The Mediating Effect of Patient Satisfaction in the Patients' Perceptions of Healthcare Quality – Patient Trust Relationship

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Abstract

The main purpose of this study is to investigate the relationship between patient perception of healthcare quality, patient satisfaction, and patient trust and the mediating effect of patient satisfaction. Study aim also to test the significance of socio-demographic variables in determining healthcare quality, patient satisfaction, and patient trust. Patient perception of healthcare quality was measured using modified SERVQUAL model and results indicate that it appears to be a consistent and reliable scale. Finding indicate that, while patient perception of healthcare quality has a strong and positive impact on the patient satisfaction and patient trust , patient satisfaction has also significant impact on patient trust. Moreover, patient satisfaction appears to play an important mediating role in increasing the strength of the association between healthcare quality and patient trust in healthcare service provider. Results confirm the varying importance of some socio-demographic variables on patient perception of healthcare quality, patient satisfaction, and patient trust. It has also been found that private hospitals have higher overall healthcare quality than public hospitals. Study indicate that patient of private hospitals are more satisfied and feel more trust in healthcare service provider than public hospitals.

Keywords: Healthcare quality, Patient Satisfaction, Patient Trust, Socio-demographic characteristics

1. Introduction

Research has shown that good service quality leads to the retention of existing customers and the attraction of new ones, reduced costs, an enhanced corporate image, positive word-of-mouth recommendation, and, ultimately, enhanced profitability (Berry et al., 1989; Reichheld and Sasser, 1990; Rust and Zahorik, 1993; Cronin et al., 2000; Kang and James, 2004; Yoon and Suh, 2004).Moreover, securing and increasing loyalty is central to many corporate strategies because obtaining new customers is costly and customer retention is connected to long-term profitability (Anderson and Mittal, 2000; Bruhn and Grund, 2000; Reichheld 1996; Davis-Sramek et al., 2009).Therefore Service quality can be used as a strategic differentiation weapon to build a distinctive advantage which competitors would find difficult to copy and many service sector organizations have begun to see service quality as a potential source of sustainable competitive advantage (Lim and Tang, 2000; Kuei, 1998). The analysis of service quality would enable management to better direct financial resources to improve hospital operations in those areas that have the most impact on customer perceptions of service quality. This evaluation is essential in today's competitive, cost-conscious healthcare market (Pakdil & Harwood, 2005).

For over two decades, researchers have been studying service quality and its relationship to critical business outcomes. To this end, a number of studies have addressed the relationship between service quality and customer satisfaction and it is generally believed that higher levels of service quality lead to higher levels of customer satisfaction (Gotlieb et al., 1994; Kang and James, 2004; Oliver, 1997) Pollack, 2008).

The increase number of service quality- patient satisfaction studies over the past few years indicates that the concept of quality improvement has become more important year by year in the service industry and stress the importance of patients' views as an essential tool in the processes of monitoring and improving quality of

healthcare services (Thi et al., 2002 ; Hiidenhovi, et al., 2002; Hall and Doran, 1988; Lim and Tang ,2000; DeMan et al., 2002; Pakdil & Harwood, 2005; Badri et al.,2008). Patients' service quality perceptions are believed to influence patient satisfaction positively, which in turn positively influences the patient's decision to choose a specific healthcare provider ((Andaleeb, 2001; Taylor, S., 1994). In early study Donabedian,A. (1988) indicated that patient satisfaction is a key outcome of care(lin and Kelly,(1995)

Patient satisfaction enhances hospital image, which in turn translates into increased service use and market share (Andaleeb, 1988). Satisfied customers are likely to exhibit favorable behavioral intentions, which are beneficial to the healthcare provider's long-term success. Measuring the degree of patient satisfaction can help facilitate hospital service provision and management, as well as increase and maintain the quality of the service provision. Patients' quality perceptions have been shown to account for 17-27 percent of variation in a hospital's financial measures such as earnings, net revenue and asset returns .Moreover; negative word of mouth can cost hospitals $6,000-$400,000 in lost revenues over one patient's lifetime (Strasser et al., 1995; Pakdil & Harwood, 2005; Naidu, A., 2009). There is evidence that several constructs make up the overall care quality and satisfaction model. Many researchers have called for empirical cross-cultural studies of healthcare quality and patient satisfaction (Gurdal et al., 2000; Choi et al. (2004), Zineldin, M. (2006), Andaleeb, S. (2001); Brady. And Robertson, (2001), Badri et al., 2008). Earlier work also suggests that patient's expectations and priorities vary among countries and are highly related to cultural background and to the healthcare system (Eiriz and Figueiredu, 2005). Furrer et al. (2000*)* indicated that weak customers in large power distance cultures placed less importance on reliability, empathy and responsiveness. Studies indicated that customers in different countries evaluate good service in different ways - differences in service quality perceptions between customers - and therefore, measures and scales developed in one culture may not always work as well in other cultures. The studies further noted that due to differences in response styles and interpretation of items, not all measures of service quality and satisfaction are equivalent across cultures (Kueh, k. and Ho Voon, B., 2007; Winsted, 1997; Mattila, 1999; Stauss and Mang, 1999; Kanousi, 2005; Winsted, 1997; Liu and McClure, 2001; Poon et al.,2004; Laroche et al., 2004; Tsoukatos and Rand, 2007; Malhotra et al., 1994; Malhotra et al., 2005). Therefore SERVQUAL Scales that work in western cultures may not perform comparably in other cultures (Malhotra et al., 1996; Smith and Reynolds, 2001; Ueltschy and Krampf, 2001; Ueltschy et al., 2002) and efforts to replicate the factor structure of SERVQUAL have not always been successful in samples from Asian countries (e.g. Kettinger et al., 1995; Raven and Welsh, 2004; Arasli et al., 2005; Jabnoun and Khalifa, 2005). SERVQUAL as a measurement of service quality therefore requires ongoing validation in different cultural settings. So, it will be very important to assess whether a replication of the SERVQUAL scale in the Jordanian context produces the theoretical five-factor model.

In addition, the emerging health care literature suggests that patient satisfaction is a dominant concern that is intertwined with strategic decisions in the health services (Gilbert, Lumpkin & Dant, 1992). Donabedian (1988), thus, suggests that patient satisfaction should be as indispensable to assessments of quality as to the design and management of health care systems. We strongly believe that patient satisfaction should also find its way into the design of services in developing countries. Because of the relationship between perceived service quality, satisfaction, and trust (Taylor & Cronin, 1994; McAlexander et al., 1994) this study addresses three principal research questions: First, What are the dimensions of patient's perception of healthcare quality and how valid and reliable are they? Second, what is the nature of the relationship between patient perception of healthcare quality**,** patient satisfaction and patient trust? Third, do demographic variables affect patient perception of healthcare quality**,** patient satisfaction and patient trust?

1.1 Objective of the study

Addressing the major issues discussed above, we seek to accomplish the following specific objectives:

1. To assess how the healthcare quality of public and private Jordanian hospitals is reflected in patients' perceptions. Specifically, it focuses on how patients 'characteristics contribute to positive or negative judgments, in order to understand the factors that affect patient satisfaction and patient trust.

2. To investigate the relationship between patient perceptions of healthcare quality, patient's satisfaction and patient trust.

3. To test the mediation effect of patient satisfaction in healthcare quality- patient's trust relationship.

4. To examine the effects of demographic characteristics in determining healthcare quality, patient satisfaction, and patient trust.

1.2 Significance of the study

Hospitals should deliver quality and 'zero defect' service to their customers. So patient satisfaction   become the most important indicators because satisfying patients can save hospitals money by reducing the amount of time spent resolving patient complaints. The annual cost of dissatisfaction with hospital services for a hospital with 5000 annual discharges has been estimated at more than $750,000 (Pakdil & Harwood, 2005). Moreover, negative word of mouth can cost hospitals $6,000-$400,000 in lost revenues over one patient's lifetime (Strasser et al., 1995; Naidu, 2009).

To deliver quality services it is important, first, to understand what constitutes this concept. To this end, our study represents a preliminary effort at helping delineate the factors and measures of service quality in the context of Jordan. Intertwined with the quality of healthcare services is patient satisfaction an important measure of performance.

According to Friesner et al 2009, satisfaction measurement is important for three fundamental reasons: first, high levels of patient satisfaction with healthcare services lower the cost associated with new client acquisition. Second, satisfied patients are more easily retained, and the value of an existing client usually increases with tenure. As a result, patient satisfaction is a leading indicator of future financial performance. Last, the quality of customer care can only be enhanced when care providers are aware of how well they perform on key patient criteria (Powers and Bendall-Lyon 2003; Nelson et al. 1992). Furthermore, growing population in Jordan is expected to place greater demands on the country's health care services. Unless healthcare quality improvement becomes a priority, the consequences are worrying: preventing patients from quick recovery and increasing their costs, poor quality also prevent of using the local healthcare providers and search of alternatives mainly in other countries that assure better quality of care.

