Health care services quality at private hospitals, from patients’ perspective: A comparative study between Jordan and Saudi Arabia

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The purpose of this study was to compare health care services quality of private hospitals in Jordan and Saudi Arabia. The data for the study was collected through a questionnaire comprising 28 items mainly related to tangible, reliability, responsiveness, assurance, empathy and accessibility. The instrument was validated through pilot testing, Pearson correlation analysis, and using exploratory factor analysis. The internal consistency of the instrument was found to be 0.75. A sample of 606 respondents completed the questionnaire, 327 from the private hospitals in Jordan and 279 from the private hospitals in Saudi Arabia that were selected randomly from six private hospitals. The collected data were analyzed by applying descriptive and inferential statistical techniques such as means and independent sample t-tests. The results obtained show that there was a significant difference in health care services quality between Jordan and Saudi Arabia. Tangibles and accessibility were better in the Saudi Arabia’s private hospitals. However, tangibles were found better in the private hospitals in Jordan. Recommendations were made for the health care providers and administrators to improve health care delivery systems. Continuous monitoring of patient perceptions to improve the quality of health care and patient satisfaction for the overall quality evaluations from patients on the private hospital services is recommended.

Key words: Health care quality, private hospital, Jordan, Saudi Arabia.

INTRODUCTION

The world’s rising population and increasing standards of living have driven significant growth within the global healthcare services sector, as consumers have begun to demand better medical care to support their improving lifestyles. A long and healthy life is one of the three basic dimensions of human development. Along such lines, an ambitious plan was set forth which implied continual training of staff members, outsourcing most developed technologies and medical facilities as well as a workplace where quality performances would be more predictable. In its efforts to go along with development in quantity and quality, the hospital always increases its medical professions and fills in the vacancies with expert and well-trained medical professionals depending on objective staff selection criteria.

A lot of research has been done on service quality over the past two decades (Parasuraman et al., 1985, 1988, 1991, 1993, 1994a, b; Zeithaml et al., 1985, 1990, 1993, 1996) and several attempts have been made to capture its meaning and assessment. The assessment of service quality poses some interesting challenges that have engaged academics and practitioners in the developed countries for quite some time now. Two major concerns continue to engender healthy debate on this issue: who will assess quality and on what criteria? In the context of hospitals, Reidenbach and Sandifer-Smallwood (1990) demonstrated the existence of measurement problems: the problems arising from the use of the SERVQUAL measurement instrument, and the lack of distinct dimensions of service quality (Parasuraman et al., 1988).
Babakus and Mangold (1992) also showed that expectations may not contribute to the relationship between service quality and other key measures. Various researchers have developed alternate concepts for service quality, like the Nordic view (Gronroos, 1984) and the American view (Parasuraman et al., 1988).

The Nordic view explains the service quality on two dimensions, that is, functional and technical quality. Technical quality in health care industry refers to the accuracy of diagnostic and therapeutic processes; whereas functional dimension refers to the manner and behavior of the health care providers during the service delivery process (Babakus and Mangold, 1992). The American view defines service quality on five dimensions – tangibility, empathy, assurance, reliability, and responsiveness. Most of the studies are only focusing on the functional dimension in the health care literature (Choi et al., 2005).

However, some prior studies substantiate that the technical dimension such as physician’s competence and the environment of the health care delivery process is also critical. The interaction between the technical dimension and the functional dimension has been tested by previous research. For the long-run success of a health care organization, both functional and technical qualities have to be monitored and managed effectively (Babakus and Mangold, 1992). Based on the earlier research, there is an increasing importance of measuring health care quality all over the world since health as a crucial service should be provided to humans.

The importance of health quality encouraged the author to examine this crucial issue by conducting a comparative filed study in private hospitals between Saudi Arabia and Jordan, to explore the progress of the hospital in terms of patients’ attitudes toward the provided services. These attitudes are crucial for decision maker of the hospital in order to develop a strategic plan to assure that health services are provided in a proper manner to the patients. The importance of the current study stems from the vitality of medical sector which witnessed an increased growth and intensive competition as a result of spawned increase in hospital numbers whether public or private. Health care sector surely has human as well as economic dimensions. Along with health welfare, this sector generates economic benefit not only for health providers, but also for the national economic development and social welfare.

As a matter of fact, there are increased numbers of patients coming from neighboring countries in expectation of receiving health care service quality technically and functionally. So, evaluating quality of health care services will assist in creating a workable database from which information is derived about the level reached by health care service in Jordan. Of course, a better understanding of how consumers evaluate the quality of health care will help administrators and service providers in determining and improving weaker aspects of their health care delivery system. With continuous monitoring of patient perceptions and improvements based on patient feedback, quality of care and patient satisfaction will improve.

Theoretical background and research hypotheses

Health care quality

Health care services are presently engaged in marketing, one way or another. In this respect, Kotler and Clark (1987) argue “there has been a strong tendency among health care organizations to pursue one of two alternatives; 1) to assign the title of marketing to an existing administration function, such as public relations or planning; and 2) to avoid assigning the responsibility for marketing to any specific individual or group of administrators. The question to be concerned at this point is what is health care quality? Research in service quality has gained much prominence in recent years but its nature of intangibility makes it extremely difficult to define and measure it (Bolton and Drew, 1991a; Boulding et al., 1993). The term perceived service quality has been frequently used by practitioners and academicians, whereas there has not been any generally accepted definition yet. The theoretical conceptualization of perceived service quality indicates that it is a multidimensional, higher-order construct and cannot be measured in a single dimension (Brady and Cronin, 2001; Parasuraman et al., 1988).

According to Fynes and Voss (2002), regarding quality, “one of the most problematic issues confronting the researchers in quality management is the search for an appropriate definition; precisely, defining such a multifaceted construct such as “quality” is difficult given the number of possible alternatives available”. Parasuraman et al. (1988) define quality of service as “the global overarching judgment or attitude relating to the overall excellence or superiority of the service,” that reflects a consumer’s perception of service-firm performance.

