

Healthcare Service Quality: Comparing Public and Private Hospitals in Jordan

¹Suleiman Al Khattab and ²As' ad H. Aborumman

¹Department of Business Administration, Al-Hussein Bin Talal University, Ma'an, Jordan

²Department of Marketing, Applied Science Private University, Amman, Jordan

Abstract: The purpose of this study is to shed the light on healthcare services quality in Jordan and to compare the service quality of different providers (i.e., public and private hospitals). The survey instrument in a questionnaire form was designed to achieve the research objectives. The study applies the modified scale of the Servqual instrument to compare and evaluate hospital services in Jordan. The study consisted of 250 randomly chosen patients who received treatment in the public and private hospitals. The questionnaire was completed by a total of 221 (88.4%). The private hospital service is regarded as being of superior quality to that provided by the public hospitals; satisfaction of the patients seems to be the most important factor for both private and public healthcare providers. The results can be used by hospital managements and policy-makers and academics to creatively re-engineer and redesign their quality management processes and the future direction of their more effective healthcare quality strategies to improve hospital performance and the service quality afforded to patients. This study contributes to research on healthcare services by understanding how the concept of service quality is adopted by private and public hospitals.

Key words: Healthcare, patient satisfaction, service quality, public/private hospital, Servqual, Jordan

INTRODUCTION

One of the fastest growing industries in the service sector is the healthcare industry. The rapid growth of this sector has been accompanied by dramatic changes and environmental pressures such as demographic changes and the ageing of populations as well as the emergence of new treatments and technologies and the increased insistence on greater quality of service in order to remain competitive and to find alternative ways of remaining viable (Andaleeb, 2001). These forces of change include competitive pressures, alternate healthcare delivery mechanisms, changing cost structures and monitoring by public and private groups (Badri *et al.*, 2009). In the healthcare sector, the main debate has been the quality of service provided and the extent to which it is meeting patient needs and demands (Camilleri and O'Callaghan, 1998; Jabnoun and Chaker, 2003; Arasli *et al.*, 2008; Padma *et al.*, 2009; Owusu-Frimpong *et al.*, 2010).

For centuries, the definition, measurement and improvement of quality in healthcare has been an issue of primary importance. Optimizing the quality of care is an imperative for health services worldwide (Meirovich *et al.*, 2007).

It has been noted that there is a need for a comparative evaluation of the dimensions of service quality between developed and developing countries as

well as between different cultures (Arasli *et al.*, 2008). Despite the recognition of this need with a few exceptions (Camilleri and O'Callaghan, 1998; Jabnoun and Chaker, 2003; Arasli *et al.*, 2008; Owusu-Frimpong *et al.*, 2010), this gap in the literature continues to exist even today. In the face of uncertainties, healthcare providers have to be re-programmed and renewed, repositioning themselves for the future (Lim and Tang, 2000).

Patient perception is the main indicator of quality in healthcare services (Cronin Jr. and Taylor, 1994). According to some researchers, although the true level of service quality can be quite low (or high), the main issue is how consumers perceive the quality of service and the efficiency of the healthcare they receive (Padma *et al.*, 2009; Owusu-Frimpong *et al.*, 2010). In this connection, most researchers believe that there is a relationship between the perception of consumers of the quality of the services and their satisfaction (Padma *et al.*, 2009).

Not surprisingly, healthcare quality and patient satisfaction have gained increasing attention in recent years since service quality and the closely related customer satisfaction constructs are of vital concern for healthcare organizations. Consumer satisfaction appears to be a major device in shaping critical decisions in the healthcare services. Hence, service providers do as a matter of fact include the satisfaction of customers as a main organizational goal (Zeithaml and Bitner, 2000).

Moreover, competitiveness among healthcare providers also depends upon patients' satisfaction (Zineldin, 2006). Consequently, there are many studies of service quality in the healthcare sector that use patient satisfaction as a measurement of effectiveness (Owusu-Frimpong *et al.*, 2010).

This study contributes to the previous academic efforts and knowledge in the field of service quality management in the healthcare industry by shedding light on healthcare service quality in Jordan. In so doing, it compares the quality of services from different providers (i.e., public and private hospitals) and investigates the relationship between that quality and patient satisfaction. The findings are of value to hospital managements and healthcare policy-makers in their creative reengineering and redesign of their quality management processes and in plotting the future direction of their healthcare quality strategies.

