer's satisfaction measures, such as the SERVQUAL scale; (Parasuraman, 1985; Parasuraman, Zeithaml & Berry, 1988), which was based on the gap score between customers' expectations and perceptions. The scale was later modified in order to be more applicable to health organizations, (O' Connor, Shewchuk & Carney, 1994).

Cronin & Taylor, (1992) proposed the rejection of expectations and developed a new performance based scale. The alternative scale namely SERVPERF had five additional dimensions (totally ten) and it is based exclusively on consumers' perceptions measurement about a service. Both models weigh significantly the tangible dimensions, while patients seem to put their attention to other factors such as accommodation and personalized care. The existing methods of patients' satisfaction measurement are quite abundant and the differences are located in the cost and accuracy of the studies undertaken. Most studies use a different methodology, sampling processes, calculations and presentation of findings.

Naidu, (2009) presents a comprehensive, conceptual model encompassing research work and a holistic view of various aspects affecting patient satisfaction and healthcare quality. He concluded that patient satisfaction is a multi-dimensional healthcare construct affected by many variables. He iterated that healthcare quality affects patient satisfaction, which in turn influences positive patient behaviors such as loyalty. It can be operationalized using a multi-disciplinary approach that combines patients' inputs as well as expert judgment. The limitations of his project, is that the model needs to be confirmed empirically and that it may not be generalized to developing nations of quite different culture.

Chakraborty & Majumdar, (2011) have studied the SERVQUAL instrument among several tools of measuring service quality and patient satisfaction as the most widely used tool. They focused on the measurement of patient satisfaction in the light of service quality provided by hospitals. The application of SERVQUAL model has been considered to investigate the relevance in measuring patient satisfaction in health care sector in today's competitive environment. They studied the importance of customer satisfaction in service sector, understanding the concept of patient satisfaction, analyzing the notion of patient satisfaction as a subset of customer satisfaction. They studied patient satisfaction as a tool for measurement of service quality delineating the significance of SERVQUAL model. Thus drawing the criticisms associated with the SERVQUAL approach to patient satisfaction measurement. Their work ended with a clear estimation of the modifications as well as the applicability of the SERVQUAL Model. In the era of globalization, competition has become a key issue in all sorts of industry as well as service sectors.

Literature survey suggests that patient satisfaction and perceived service quality both should be considered together for the stability of a health care organization in a competitive environment. Researchers have suggested different models and methods of measuring patient satisfaction considering service quality as one of the antecedents. Different literatures established that SERVQUAL is a popular model for measuring service quality where as some other researchers pointed out its drawbacks. Although many limitations of SERVQUAL approach have been identified by different researchers, the same instrument is applied in different health care organizations for measuring service quality and patient satisfaction.

Otani, Deng, Waterman & Dunagan, (2014) have examined and introduced the ordinal logistic regression model, compared to other models such as a multiple linear regression model, to provide more strategically useful information on increasing patient satisfaction. The ordinal logistic regression model not only indicates which attribute(s) are more influential as with a multiple linear regression model, but also helps health care managers develop more specific intervention programs by allowing them to compute which attribute(s) they improve and how much they need to improve. The latter feature of the ordinal logistic regression model would be a significant advantage for health care managers when hospitals are fiercely competing against each other for patients in the same area. Patient satisfaction survey results are often disclosed by the Centers for Medicare & Medicaid Services (CMS) as part of the Hospital Value-Based Purchasing program. Thus, health care managers can see how their competitors are performing and are rated by patients. From the CMS's "Hospital Compare", we can easily find survey questions such as "Patients who gave their hospital a rating of 9 or 10 on a scale from 0 (lowest) to 10 (highest)", and "Patients who reported YES, they would definitely recommend the hospital", followed by respective percentages for hospitals that are selected by readers. As a part of the Medicare Hospital Value-Based Purchasing program, hospitals that perform better on patient satisfaction will receive more payment from the CMS than hospitals that do not. It is because a patient experience of care is one of the quality measures with the Medicare Hospital Value-Based Purchasing program, (Ferman, 2011; McHugh & Joshi, 2010) as cited in Otani et al. (2014); generally, there is not a big variation in order to compete efficiently and effectively, it is very helpful for health care managers to know how much quantitatively they need to improve certain

attribute(s). Depending on their environments and constraints, they may choose one attribute or a combination of a few attributes to improve, and also the ordinal logistic regression model results allow them to compute specifically how much improvements are necessary as a simulation. The flexibility of the model utilization together with its practicality of the model development with the ordinal logistic regression model would significantly enhance health care managers' capabilities when they develop a strategic plan to improve their patient satisfaction levels.

2.3 Patients' Satisfaction

Lochman, (1983) reviewed studies outcome on factors affecting patients' satisfaction are grouped into 13 factors. The factors with the clearest relationship to satisfaction include the accessibility of medical care, the organizational structure of clinics, treatment length, perceived competence of physicians, clarity and retention of physicians' communication to patients, physicians' affiliate behavior, physicians' control, and patients' expectations. Other factors with more complicated or no apparent relationship to satisfaction were mode of payment, clarity of patients' communication to physicians, physicians' personality, patients' socio-demographic characteristics, and patients' health status. The additive and potential interactive effects of these factors are discussed. Additional studies of the interactive aspects of the physician-patient relationship are encouraged, and implications for further research are presented, with emphasis on sampling, measurement, and design issues.