Gronroos (2000: 46) defined service as, “a service is a process consisting of a series of more or less intangible activities that normally, but not necessarily always, take place in interactions between the customer and service employees and/or physical resources or goods and/or systems of the service provider, which are provided as solutions to customer problems”.

Fogli (2006: 4) define service quality as “a global judgement or attitude relating to a particular service; the customer’s overall impression of the relative inferiority or superiority of the organization and its services. Service quality has been defined as a form of attitude – a long-run overall evaluation (Zeithaml, 1988; Parasuraman et al., 1988). Service quality is an elusive and distinctive construct. It can be defined from several perspectives, including:
i. The ability to satisfy the needs and expectations of the customer (Bergman and Kießajo, 1994: 16).

ii. The totality of features and characteristics of a product or service that bear on its ability to satisfy given needs (Evans and Lindsay, 1999: 15).

Service quality is a cognitive judgment. Gronroos (1984) separated quality constructs into technical, functional, and image categories. Health care quality can be divided into two components: technical quality and functional quality. Technical quality relates to the quality of the service. Technical quality aspects are usually quantitative and somewhat straightforward to measure. Examples include mortality and morbidity rates, treatment errors, average length of stay, readmission rates, and infection rates (Anderson and Zwelling, 1996; Fitzsimmons and Fitzsimmons, 2000).

Functional quality relates to how the service is delivered and is more difficult to measure. Examples include attitude-based aspects, such as the degree of understanding and concern shown by the server and the degree of trust and confidence related to the patient by the service provider, and facility-based such as the cleanliness of the facility and the quality of the food (Fitzsimmons and Fitzsimmons, 2000). Health quality is defined by the Institute of Medicine as "the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge" (Institute of Medicine, 1990), suggesting a continuum of quality, clinical standards against which care can be compared, and multiple perspectives from which quality can be evaluated.

Classically, the ways in which quality has been operationalized in the health services research literature generally have some relation to Donabedian's focus on the structures, processes, and outcomes of care, with structures hypothesized to influence processes and processes in turn hypothesized to influence outcomes (Donabedian, 1966). Previous studies have reported that perceived healthcare quality significantly affects patient behaviors such as loyalty and word-of-mouth (Andaleeb, 2001). Moreover, perceptions of service quality enable healthcare providers to identify the activities in need of improvement. Additionally, satisfying patients can save hospitals time and money on resolving patient complaints (Pakdil and Harwood, 2005).

Measuring of health care quality

The traditional approach has been to assess health care quality from the viewpoint of health care providers, care takers and government; and analyze the health related statistics over a period of time neglecting the patients' perspective. However, perceptions of patients are increasingly becoming important in evaluation of health care quality even if they differ significantly from the concept of quality maintained by the health care providers and health care authorities (Calnan, 1988), as their opinions can be employed for meaningful changes in the health care system (Palmer, 1991; Donabedian, 1980, 1992; Fitzpatrick, 1991; Reerink and Sauerborn, 1996; Andaleeb, 2000). Health care quality is multidimensional, and one major challenge is to distill these numerous dimensions into simpler measures that can be calculated, preferably at low cost, so that these measures can then be the focus of appropriate policies designed to improve health care quality. It is also important to determine the criteria on which health care service quality should be assessed. The major measurement of perceived service quality in the service industry includes technical/functional measurement, or technical and process-related (Zeithaml and Bitner, 2003).

Weitzman (1995) suggests that health care quality can be defined in relationship to 1) the technical aspects of care, 2) the interpersonal relationship between practitioner and patient, and 3) the amenities of care. The major measurement of perceived service quality in health care industry includes technical/functional measurement, three-component measurement (structure, process and outcome), SERVQUAL, 5Q’s and JCAHO model. SERVQUAL measurement proposed by Parasuraman, Zeithaml and Berry (PZB hereinafter) in 1985 and later refined in 1988 and 1991 was, thus, reviewed first (Parasuraman et al., 1985, 1988, 1991).

The technical functional dimensions to measure health care services. Technical quality in health care industry refers to the accuracy of diagnostic and therapeutic processes; whereas functional dimension refers to the manner and behavior of the health care providers during the service delivery process (Brook and William, 1975; Babakus and Mangold, 1992).

The three-component measurement (structure, process and outcome) proposed by Zifko-Baliga and Krampf (1997) includes structure which is defined to be the hospital itself including the physical facilities and environment. Process refers to service events that patients encounter from the point they are notified that hospitalization is needed until the outcome is achieved. It includes communication, interaction, availability, and so on.

Outcome is the results of healthcare services, which is traditionally defined and measured in terms of mortality or length of stay. 5Q-Model proposed by Zineldin (2000) expands technical-functional and SERVQUAL quality models into a framework of five quality dimensions (5Qs): quality of object, process, infrastructure, interaction, and atmosphere. (JCAHO) Model is proposed by Joint Commission on Accreditation of Healthcare Organizations. Nine dimensions of perceived health care quality identified by JCAHO model include: efficacy, appropriateness, efficiency, respect and caring, safety,
continuity, effectiveness, timeliness, and availability.