2. Literature review

2.1 Conceptualization of Service quality

Service quality is a central issue in services marketing and has been discussed in a Number of writings even before the well-known SERVQUAL research by Parasuraman et al. (1985).According to Zeithaml and Bitner (1996) service quality is "the delivery of excellent or superior service relative to customer expectations" .Service quality is recognized as a multi-dimensional construct (Pollack, B., L., 2008) and researchers have listed a variety of service quality determinants (e.g. Albrecht and Zemke, 1985; Parasuraman et al., 1985; Gro¨nroos, 1990; Johnston, 1997). Gro¨nroos (1984) postulated two types of service quality: technical quality (i.e. what the customers actually received from the service), and functional quality (i.e. the manner in which the service is delivered). More recently, he proposes that service quality can be described in terms of professionalism and skills, attitudes and behaviour, accessibility and flexibility, reliability and trustworthiness, service recovery, servicescape, reputation and credibility (Gro¨nroos, 2000). Lehtinen and Lehtinen (1991) claimed that there are three service quality dimensions, namely, physical quality, corporate quality and interactive quality. The last dimension recognizes that service quality arises from the interaction between the service provider and service receiver and is therefore necessary to supplement the customer-centered view of service quality which has been the dominant paradigm to date (Svensson, 2006).

Building upon Rust and Oliver (1994) work, Brady and Cronin (2001) advanced the hierarchical conceptualization of service quality consists of three dimensions: outcome quality (refers to the customer's assessment of the core service.), interaction quality (refers to the customer's assessment of the service delivery process), and physical environment quality (refers to the consumer's evaluation of any tangible aspect related to the service. The most popular conceptualization of service quality SERVQUAL features five dimensions: tangibles, reliability, responsiveness, empathy and assurance (Parasuraman et al., 1988). According to the model, service quality can be measured by comparing the service expectations of customers with their perceptions of actual performanc uses 22 questions. The physical service aspects such as appearance of employees, equipment and facilities are classified as tangibles. Reliability refers to accurate, dependable and consistent performance of the service (service outcome). The remaining three represent aspects of interaction quality: responsiveness means being prompt and willing to serve the customer, empathy involves caring and personalized attention as well as understanding customer needs and convenient access to the service. Lastly the dimension of assurance comprises the competence, courtesy and credibility of staff which generate customer trust and confidence (Pollack, B., L., 2008).

2.2 Perceived service quality

Gro¨nroos (1984) defined perceived service quality as the outcome of an evaluation process, whereby the consumer compares his expectations with the service he has received, i.e. he puts the perceived service against the expected service. The result of this process will be the perceived quality of service. Perceived quality thus differs from objective quality, which involves an objective assessment of a thing or an event on the basis of predetermined standards that are measurable and verifiable (Zeithaml, 1988).

Perceived quality is a global judgment, or attitude relating to the service. In short, perceived quality involves the subjective response of people and is therefore highly relativistic. It is a form of attitude, related but not equivalent to satisfaction, and results from a comparison of expectations with perceptions of performance (Parasuraman et al., 1988; Zeithaml, 1988; Lim and Tang, 2000; Sureshchandar et al., 2002). According to Parasuraman et al. (1985), customers' perceptions of service quality are influenced by five "gaps.

2.3 Quality in health care

Healthcare quality is more difficult to define than other services because it is the customer himself and the quality of his life being evaluated (Eiriz and Figueiredu, 2005). Some authors suggest that healthcare quality can be assessed by taking into account observer, i.e. friends and family perceptions. Moreover, these observer groups represent potential future customers – major influencers of patient healthcare choices (Strasser et al., 1995; Naidu, A., 2009). Quality has been defined as perceived satisfaction (Smith and Swinehart, 2001). Koch, (1991) defined Quality as continually satisfying patient requirements. Lim et al., (1999) postulated two aspects of healthcare quality:

(1) The technical aspect of care, which refers to the competence of the providers as they go about performing their routines. These include thoroughness, clinical and operating skills of the doctors, clinical outcomes.

(2) The interpersonal aspect of care, which represents the humane aspect of care and the socio-psychological relationships between the patient and the health care providers. This involves explanations of illness and treatment, the availability of information, courtesy and the warmth received.

Internal checks on quality are not evident to patients. Patients cannot judge the technical competence of the hospital and its staff; i.e patients have no "skill" to evaluate exactly the service's technical reliability (Vinagre & Neves, 2008). This result is also consistent with Donabedian's (1989) statement that patients often are in no position to assess care process technical quality and they are sensitive to interpersonal relationships. Hence, a patient makes a judgment of a hospital based on the interpersonal aspect of care that he receives, the manner in which medical care is delivered. Therefore patient may use nontechnical characteristics (such as the length of time waiting for a procedure or the pain they experience) to evaluate service quality. These aspects of the service are directly experienced, and their evaluation requires no technical expertise. Peyrot et al., (1993) identify several nonmedical aspects of the service encounter as likely' candidates for producing increased satisfaction and use, e.g., information, convenience, and interpersonal warmth.

2.4 Patient satisfaction

Patient satisfaction considered as one of the most important quality dimensions and key success indicators in health care (Pakdil and Harwood ,2005). Zineldin(2006) defined Satisfaction as an emotional response . Despite seemingly alike, perceived service quality and consumer satisfaction are distinct constructs that may be defined and evaluated in different ways. ''While service quality and consumer satisfaction have certain things in common, satisfaction is generally viewed as a broader concept while service quality assessment focuses on dimensions of service'' (Zeithaml & Bitner, 2000). Usually, service quality is considered mostly a cognitive construct while satisfaction has been considered a more complex concept that includes cognitive and affective components. Satisfaction is believed to be an attitudinal response to value judgments that patients make about their clinical encounter (Kane et al., 1997). Satisfaction, however, is perceived as a global consumer response in which consumers reflect on their pleasure level. Satisfaction is based on service delivery predictions/norms that depend on past experiences, driven by conceptual cues. Although perceived service quality may be updated at each specific transaction or service experience, it tends to last longer than satisfaction, which is understood as being transitory and merely reflecting a specific service experience. (Vinagre & Neves, 2008).

Oliver (1997) defines satisfaction as "the consumer's fulfillment response", a post consumption judgment by the consumer that a service provides a pleasing level of consumption-related fulfillment, including under- or over-fulfillment. He identified a few major elements that differentiate service quality and satisfaction; he suggests that quality is a judgment or evaluation that concerns performance pattern, which involves several service dimensions specific to the service delivered. Quality is believed to be determined more by external cues.

Patient's satisfaction can be studied in the context of their overall experience in a healthcare setting. As Priporas, et. al., (2008) stated a patient's expectations and perceptions are not simply related because a medical or health service is not technically comprehensive. Patients are therefore unable to have a clear idea of their expectations in a clinical setting.

Patient satisfaction constitutes a crucial aspect of quality of care. The earliest studies of patient satisfaction date from the mid-1950s such as: Souelem,O.,(1955) and Klopfer, W.G., (1956). The depth and richness of this stream of literature provides physicians and their administrators with adequate knowledge of the measurement of quality of care (Lin, and Kelly, 1995; Woodside et al., 1989). Patient satisfaction is defined as an evaluation of distinct healthcare dimensions (Linder-Pelz, 1982). It may be considered as one of the desired outcomes of care and so patient satisfaction information should be indispensable to quality assessments for designing and managing healthcare (Turner and Pol, 1995; Naidu, A., 2009). Patient satisfaction with health care has been argued as a subjective and dynamic perception of the extent to which expected health care is received (Senarath, et al., 2006).

Satisfaction tends to mirror the quality of health services delivered. It is a psychological notion that can be easily understood but is difficult to define. The experience of satisfaction may be connected to happiness, wealth, prosperity and quality of life. In its technical attribution, it is a judgment set by the customers of a service, documented after the consumption experience (Priporas et. al., 2008).

Patient satisfaction is a moving target that must be monitored and enhanced over time. Failure to do so ensures that rising patient expectations will go unmet or present new opportunities for competitors to exploit. Understanding the content and organization of patient expectations can allow any healthcare provider to respond proactively. The ability of any organization to satisfy its customers are most easily realized when those expectations are managed so as to be consistent with the product and processes provided (Friesner et al., 2009).