Ladhari & Rigaux-Bricmont, (2013) concluded in their findings that emotions mediate (at least in part) the impact of perceived service quality on patient satisfaction. The project has thus addressed the “lack of empirical investigations of the role of emotion in service encounters and its relationship with key concepts in service quality management.” Their findings show that evaluations of patient satisfaction with hospital services should take account of emotional responses as a complement to the traditional measures of service quality—such as tangibility, reliability, responsiveness, assurance, and empathy. The limitations of his finding were that emotional reactions play a significant part in satisfaction, and that the impact of service quality on satisfaction is more substantial than the effect of emotional reactions on satisfaction. Perceived service quality had a substantial direct effect (0.545), but less marked indirect influences through positive emotions ($0.745 \times$

0.281 = 0.209) and negative emotions ($0.520 \times 0.116 = 0.060$). The more substantial effect of perceived service quality on satisfaction (compared with that of emotional reactions) might be explained by the essentially utilitarian and functional nature of hospital services. Further studies are needed to examine the role of emotions in satisfaction models for hedonic (as opposed to utilitarian) services. The project has demonstrated the relevance of the five SERVQUAL dimensions in the context of hospital services in Canada. However, the project did not consider other types of health care services—such as long-term care services, home nursing services, and dental services. Also replications and extensions of the proposed model in different health service contexts are desirable. The needs, priorities, and desires of patients are not homogeneous, and different cultural settings have been shown to be associated with different expectations and emotional reactions. It is thus possible that the number and nature of health care service-quality dimensions, and the relationships of these dimensions with emotions and satisfaction, might vary across cultural groups. These are crucial aspect to be addressed in future research on health-care service quality.

2.4 Medical Institutions

AlGhurair, Simpson & Guirguis, (2012) have studied the relationship of the patient–pharmacist to the patient satisfaction by conducting a total of 112 surveys. Internal consistency ranged from 0.86–0.92, suggesting good reliability, except for the relationship commitment scale. There was a significant, positive correlation between patient-perceived pharmacist expertise and quality of the relationship (0.78; $P < 0.001$). There were also significant, positive correlations between perceived expertise and patient satisfaction (0.52; $P < 0.001$), and relationship commitment (0.47; $P < 0.001$). These associations remained significant but the magnitude of correlation decreased when relationship quality was taken into account (0.55; $P < 0.001$ and 0.56; $P < 0.001$, respectively). On the other hand, there was no significant association between either patient-perceived pharmacist expertise or relationship quality, and medication self-efficacy (0.06; $P = 0.517$ and 0.10; $P = 0.292$, respectively). They concluded that: Patient-perceived pharmacist expertise is an independent determinant of relationship quality, patient satisfaction, and relationship commitment. Relationship quality also appears to mediate the effect of perceived expertise on patient satisfaction and relationship commitment.

Ryan & Rahman, (2012) have examined demographic factors influencing patients' self-reports of satisfaction with care provided by nurse practitioners (NPs) in rural urgent care centers (UCCs). Their data were collected between December 2009 and February 2010 using an 18-item self-report survey from a convenience sample of 53 patients in two rural UCCs. They concluded that no statistical significance was noted in regards to patient satisfaction for the demographic factors age, gender, country of upbringing, or education level. Presence of health insurance was a significant factor, with uninsured patients rating higher levels of satisfaction. However, based on patients' responses to role clarity for this survey, it is evident that there continues to be insufficient public understanding of the role of NPs. Implications for practice: "The future of the NP relies on patient approval as well as acceptance of the role". This project joins the pioneering efforts towards describing what patient satisfaction is and supports NPs serving as providers in rural, non-primary care venues. By identifying influential factors of satisfaction, NPs can bridge the gap between availability of quality care versus lack of access and inform policy changes in the future.

Birhanu, Assefa¹, Woldie & Morankar, (2010) have studied factors of satisfaction with health care provider interactions at health centers in central Ethiopia. The study was conducted on 768 outpatients of six health centers in West Shoa Zone, Central Ethiopia. The total sample size was allocated to each of the six health centers based on patient flow during the ten days prior to the start of data collection. Pre-tested instruments were used for data collection and the data were analyzed using SPSS statistical software. Factor score was computed for the items identified to represent the satisfaction scale by varimax rotation method. Using this regression factor score, multivariate linear regression analysis was performed and the effect of independent variables on the regression factor score was quantified. Their results show that seventy three percent of the respondents perceived that provider's empathy was good, and 35% complained that providers were not technically competent enough. In addition, 82% of the respondents rated non-verbal communication by the providers to be good, very good or excellent on a five-point ordinal scale. Regardless of the process, only 34.1% of the patients implied that the consultations made a difference in understanding their illness and coping with it. Generally speaking, 62.6% of the patients reported that they have been satisfied with their visit. Perceived empathy, perceived technical competency, non-verbal communication, patient enablement,

being told the name of illness, type and frequency of visit, knowing the providers and educational status were main independent predictors of patient satisfaction in this project. Furthermore, very good empathy (Beta = -4.323), fair non-verbal communication (Beta = -0.188), fewer expectations met (Beta = -0.169) and disagreement to technical competency (Beta = -0.156) had greater negative influence on patient satisfaction. On the other hand, excellent non-verbal communication (Beta = 0.114) and being told the name of illness (0.109) had pronounced positive influence on patient satisfaction. In conclusion, the study showed that interpersonal processes including perceived empathy, perceived technical competency, non-verbal communication and patient enablement significantly influence patient satisfaction. Therefore, health care providers should work towards improving the communication skill of their professionals along with having technically competent workers, which could possibly affect the perception of patients about all of the variables identified as independent predictors of patients' satisfaction in this project.