In service operations, Parasuraman et al. (1985) developed a gap model to measure the attributes of service quality. This initial gap model included the following determinants of service quality: reliability (which involves consistency of performance and dependability), responsiveness (which concerns the willingness or readiness of employees to provide service), competence (which means possession of the required skills and knowledge to perform the service), access (which involves approachability and ease of contact), courtesy (which involves politeness, respect, consideration, and friendliness of contact personnel), communications (which means keeping customers informed in language they can understand and listening to them), credibility (which involves trustworthiness, believability and honesty), security (which is the freedom from danger, risk, or doubt), understanding/knowing the customer (which involves making and effort to understand the customer’s needs), and tangibles (which includes the physical evidence of the service). These references are based on similar concepts about attitudes, beliefs, and expectations. Fishbein (1963, 1967) believes that attitudes are a function of a) beliefs about the attitude object, defined as the subjective probability that the attitude object has each attribute, and b) the evaluative aspect of these beliefs, defined as the evaluation of each attribute. The model focuses on beliefs as causes of attitudes and thereby assumed that attitudes are derived from beliefs about attitude objects. The Gap Model of service quality is operationalized by the SERVQUAL survey instrument (Parasuraman et al., 1988). The SERVQUAL instrument is widely applied in the healthcare industry. Many scholars such as Parasuraman et al. (1988), Juwaheer and Ross (2003) and Walker et al. (2006) highlight that reliability, responsiveness; assurance and empathy are the most important service quality characteristics. Reliability is frequently seen as the ability of service provider to implement promised service dependably and accurately (Wong and Sohal, 2003). Responsiveness is often defined as the willingness of service provider to provide service quickly and accurately (Johnston, 2006). Assurance refers to credibility, competence and security in delivering services (Juwaheer and Ross, 2003). Empathy is related to caring, attention and understanding the customer needs when providing service. The literature indicated that empirical support for the proposed framework and the measurement instrument was not always very strong. For example, Carman (1990) suggested that in specific service situations, it may be necessary to delete or modify some of the SERVQUAL dimensions or even introduce new ones. Some studies employed the original 22-item instrument and adjusted it to some specific settings such as private hospitals and walk-in clinics. Some studies incorporate other dimensions not addressed in the SERVQUAL instrument.

Bahia and Nantel (2000) conducted a research to develop a valid measurement of perceived service quality in the Retail Banking sector in Canada. They argued that the SERVQUAL approach has not except from critics; therefore, they developed a new measurement for perceived service quality in retail banking. They proposed a scale that was called bank service quality (BSQ). It comprises 31 items classified across six dimensions as: effectiveness and assurance, access, price, tangibles, range of services offered, and accuracy and reliability. The wide views regarding these factors make the use of the Gap Model problematic. Several studies argue that this gap measurement is not appropriate in health care industry because many patients don’t have expectations on the healthcare services (Babakus and Boller, 1992; Boulding et al., 1993; Taylor and Cronin, 1994; Oliver, 1993; Cronin and Taylor, 1992; Fitzpatrick and Hopkins, 1983). Jun et al. (1998) categorizes perceptions of quality as evaluations of the care experience. More definitively, previous works have suggested and empirically supported that caring (Bowers et al., 1994; Jun et al., 1998; Linder-Pelz, 1982; Ware et al., 1978; Ware and Snyder, 1975; Ware et al., 1983), empathy, reliability, and responsiveness (Bowers et al., 1994; Hall and Dornan, 1986; Jun et al., 1998; Lewis, 1994), predict patients’ assessments of the quality of their care. Donabedian (1980) provided criteria for what constitutes “good care,” using the framework of structure (related to physical environment and facilities), process (related to interaction with service–provider) and outcome (the result of the interaction). Donabedian developed seven attributes of healthcare quality: efficacy, effectiveness, efficiency, optimality, acceptability, legitimacy, and equity. Using focus group interviews of physicians, administrators, and patients, Jun et al. (1988) identified 11 dimensions of health care quality. Eight of these dimensions are part of the well-known Parasuraman model (Parasuraman et al., 1985). Additional three are caring (personal and human involvement), patient outcomes (relief from pain, saving of life, or anger/disappointment with life after medical intervention) and collaboration. A study by Fitzsimmons and Fitzsimmons (2000) include price, as price related to value, as a service winner. They defined price in terms of monetary and nonmonetary price, and they added the dimension of time. Monetary price is the sum of the expenses incurred by a customer to obtain a service. Nonmonetary price is any perceived sacrifice, other than financial, that a customer has to make to access and receive a service-time spent, inconvenience, and psychological costs such as perception of risk anxiety. Time is defined as time needed to use the service, service as a timesaving alternative to another service, and the time horizon within which the service provides benefits. Garvin (1984) established five categories or approaches to the concept of quality: transcendent (based on the degree of excellence), product-based (based on the measurable characteristics of the product),
user-based (based on meeting the requirements of the user), manufacturing-based (based on conformance with design or specification), and value-based (based on how much of something is provided relative to the price). Gronroos (1984) separated quality constructs into technical, functional, and image categories. Studies have also determined differing dimensions of patient satisfaction; Hulka et al. (1970) concluded that the dimensions of patient satisfaction should include: competence, cost and convenience. Carman (1990), through a study of acute care hospitals, identified admission, tangibles accommodation, tangible food, tangible privacy, nursing, explanation visitor access, courtesy, discharge planning, and patient accounting as dimensions explaining perceived service quality for hospitals. Ross et al. (1987) disagreed that patient satisfaction should be based on the patient’s perceptions of the quality of care; in addition to cost and waiting times. Ware and Snyder (1975) found that most patients could not distinguish between the “caring” (functional) performance and the “curing” (technical) performance of health care providers. This resulted in most patients evaluating their care on the functional aspects of the technical performance. Similarly, Soliman (1992) found that non-technical interventions influenced patients' ratings of the overall quality of health care and that these aspects of the medical encounter were perhaps more important than the technical aspects. Bowers et al. (1994) had shown that technical quality falls short of being a truly useful measure for describing how patients evaluate the quality of a medical encounter. Vasco Eiriz, José António Figueiredo (2005) had developed a framework for health care evaluation based on the relationship between customers (patients, their relatives and citizens) and providers (managers, doctors, other technical staff and non-technical staff), and considering four quality items (customer service orientation, financial performance, logistical functionality and level of staff competence) he found that health care services quality should not be evaluated exclusively by customers. Maxwell (1984) asserted that quality in health care comprises a comprehensive six dimensional framework that includes accessibility, relevance, effectiveness, equity, social acceptability and efficiency. Donabedian (1980) provided criteria for what constitutes “good care,” using the framework of structure (related to physical environment and facilities), process (related to interaction with service–provider) and outcome (the result of the interaction). Donabedian developed seven attributes of healthcare quality: efficacy, effectiveness, efficiency, optimality, acceptability, legitimacy, and equity. Using focus group interviews of physicians, administrators, and patients, Jun et al. (1988) identified 11 dimensions of health care quality. Eight of these dimensions are part of the well-known Parasuraman model (Parasuraman et al., 1985). Additional three are caring (personal and human involvement), patient outcomes (relief from pain, saving of life, or anger / disappointment with life after medical intervention) and collaboration.