Jackson et al. (2001) suggests that immediately after the visit, patient satisfaction is strongly influenced by patient-doctor communication variables and at all time points, satisfaction is influenced by both patient age and functional status. According to them, patient satisfaction is used for four purposes: (1) to compare different health care programs or systems (2) to evaluate the quality of care (3) to identify which aspects of a service need to be changed to improve patient satisfaction and (4) to assist organizations in identifying consumers likely to disenroll Jackson et al. (2001) suggests that immediately after the visit, patient satisfaction is strongly influenced by patient-doctor communication variables and at all time points, satisfaction is influenced by both patient age and functional status. According to them, patient satisfaction is used for four purposes: (1) to compare different health care programs or systems (2) to evaluate the quality of care (3) to identify which aspects of a service need to be changed to improve patient satisfaction and (4) to assist organizations in identifying consumers likely to disenroll.

Many studies used separate constructs (or factors) to represent "satisfaction" (see for example, Rosenheck et al., 1997; Weiss and Senf, 1990; Ygge and Arnetz, 2001). While others incorporated satisfaction into their survey instrument by asking participants directly to reveal their satisfaction with care for each item that represented healthcare quality (Badri et al., 2009). Woodside et al. (1989) identified other primary patient satisfaction determinants: Admissions; Discharge; Nursing care; Food; Housekeeping; and. technical services.

According to Senarath, et al., (2006) patient satisfaction was measured by a 16-item instrument, covered several key dimensions of client satisfaction: accessibility, interpersonal aspect of care, physical environment, technical aspects of care and outcome of care. Patient satisfaction is predicted by factors relating to caring, empathy, reliability and responsiveness (Tucker and Adams, 2001). Other dimensions have been introduced to capture patients' healthcare evaluations (Fowdar, 2005), including: core services; customization; professional credibility; competence; and communications. Human involvement in the service situation with emotions approaching love for the patient and positive patient outcomes such as pain relief, life saving and dealing with anger or disappointment with life after medical interventions (Bowers et al., 1994) are also included in the literature.

2.5 Patient trust

The majority of definitions for trust describe it as the belief by one firm that a partner will perform actions producing positive results for the former (Schurr and Ozanne, 1985; Dwyer, Schurr and Oh, 1987; Anderson and

Narus, 1990; Moorman, Deshpande and Zaltman, 1993; Morgan and Hunt, 1994; Sanzo et al., 2003).

As Sirdeshmukh et al., (2002) stated, trust is the expectations held by the consumer that the service provider "can be relied on to deliver on its promises"**.** Anderson and Weitz,(1989) defined trust as one party's belief that its needs will be fulfilled in the future by actions undertaken by the other party. As Morgan and Hunt, (1994) stated,

trust exists when one party has confidence in an exchange partner's reliability and integrity. Trust is important because it provides a basis for future collaborations (Dwyer et al., 1987). Kramer (1999) posited that trust has both thinking and feeling aspects to it and that trust is socially oriented. He defined trust as the rational choice based on recognizing the motivations of others. Hall (2005) explains that those who trust have an expectation that the trusted person will behave with goodwill towards them and with competence in the domain in which he or she is trusted (or in caring for that with which he or she is entrusted). Once trust is established, firms learn that coordinated, joint efforts will lead to outcomes that exceed what the firm would achieve if it acted solely in its own best interests" (Anderson and Narus 1990). It seems that if partners in a relationship trust each other more they are more emotionally involved and less consciously weighing the benefits against the costs of that relationship (Wetzls et al., 1998).

Mishra et al., (2008) posited that there are four dimensions of trust (i.e., reliability, openness, competence, and concern) and found that communication is critical for demonstrating all aspects of trust(Alrubaiee and Alnazer, 2010). Trust in the context of healthcare associated with healthcare errors and patient harm i.e. patient safety. With this came an increased concern amongst policy makers, Hall (2005) explains that those who trust have an expectation that the trusted person will behave with goodwill towards them and with competence in the domain in which he or she is trusted (or in caring for that with which he or she is entrusted). Patient safety concerns may lead customers to stop using a particular hospital's services owing to negative word-of-mouth. According to Entwistle and Quick's (2006), trusting patients are vigilant, i.e. trust is not simply a vague hope or thinking optimistically; health service providers must keep patients alert to errors in the course of their care. Some checking by the patient is appropriate even when there is trust particularly when honest mistakes are possible, which may be easily spotted and corrected, and Patients may continue to trust even if harmed. Empirical work shows that the lack of concreteness of services high in credence attributes increases the importance of perceived functional service quality in forming consumer trust (Glen, 2002; Doney and Cannon, 1997; May, 2004; Sharma and Patterson, 1999).

2.6 Healthcare quality and SERVQUAL scale

Research indicates that perceived service quality is contingent upon service type, which implies that one generic service quality measure is inappropriate for all services. Ramsaran-Fowdar,R. (2008). Authors use different healthcare quality indicator terms. Even though they were not unique, many commonalities could be identified: care process convenience; concern; satisfaction; value; communication; cost; facility and tangibles; competence; empathy; reliability; assurance; and responsiveness (Choi et al., 2004). The best known and most widely accepted measurement scale for service quality is "SERVQUAL", which was originally developed by Parasuraman et al. (1985, 1988) and subsequently refined by Parasuraman et al. (1991, 1994) (Ladhari, R.,2009). The studies show that the SERVQUAL dimensions have been found to be useful and relevant in studying service quality in the healthcare industry. However, they focus largely on the measurement of service quality for service improvement purposes.

The research literature on service quality and satisfaction is copious, with various contributions from numerous researchers across the world over tow decades (e.g. Cronin & Taylor, 1992, 1994; Parasuraman et al., 1985, 1988, 1991, 1993, 1994; Teas, 1993, 1994; Zeithaml et al., 1985, 1990, 1993, 1996).However, all of them have been primarily built on the SERVQUAL scale, which forms the keystone for all the other works. There is a general agreement that the 22 items are reasonably good predictors of service quality in its entirety. Although, it has been subject to criticisms conceptually and methodologically for example: Arasli et al., 2005; Badri et al., 2005; Jabnoun and Khalifa, 2005; Landrum et al., 2007; Babakus and Mangold, 1989; Brown et al., 1993; Carman, 1990; Cronin and Taylor, 1992, 1994; Spreng and Singh, 1993;and Teas, 1993) (Sureshchandar *et., al..*,2001; Ramsaran-Fowdar, 2008). The study of Ladhari, (2009) provides a review of 20 years (1988-2008) of SERVQUAL applications. The study summarises a selection of 30 applications of SERVQUAL according to several methodological aspects. SERVQUAL research over 20 years has been found appropriate in healthcare settings (i.e. Babakus and Mangold, 1992; DeMan et al., 2002; Canel and Fletcher, 2001; Lim and Tang, 2000; Andaleeb, 1998; Jabnoun and Chaker, 2003; Pakdil, F & Harwood, 2005).In other cases, the scale need some modifications to be more applicable to health organizations (e.g Gro¨onroos, 1982; Lehtinen and Lehtinen,1982; Choi et al., 2004; Ygge and Arnetz 2001; Suhonen et al., 2004; Zineldin, 2006; Choi et al., 2004; Andaleeb,2001; Fowdar, 2005; Sohail, 2003; Ramsaran-Fowdar, (2008); Priporaset al., 2008). Ramsaran-Fowdar,R.,(2008) Proposed modified SERVQUAL scale for private healthcare context (PRIVHEALTHQUAL). Some dimensions were relatively equivalent with two additional dimensions: "core medical services/professionalism/skill/ competence" and "information dissemination". The study of Vinagre, M. & Neves,J.(2008) provided further

support for the idea that service quality construct dimensions vary and that it is necessary to adopt a contingency approach in which the number of dimensions varies according to, among others, the type of the service.

Bowers et al. (1994), on the other hand, reported two major additional dimensions not captured by SERVQUAL: caring and patient outcomes. Brown and Swartz (1989) identified "professional credibility", "Professional competence" and "communications" as factors significant for both physicians and patients in service quality evaluation. Badri et al. (2008) developed and tested four models with different structures using CFA. The recommended model represented healthcare quality comprising three main constructs: healthcare quality; process and administration; and information.

One of the most important elements of the SERVQUAL analysis is the ability to determine the relative importance of the five dimensions in influencing patients' overall quality perceptions (Lim et al., 1999).

The researchers measured quality dimensions including access ,personnel, clinical outcome and patient satisfaction. Thus, the model brings out patient satisfaction as a multi-dimensional concept needing to be operationalized and considered under the relevant contexts (Turner and Pol, 1995). Tucker and Adams' (2001) integrative patient evaluation model shows how caring, empathy reliability, responsiveness, access, communication and outcome dimensions predict Satisfaction and quality as moderated by the patients' socio-demographic characteristics. Conway and Willcocks' (1997) integrated model applies service quality to healthcare settings. It incorporates influencing factors such as patient personality and socio-economic factors with measurement issues (i.e.reliability, responsiveness,..) The structure of the dimensions of perceived service quality for this research share some common elements with the original five dimensions SERVQUAL research, but there are some modification and included an additional items.