Several authors have reported and investigated on the interaction between patients and doctors, which in turn affects the measurement criteria for assessing health care quality. Sodani, & Sharma, (2014) have assessed the level of satisfaction in terms of various quality dimensions among the patients in their study hospital. Data were collected from inpatients through structured questionnaire on eight quality dimensions such as general satisfaction, technical quality, interpersonal manner, communication, financial aspects, time spent with doctors, accessibility and convenience, and hospital services. In total, 100 inpatients were included from three departments with highest patient inflow: medicine, gynecology, and surgery. Most of the respondents were male and belonged to the age group of 31–45 years. Findings depict that highest level of satisfaction was found for interpersonal manner (86.3%) followed by communication (85.4%), general satisfaction (79.3%), and technical quality (77.3%), whereas least level of satisfaction was found for financial aspects (61.6%), followed by hospital services (68%), accessibility and convenience (73.5%), and time spent with doctor (76.9%).

Liu, Luo, Zhang, & Huang, (2012) have introduced the electronic medical EMR/health record EHR as a systematic review to contribute to a better understanding of patient satisfaction. The EMR/EHR is utilized to identify recurring

themes and to offer preliminary guidelines and future directions. Increased satisfaction of patients was noted, which could lead to significant changes in design EMR/EHR and medical practice. Patients' views may be taken into account as EMR/EHR is being developed. Patient satisfaction as an outcome variable is difficult to be measured precisely. There are many factors that influence patient satisfaction with EMR/EHR, and more research is needed to understand these factors. Such research can help to refine theoretical models of patient satisfaction with EMR/EHR and aid in the development of an effective instrument for assessing and understanding such satisfaction.

Soufil et al. (2010), have developed socio culturally appropriate interventions in order to improve satisfaction of patients. The Arabic version of EQS-H demonstrated an excellent internal consistency for the two dimensions studied (0.889 for "quality of medical information" (MI) and 0.906 for "Relationship with staff and daily routine" (RS). The principal component analysis confirmed the bi-dimensional structure of the questionnaire and explained 60% of the total variance. In the univariate analysis, urban residence, higher income, better perceived health status compared to admission, better perceived health status compared to people of the same age, and satisfaction with life in general were related to MI dimension; Otherwise, male gender, urban residence, higher income, staying in double room, better perceived health status compared to admission, and satisfaction with life in general were related to RS dimension. The multiple linear regression showed that four independent variables were associated with higher satisfaction in MI: More than 2 prior hospitalizations, a longer length of stay (10-14 days) ($P = 0.002$), staying in double room ($P = 0.022$), and better perceived health status compared to admission ($P = 0.036$). Three independent variables were associated with higher satisfaction in RS: longer length of stay (10-14 days) ($P = 0.017$), better perceived health status compared to admission day ($P = 0.013$), and satisfaction with life in general ($P = 0.006$). Conclusions: "Our current data assessing patient satisfaction with acute health care by the Arabic version of the EQS-H showed that the satisfaction rate was average on MI dimension; and good on RS dimension of the questionnaire". The majority of participants were satisfied with the overall care. Demographic, socioeconomic, and health characteristics may influence in-patients satisfaction in Morocco, a low/middle income country. An appreciation and understanding of these factors is essential to

develop socio culturally appropriate interventions in order to improve satisfaction of patients.

2.5 Summary

Prior conducting the thorough literature review above, the following quality measures have been sought to be the main focus of this project. In which each element would be operationalized and tested for its relation with patients' satisfaction throughout the following body of the text:

- Technical Quality
- Interpersonal manner
- Communication
- Financial Aspects
- Time spent with Doctor
- Accessibility & Convenience
- Hospital Services

Chapter 3

Research Methodology

3.1 Introduction

In this project, our patients' satisfaction as a construct has been measured based on patients' direct input from our research tool. A survey has been executed by designing a questionnaire comprised of 16 questions distributed to patients in 3 predetermined private sector hospitals in Bahrain. When choosing (or designing) a survey questionnaire, three notes have been considered: brevity, clarity and consistency. The questionnaire has been adopted based on the quality dimensions correlated to patients' satisfaction as an outcome of our literature review, as well previous findings that document previously enquired determinant questions regarding the subject under study. The dimensions believed to be correlated to patients' satisfaction upon literature documentation, and considered in this survey are mainly: Technical Quality; Interpersonal Manner; Communication; Financial Aspects; Time Spent with Doctor; Accessibility & Convenience, and Hospital Services.

After preparing the survey for distribution, results will be tabulated. Results are then acted upon and interpreted following a certain trend. A conclusion will be drawn. The majority of questions on a patient satisfaction survey should be answered using a scale; "The most generally used and accepted scale that is seen quoted in the literature and utilized by the NCQA is the five-point close-ended scale system as advocated by Myers "(White, 1999)", ranging from "excellent" to "poor." That's: Excellent, Very Good, Good, Fair, and Poor. At the beginning of the survey, patients' demographic information is also collected; this can help in identifying how certain groups of patients responded to a particular question if further demographics relationship analysis is to be considered.

Our survey will be carried out at 3 private sector hospitals of which their identities are not to be revealed as requested by their public relations executives contacted for this research. The ease of the distribution process was managed through utilizing an

electronic survey website, ensuring our patients the total confidentiality of their responses, as well as easily obtaining and analyzing the responses to be collected.