Studies on perceived service quality in the hospital sector

Access to health care, location of health care provider, communications, personal caring, health caring, patient satisfaction, and quality are much talked about and researched. They have been identified as significant indicators to health care service quality. Reidenbach and Smallwood (1990) conducted factor analysis and operationalized service quality in terms of patient confidence, business competence, treatment quality, support services, physical appearance, waiting time and empathy. Several other researchers developed their own frameworks and instruments to conceptualize service quality in hospital services. Vandamme and Leunis (1993) developed a scale to measure service quality provided by hospitals from patients’ view. They found tangibles, medical responsiveness, assurance, nursing staff quality and personal beliefs and values to be the dimensions of hospital service quality. Tomes and Ng (1995) developed a measurement scale to assess the quality of service provided by the hospitals in the USA. They concluded that empathy, relationship of mutual respect, dignity, understanding of illness and religious needs were the intangible factors, while food and physical environment were the tangible factors of services offered. Strawderman and Koubek (2006) performed researches on human factors. To model service quality, six dimensions were proposed whereby the five dimensions of SERVQUAL were used (that is, responsiveness, reliability, assurance, empathy, and tangibles). A sixth dimension, usability, was added in a modified survey instrument termed SERVUSE. Both measurement tools, SERVQUAL and SERVUSE, were found to be significant predictors of service quality, satisfaction, and behavioral intention in the healthcare setting. Results varied based on which of the three dependent variables were being measured, showing that they are indeed independent responses. Usability was found to be a significant predictor of service quality, satisfaction, and behavioral intention. It also adds a significant predictive value to the regression model when the dependent variable is intended behavior. Therefore, usability should be included as a factor when measuring service quality. The study by Walsh (2007) provides health care with further understanding of the complexity, challenges and gaps of using an electronic adverse incident recording system to improve patient safety. O’Reilly (2007) focused on a physical disability service within the voluntary sector in Ireland. To identify the service quality dimensions which were important, a series of focus groups were completed with service personnel and service users, the results illustrated an overall high level of satisfaction with the service. There were a number of service dimensions identified in each of the
attribute groupings, which could be improved. Lam (1997) employed SERVQUAL in healthcare services. It was also discovered that patients treated physical facilities to be the least important. Nursing care, outcome and physician care constituted technical care whereas, food, noise, room temperature, privacy, cleanliness and parking were parts of interpersonal care. Jabnoun and Chaker (2003) used the SERVQUAL 5 dimensions to compare the quality of private and public hospitals. The study showed that the usage of SERVQUAL 5 factors were reliable. Findings showed that in-patients are generally unhappy with the overall service quality and all the dimensions of the instrument. The most unsatisfactory are those associated with tangible dimensions while the least unsatisfactory are those associated with empathy. Reliability contributes most to the variations in perception of overal service. The results of the correlation and regression analysis strongly supported the predictive validity of the dimensions of empathy, tangibles, reliability and supporting skills. According to the study conducted by Hasin et al. (2001) in Thailand, communication, responsiveness, courtesy, cost and cleanliness were the component dimensions of service quality in hospitals. They found that even though the hospitals provided good service overall, attitude and behavior of employees about the non-conforming service had to be improved. Baldwin and Sohal (2003), in examining the relationship between service quality practices and service quality outcomes in dental care, found that patient fear and anxiety, patient’s appreciation of convenient and punctual service, involvement of patients in treatment were found to significantly influence the patient’s perceptions of dental care. Boshoff and Gray (2004) studied the relationship between hospital service quality and patients’ buying intentions. They operationalized service quality using the dimensions, communication, tangibles, empathy of nursing staff, assurance, responsiveness of administrative staff, security and physician responsiveness. Otani and Kurz (2004), in their study on hospital services in the USA, found admission process, physician care, nursing care, compassion to family/friends, pleasantness of surroundings and discharge process to be the key dimensions of SQ. Dummer (2007) found that the task of defining the way in which health care can be most efficiently and effectively delivered is the concern of all health care staff. Aims should be clarified, performance criteria and measures agreed on and, wherever possible, appropriate standards set up. Management also has the responsibility of ensuring the consistency and coherence of the many different activities that contribute to the aim of good health care. In a study by Simbar et al. (2006) to assess quality of family planning services in the urban health centers of Shahid Beheshti Medical Science University, they found that clients were highly satisfied with the services. A study by Zineldin (2006) examined the major factors affecting patients’ perception of cumulative satisfaction and to address the question whether patients in Egypt and Jordan evaluate quality of health care similarly or differently. He found that Hospital C has above-average total and dimensional qualities and patients are the most satisfied in accordance with all dimensions of services. Hospitals A and B have under-average total qualities as the majority of patients are not satisfied with services. Mostafa (2005) investigated how patients perceive service quality in Egypt’s public and private hospitals. The paper also tested the SERVQUAL dimensions in hospitals within an Egyptian context. The results of the study highlighted a three-factor solution for the SERVQUAL instrument with 67% of variance explained. This result does not support the five-component original SERVQUAL. A discriminate function was estimated for patients who selected public hospitals and those who selected private hospitals. The model was found to be significant in explaining patients’ choice of the type of hospital. Based on the review of the literature, a hypothesis was formulated as follows:

\[ H_0: \text{There are no statistically significant differences in the level of health care services quality between Jordan and Saudi Arabia private hospitals as perceived by patients.} \]

**METHODOLOGY**

A survey was initially conducted in private hospitals in Jordan and replicated in private hospitals in Saudi Arabia using the same questionnaire. For this study, a questionnaire was developed to collect data. In order to check its suitability, the questionnaire was initially pre-tested on a pilot sample. Comments received assisted greatly in improving the questionnaire. The questionnaire in its final form consisted of two parts: the first included questions asking about patient demographic characteristics. The second part consisted of five point Likert-type scale (1 = strongly agree, 5 = strongly disagree) of 28-items evaluating health care quality as perceived by patients. The study was conducted in the three biggest private hospitals in the capital city of Jordan (Amman), and the three biggest hospitals in the capital city of Saudi Arabia (Riyadh), because customers in these areas possess higher education standards and have easy access to all banking channels, they are in a better position to evaluate the banking service quality they expect and receive. The study population consisted of all individuals who were hospitalized at least once in the three private hospitals (Jordan and Saudi Arabia) during the 2 months spent on data collection. Data were collected during the period March to May 2011.