2.7 Healthcare quality, Patient satisfaction and Patient trust

Researches had indicate that service quality is an antecedent of the broader concept of customer satisfaction (Gotlieb et al., 1994; Buttle, 1996; Zeithaml and Bitner, 1996; Lee et al., 2000) and the relationship between service quality and loyalty is mediated by satisfaction(Caruana, 2002; Fullerton and Taylor (2002). Most commonly, the nature of this service quality and satisfaction link is viewed as linear, indicating that higher levels of service quality lead to higher levels of satisfaction.(Pollack, B.,L., 2008)**.** Vinagre and Neves (2008) shows empirical evidence about the effect of service quality on patient's satisfaction with healthcare services. Priporsa et al., (2008) aimed to assess the quality of Greek hospitals by focusing on patients' perceptions. Hospitals' performance was measured using the patient satisfaction survey approach including four dimensions: tangibles, reliability / assurance, interpersonal communication and responsiveness. Research performed by Andeleeb (1998) stressed how the public is inclined to pay more for care from quality institutions with which they were satisfied. His argument postulates that a positive association exists between patient satisfaction and patronage *(Messina* et al., 2009). Woodside, Frey, and Daly (1989) provided early evidence to support the premise that patient satisfaction may directly affect volume. Rust and Zahorik (1993) identified elements of service satisfaction that may Significantly affect customer loyalty and market share; however, the focus of their research was on retention of existing business versus new customer development Naidu, A., (2009) find empirical support that Patient satisfaction is a multi-dimensional healthcare construct affected by many variables. Furthermore he found that healthcare quality affects patient satisfaction, which in turn influences positive patient behaviors such as loyalty.

Eisingerich and Bell, (2007) examine the differential effects of perceived service quality, trust, and loyalty on repurchase intentions. The research found that perceived service quality had a significant effect on customer loyalty and trust, and trust had a significant effect on customer repurchase intentions. However, the causality relationship between trust and satisfaction does not appear to be very clear in the literature. Depending on the study, satisfaction appears either as an antecedent (Selnes, 1998) or as a result or consequence of trust (Anderson and Narus, 1990). In accordance with Geyskens, Steenkamp and Kumar (1999), it may be assumed that satisfaction acts as a conditioning factor of trust, which is an antecedent of affective commitment, as will be subsequently dealt with. These authors, taking as reference the work of Dwyer, Schurr and Oh (1987), consider that perceptions about satisfaction with the relationship are formed first, in a previous stage to that where trust is generated. Zanzo et al., (2003) found that, satisfaction acts as an antecedent to trust, and trust as an antecedent to affective commitment. Moreover they found that, trust and affective commitment directly affect loyalty to the supplier as well. Although some researchers dispute the relationship between perceived service quality and satisfaction (Ting, 2004), we suggest in this study, that service quality should be one patient satisfaction antecedent and patient satisfaction acts as an antecedent to trust.

2.8 Effect of socio-demographic characteristics

Socio-demographic variables showing positive association with patient satisfaction Include: age;. Education; health status; Race; Marital status; and. social class. (Naidu, 2009). Results, however, are inconsistent and sometimes contradictory, other than the finding that older patients consistently tend to report higher levels of satisfaction than do younger ones (Calnan et al., 1994; Cleary & McNeil, 1988; Cleary et al., 1989; Ware & Berwick, 1990). Nguyen Thi et al.(2002) found that men tended to be more satisfied than women and women tended to complain more often than men do. Priporas et al. (2008) found that males and young patient tend to rate satisfaction a little higher than females and older patients. Tucker (2002) found significance of patient's demographic variables in moderating their satisfaction. Consistent with previous studies, patient age was found to be the most frequent predictor of satisfaction of all the socio-demographic factors considered (Calnan et al., 1994; Cleary & McNeil, 1988; Hays & Ware, 1986). Older patients tend to be higher in rank, more educated, and married. Individual factors positively associated with patient satisfaction are health status and education. Younger, less educated, lower ranking, married, poorer health and high-service use were associated with lower satisfaction. Angelopoulou et al. (1998) found that patient in private hospitals were more satisfied than patient in public hospitals. On the contrary, Jabnoun and Chaker, (2003) found that public hospitals have higher overall healthcare quality than private hospitals. Another study found that the patient's health quality assessment appeared to change with the introduction of patient's socio-demographic characteristics. Butler et al. (1996) found gender and age significantly predicted patients' quality perceptions, but on only one dimension – facilities. Females valued this dimension more than males. Perceived facility-related quality was found to be better for older than younger respondents.

Mummalaneni and Gopalakrishna, (1995) found that, from socio-demographic characteristic (age, gender, occupation, employment status, education and income) only income was the influenced patient satisfaction.

Tucker and Adams' (2001) integrative patient evaluation model shows how caring, empathy reliability, responsiveness, access, communication and outcome dimensions predict satisfaction and quality as moderated by the patients' socio-demographic characteristics. Conway and Willcocks' (1997) integrated model applies service quality to healthcare settings. It incorporates influencing factors such as patient personality and socio-economic factors with measurement issues (i.e. reliability, responsiveness...) Astudy in Ohio, reported better patient assessments in nonteaching hospitals and in hospitals with fewer beds, fewer deliveries and fewer caesarean deliveries (Janssen et al.2000). Despite the extensive validity and reliability tests that were conducted in Badri et al. (2008) study, it was recommended that such tests should be repeated in different countries to ensure their validity and reliability and also could be used to compare the performance of public against private hospitals.

3. Conceptual framework and hypotheses development

3.1 Conceptual framework

In this study, we hypothesize healthcare quality, as a multi-dimensional constructs consisting of five dimensions: tangibles, reliability, responsiveness, empathy and assurance. For the hospital to maintain competitive advantage and enhances hospital image should improve healthcare quality and deliver 'zero defect' service to their patients to influence their satisfaction positively, which in turn positively influences the patient's trust and loyalty. The proposed conceptual model guiding this research is depicted in Figure 1.

Insert Figure 1 here

As can be seen in the figure, we suggest that healthcare quality as multi-dimensional construct consisting of the following five components: tangibles, reliability, responsiveness, empathy and assurance. These five dimensions were modeled with patient satisfaction and trust as the dependents. Then, we propose healthcare quality to be significant determinant of patient satisfaction and patient trust i.e. higher levels of healthcare quality lead to higher levels of patient's satisfaction and trust. Moreover, we proposed that satisfaction acts as an antecedent to trust in healthcare services. Thereafter, we hypothesis that the relationship between service quality and trust is mediated by satisfaction, i.e. patient satisfaction acts as a conditioning factor of patient trust. We assume that healthcare quality affects patient satisfaction, which in turn influences positive patient trust.

3.2 *Research Hypotheses*

Therefore, to examine these relationships we developed five research hypotheses:

H1:   Patient's perception of healthcare quality has a positive and direct effect on patient satisfaction.

H2:   Patient satisfaction has a positive and direct effect on patient trust.

H3:   Patient's perception of healthcare quality has a positive and direct effect on patient trust.

H4: Patient's perception of healthcare quality has a positive and, indirect effect on patient trust mediated by patient satisfaction.

H5: Socio demographic variables (Sex, age, education, marital status, nationality, and hospital sectors) affect patient's perception of healthcare quality, patient satisfaction and patient trust.

4. Research Methodology

This study is descriptive quantitative in nature, aiming to develop a better understanding of the patient's perception of healthcare quality and its relation to patient satisfaction and patient trust from the patient point of view .

4.1 Selection of sample and respondents demographics

The study is empirical based on the primary data collected from hospital's inpatients at Amman – Jordan (Alkaa'ida, 2008). Four hospitals in Amman are included in the research: Al-Basheer and Sahab as public hospitals, Islamic and Khalidi as private hospitals. In total (330) questionnaires were distributed to random sample of inpatients in the four hospitals in Amman. These questionnaires were given to patients and they were asked to report their judgments on the service quality experienced. All patients had an in-hospital admission who had received medical treatment in the time period of 2008. The number of satisfactory completed questionnaires returned was 290, giving a response rate of 88 per cent. Through hospital visits and interviews, a team of research assistants carried out the distribution of the questionnaire and explained the purpose of the study to participants. They were present at all times when the participants were filling out the questionnaires. Despite the fact that the difficulties of collecting sufficiently large samples for similar studies, this sample size is considered adequate compared with previous studies; for example, Curry and Sinclair (2002) received 134 usable questionnaires, Badri et al.,(2008) received 244 usable questionnaires, while Ramsaran-Fowdar,R. (2008)received 257 completed questionnaires, Lim et al.,(1999) received 252 usable questionnaires and Priporas et al.,(2008) received 225 usable questionnaires.