In this chapter we explain the conceptual and operational definitions of our variables, and explain the research design utilized for concluding the results of the findings represented in the upcoming chapter. Breaking down our research instrument, sampling procedure used and the sample chosen for this project. And finally explaining how to account for and tackle the solutions for our objectives previously presented.

3.2 Striving for Anonymity.

Generally, patients are more likely to answer survey questions honestly if they believe their identity is protected. So, every effort was made to keep the entire survey process anonymous by not including any identity revealing questions in our questionnaire. And in order to achieve this high level of confidence throughout our patients, the questionnaire was uploaded and conducted electronically. Patients were able to complete their surveys in their private time without even having anyone to collect the survey answers from them.

Some practices have chosen to assign a unique patient identification number to each survey, which enables them to track which surveys have been recorded. So following this track and only in order to mark and identify our responses without compromising our patients' identities, each response was recorded with its own time stamp electronically by the website; reassuring that anonymity was highly achieved during the data collection process.

3.3 Research Design

The research conducted in this project is considered to be an analytical quantitative research. In a sense that we ought to analyse, explain and determine statistically the nature and the direction of the correlation between hospitals quality dimensions and patients satisfaction at local private sector hospitals in Bahrain.

3.4 Operational and Conceptual Definitions of Variables

Patients' satisfaction is determined by assessing what we call "Quality Dimensions" as have been mentioned in the text. During this project, Quality Dimensions are structured in a questionnaire to be distributed among patients being admitted at our preselected hospitals. Each of these quality-dimensions, whether it comprises one or more than one question, is given the same weight in assessing patients' satisfaction. Data collected from respondents are then analyzed and a conclusion is to be made.

Below, table 1 is a representation of the conceptual definitions related to each quality dimension to be assessed. These conceptual definitions of our constructs are found in many previous writings; and adapted from Ladhari (2013), Birhanu (2010), Sodani (2014), Soufi et al., (2010), Dagger (2007), AlGhurair (2012), DiMatteo (1979), Otani (2014), and Ryan, (2012) all have very similar and concise definitions apart of minor wording differences, the most common and close definitions are listed in the table.

Quality Dimension	Conceptual Definition
Technical Quality	It is an indication for the availability of materials needed for complete medical care. It evaluates the knowledge, abilities and skills of doctors
Interpersonal Manner	It is the perception of patients toward the doctors' and technical staff behavior and patient–doctor relationship
Communication	It explains how the doctors explain the reasons for medical tests and how they care and communicate with patients
Financial Aspects	It is the patient satisfaction with hospital charges and rates for various medical services and its affordability.

Time Spent for and with the Doctor	It is the patient satisfaction on the time the doctor spent with the patient as well as total waiting time in the hospital
Accessibility and Convenience	It is the measure of the accessibility and availability of medical care services and shows how easy access to the medical specialist is attained
Hospital Services	The services provided by the hospital facilities such as laboratory, pediatric, housekeeping, pharmacy, food and maintenance
General satisfaction	General opinion of the patients worries, satisfaction or dissatisfaction

Table 1: Conceptual Definitions of Variables

Each of our operational definitions is obtained from the questions to be asked to our patients. Our operational definitions are explained below.

3.4.1 Technical Quality

This quality dimension is an indication for the availability of materials needed for complete medical care. In addition, by this quality dimension, we can judge on the knowledge, abilities and skills of doctors in the hospital to diagnose the patients and gain their trust. Our evaluation of this quality dimension is reflected by the numerical values we obtain from the questionnaire from the patients input by answering the following questions (Q 1&2 in the Questionnaire):

- a. How do you rate the hospital with respect to lab results and other instrumental capabilities?
- b. How are you satisfied with your doctor and other medical staff with respect to knowledge and on ability to diagnose and treat your illness?

3.4.2 Interpersonal Manner

This quality dimension shows the perception of patients toward the doctor's and technical staff behavior as well as patient–doctor relationship. It reflects on the doctors' and staff's behavioral aspects, treatment, and how they deal with patients. This will reflect patients' satisfaction under the dimension of interpersonal manner and how personal the doctors are. The following questions rate the above perception (Q 3&4 in the Questionnaire):

- a. How friendly is the doctor treating you?
- b. How friendly are the doctor and staff considering other patients' perspectives?

3.4.3 Communication

This quality dimension explains how the doctors were good about explaining the reasons for medical tests, as well an indication that the doctors are giving care to the patients, and also the extent to what level the doctors communicate with patients. The following questions are designed to address this quality dimension (Q 5&6 in the Questionnaire):

- a. Ease in obtaining follow-up information and care (test results, medicines, care instructions).
- b. How clearly is the doctor explaining your illness status?

3.4.4 Financial Aspects

This quality dimension shows how much patients are satisfied with hospital charges and rates for various medical services and its affordability. It explains patients' affordability to pay for medical care. Satisfaction of patients on the financial aspects are weighted by the following questions (Q 7&8 in the Questionnaire):

- a. How expensive is the whole treatment?
- b. To your general knowledge, how do you rate the total cost of treatment in this hospital compared to other local or even hospitals abroad?

3.4.5 Time Spent for and with the Doctor

Time spent waiting for and with the doctor is one of the quality dimensions that are found to affect patients' satisfaction. The following questions are designed to measure

for the quality dimension of time spent with doctors among the respondents (Q 9&10 in the Questionnaire):

- a. Rate the overall medical care waiting time at your doctor's waiting room.
- b. How long does the doctor stay listening to you and how long does he take to examine you carefully?