Participation in the study was totally voluntary. Subjects were informed about the study objectives and procedures and that data collected will be used only for the stated research purposes. They were asked to indicate their view about each of the items in general and not relate it to the specific problem that they currently had. A systematic random sample of 327 from the private hospitals in Jordan and 279 from the private hospitals in Saudi Arabia was selected. For every six adult patients aged 20 years and above who was picking up a prescription on the day of the interview, one was selected.

The questionnaire included 28 items related to health care service quality. Those items were divided into six dimensions. Four items were related to tangible, five related to reliability, four items were related to responsiveness, five items were related to assurance, four items were related to empathy and six items were related to accessibility. The questionnaire was then pilot tested and few changes were made in the sequence and wording of some
questions before finally administering. The respondents were all from outpatients and had understandings and ability to fill the questionnaires. The authors, with assistance from business graduate students who received proper training on the process of guiding, referred patients on how to fill in questionnaires, basically in cases of illiteracy. The interviewer explained the meaning of the rating scale and then read out each statement carefully. The proportion of Jordan and Saudi Arabia private hospitals responding to the survey was relatively equal (53.9 and 46.1%, respectively). A total of 606 respondents completed the questionnaire, 327 from the private hospitals in Jordan and 279 from the private hospitals in Saudi Arabia, allowing sufficient responses for comparative purposes.

Within the Jordan private hospitals, the sample accounted for 56.4% female and the remaining 43.6% were male, the biggest difference lies within the Saudi Arabia private hospitals sample where only 28.1% female and the remaining 71.9% were male. The mean age of the Jordan private hospitals sample was 39.25, and 42.31 for the Saudi Arabian private hospitals sample, illustrating a very similar age profile.

Operational measurements

The aim of this research was to assess patients’ perception towards health care services quality provided by private hospitals in Jordan and Saudi Arabia. A survey was conducted to measure health care services quality in private hospitals in Jordan and Saudi Arabia. To enable the conduction of this study, the survey instrument used is the SERVQUAL dimensions model, adapted as recommended by Parasuraman et al. (1988). The instrument has been revised and used extensively in a variety of service settings such as banking, credit card services, repair and maintenance and long distance telephone services in developed nations. Six theoretical constructs represented dimensions comprising the broader concept that is generally of service quality. The six constructs were: 1) tangible (physical facilities, equipment, and appearance of personnel), 2) reliability (ability to perform the promised service dependably and accurately), 3) responsiveness (willingness to help patients and provide prompt service), 4) assurance (knowledge and courtesy of employees and their ability to convey trust and confidence), 5) empathy (caring, individualized attention the hospital provides to its patients), and 6) accessibility (the approachability and ease of contact of patient with service provider) (Otani et al., 2005; Wicks, 2004; Ware et al., 1978). Selected items are refined and paraphrased in both wording and contextual applications as appropriate for this research. The questionnaires are designed in a five-point Likert scale format ranging from “completely disagree” (1) to “completely agree” (5). A total of 28 items was used to measure the six constructs. Respondents were instructed to rate each element on a scale from one to five, with five being the highest perception level. In addition, demographic information (gender, age group, education level) was included in the questionnaire intended to capture patient’s characteristics.

RESULTS AND DISCUSSION

Data analyses

All statistical analyses were carried out using the SPSS statistical computer package, Version 10. Responses to the items measuring health care services quality were factor analyzed, and factor scores obtained were used for subsequent data analysis. Correlations between the major variables of the study were calculated. A series of $t$-tests were used to compare the health care services quality provided by private hospitals in Jordan and Saudi Arabia.

Tests of constructs’ validity and reliability

A survey instrument with 30 items was developed based on the six criteria: tangible (Ta1-Ta4), reliability (Re1-Re6), responsiveness (Res1-Res4), assurance (As1-As5), empathy (Em1-Em 4), accessibility (Acc1-Acc7) (Table 1). The instrument was evaluated for reliability and validity. Reliability refers to the instrument’s ability to provide consistent results in repeated uses (Gatewood and Field, 1990). Reliability is the degree to which measures are free from errors and thus yield consistent results (Brah et al., 2000). It is a measure of internal consistency based on the average inter-item correlation and is the most commonly used reliability test in survey research. Validity refers to the degree to which the instrument measures the concept the researcher wants to measure (Bagozzi and Phillips, 1983). A thorough reliability and validity analysis on measurement instruments in empirical research is essential for several reasons. First, it provides confidence that the empirical findings accurately reflect the proposed constructs. Secondly, empirically-validated scales can be used directly in other studies in the field for different populations and for longitudinal studies (Flynn et al., 1994).

Reliability

Reliability of constructs was tested with Cronbach’s alpha as suggested by Hair et al. (1998) with a minimum value of 0.60 (Nunnally, 1978). Using SPSS, an internal consistency analysis was performed to assess the reliability aspect of the survey instrument. The items in each factor were grouped into five scales, and coefficient alpha was calculated for each group. Two out of 30 items (Re 2, and Acc 5) were eliminated, which improved the reliability slightly. The reliability coefficient (Cronbach’s alpha) of the factors ranged between 0.60 (reliability) and 0.69 (empathy) in case of Jordan and the factors ranged between 0.62 (tangible) and 0.80 (assurance) in case of Saudi Arabia (Table 1). Values of the alpha indicate the relative reliability of each factor as a scale. Nunnally (1967) suggested that in exploratory research such as this, alpha value of 0.6 is sufficient. The alpha values found for each scale indicate, therefore, that each factor is a sufficiently reliable measure.