Table 1 presents the sample's characteristics. 74.8 per cent of the responders were males and 32.1 per cent single. 50 per cent of the participants were aged more than 45 years and 41.4 per cent had secondary and less than 12 educational years (incomplete secondary education). 94.1 per cent was Jordanian and 69 per cent of the total sample had admission in public hospitals.

Insert table 1 here

4.2 Data analysis

The statistical package SPSS (version 19.0) was used for data analysis. A three-step of detailed statistical analysis of data was involved. At the first stage, factor analysis was performed to extract the underlying factor of Patient's perception of healthcare quality, patient satisfaction, and patient trust. At the second stage, simple and multiple regression analysis was performed to understand the relationship among healthcare quality, satisfaction, and trust. At the third stage ANOVA and T- test was performed to investigate the impact of socio-demographic variables.

4.3 Scale and Measurement

This study required developing a multidimensional healthcare quality measurement scale and a patient satisfaction scale as well as patient trust scale.

4.3.1 Measuring healthcare quality

Following recommendations in the literature (e.g. Ramsaran-Fowdar, 2008; Venagre, and Neves,. 2008; Lim and Tang 2000; Andaleeb, 2001; Lam, 1997; Headley, and Miller, 1993; Babakus and Mangold, 1992; Carman, 1990; Kilbourne et al., 2004; Vandamme and Leunis, 1992; Lim. et al., 1999) to measure healthcare quality perceptions we used an adapted SERVQUAL scale (Parasuraman et al., 1988) for the particular healthcare sector contexts. Our modified SERVQUAL-type questionnaire was constructed by retaining some items from the updated SERVQUAL dimensions: tangibles; reliability; responsiveness; empathy and assurance from Parasuraman et al. (1994). Selected items were refined and paraphrased in both wording and contextual applications and an additional statement as appropriate to suit our research purposes. The final questionnaire includes 32 items to measure healthcare quality by asked patients how they considered services that were provided. We used a five-point Likert scale ranging from "strongly disagree" (1) to "strongly agree" (5). This measure assesses the five dimensions of service quality attributes. It measures the study participants' perceptions of the actual healthcare service performances along the various attributes. As stated in table 2, the structure of the dimensions of perceived service quality for this research shares some common elements with the original

five dimensions SERVQUAL research, but there are differences in item assignment. On a scale of 1- 5, 3 represents a neutral point. Therefore, the mean scores of overall healthcare quality 3.15 is marginally above the mid point, which mean that patients are not happy with perceived healthcare quality of the hospitals.

Insert table 2 here

4.3.2 Patient satisfaction measure.

Studies used a mixture of measures and with different phrases to address the process or the outcome of patient satisfaction. We considered the existing measures' diversity in the literature. We chose to use a satisfaction scale as one-dimensional character composed of nine items measured in a five-point Likert-scale format from "strongly disagree" (1) to "strongly agree" (5). This scale was developed by adapting Senarath et al.,(2006), Venagre and Neves (2008); Pakdil, and Harwood, (2005); westaway et al. (2003); labarere et al.,(2001), Badri et al, (2005) items on the patient's satisfaction during hospitalization, taking into account a series of hospital service characteristics. Nine statements of the scale regarded patients' perceptions about their satisfaction during their hospital stay are depicted in table 3. The items covered several key dimensions of client satisfaction. Patients were asked to judge hospital services according the Likert scale.

Insert table 3 here

By applying the Kaiser criterion we extracted a single factor that accounted for 49.833 per cent of total variance with a Cronbach alpha of 0.873, thus confirming our patient satisfaction scale's one-dimensionality hypothesis. As depicted in table 4 the Kaiser-Meyer-Olkin measure (KMO) of sampling adequacy was 0.904 and the Bartlett's test of sphericity was significant at p, 0:000 indicating the suitability of the sample for factor analysis.

Insert table 4 here

4.3.3 Patient trust measure

We proposed use a patient trust scale as one-dimensional character composed of nine items measured in a five-point Likert-scale format from "strongly disagree" (1) to "strongly agree" (5). This scale was developed by adapting items of trust scale used by Alrubaiee & Alnazer (2010); Zanzo et al.,(2003); Sirdeshmukh et al. (2002); Liu et al. (2008); Gaurav (2008); Eisingerich & bell (2007); Garbarino & Johnson (1999); Doney & Cannon (1997) on the patient's trust in hospital and staff during hospitalization, taking into account a series of hospital service characteristics. Selected items were refined and paraphrased in both wording and contextual applications as appropriate to suit our research purposes. The descriptive statistics of patient trust scale presented in table 5.

Insert table 5 here

The items on the trust scale loaded as expected onto one dimension explaining 49.092 percent of the variance. As presented in table 6, the Kaiser-Meyer-Olkin measure (KMO) of sampling adequacy was 0.895 and the Bartlett's test of sphericity was significant at p, 0:000 indicating the suitability of the sample for factor analysis. The trust scales showed a good internal Consistency (Cronbach alpha 0.87).

Insert table 6 here

4.4 Reliability and dimensional structure

As the first step in analysis of the scale, internal reliability for the adapted scale was compared to that reported in the developmental literature. The healthcare quality scale as presented in table 7 showed a good internal consistency.

Insert table 7 here

Cronbach alpha reliability coefficients are at acceptable levels and fall between 0.82 for the empathy scale and 0.90 for tangibles .The overall healthcare quality scale presented a cronbach alpha of 0.92. Nunnaly (1978) indicated 0.7 to be an acceptable reliability coefficient but lower values as 0.60 are also used in the literature (e.g., sekaran, 1996; Wright, 2007; Aspy et al., 2004). Alpha coefficient is dependent not only on the magnitude of correlations among items but also on the number of items in the scale, so alpha could be lower in scales with fewer items(Vinagre and Neves, 2008). As can be seen in Table 7, these Cronbach alphas indicate that the scales used in the questionnaire satisfactorily measured the constructs. To assess the factor structure, exploratory factor analysis was conducted. Principal component method was used with varimax rotation for the healthcare quality scale Items with factor loadings above 0.4 (Hair et al., 1998), eigenvalues greater than 1.0 (Hair et al., 1998) and factors with at least three indicator items (Anderson and Gerbing, 1988; Baumgartner and Homburg, 1996) were retained. Variables with similar loadings on more than one factor were deleted (Hair et al., 1998). Therefore, we

eliminated six Items.Factor analysis led to the identification of five factors with a cumulative explained variance of 69.743 is depicted in table **7**. The extracted factors are interpretable and allow us to identify five service quality dimensions.. As can see in the table tangible factor was the most important healthcare service quality dimension, which account for 21.4% of explained variance followed by reliability. The lowest factor (5.6%) is the assurance dimension of the SERVQUAL scores. As presented in table 8, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.902, higher than the recommended value of 0.6 and above (Tabachnick and Fidell, 2001) while the Bartlett's test of sphericity was significant at p , 0:000, thus indicating that the sample size was adequate for factor analysis.

<p align="center">**Insert table 8 here**</p>

Convergent validity is the extent to which the scale correlates positively with other measures of the same construct. Table 9 show that correlation matrix contained most correlations above 0.70 and all correlations are significant at p<0.01; furthermore, each of the components also highly correlated (0.84 and above) with the overall measure of healthcare quality. The pattern of correlations indicates that components of healthcare quality scale converge on a common construct, thereby providing evidence of convergent validity.

<p align="center">**Insert table 9 here**</p>

Nomological validity shows the ability of a scale to behave as expected with respect to some other constructs to which it is related (Churchill, 1995). As we mentioned above, healthcare quality can improve patient satisfaction and patient trust. Therefore nomological validity would be demonstrated if the scale were positively and significantly correlated with patient satisfaction and patient trust. As stated in Table 9, all correlation coefficients between the dimensions of healthcare quality and patient satisfaction and patient trust are positive and significant (at p< 0.01) .Thus nomological validity of the scale is demonstrated.

5. Results

5.1 Test of Hypotheses

5.1.1 Hypotheses 1 - 4

Using factor analysis, simple and multiple regressions, significant associations were found between healthcare quality, patient satisfaction, and patient trust. Seven models of simple and multiple regressions to examine the relationship between healthcare quality, patient satisfaction, and patient trust were used to test the hypotheses 1 - 4. Table 10 presents the coefficients resulting from the regression models.