3.4.6 Accessibility and Convenience

Accessibility and convenience is usually assessed as another important quality dimension. Access is dependent on the availability of services and providers. The longer the time you wait for an appointment to see the doctor is considered a negative satisfaction. This quality dimension measured the accessibility and availability of medical care services in the studied hospitals. It indicates how easy access to the medical specialist is attained and is measured by patients responding to the following questions (Q 11&12 in the Questionnaire):

- a. Ease of making appointment to see a physician and waiting time for an appointment.
- b. Ease in speaking directly to the doctor and other medical staff.

3.4.7 Hospital Services

Hospital services such as laboratory, pediatric, housekeeping, pharmacy, food, maintenance, is considered one of the paramount quality dimensions. Cleanliness and hygiene are such examples of services to be maintained. Childcare facilities are also among those services. This dimension is determined by the weight of the following questions (Q 13&14 in the Questionnaire):

- a. Ease in obtaining treatment follow up and medical care when needed.
- b. How do you rate the hospital with respect to cleanliness, food and treatment services?

3.4.8 General satisfaction

General satisfaction is considered here as patients give their general opinion and rating to their satisfaction level as a whole. This is measured in two questions highlighting general patients' satisfaction in a general view of the health care, and

also towards the medical treatment received at the hospitals. (Q 15&16) in the Questionnaire):

- a. How are you satisfied with the hospital's health care procedures in general?
- b. What are your general evaluation and satisfaction towards the effectiveness of the treatment in this hospital?

3.5 Population of the Study

Our population considered in this project covers all officially registered patients in the three hospitals' databases in hand. This includes all the patients who had ever been treated at the hospitals spanning across all hospital departments, and even emergency outpatients who were treated at least once as emergency cases and never visited the hospital prior to their first emergency visit. Our total number of patients was found out to be quite promising as it was not a big number, a total of 4692 patients were registered at our hospitals' databases as of the first of December 2015.

3.6 Sampling Procedure and Sample Size

To be able to gather a definitive and valid representation of our population, as we have a considerably good number of population elements, a total random probability sampling method was used. As we had to use a sampling method that generated data with high validity and reliability in order to represent our population. As for our sample size, as many responses as possible were needed to be gathered, but as there were some time limitations in doing so we decided to approach 20% of our population. 940 patients were contacted, out of which 816 patients were approached by using two of the hospitals' bulk messaging software, where the system would send each patient an SMS message containing an electronic link to our questionnaire directly to their saved contact number in the system. As for the remaining 124 patients at the third hospital, they were approached by sending them email messages instead. Our response rate of complete and valid responses were a total of 387 (40%) of our contacted sample. Which in this case is considered to be representative enough of our population, especially since a highly representative sampling method was used in our sample selection.

3.7 Instrument

Our survey as mentioned previously is an adoption of a collective of common previous work done by many authors. As well as an addition of modified or replaced questions and wordings in order to fit this project. Thus to test for the validity and reliability of our test instrument, a Cronbach's Alpha test was conducted using SPSS statistical program, and concluded that the test instrument used in this project had very high reliability and validity in accounting for our patients' responses as represented in table 2 below.

Cronbach's Alpha	N of Items
.939	16

Table 2: Chronbach's Alpha Reliability Result

The survey used to collect our responses was comprised of two sections:

- Section 1: Consisted of patients' close-ended demographic questions (gender, age, educational background, marital status, work status) and are mandatory for the completion of the survey. These questions could help is in further analysis, such as drawing behavioural patterns related to the demographics of patient groups.
- Section 2: Consisted of 16 questions and statements measuring our patients' satisfaction levels against each quality dimension under consideration. This section will help in measuring the satisfaction level of our patients as a direct assessment by the patients themselves through answering the five-point close-ended scale questions mentioned previously.

All answers from our questionnaire are to be converted for analysis to a numerical value that represents each satisfaction level in the questionnaire as such:

- Excellent: 5 Points
- Very Good: 4 Points
- Good: 3 Points
- Fair: 2 Points
- Poor: 1 Point

3.8 Data Analysis

The data obtained was statistically analyzed using SPSS 21.0 and Microsoft Excel programs simultaneously; depending on the type of analysis to be conducted and the representation/conclusion drawn. The following methods were utilized in order of achieving the research objectives at hand:

1. In order to achieve objective (1), a thorough and in-depth literature study was conducted to gather the most significant dimensions or aspects of service quality previously found to have direct significant correlation on hospital patients' perception, and level of satisfaction. Over 40 publications were examined, all quality dimensions found out to have significant correlation with patients' satisfaction were included and tested against in this project.
2. Objectives (2) & (3) were achieved through applying Pearson correlation statistical test, by analysing the existence, type, and strength of the relationship between each quality dimension variables and the overall patients' satisfaction level. As the results of the correlation could be ranked against their importance to patients by ranking the correlation coefficients of the quality dimensions under consideration.

Chapter 4

Results and Findings

This chapter is considered the core part of the present project. The questionnaire results feedback has been rigorously analyzed by SPSS computer program for assessing the relative importance of hospitals' quality dimensions for private sector patients in Bahrain. In this chapter we represent the findings of this research represented in mainly the demographic statistics of our sample, followed by the correlation analysis computed by SPSS analyzing the relation of each of our quality dimensions and patients' general satisfaction.