Healthcare in Jordan: Jordan has one of the most modern healthcare infrastructures in the Middle East. Its healthcare system is a complex amalgam of three major sectors; public, private and donor. The public sector consists of two major public programs that both finance and deliver care, these being the Ministry of Health and the Royal Medical Services. Other smaller public programs include several university based systems such as at the Jordan University Hospital and King Abdullah Hospital. In 2003, the total expenditure on health services accounted for about JD 727 million that being 10.4% of the GDP. Health expenditure per capita was JD 133. Each of the healthcare sub-sectors has its own financing and delivery system that reflects directly on the delivery of services among these sectors.

Problems related to accessibility, equity, duplication of services, poor co-ordination among major providers, an unregulated private sector, low utilization rates in the private sector, limited quality improvement programs, inefficient use of available resources, poor management and inappropriate health information system are the main challenges facing all providers of healthcare in Jordan. The Ministry of Health hospitals encounter several constraints that hamper their ability to contribute more effectively to providing proper healthcare to the poor and the uninsured. In addition to the centralized management practices, the lack of incentives to promote efficiency and quality and the inadequate information and communications systems are contributory factors.

The private sector plays an important role in terms of both the financing and delivery of services. Many private firms provide healthcare coverage for their employees either through self-insuring or via the

purchase of private health insurance. However in 1998, a national health strategy was adopted for the period from 1998-2010 which aims to support and strengthen primary health care, improve managerial, technical and professional performance in the public health sector enhance the partnership between the public and the private sectors; implement a National Health Insurance system; improve the health care financing in the country; promote the regional role of Jordan in providing high quality and inexpensive medical care to attract patients from other countries (Medical tourism) and improve the quality of health services and patient satisfaction.

Literature: Quality is considered a critical determinant of firm competitiveness and long term profitability of both service and manufacturing organizations. It is a complicated and indistinct concept (Gronroos, 1988) and there is no single universal definition of quality in the literature. Townsend (1986) defines quality in two perspectives; quality in fact and quality in perception. Quality in fact is usually the perception of quality from the supplier's point of view while quality in perception is that from the customer's perspective.

The definition of service as an action comes within the framework of a relationship and that relationship is usually between the customer and the provider of the service. Zeithaml and Bitner (2000) have defined services as deeds, processes and performances. However, services are intangible in nature and their intangibility makes the analysis of the subject of service quality different from that of the analysis of manufacturing quality (Gummesson, 1991).

In the healthcare setting, quality is more difficult to define than other services such as those found within finance or tourism, mainly because it is the customer himself/herself and the quality of his/her life that is being evaluated. Some researchers suggest that healthcare quality can be assessed by taking into account the perceptions of observers (i.e., friends and family). Indeed, these observer groups represent major influences upon patient healthcare choices (McGlynn, 1995). In another approach, Zineldin (2006) has defined quality in the context of healthcare as the art of doing the right thing at the right time, in the right way, for the right person and having the best possible results.

Recently among healthcare researchers, the greatest consensus has been achieved on the definition provided by Institute of the Medicine (IOM) that being the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge (McGlynn, 1995). Although, there seems to be a

consensus in the literature that satisfaction and service quality are unique constructs, distinctions in their definitions are not always clear (Choi *et al.*, 2004). Oliver (1981) defined satisfaction as the summary psychological state resulting when the emotion surrounding disconfirmed expectations is coupled with the consumer's prior feelings about the consumption experience. This definition suggests that satisfaction is a consequence of or a reaction to expectancy disconfirmation and that the outcome is an affective one. In the healthcare service context, patient satisfaction could be identified as the appraisal of the extent to which the care provided meets patient expectations (Brennan, 1995). According to Liljander and Strandvik (1994), satisfaction refers to an insider perspective where there is an evaluation of the outcome, assessing what is expected and what is actually received. In short, satisfaction is an emotional response (Zineldin, 2006). There is a strong link between service quality and satisfaction to the extent that it is believed that quality has been defined in other consumer oriented industries as perceived satisfaction (Smith and Swinehart, 2001).