<p align="center">**Insert table 10 here**</p>

The results in Table 10 show that all models were significant (p: 000). All dimensions of healthcare quality were significant in explaining patient satisfaction. These finding supports H1, which predicted that patient's perception of healthcare quality has a positive and direct effect on patient satisfaction. Further result show that responsiveness had the greatest impact on customer satisfaction (Beta: 0.290) followed by tangibles (Beta: 0.202).and reliability (Beta: 0.191). Result also show that the impact of patient satisfaction on patient trust was significant, providing support for H2, which predicted that patient satisfaction has a positive and direct effect on patient trust. Furthermore, findings indicate that perceived healthcare quality significantly predict patient trust, providing support for H3. Particularly the three dimensions of healthcare quality: responsiveness, empathy, and assurance consequently will be stronger predictors of patient trust. Figure 2 presents the test's result of these hypotheses.

<p align="center">**Insert Figure 2 here**</p>

5.1.2 Hypothesis 4 (testing the mediating role of patient satisfaction)

Figure 2 show also the result of testing the mediating effect of patient satisfaction in the association of healthcare quality and patient trust (H4). From table 10 and according to Baron and Kenny (1986), there is significant indirect effect of healthcare quality on patient trust through patient satisfaction. This   result providing support for H4 according to increase in the coefficient of determination (R2) from (0.330) to (0.451) and decrease in the beta coefficients from (0.574) to (0.167) by the introduction of the mediator (patient satisfaction) into the model (e.g., Ndubisi et al. 2009). The indirect effects on the dependent variable (patient trust) can be drived by multiplying the sequential beta weights along the given path (0.844 * 0.666) (e.g. Eisingerich and Bell, 2007).

5.1.3 Hypothesis 5 (Testing the impact of socio-demographic variables)

One – way ANOVA was used to test the significance of demographic characteristics in determining healthcare quality, patient satisfaction, and patient trust. Table 11 present the result of testing the difference in patient

perceptions of healthcare quality among hospitals sector and respondents characteristics (i.e. sex, age, education, marital status, and nationality).

Insert table 11 here

Result show significant difference among all these variables, i.e. Socio-demographic characteristics were strong predictors of patient perceptions of healthcare quality in the present study. Table 11 show that there are significant differences between private and public hospitals in the patient perception of healthcare quality.

On a scale of 5, it's clear from this table that private hospitals have higher overall healthcare quality (4.321) than public hospitals (2.628).Farther statistical test indicate the same result among all the five dimensions of healthcare quality. The result in table 9 also shows that women tend to report higher levels of healthcare quality than men. Older patient (>46 years old) denote a higher score than young. Table 11 shows that the mean score was significantly higher for those with university and postgraduate degree than lower educational years. Married patient denote a higher score of healthcare quality than unmarried and nun Jordanian patient tend to report higher level of healthcare quality than Jordanian. Consistent with this result table 12 presents the significant difference in patient satisfaction and patient trust among hospitals sector and respondents characteristics.

Insert table 12 here

Table 12 indicate that patient of private hospitals are more satisfied and feel more trust in service provider than public hospitals. According to the results females tend to be more satisfied and feel more trust than males. Older patients denote a high score of satisfaction and trust. Total satisfaction score as well as patient trust was significantly higher for those with high educational degree. Married patient are more satisfied and feel more trust than unmarried. Nun Jordanian patient tend to report higher level of satisfaction and trust in healthcare provider than Jordanian. This result providing support for H5, which predicted that socio-demographic variables is significance in determining patient perceptions of   healthcare quality, patient satisfaction, and patient trust.

6. Conclusions and discussions

Study has demonstrated how the SERVQUAL instrument could help hospitals identify the healthcare service characteristics that are considered important by patients. In this way, hospitals can improve their level of quality and the effectiveness of the model can be monitored over time, with resources being shifted to those areas which most heavily influence patient perceptions of service quality.

We consider healthcare service quality to be a vital determinant of patient satisfaction and patient trust, as patients' perception of their healthcare provider competence is likely to influence patients' confidence in healthcare service providers' reliability and expertise.

Study indicated that all five dimensions of healthcare quality were significant in explaining patient satisfaction. Moreover, responsiveness, assurance, empathy and satisfaction were also significant in explaining patient trust. Therefore, healthcare quality can improve patient satisfaction and patient trust in healthcare provider. According to this result we suggest, that greater gains in patient satisfaction can be realized by attending to tangibles, reliability, responsiveness, empathy and assurance in the hospital environment. Greater gains in patient trust can be also realized by attending to responsiveness, assurance, empathy and patient satisfaction as well. Study show that, socio-demographic characteristics are significance in determining healthcare quality, patient satisfaction, and patient trust**.** Older patient, women, patient with higher education, married, and nun- Jordanian patient tend to report higher levels of healthcare quality as well as, denote a higher score of satisfaction and trust. With exception of age, these results however, are inconsistent and sometimes contradictory with previous studies (Calnan et al., 1994; Cleary & McNeil, 1988; Cleary et al., 1989; Ware & Berwick, 1990). Nguyen, et al. (2002) found that men tended to be more satisfied. Priporas et al. (2008) found that males and young patient tend to rate higher satisfaction.

As in previous studies, we showed that older patients tended to have higher satisfaction scores (Quintana et al, 2006; Hargraves et al.,2001; Jaipaul et al.,2003) Similarly, those with high education had higher satisfaction scores. Marital status traditionally has been included in this kind of study, and usually, those married tended to have higher satisfaction scores.

In contrast to other studies (Quintana et al,2006; Nguyen et al.,2002; Crow et al., 2002) our results showed that women tended to have higher satisfaction scores than men. This can be due, in our case, to the fact that men tended to complain more often than women do. These results might indicate that men expect more than women, or that men have different experiences than women. We argue that men are not only the key decision-makers for their own health care but for their immediate and extended families as well. In many households, a man may

determine the healthcare provided for their children, spouses, parent, parent-in-law and even co-workers based upon his experience or satisfaction level with a provider or facility.

Study also indicated that private hospitals have higher overall healthcare quality than public hospitals as well as over all the five dimensions of healthcare quality. These results are consistence with Jabnoun and Chaker, (2003) finding, but its inconsistence (i.e. on the contrary) with Angelopoulou et al. (1998) finding.

Socio-demographic characteristics were strong predictors of patient satisfaction and patient trust in the present study. Consistent with previous studies, patient age was found to be the most frequent predictor of satisfaction of all the socio-demographic factors considered (Calnan et al., 1994; Cleary & McNeil, 1988; Cleary et al., 1989; Ware & Berwick, 1990; Hays & Ware, 1986).study found that private hospital patients were more satisfied , while the patients of public hospitals were less satisfied and consequently private hospital patients fell more trust in service provider ,while patients of public hospitals fell less trust in service provider.

7. Theoretical implications

While our analysis supports the accepted view that both outcome and process elements of healthcare service are critical factors in relational exchanges between patients and healthcare service providers, the findings refine and extend the literature in several important ways. First and foremost, patient satisfaction emerges as the dominant, significant, direct and indirect determinant of patient trust. Second, Due to substantial indirect effects via patient satisfaction as well as a significant direct impact, perceived healthcare quality has the strongest total influence on patient trust.

The theoretical implication of the study lies in the strong evidence for the significant association between healthcare quality, patient satisfaction and patient trust. There is an indirect relationship via patient satisfaction between healthcare quality and patient trust. The result indicate that the indirect effect of healthcare quality on patient trust through patient satisfaction is a better model than the direct effect, as it explains a higher percentage of variance in patient trust.

Our study showed that age, education level, marital status, sex, nationality and hospital sector affected the scores of patient perception of healthcare quality, patient satisfaction and patient trust. According to this result we concluded that, as in previous studies, there is evidence that socio-demographic characteristics affect patient perceptions of healthcare quality, patient satisfaction, and patient trust.

8. Managerial implications

The study provides initial empirical evidence of the mediating effects of patient satisfaction in the association of healthcare quality and patient trust. Hospital managers can use the current findings to develop healthcare service marketing strategies that deepen and enhance patient satisfaction and patient trust.

The current findings may be used by managers to differentiate themselves in a competitive healthcare marketplace. First, patient trust has an important impact on behavioral intentions. Since patients' willingness to trust or recommend healthcare service providers also results from how well they are treated by healthcare

Service provider, patients must be made aware and reassured that an hospital is taking very special care of them. In order to successfully satisfy patient needs, healthcare provider need may to be proficient at diagnosing problems. Our results indicate that although healthcare providers' expertise may be necessary for the development of patient satisfaction and patient trust, this characteristic alone does not appear sufficient. Thus, when hiring healthcare staff, managers should also screen for social competence and emotional intelligence. These traits are likely to lead to a high level of courtesy, friendliness, empathy and responsiveness in patient – hospital staff relationships.