4.1 Demographic Profiles of Respondents

The results generated from the questionnaire feedback have been scrutinized and analysed as seen in table 3 below; shown are the demographic statistics of our sample with respect to respondents' gender, age group, household composition, educational background, and employment status. A total of 180 male and 207 females responded to the questionnaire. The majority of the respondents are in the age group between 19 to 29 years old; half of this number is in the age between 30 to 39. Few respondents are on the ages above 50 as also shown.

If we notice the respondents' educational level, we could notice that the majority of about 70% are holding a Bachelor degree; 19% are holding a Master degree; 2% are holding a PhD degree; 8% holding a high degree diploma; and only 1% having no degree. The result is in quite agreement with the respondents' age. In addition to that, we could state that the results obtained are conveniently trustable and acceptable to a high extent as it was generated by a well-educated group of the population.

Table 3 also shows the employment status of the respondents. The feedback received is mostly from employees for wages, that's 50% of the total respondents. A 22% from students; a 15% from self-employed; a 9% from those unemployed, and a 2% each from retired and military people. The result obtained is quite in agreement and correlated with respect to job satisfaction and stability of the respondents.

These demographic statistics could be directed towards further analysis of the statistics obtained. To further analyze our findings for instance, demographic correlational analysis could be conducted in order of discovering any socio-cultural patterns emerging from our responses demographics, such as emerging trends and patterns that would link a certain group of respondents towards a unified pattern of answers or response. In which further analysis could also be done as to evaluate and control for the causes of these emigrant patterns.

Demographics Statistics			Percentages
Gender	Male	180	47%
	Female	207	53%
Age Group	Below 18 years old	3	1%
	19 - 29	246	64%
	30 - 39	126	33%
	40 - 49	9	2%
	50 - 59	0	0%
	Above 60	3	1%
Household Comp.	Single / Unmarried	255	66%
	Married / Domestic Partnership	123	32%
	Divorced / Separated	9	2%
Educational Level	Some Schooling (No Degree)	3	1%
	High School Diploma	33	9%
	Bachelor Degree	270	70%
	Master's Degree	75	19%
	Higher Degree (PhD, etc..)	6	2%
Employment Status	Student	87	22%
	Employed for wages	195	50%
	Self-employed	57	15%
	Unable to work	33	9%
	Military	9	2%
	Retired	6	2%

Table 3: Demographics Statistics

4.2 Correlation Analysis

The analysis of the results obtained from the questionnaire feed back has been exposed and analyzed through the use to the (SPSS) computer program and is represented in the correlation matrix obtained in Table 4 below. In the program, and as mentioned in previous chapters, the direct correlation coefficient was calculated

between each of the quality dimensions and general patients satisfaction. These variables are assigned as X1 to X7 as follows respectively: Technical Quality; Interpersonal manner; Communication; Financial Aspects; Time spent with Doctor; Accessibility & Convenience, and Hospital Services, as General Satisfaction, our main concerning factor is denoted by X8 in the table. The internal consistency of each item was tested for inter-correlation by computing Cronbach's Alpha by using SPSS as mentioned chapter 3. Based on the results computed; all dimensions were found to be significantly and positively correlated with general satisfaction. From the values obtained, the degree of significance or the relevance importance of these factors is denoted by the value of correlation coefficient as an outcome of the analysis represented. Hence, the quality dimensions could be arranged from higher to lower significance in the following order: X7: Hospital Services, X3: Communication, X1: Technical Quality, X5: Time Spent with Doctor, X6: Accessibility and Convenience, X2: Interpersonal Manner, and X4: Financial Aspects.

	X8	X1	X2	X3	X4	X5	X6	X7
X8	1.000							
X1	0.735**	1.000						
X2	0.646**	0.653	1.000					
X3	0.756**	0.704	0.678	1.000				
X4	0.398**	0.271	0.396	0.396	1.000			
X5	0.674**	0.669	0.714	0.695	0.308	1.000		
X6	0.668**	0.578	0.599	0.662	0.359	0.564	1.000	
X7	0.804**	0.704	0.661	0.748	0.418	0.653	0.696	1.000

Table 4: Correlation Matrix

Chapter 5

Discussion, Conclusion and Recommendations

Discussion, conclusion and recommendations are drawn in this chapter based on the results computed and analyzed from the results and feedback received and collected from our questionnaire and analysis prepared in previous chapters.

5.1 Discussion

The questionnaire was distributed as mentioned in the methodology to 20% (940) of the total population of 4692 patients across our 3 hospitals. Among this number 41% for a total of 387 have responded, which is considered quite adequate for the present work.

On the respondents age factor, the highest respondents are in the age ranging between 19 to 29 years old, next is between 30 to 39 years. Only 3 respondents in the age above 50 are considered too low for this project. It was expected to have respondents from age 50 and above much more than youngsters as those above 50 are much prone and susceptible to health problems and have higher frequency on visiting hospitals. Elderlies, for this reason are considered best indicators on patients' satisfaction and their feedback to patient satisfaction would have been better. For this reason, we would consider the results of this factor as biased. A control for this bias could be controlled for in further studies by trying to unify the number of respondents among all age groups and even across other demographic groupings as well.

Results with respect to household composition as single, married or divorced would not have any positive or negative impact on the results and hence would not affect patients' satisfaction, according to our judgment.