Usually customers expectations are based on their personal norms, values, needs and wishes, etc. Moreover, these expectations are not stable and may change over time due to changes in aspiration levels at a particular moment. Thus, customers will switch service providers if they are not happy or feel dissatisfaction with the service provided (Lewis and Bingham, 1991). At the same time, expectations are determined not only by individuals themselves but also by reference groups, external situations, time, norms and the like (Kasper *et al.*, 1999). While perception reflects the service as actually received, it also depends on the nature of discrepancy between the expected service and perceived service (Parasuraman *et al.*, 1985). Many researchers have discussed the concept of perception. According to Bolton and Drew (1991), perceptions are influenced by attributes of the service-delivery process and Schiffman and Kanuk (1987) have defined perceptions as the process by which an individual selects organizes and interprets stimuli into a meaningful and coherent picture of the world.

Healthcare service quality dimensions and components:

A hospital has been described as a complex institution that provides services to different clients and within that institution, staff must deliver a range of services both among and within its departments. For example, there may be a difference between the psychological needs of patients in the oncology department and patients in the orthopedic department. While oncology patients usually need intensive psychological care which requires staff to

allocate time and energy accordingly orthopedic patients tend to have fewer psychological needs and hence, the care given to them by staff has a different focus. Variations in care may also exist within a department (Meirovich *et al.*, 2007). Within the literature, it is reported by several reserachers that customers consider many dimensions in their assessments of service quality as follows; technical and functional quality (Gronroos, 1984), six quality components, i.e., effectiveness, efficiency, acceptability, access, equity and relevance and interactive, physical and corporate quality (Maxwell, 1984). These views on service quality dimensions have also influenced the terms used in discussing healthcare services quality. For example, Donabedian (1980) suggested that hospital services could be sub-divided into three categories; structure, process and outcomes.

All the different aspects of the hospital services offered within the context of the overall hospital care product could therefore be classified according to this framework which used 16 primary service quality sentinels covering all the principal attributes of hospital services, classified under the following six dimensions; catering, hospital environment, professional and technical quality, patient amenities, service personalization and accessibility. Meanwhile, Hasin *et al.* (2001) considered communication, responsiveness, courtesy, cost and cleanliness to be relevant. Based on these frameworks, several models of service quality have evolved.

Badri *et al.* (2008) developed and tested four such models with different structures using CFA. The recommended model for use when assessing healthcare quality comprises three main constructs; healthcare quality, process and administration and information. The most prominent model is that of Parasuraman *et al.* (1985, 1988), the Servqual model. Despite controversies regarding the validity and reliability of Servqual, its application with or without modification can be readily found in healthcare settings.

In general, Parasuraman *et al.* (1985, 1988) highlight five key determinants of perceived service quality, namely:

Reliability: The ability to perform the promised service dependably and accurately means that the company delivers on its promises regarding delivery, service provision and problem resolution.

Responsiveness: Being willing to help is defined as willingness or readiness of employees to help customers and to provide prompt service. This dimension emphasises attentiveness and promptness in dealing with customer requests, questions, complaints and problems.

Assurance: Inspiring trust and confidence is defined as the employees' knowledge and courtesy and the ability of the firm and its employees to inspire trust and confidence.

Empathy: Treating customers as individuals is defined as caring, individualized attention that the firm provides to its customers. The customers need to feel understood by and important to firms that provide service for them.

Tangibles: Representing the service physically are defined as the appearance of physical facilities, equipment, staff appearance and communication materials that are used to provide the service. Often companies use tangibles to enhance their image, provide continuity and signal quality to customers.

As mentioned before, the application of Servqual, whether modified or not can be found in healthcare contexts and for use in such surroundings, Tomes and Ng (1995) regrouped the dimensions of this model into empathy, understanding of illness, relationship of mutual respect, dignity, food, physical environment and religious needs. Additionally, apart from the Servqual-based models, others are useful in healthcare scenarios, Camilleri and O'Callaghan (1998) considering the following dimensions appropriate; professional and technical care, service personalization, price, environment, patient amenities, accessibility and catering. Where Youssef *et al.* (1995) used the unmodified five-dimensional Servqual model to measure service quality in NHS hospitals with a total of 174 patients from different departments.