Construct validity

The validity, tested by the exploratory factor analysis (EFA), determined whether the items of each construct can well represent the construct. The items assigned to
<table>
<thead>
<tr>
<th>Construct and item</th>
<th>Jordan</th>
<th>Saudi Arabia</th>
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<tbody>
<tr>
<td></td>
<td>Factor loading</td>
<td>Eigenvalue</td>
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<tr>
<td><strong>Tangible</strong></td>
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<tr>
<td>The hospital facility had up-to-date equipment</td>
<td>0.54</td>
<td>2.042</td>
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<td>The hospital's physical facilities were visually appealing</td>
<td>0.74</td>
<td>1.893</td>
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<tr>
<td>The employees appeared neat and tidy</td>
<td>0.76</td>
<td>1.972</td>
</tr>
<tr>
<td>Availability of modern equipment in the hospital</td>
<td>0.8</td>
<td>1.597</td>
</tr>
<tr>
<td><strong>Reliability</strong></td>
<td></td>
<td></td>
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<tr>
<td>When the hospital promised to do something by a certain time, it did so.</td>
<td>0.57</td>
<td></td>
</tr>
<tr>
<td>When I had problems the hospital's staff was sympathetic and reassuring.</td>
<td>0.75</td>
<td>2.021</td>
</tr>
<tr>
<td>The hospital was dependable.</td>
<td>0.69</td>
<td>1.972</td>
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<tr>
<td>The hospital provided services at the time it promised to do so.</td>
<td>0.45</td>
<td>1.972</td>
</tr>
<tr>
<td>The hospital kept its records accurately.</td>
<td>0.64</td>
<td>1.972</td>
</tr>
<tr>
<td><strong>Responsiveness</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The hospital told me exactly when services would be performed.</td>
<td>0.73</td>
<td></td>
</tr>
<tr>
<td>I received prompt service from the hospital's employees.</td>
<td>0.74</td>
<td>2.021</td>
</tr>
<tr>
<td>Staff of the hospital were always willing to answer my questions.</td>
<td>0.7</td>
<td>1.972</td>
</tr>
<tr>
<td>Staff of the hospital were always ready to respond to request promptly.</td>
<td>0.64</td>
<td>1.972</td>
</tr>
<tr>
<td><strong>Assurance</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>You felt secure in your dealing with the hospital.</td>
<td>0.65</td>
<td>2.021</td>
</tr>
<tr>
<td>You could trust employees of the hospital.</td>
<td>0.63</td>
<td></td>
</tr>
<tr>
<td>You felt assured that you visit/treatment was confidential.</td>
<td>0.54</td>
<td>1.597</td>
</tr>
<tr>
<td>Staff of the hospital were knowledgeable.</td>
<td>0.64</td>
<td></td>
</tr>
<tr>
<td>Staff of the hospital were polite.</td>
<td>0.71</td>
<td></td>
</tr>
<tr>
<td><strong>Empathy</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff of the hospital gave you personal attention.</td>
<td>0.39</td>
<td>1.597</td>
</tr>
<tr>
<td>Staff of the hospital understand customers' specific needs.</td>
<td>0.64</td>
<td>1.597</td>
</tr>
</tbody>
</table>
Table 1. continues.

<table>
<thead>
<tr>
<th></th>
<th>Jordan Private Hospitals</th>
<th>Jordan Private Hospitals</th>
<th>Saudi Arabia Private Hospitals</th>
</tr>
</thead>
<tbody>
<tr>
<td>The hospital does have operating hours convenient to all patients.</td>
<td>0.79</td>
<td>0.72</td>
<td></td>
</tr>
<tr>
<td>You had not to wait a long time to receive services at the hospital.</td>
<td>0.65</td>
<td>0.77</td>
<td></td>
</tr>
</tbody>
</table>

**Accessibility**

<table>
<thead>
<tr>
<th>Item</th>
<th>Jordan</th>
<th>Saudi Arabia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ease of scheduling appointment</td>
<td>0.7</td>
<td>0.64</td>
</tr>
<tr>
<td>Clinics accessibility to patients by phone</td>
<td>0.71</td>
<td>0.68</td>
</tr>
<tr>
<td>Ability to get an appointment at a time convenient to the patient</td>
<td>0.69 2.038 40.764 0.66 0.79</td>
<td>2.45 48.99 0.76</td>
</tr>
<tr>
<td>Easy to find my way in the hospital</td>
<td>0.65</td>
<td>0.73</td>
</tr>
<tr>
<td>Clear directions provided for getting care</td>
<td>0.4</td>
<td>0.65</td>
</tr>
<tr>
<td>Hospital's location is in healthy climate and clean vicinity</td>
<td>0.43</td>
<td>0.67</td>
</tr>
</tbody>
</table>

Table 2. Summary of correlations of health care quality dimensions (Jordan and Saudi Arabia).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Private hospitals in Jordan</th>
<th>Private hospitals in Saudi Arabia</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ta</td>
<td>Rel</td>
</tr>
<tr>
<td>Tangible</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reliability</td>
<td>0.560**</td>
<td></td>
</tr>
<tr>
<td>Responsiveness</td>
<td>0.468**</td>
<td>0.496**</td>
</tr>
<tr>
<td>Assurance</td>
<td>0.305**</td>
<td>0.383**</td>
</tr>
<tr>
<td>Empathy</td>
<td>0.529**</td>
<td>0.536**</td>
</tr>
<tr>
<td>Accessibility</td>
<td>0.596**</td>
<td>0.594**</td>
</tr>
</tbody>
</table>

**Correlation is significant at p, 0.01 level (2-tailed); *Correlation is significant at p, 0.05 level (2-tailed).

each of the six health care services quality dimensions were submitted to principal component factor analysis to determine the number of factors and factor loadings extracted by the Kaiser criterion (with eigenvalue greater than one). Out of 30 items, six factors were extracted. The results are shown in Table 1. Two items (Re 2, and Acc 5) were eliminated to improve the reliability of the instrument and the revised loadings were calculated. The revised loadings ranged between 0.40 and 0.80 in case of Jordan, and between 0.44 and 0.79 in case of Saudi Arabia.