Education of respondents is an important factor in general, and hence the judgment of highly educated personnel is given higher consideration. Those holding Bachelor degrees are highest in our sample, next are those having Masters degree and that's

expected compared to the population having Masters and higher education degree. The number of those responded holding a PhD degree for a total of 6 is considered high and reasonable. Those who responded having no degree are very low in number. In which we would consider the resultant as adequate and useful.

Statistically, the employment factor is considered a normal distribution when looking into the number employed, self employed, students and unemployed personnel. Highest responses are from the employed sector indicating stability and hence better assessment.

Correlation results obtained are found to be logical and highly acceptable. The significance of each dimension have been determined and compared to all factors with respect to patients' satisfaction. The significance is found to be quite logical among the Bahraini population. The Financial Aspects is of the lowest significance to relate it to patients' satisfaction as almost all people are prosperous and have good income. This could also suggest that a generalization towards paying less attention to financial aspects is prone when comparing it to the far end of the spectrum that is (Hospital Services), throughout the Bahraini private sector hospital patients. This situation would have been the reverse in less developed countries as the financial aspects are damaging their life and quality of living. The result obtained reflects positively on the Bahrainis community way of thinking and behavior towards systems development, and could be generalized on our total population.

Reflecting these findings on our research objectives mentioned in chapter one; it could definitively state that all the objectives have been met throughout the body of this text. Firstly by summing up the correlated hospital quality dimensions in one adopted model, achieving objective (1) of the project. And testing against their relationship type, strength, and eventually ranking their importance from what is more important to less for the average Bahraini private sector hospital patient's point of view, achieving both objectives (2) and (3) of this project.

5.2 Recommendations

1. Health care and improvements in private and governmental hospitals is paramount and considered a mandatory task to be achieved. Perfection and excellent degree of health care in such hospitals is posing competition and hence improvement will be the resultant. It's therefore recommended to assess the health care in each sector by patients' satisfactory indicators.
2. This project is recommended to governmental hospitals implementation as well for the purpose of improvement.
3. Periodical repeated studies are to be conducted in all medical centres and hospitals in Bahrain as mandatory for health care improvement.
4. It's of most importance to highlight the Quality Dimensions of Hospital Services, Communication and Technical quality to be maintained in the medical centres in Bahrain, as they are the most significant factors to achieve medical care improvement.

5.3 Recommendations for Further Studies

As a result of the outcome of this project, the followings are recommended:

1. To conduct a similar study to the Governmental Hospitals and other private sector hospitals.
2. A similar research is advised to study customers' satisfaction on local restaurants to enhance food quality and services.
3. To control for the demographic factor bias by unifying the number of responses among all demographic groups as to result in better and more definitive unskewed results.

5.4 Conclusion

The present project has evaluated patients' satisfaction in private sector hospitals in Bahrain. All quality dimensions used in this project were proved to be significant with a great impact on evaluating patients' satisfaction.

The significance impact on patients' satisfaction was determined by running the Pearson relative correlation factor on the SPSS computer program. The significance of the quality factors was found to be in the following order from higher to lower respectively; Hospital Services, Communication, Technical Quality, Time Spent with Doctor, Accessibility and Convenience, Interpersonal Manner, and Financial Aspects.

References

- AlGhurair, S. A., Simpson, S. H., & Guirguis, L. M. (2012). What elements of the patient-pharmacist relationship are associated with patient satisfaction? *Patient Preference and Adherence*, 6, 663-677.
- Becker, M. H., Maiman, L. A. (1980). Strategies for enhancing patient compliance. *Journal of Community Health*, 6, 113–135.
- Benjamin, L. S., (1981). *Social Competence*. New York: Guilford Press.
- Bertakis, K. D. (1977). The communication of information from physician to patient: a method for increasing patient retention and satisfaction. *Journal of Family Practice*, 5, 217–222.
- Birhanul, Z., Assefal, T., Woldie, M., Morankar, S. (2010). Determinants of patient enablement at primary health care centres in central Ethiopia: A cross-sectional study. *BMC Health Services Research*, 10, 78.
- Breslau, N., Mortimer, E. A. Jr. (1981). Seeing the same doctor: determinants of satisfaction with specialty care for disabled children. *Med Care*, 19, 741–757.
- Chakraborty, R., & Majumdar, A. (2011). Measuring consumer satisfaction in health care sector: The applicability of SERVQUAL. *Researchers World*, 2(4), 149 - 160.
- Dagger, T. S., Sweeney, J. C., and Johnson L. W. (2007). A hierarchical model of health service quality : scale development and investigation of an integrated model. *Journal of service research*, 10, 123.
- Damghi, N., Belayachi, J., Arme, B., Zekraoui, A., Madani, N., Abidi, K. et al (2013). Patient satisfaction in a Moroccan emergency department. *International archives of medicine*, 6, 20.