It was found that patients' perceptions of their experience failed to meet their expectations in all dimensions and that reliability was found to be the worst feature in the NHS hospital services. Similarly, Zineldin (2006) expanded the technical-functional and Servqual quality models into a five dimensional quality model, called the 5Qs which includes:

- Object
- Processes
- Infrastructure
- Interaction
- Atmosphere quality

In a comparison of private and public hospitals, Jabnoun and Chaker (2003) compared service quality practices between such establishments in the United Arab Emirates. They used a modified Servqual scale which included 23 items representing 5 dimensions (empathy, tangibles, reliability, administrative response and supporting skills). Their findings showed public hospital inpatients to be more satisfied with service quality than

their private hospital counterparts. Lim and Tang (2000) attempted to determine the expectations and perceptions of inpatients in Singaporean hospitals through the use of a modified Servqual scale that included 25 components representing 6 dimensions namely; tangibles, reliability, assurance, responsiveness, empathy, accessibility and affordability. Analysis of 252 inpatients' responses revealed an overall service quality gap between patients' expectations and their perceptions of actual experience.

In another comparison of the service delivered by private and public hospitals, Andaleeb (2001) focused on hospitals in urban Bangladesh using a modified Servqual scale with 25 items representing 5 aspects of service quality (responsiveness, assurance, communication, discipline and baksheesh). A study of 216 inpatients revealed that private hospitals provide better services than public hospitals in respect of service quality. Finally and more recently, Arasli *et al.* (2008) used a modified version of Servqual with 6 factors regarding the service quality as perceived in both public and private hospitals in Northern Cyprus.

The factors used were; empathy, giving priority to the inpatients' needs, relationships between staff and patients, professionalism of staff, food and the physical environment. Their study revealed that various expectations of inpatients were not met by either the public or the private hospitals

MATERIALS AND METHODS

Applying the modified servqual measurement: Research in defining and measuring service quality has been greatly influenced by the research of Parasuraman *et al.* (1985, 1988) whose scale is based on the philosophy that customers typically assess service quality by comparing the service they have actually experienced (the perceived service quality) with the service they desire or expect (their expected service quality).

However in the study, only the perception sub-scale has been taken into account. There are four reasons for this strategy, the 1st being that it has been found difficult to ask patients about hospital services before they experience them and hence, there is no option but to question people who are actually hospitalized and it was important not to involve those who were too sick or emotionally distressed for ethical reasons, so the population was naturally reduced. Secondly, researchers tried to ensure that respondents were hospitalized for at least 2 days to give sufficient time for their perceptions of service quality to evolve. Only those who were mentally stable and capable of verbal communication were approached for their consent to participate. Thirdly, the

scale we used was a modified version of Servqual. Finally, many researchers have indicated that the perception sub-scale functions as a good measure of service quality. For instance, Bennett and Barkensjo (2005) stated that the Servqual instrument, albeit without an expectations dimension generated reasonably robust outcomes.

Research method: The original Parasuraman Servqual method consists of 5 dimensions and 22 statements. As mentioned before a modified version of the Servqual scale, containing minor wording changes to tailor these measures to the healthcare services context was used. The modifications produced 31 statements and 7 dimensions of service quality. A questionnaire was developed based on the studies of Parasuraman *et al.* (1985, 1988) and Arasli *et al.* (2008). Items for measuring reliability, tangibility, responsiveness, assurance and empathy, employed several dimensions of the Servqual model (Parasuraman *et al.*, 1988) and items relating to the measurement of the physical environment and food and beverage came from the scale developed by Arasli *et al.* (2008). The 7 dimensions are:

- Reliability (5 items)
- Tangibility (3 items)
- Assurance (5 items)
- Responsiveness (4 items)
- Empathy (5 items)
- Physical environment (5 items)
- Food and beverage (4 items)

Additionally, three questions were included to measure the patients' general satisfaction with the service they received in the hospital, their willingness to repurchase the service from the same hospital and the likelihood that they would recommend it to others. All items were measured using a 5-point Likert-type scale (ranging from 1 strongly disagree to 5 strongly agree). Cronbach's alpha reliability for the service quality and satisfaction dimensions scale was good at 0.83.