In assessing construct validity, the researchers also conducted Pearson correlation analysis to learn the relations of the theoretic foundation of this research with other theories. The survey questionnaire has six factors, as shown in Table 2. Gaski and Nevin (1985) pointed out that if the correlation of two rubrics of different assessments was smaller than their individual Cronbach's alpha, the two rubrics have discriminant validity. The correlation of any two factors of this research is smaller than the correlation of its Conbach's alpha. This shows good discriminant analysis validity and construct validity.

Correlation matrix is used in this project to show
Table 3. Summary of means, standard deviations of health care quality dimensions (Jordan and Saudi Arabia).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Private hospitals in Saudi Arabia</th>
<th>Private hospitals in Jordan</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>S.D</td>
<td>Mean</td>
</tr>
<tr>
<td>Tangible</td>
<td>0.7</td>
<td>4.24</td>
</tr>
<tr>
<td>Reliability</td>
<td>0.79</td>
<td>3.82</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>0.86</td>
<td>3.9</td>
</tr>
<tr>
<td>Assurance</td>
<td>0.89</td>
<td>3.95</td>
</tr>
<tr>
<td>Empathy</td>
<td>0.88</td>
<td>3.94</td>
</tr>
<tr>
<td>Accessibility</td>
<td>0.76</td>
<td>4.16</td>
</tr>
</tbody>
</table>

Table 4. Independent samples T-test scores for Jordan and Saudi Arabia private hospitals.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean difference (Jordan and Saudi Arabia private hospitals)</th>
<th>t-value</th>
<th>df</th>
<th>Sig (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tangible</td>
<td>-0.18</td>
<td>-2.785</td>
<td>604</td>
<td>0.006*</td>
</tr>
<tr>
<td>Reliability</td>
<td>0.11</td>
<td>1.944</td>
<td>604</td>
<td>0.052</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>0.01</td>
<td>0.194</td>
<td>604</td>
<td>0.846</td>
</tr>
<tr>
<td>Assurance</td>
<td>0.20</td>
<td>3.192</td>
<td>604</td>
<td>0.001*</td>
</tr>
<tr>
<td>Empathy</td>
<td>-0.11</td>
<td>-1.625</td>
<td>604</td>
<td>0.105</td>
</tr>
<tr>
<td>Accessibility</td>
<td>-0.13</td>
<td>-2.102</td>
<td>604</td>
<td>0.036*</td>
</tr>
</tbody>
</table>

*Significant at p, 0.05; **Significant at p, 0.01.

the strength of relationship among the variables considered in the questionnaire. The correlation matrix in Table 2 further indicates that health care quality dimensions were positively and moderately correlated. The correlation coefficients between the variables were less than 0.9, indicating that the data was not affected by a collinearity problem (Hair et al., 1998). These correlations are also further evidence of validity and reliability of measurement scales used in this research (Barclay et al., 1995; Hair et al., 1998).

Hypothesis test

Tests for the factor means

The means and standard deviations for the six factors for private hospitals between Jordan and Saudi Arabia are shown in Table 3. The means ranged between 3.83 and 4.15 for private hospitals in Jordan and between 3.82 and 4.24 for private hospitals in Saudi Arabia. A score of 4 or more indicates high agreement with a particular criterion, a score between 3 and 4 (excluding 4) indicates moderate agreement and a score less than 3 indicates a low agreement with a criterion (Shams, 2001). Broadly, responses fell between moderate and high for private hospitals both in Jordan and Saudi Arabia. Assurance had the highest overall mean rating of the six factors for private hospitals in Jordan indicating that it plays a significant role in stimulating the level of health care quality in private hospitals in Jordan. In Saudi Arabia private hospitals, tangible had the highest overall mean rating of the six factors indicating that it plays a significant role in stimulating the level of health care quality in Saudi Arabia private hospitals. The small standard deviations indicate that there is general agreement among responses.

Tangible had the second highest overall mean rating followed by accessibility, reliability, responsiveness, and empathy for private hospitals in Jordan. Accessibility had the second highest overall mean rating for Saudi Arabia private hospitals, followed by assurance, empathy, responsiveness, and reliability.

The independent t-test was used to identify which variables were significantly different between Jordan and Saudi Arabia private hospitals. In general, the result, as presented in Table 4, suggests that except for the ‘Assurance’, ‘Tangible’ and the ‘Accessibility’ factors, three variables show insignificant difference between these two groups. It is particularly noteworthy that among the six health care quality factors, the Jordan private hospitals exhibit relatively equal scores to the Saudi Arabia private hospitals.

Table 3 shows that in Jordan private hospitals, assurance had much higher mean rating (4.15) compared to private hospitals in Saudi Arabia (3.95). Jordan private hospitals are better on assurance. It also shows that standard deviation of private hospitals in Saudi Arabia is
greater than that of private hospitals in Jordan; which means that the score of private hospitals in Saudi Arabia is more spread out than private hospitals in Jordan. This was expected, since Saudi Arabia private hospitals rely on foreign workers as doctors and nurses. And since non-sufficient incentives were paid from the point of view of the medical cadres, therefore, private hospitals in Saudi Arabia cannot attract high expertise of them, which is reflected on the assurance of providing high-quality of health care service. Table 4 shows t-value (3.192) at 5% level of significance. It means that there is a significant difference between private hospitals in Jordan and Saudi Arabia with respect to assurance factor.