- DiMatteo, M. R., Prince, L. M., Taranta, A. (1979). Patients' perceptions of physicians' behaviors: Determinants of patient commitment to the therapeutic relationship. *J Community Health*, 4, 280–290.
- DiMatteo, M. R., Taranta, A., Friedman, H. S., Prince, L. M. (1980). Predicting Patient Satisfaction from Physicians' Nonverbal Communication Skills. *Medical Care*, 18, 376-387.
- Doyle, B. J., Ware, J. E., (1977). Relationship of physicians' nonverbal communication skill to patient satisfaction, appointment noncompliance, and physician workload. *Journal of Med Education*, 52, 793–801.
- Francis, V., Korsch, B. M., Morris, M. J. (1969). Gaps in doctor-patient communication: Patients' response to medical advice. *N Engl J Med*, 280, 535-540.
- Gray, L. C. (1980). Consumer satisfaction with physician provided services: A panel study. *Social Science & Medicine*, 14(A), 65–73.
- Greene, J. Y., Weinburger, M., Mamlin, J. J. (1980). Toward a better understanding of the delivery of primary care: The patient, the provider, and their interaction. *Social Science & Medicine*, 14(A), 133–138.
- Greenley, J. R., Schoenherr, R. A. (1981). Organization effects on client satisfaction with humaneness of service. *J Health Soc Behav*, 22, 2–18.
- Hall, J. A, Roter, D. L., Rand, C. S. (1981). Communication of Affect between Patient and Physician. *Journal of Health Social Behavior*, 22, 18–30.
- Hulka, B. S., Kupper, L. L., Daly, M. B., Cassel, J. C., Schoen, F. (1975). Correlates of satisfaction and dissatisfaction with medical care: a community perspective. *Med Care*, 13, 648–658.

- Kincey, J., Bradshaw, P., Ley, P., Coll, J. R. (1975). Patients' satisfaction and reported acceptance of advice in general practice. *Gen Practitioners*, 25, 558–566.
- Korsch, B. M., Gozzi, E. K., Francis, V. (1968). Gaps in doctor-patient communication: I. Doctor-Patient Interaction and Patient Satisfaction. *Pediatrics*, 42, 855–870.
- Kuokkanen, L., Kilpi, H. L., Katajisto, J., Heponiemi, T., Sinervo, T., & Elovainio, M., (2014). Does organizational justice predict empowerment? Nurses assess their work environment. *Journal of nursing scholarship*, 46, 349–356.
- Ladhari, R. & Bricmont, B. R. (2013). Determinants of patient satisfaction with public hospital services. *Health marketing quarterly*, 30, 299-318.
- Larsen, D. E., Rootman, I. (1976). Physician role performance and patient satisfaction. *Social Science & Medicine*, 10, 29–32.
- Leary, T. (1957). Interpersonal diagnosis of personality: *A functional theory and methodology for personality evaluation*. New York: Ronald press.
- Lebow, J. L. (1974). Consumer assessment of the quality of medical care. *Med Care*, 12, 328–337.
- Liu J., Luo L., Zhang R. and Huang T. (2012). Patient satisfaction with electronic medical/health record: a systematic review. *Scandinavian journal of caring sciences*, 27, 785–791.
- Lochman, J. E. (1983). Factors related to patients' satisfaction with their medical care. *Journal of Community Health*, 9(2), 91-109.
- Mangelsdorff, A. D. (1979). Patient satisfaction questionnaire. *Med Care*, 17, 86–90.

- Marinova, D., Ye, J. & Singh J. (2008). Do frontline mechanisms matter? Impact of quality and productivity orientations on unit revenue, efficiency, and customer satisfaction. *American marketing association*, ISSN: 0022-2429.
- Naidu, A. (2009). Factors affecting patient satisfaction and healthcare quality. *Int. J. Health Care Quality Assurance*, 22(4), 366-81.
- Otani, K., Deng, Y., Waterman B. & Dunagan W. C. (2014). Increasing patient satisfaction: a new model development. *Health marketing quarterly*, 31, 370-382.
- Péfoyo, A. J. & Wodchis, W. P. (2013). Organizational performance impacting patient satisfaction in Ontario hospitals: a multilevel analysis. *BMC Research Notes*, 6, 509.
- Priporas, C. V., Laspa, C., & Kamenidou, I. (2008). Patient satisfaction measurement for in-hospital services: A pilot study in Greece. *Journal of Medical Marketing*, 8, 325–340.
- Ross, C. E., Wheaton, B., Duff, R. S. (1981). Client Satisfaction and the Organization of Medical Practice: Why Time Counts. *Journal of Health Soc Behav*, 22, 243-255.
- Ryan, K., & Rahman, A., (2012). Examining factors influencing patient satisfaction with nurse practitioners in rural urgent care centers. *Journal of the American academy of nurse practitioners*, 24, 77–81.
- Scott, W. R., Flood, A. B., Ewy, W. (1979). Organizational determinants of services, quality and cost of care in hospitals. *Milbank Mem Fund Q Health Soc*, 57, 234-257.
- Segall, A., Burnett, M. (1980). Patient evaluation of physician role performance. *Soc Sci Med*, 14A, 269–278.

- Sodani, P. R. & Sharma, K. (2014). A study on patient satisfaction at a multi super specialty hospital in Delhi. *Hospital topics*, 92, 1-6.
- Soufi, G., Belayachi, J., Himmich, S., Ahid, S., Soufi, M., Zekraoui, A. et al, (2010). Patient satisfaction in an acute medicine department in Morocco. *BMC Health services research*, 10, 149.
- Stewart, M. A., McWhinney, I. R., Buck, C. W. (1979). The doctor/patient relationship and its effect upon outcome. *Practitioners*, 29, 77–82.
- Ware, J. E., Snyder, M. K. (1975). Dimensions of patient attitudes regarding doctors and medical care services. *Med Care*, 13, 669–682.
- White, B. (1999). Measuring patient satisfaction: how to do it and why to bother. *Family Practice Management*, 6(1), 40-44.
- Wolinsky, F. D. (1976). Health service utilization and attitudes towards health maintenance organizations: A theoretical and methodological discussion. *Journal of Health Soc Behav*, 17, 221–236.