With the establishment of content validity, the questionnaire was refined through rigorous pre-testing which focused on instrument clarity, question wording and validity. During the pre-testing, ten patients were taken as subjects and invited to comment on the questions and wording. Several items were removed or modified from the instrument based on the feedback obtained through this exercise.

RESULTS

From the 250 questionnaires distributed to the 4 hospitals located in Amman, 221 useable questionnaires were obtained, producing a return rate of 88.4% which is

good and indicative of strong feeling among the respondents. As mentioned before the sample consisted of 221 hospital patients, randomly selected patients from 2 private and 2 public hospitals in the country's capital. Patients were invited to participate in the study before hospital discharge and only those hospitalized for at least 2 days in the same ward and who were mentally stable and capable of verbal communication were approached for consent.

Upon agreement they were provided with an information and consent form. They were assured of the confidentiality of the information collected. Of the sample of 221 patients, 47.1% were from the private hospitals and 52.9% from the public hospitals. In gender terms, 24% were female and 76% male. In respect of nationality, 81.9% were Jordanian, the remaining 18.1% being of other nationalities.

On the age dimension, 28.1% were <25 years old, 9% between 26 and 35 years, 31.2% between 36 and 46, 19.9% between 47 and 57 and 11.7% were >57 years (Table 1). It can be seen from the results shown in Table 2 that the means of respondents' perceptions regarding the quality of services provided in private hospitals are higher than the means of their perceptions of the service quality delivered by the public hospitals, these means ranging from 3.65-3.91. The lowest mean is indicated in the empathy dimension (3.65) whilst the highest mean relates to the food and beverage dimension (3.91). At the same time, the means of the patients' perceptions of the services delivered in the public hospital fell in the range of 2.71-3.41. The lowest mean is in connection with the responsiveness dimension (2.41) whilst the highest mean relates to the food and beverage dimension (3.41). It is worth noting that patients in both private and public hospitals rank, the food and beverage dimension as the highest while empathy and responsiveness rank as the lowest satisfied dimensions in both kinds of hospital. That said however, the overall mean of patient satisfaction with regard to the private hospitals was 3.7 being considerably higher than the mean of the patient satisfaction towards the public hospitals (2.9).

Generally speaking, the data in Table 2 shows demonstrate that all the means in the private hospital are higher than in the public hospitals and hence that the private hospital service is regarded as being of superior quality to that provided by hospitals in the public sector. Simple regression analysis was performed to examine the prediction of overall service quality on patient satisfaction and multiple regression to examine the service quality dimensions on patient satisfaction. Table 3 and 4 show the simple and multiple regression results. From Table 3, it can be seen that there service quality impacts significantly on patient satisfaction with their experience in hospitals ($R^2 = 0.28$, $p < 0.05$) with approximately 28% of

Table 1: Demographic attributes of respondents

Variables	Attributes	Frequency	Percentage
Sector	Private	104	47.1
	Public	117	52.9
	Total	221	100.0
Age	25	62	28.1
	26-35	20	9.0
	36-46	69	31.2
	47-57	44	19.9
	58-68	16	7.2
	≥ 69	10	4.5
	Total	221	100.0
Sex	Male	168	76.0
	Female	53	24.0
	Total	221	100.0
Nationality	Jordanian	181	81.9
	Non Jordanian	40	18.1
	Total	221	100.0

Table 2: Descriptive analysis

Analysis of Servqual	Private	Public
	-----Mean±SD-----	
Reliability	3.67±0.7875	3.00±0.7172
Tangibility	3.70±0.6104	3.36±0.6100
Assurance	3.67±0.7890	3.38±0.8011
Responsiveness	3.66±0.7543	2.71±0.7623
Empathy	3.65±0.7193	2.84±0.7342
Physical environment	3.74±0.5251	3.33±0.5599
Food and beverage	3.91±0.5890	3.41±0.5980
Patient satisfaction	3.70±0.8102	2.90±0.9594

Table 3: Simple regression analysis to measure the effect of overall service quality of patient satisfaction

R	R ²	β	F	Sig.
0.529	0.280	0.529	84.434	0.000

Table 4: Multiple regression analysis to measure the effect of each variable of service quality on patient satisfaction