Hospitals need to conduct a study on managers/doctors/staff perceptions of hospitals' services. It is possible that perceptions of patients are not matched by the perceptions of managers/doctors/staff. Also hospitals need to have a commonly held quality model to guide managers/doctors/staff in their continuous quality improvement efforts.

Studies indicate that public hospitals are performing poorly on all quality dimensions of healthcare service. Patients were found to be generally dissatisfied with the five dimensions of service quality. Managers, therefore, facing serious problem. This result is not unexpected, given the fact that people, the world over, go to private hospitals in order to receive higher healthcare quality. This may probably reflect the low investments in public hospitals. Therefore, hospitals manager should identify the key dimensions on which to focus quality improvement efforts. Furthermore, public hospitals need to carefully design patient –oriented strategies focusing on reliability, empathy and responsiveness improvement in order to compete effectively with private hospitals that enjoy great investments

The empirical findings of this study suggest that, in managing patient relationships, hospital managers should consider the relative effectiveness of socio-demographic characteristics in fostering patient satisfaction and patient trust.

Since all five service dimensions were significantly associated with the satisfaction variable, hospital managers might base service enhancement strategies on the parameters of the model. If they were to prioritize the dimensions along which service delivery improvements are to be made because of resource constraints.

The result of the study should be noted by hospital administrators as a signal to improve the perceived healthcare quality of services or lose patients to the competition.

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Table 1. Sample characteristics

		N	*%*
Sex	Males	217	74.8
	Females	73	25.2
Age	< 25	53	18.3
	25– 35	50	17.2
	36 – 45	42	14.5
	>= 46	145	50
Educational status	Secondary	120	41.4
	College	71	24.5
	University	76	26.2
	Postgraduate	23	7.9
Family status	Single	93	32.1
	Married	197	67.9
Nationality	Jordanian	273	94.1
	Non Jordanian	17	5.9
Hospital's sector	Public	200	69
	Private	90	31
Total		**290**	**100**

Table 2. Descriptive Statistics of healthcare quality items and measurement model results (n:290)

	Mean	Std. Deviation
Tangibility	**3.0356**	**.99647**
1 . The staff was disciplined.	3.2034	1.19543
2. Materials are visually appealing.	3.0759	1.14113
3. Employees are neat in appearance.	2.8586	1.21297
4. Visually attractive and comfortable Physical Facilities.	3.0621	1.14197
5. Convenient Clinic Location.	3.0345	1.22214
6. Good directional Signs.	2.9793	1.22810
Reliability	**3.3251**	**.82147**
7.Provides services at the time it promises.	2.8690	1.19547
8. Availability of sufficient staff.	3.0621	1.21251
9. Ability of Employees to inspire trust and confidence in patient.	3.1310	1.22971
10. Employees willingness to listen carefully and help patients.	3.1793	1.23764
11. Reliability in handling the patient's problems.	4.0483	.76090
12. Speed and ease of admissions (procedures).	3.1000	1.24797
13. Staff responded immediately when called.	3.8862	.93239
Responsiveness	**3.0909**	**.95304**
14. Prompt service without an appointment.	2.9621	1.35496
15. Given adequate information about health condition.	3.1276	1.04282
16. Employees are sympathetic and reassuring.	3.1414	1.05752
17 .prescription of affordable medicines.	3.3138	1.14735
18. Gives prompt services.	3.1862	1.23941
19. Responsiveness of the staff to needs.	2.9931	1.21123
20. Hospital's staff always willing to help.	3.0103	1.41295
21. The admissions staff was friendly and courteous.	2.9931	1.28874
Assurance	**3.1131**	**.99488**
22.Maintenance of patient confidentiality.	3.0483	1.17253
23.Feel confidence and trust in the doctor treating me.	3.1793	1.15970
24.Performs the service right the first time.	3.1310	1.22971
25.The behavior of staff build confidence in patient.	3.1379	1.27863
26.Feels safe in interaction with employees .	3.0690	1.27339
Empathy	**3.1885**	**.94926**
27.Staffs are always willing to help.	3.1414	1.33259
28.Staff give personal attention.	3.2448	1.22773
29.Staff are consistently courteous.	3.0241	1.26002
30.Never too busy to respond to requests.	3.1724	1.24975
31.Staff has your best interest at heart.	3.3655	1.26060
32.Staff understand your specific need.	3.1828	1.19299
Overall Qualty	**3.1536**	**.84755**

Table 3. The factor analysis and descriptive Statistics of patient satisfaction (n= 290)

	Mean	Std. Deviation	Component extracted
1 Affordable charges for services rendered	3.2517	1.26795	.723
2 Lower Service cost	3.1517	1.21883	.744
3 Sense of wellbeing you felt in the hospital	3.2345	1.26717	.732
4 Prompt services(no waiting time)	3.1828	1.32753	.742
5 Services provided as expected	3.2241	1.22888	.668
6 Location easily accessible	3.3172	1.38055	.646
7 Efficiency of admitting procedure	3.1138	1.34556	.775
8 Friendly and courteous staff/doctors	3.1552	1.23951	.658
9 Healthy, neat and clean environment.	3.2034	1.26795	.653
Satisfaction scale (a = 0.873)	3.2038	.90965	

Extraction Method: Principal Component Analysis. a. 1 components extracted.

Cronbach's Alpha. 873, TVE % 49.833.

Table 4. KMO and Bartlett's Test of patient satisfaction

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.904
Bartlett's Test of Sphericity	Approx. Chi-Square	972.354
	df	36
	Sig.	.000

Table 5. The factor analysis and descriptive Statistics of patient trust (n= 290)

	Mean	Std. Deviation	Component extracted
1 Provides high quality service.	3.3379	1.23513	.729
2 Patients treated with equality,	3.3103	1.25070	.708
3 Feel safe in my relationship with doctor /staff.	3.1138	1.15157	.688
4 Services carried out error free.	3.2000	1.31849	.696
5 This hospital can be trusted.	3.3414	1.31165	.688
6 Services were provided efficiently.	3.2000	1.32373	.709
7 Feel physician /staff looking out for my satisfaction.	3.1621	1.37373	.719
8 Physician /staff are well qualified (can be relied on).	3.1897	1.27060	.685
9 Ethical services among physician /staff.	3.1803	1.22101	.684
Trust scale (a = 0.870)	3.2262	.89210	

Extraction Method: Principal Component Analysis. a. 1 components extracted.

Cronbach's Alpha .870, TVE % 49.092.

Table 6. KMO and Bartlett's Test of patient trust

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.895
Bartlett's Test of Sphericity	Approx. Chi-Square	935.459
	df	36
	Sig.	.000

Table 7. The factor analysis and reliability analysis of patient perception of healthcatre quality (n:290)

	Eigen values	Factors loading	%Variance Explained
Tangibility (a: 0897)	**16.170**		21.425
1 . The staff was disciplined.		0.517	
2. Materials are visually appealing.		0.630	
3. Employees are neat in appearance.		0.709	
4. Visually attractive and comfortable Physical Facilities.		0.687	
5. Convenient Clinic Location.		0.645	
6. Good directional Signs.		0.692	
Reliability (a: 0.906)	**2.067**		18.668
7.Provides services at the time it promises.		0.589	
8. Availability of sufficient staff.		0.586	
9. Ability of Employees to inspire trust and confidence in patient.		0.748	
10. Employees willingness to listen carefully and help patients.		0.719	
11. Prompt service without an appointment		0.709	
12. Speed and ease of admissions (procedures).		0.603	
13. Given adequate information about health condition.		0.561	
Responsiveness (a: 0874)	**1.554**		15.936
14. Employees are sympathetic and reassuring.		0.562	
15 .prescription of affordable medicines.		0.798	
16. Gives prompt services.		0.793	
17. Responsiveness of the staff to needs.		0.534	
18. Hospital's staff always willing to help.		0.447	
Empathy (a: 0.825)	**1.335**		8.081
19 . Never too busy to respond to requests.		0.415	
20. Staff has your best interest at heart.		0.860	
21 .Staff understand your specific need.		.904	
Assurance (a : 0.852)	**1.192**		5.634
22 .Maintenance of patient confidentiality		0.724	
23. .Feel confidence and trust in the doctor treating me.		0.407	
24 Performs the service right the first time.		0.419	
25 Reliability in handling the patient's problems.		0.518	
2 6 Staff responded immediately when called		0.872	
Overall Qualty (a : 0.926)			**69.743**

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. a. Rotation converged in 17 iterations

Table 8. KMO and Bartlett's Test of healthcare quality

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.902
Bartlett's Test of Sphericity	Approx. Chi-Square	8692.580
	df	496
	Sig.	.000