Table 3 shows that in Saudi Arabia private hospitals, tangible had much higher mean rating (4.24) compared to private hospitals in Jordan (4.06). Private hospitals in Saudi Arabia are better with regards to tangible. It also shows that standard deviation of Jordan private hospitals is greater than that of private hospitals in Saudi Arabia; which means that the score of Jordan private hospitals is more spread out than private hospitals in Saudi Arabia. This was expected, since Saudi Arabia is one of the oil countries which has enabled it to invest huge financial resources in the buildings, medical equipment facilities, and has adequate number of equipment, medical and administrative personnel who reflected on the quality of health care service. Table 4 shows t-value (-2.785) at 5% level of significance. It means that there is a significant difference between private hospitals in Jordan and Saudi Arabia with respect to tangible factor.

Table 3 shows that accessibility had higher mean rating for private hospitals in Saudi Arabia (4.16) compared to private hospitals in Jordan (4.03). Private hospitals in Saudi Arabia are better due to Accessibility. It also shows that standard deviation of private hospitals in Saudi Arabia is greater than that of private hospitals in Jordan; which means that the score of private hospitals in Saudi Arabia is more spread out than private hospitals in Jordan. This was expected, since Saudi Arabia has adequate number of equipment, medical, and administrative personnel which enables patients to scheduling appointment easily, and have the ability to get an appointment at a time convenient to them. Table 4 shows t-value (-2.102) at 5% level of significance. It means that there is a significant difference between private hospitals in Jordan and Saudi Arabia with respect to accessibility factor.

Therefore, the findings suggest that, with the exception of tangible, assurance, and accessibility, there is no significant difference between Jordan and Saudi Arabia private hospitals in terms of level of health care service quality.

Summary, conclusion and managerial implications

This paper has presented a descriptive study that examines the differences between health care service quality provided by Jordan and Saudi Arabia private hospitals as perceived by patients. A survey instrument with 28 items was developed and applied to create a self-assessment measure of health care service quality. The items assigned to each of the six health care service quality criteria were submitted to principal component factor analysis and six factors were extracted. In Jordan private hospitals, assurance had much higher mean rating compared to private hospitals in Saudi Arabia. This was expected, since Saudi Arabia private hospitals rely on foreign workers (doctors and nurses). Since non-sufficient incentives paid from the point of view of the medical cadres, therefore, private hospitals in Saudi Arabia could not attract high expertise, which is reflected on the assurance of providing high-quality of health care service. In Saudi Arabia private hospitals, tangible, and accessibility had much higher mean rating compared to private hospitals in Jordan. This was expected, since Saudi Arabia is one of the oil counties which has enabled it to invest huge financial resources in the buildings, medical equipment facilities, and has adequate number of equipment, medical and administrative personnel who reflected on the quality of health care service and enables patients to schedule appointment easily, and have the ability to get an appointment at a time convenient to them.

This study adds to the literature by demonstrating the validity of health care service quality constructs - a point which differentiates it from the previous studies in the area which were commonly restricted to examine the difference of the level of health care service quality in private hospitals between the two countries with different culture (Jordan and Saudi Arabia).

Results from the current study clearly show that health care service as provided by private hospitals both in Jordan and Saudi Arabia was highly perceived. Participants expressed their satisfaction pertaining health care service they received indicating that private hospitals both in Jordan and Saudi Arabia are well empowered to provide such quality health service. This is due to well-qualified medical professionals. As for communications, participants agreed that hospital's staff members had effective communication skills. The result that can be explained by the continual education programs and training courses provided to in-service professional by the hospitals in cooperation with specialized training agencies empowers employees and improves their capabilities in work. Another contributing factor is the strategic leadership demonstrated by the hospital managers, basically human resource managers who developed effective and objective staff selection policies that ensure highly qualified and most suitable employees.

With a better understanding of how patients evaluate the quality of health care services, health care providers and administrators can improve the health care delivery system. Continuous monitoring of patient perceptions will improve the quality of health care and patient satisfaction. Difference scores give valuable insights on the scope of
improvement necessary to get better overall quality evaluations from patients on the private hospital services. In recent years, with the changing of consumer needs and wants and the increase in third party payers such as insurance companies and government, the health care environment changed and the private hospitals have been more receptive to those changes for turning them into a competitive advantage. They especially gave importance to both medical and non-medical physical environment, which refers to any physical evidence of the service such as appearance and attitude of the personnel, design and layout of the facility, up-to-date equipment and technology, and visiting hours.

LIMITATIONS AND FUTURE RESEARCH

Despite the overall findings produced in this study, we believe that this topic still opens opportunities for further studies, particularly considering the fact that hospitals industry sectors have now become more fragmented. In particular, it points out the importance of understanding the contingencies of health care service quality tools in different cultures. For example, the level of health care service quality could be higher in large private hospitals than in small private hospitals.

In addition, there are several hospitals in different countries which contain both physical (tangible) and non-physical (intangible) components to a similar degree. This could explain the insignificant difference of health care service quality between Jordan and Saudi Arabia private hospitals in this study. Future studies, therefore, could replicate this study, but between public and private hospitals in one country or between public hospitals in different countries to further validate this result. The survey methodologies used in this study had several limitations. The reliability and validity tests and the analysis were performed based on only six private hospitals in Jordan and Saudi Arabia. Although comparable with several other studies, the sample size used in this study is considered small. The results of the study must, therefore, be treated with caution. Future research should conduct several pieces of research related to what organizational factors such information technology, culture, and leadership style, that might have an influence on the health quality provided by the hospitals.

Also, future research should conduct a comparative study between educational, public, and private hospitals in Jordan or in Saudi Arabia. Finally, this study examines the level of health care service quality used (SERVQUAL dimensions model, adapted by Parasuraman et al., 1986). Future research could further replicate this study using technical/functional measurement, three-component measurement (structure, process and outcome), SERVQUAL, 5Q’s and JCAHO model as the major measurement of perceived service quality in health care industry as conducted in several previous studies. This would provide further insights in this area.

REFERENCES


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measurement. Wiley, New York, Ch. 28.