Table 9. Correlation matrix of healthcare quality, patient satisfaction, and patient trust (n= 290)

	Tangib	Reliab	Respon	Assuran	Empath	Overall q	Satisf.	Trust
Tangibles	1							
Reliability	.803**	1						
Responsive	.790**	.853**	1					
Assurance	.748**	.749**	.764**	1				
Empathy	.723**	.731**	.790**	.677**	1			
Overall qua.	.902**	.920**	.942**	.864**	.871**	1		
Satisfaction	.763**	.781**	.804**	.707**	.735**	.844**	1	
Trust	.788**	.773**	.809**	.702**	.730**	.847**	.855**	1
Mean	3.035	3.3251	3.090	3.113	3.188	3.153	3.203	3.226
Std. Deviation	0 .9946	0 .8214	0.9530	0.9948	0.9492	0.8475	0.9096	0.8921

**. Correlation is significant at the 0.01 level (2-taile)

Table 10. Summary of regression results (n = 290)

Dependent var.	Independent var.	R^2	Beta	T sig.	F sig.
Satisfaction	Overall quality	0.712	0.844	0.000	0.000
Satisfaction	1. Tangable	0.714	0.202	0.001	0.000
	2. Relliability		0.191	0.005	
	3. Responsivness		0.290	0.000	
	4. Assurance		0.147	0.007	
	5. Empathy		0.166	0.002	
Trust	Overall quality	0.330	0.574	0.000	0.000
Trust	1. Tangable	0.405	0.088	n.s	0.000
	2. Relliability		0.095	n.s	
	3. Responsivness		0.359	0.001	
	4. Assurance		0.138	0.056	
	5. Empathy		0.258	0.001	
Trust	Satisfaction	0.473	0.666	0.000	0.000
Trust	1. Overall quality	0.451	0.167	0.041	0.000
	2. Satisfaction		0.524	0.000	
Trust	1. Tangable	0.478	0.0.014	n.s	0.000
	2. Relliability		0.0020	n.s	
	3. Responsivness		0.212	0.035	
	4. Assurance		0.178	0.016	
	5. Empathy		0.174	0.020	
	6. Satisfaction		0. 504	0.000	

Table 11. Overall healthcare quality according to Sample characteristics

		Mean	*SD*	**P(ANOVA)**
Sex	Males	2.7366	0.4988	0.000
	Females	4.3930	0.2354	
Age	< 25	2.6504	0.2303	0.000
	25 – 35	2.5813	0.2198	
	36 -45	2.6265	0.2538	
	>= 46	4.2473	0.2869	
Educational status	Secondary	2.6083	0.2410	0.000
	College	2.6479	0 .2460	
	University	4.1069	0.6995	
	Postgraduate	4.4099	0.1634	
Family status	Single	2.6045	0.2296	0.000
	Married	3.4128	0.9076	
Nationality	Jordanian	3.0746	0.8093	0.000
	NonJordanian	4.4210	0.1642	
Hospital's sector	Public	2.628	0.2419	0.000
	Private	4.3215	0.4488	

Table 12. Patient satisfaction and patient trust according to Sample characteristics

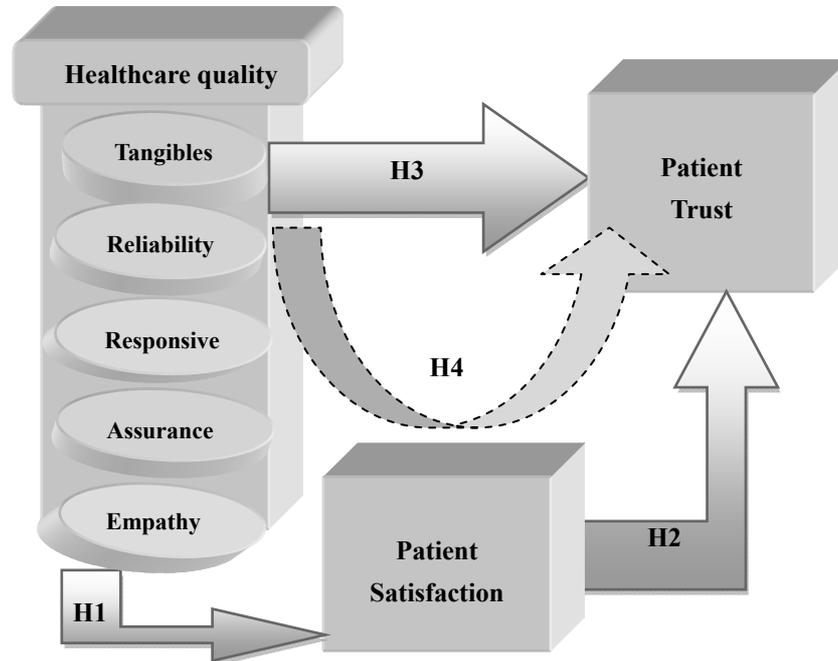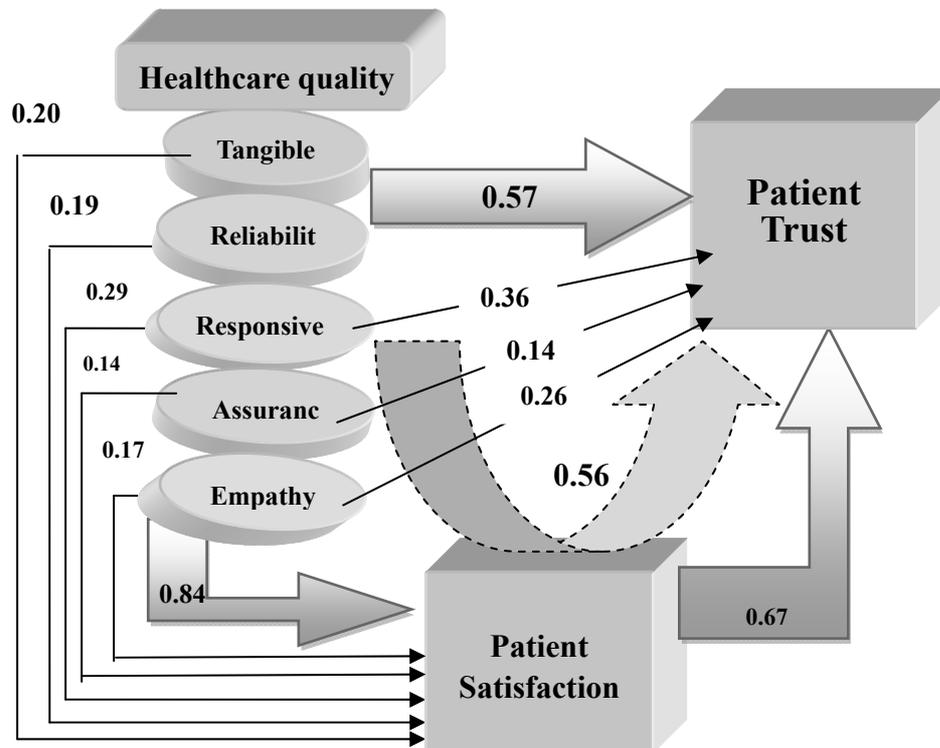|		**Satisfaction**			**Trust**		
		Mean	*SD*	*P(ANOVA)*	*Mean*	*SD*	*P(ANOVA)*
Sex	Males	2.7926	.6384	0.000	2.7880	1.2550	0.000
	Females	4.4262	.2721		4.4327	.5248	
Age	< 25	2.6331	.3883 .3589	0.000	2.4717	1.0849	0.000
	25 – 35	2.5422			2.7200	1.1642	
	36 – 45	2.5926	.4311		2.4762	1.1526	
	>= 46	3.8176	.8656		3.8414	1.1883	
Educational status	Secondary	2.5917	.3844	0.000	2.5333	1.1371	0.000
	College	2.6495	.4277		2.57754	1.1169	
	University	4.3289	.3972 .2592		.4868	.5536	
	Postgraduate	4.3913			4.3478	.4869	
Family status	Single	2.5723	.3714 .9363	0.000	2.56443	.3714	0.000
	Married	3.5020			.6235	.9363	
Nationality	Jordanian	3.1306	.8847 .2834	0.000	3.1355	1.3339	0.000
	Non Jordanian	4.3791			4.2353	.5227	
Hospital's sector	Public	2.6544	.4379	0.000	2.6350	1.1784	0.000
	Private	4.4247	2693		4.4556	.5227	

Figure 1. The conceptual model

All coefficients are significant at *p*: 0.05, the non-significant paths don't show here.

Figure 2. The path model of patient's perception of healthcare quality, patient satisfaction,

and patient trust