Variables	β	t	Sig.*
Reliability	0.080	1.236	0.726
Tangibility	0.202	3.436	0.001*
Assurance	0.067	1.113	0.859
Responsiveness	0.188	3.170	0.002*
Empathy	0.410	7.104	0.000*
Physical environment	0.021	0.327	0.764
Food and beverage	0.072	1.289	0.976

(R² = 0.337; F = 0.002); * Significant level at p ≤ 0.05

the variance being accounted for by service quality. In other words, the strength of the link between service quality and patient satisfaction is (R = 0.529). To establish which of the service quality dimensions (modified Servqual) predicted more variance in patient satisfaction, multiple regression was performed and Table 4 shows that responsiveness, tangibility and empathy have more impact in this respect (β-values for the predicted dimensions, respectively are β = 0.188, β = 0.202, β = 0.410, p < 0.05) than reliability, assurance, food and beverage and the physical environment.

Figure 1 shows a summary of the values of influence and the relationship between the dimensions of service quality in hospitals and patient satisfaction.

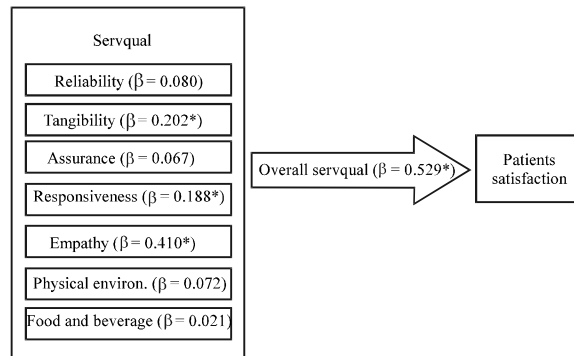


Fig. 1: The path coefficient of the research model (*p ≤ 0.05)

DISCUSSION

One of the fastest growing industries in the service sector is the healthcare industry. At the same time, healthcare services are difficult to evaluate as credence values are high. The findings of this study are important for hospital managers who should note that patients are likely to become more demanding in terms of the level of service they consider to be satisfactory. It is obvious from the results that responsiveness, tangibility and empathy have greater impact on patient satisfaction than is currently believed by hospital managements and hence, attention should be directed to these aspects of service and especially to responsiveness and empathy. The results also reveal that patients in both private and public hospitals rank the food and beverage dimension as the highest and empathy and responsiveness as the lowest. Private hospitals are considered by their patients to provide better service quality than public hospitals. This result concurs with the findings from Andaleeb (2001)'s study but disagrees with those emerging from the study by Jabnoun and Chaker (2003), who found that the public hospital inpatients were more satisfied with service quality than their private hospital counterparts.

This study also provides a clear picture of the academic debate concerning the structure and conceptualization of the Servqual measurement tool which finds widespread use by practitioners in all service settings. Indeed, the Servqual instrument is employed in many patient satisfaction studies and has been found appropriate in healthcare contexts but it does need to be modified to suit specific environments. In this respect, this study finds that the perception sub-scale is robust in healthcare research and can be recommended.

Hospitals are becoming increasingly aware of the importance of service quality and need to ensure their provision of reliable and effective services in order to

achieve high levels of patient satisfaction which in itself functions as an antecedent of sustainable competitive advantage. The private hospital service is regarded by patients as being of superior quality to that provided by the public sector, especially in terms of food and beverage, tangibility and physical environment, all of which reflect the augmented hotel service product.

It seems that patients prefer private hospitals due to their belief that these establishments provide a qualitatively different health service from public hospitals. Nonetheless, this preference does not indicate that they are actually satisfied by the services received in the private sector and that there is no room for improvement. In terms of public hospitals, a large number of patients complain about the services received in this context and the complaints are mainly about staff responsiveness and empathy which are responsible for the delay they experience in waiting for treatment and for the short amount of consultation time they are afforded. The lack of physical and human capacities of these hospitals seem to be the main reasons for the perceived inadequacy in the quality of their service.

CONCLUSION

This study demonstrates that patient satisfaction is the most important factor to be considered by both private and public healthcare providers. Clearly for some patients, there are alternatives, especially those who can afford the private sector. If patients are not satisfied with one provider they can easily choose another. Therefore, strong competition among private hospitals is an inevitable outcome. In order to succeed in this competition, healthcare providers should take account of the opinions of their patients (customers) into account, otherwise they will be unable to retain their existing clientele and to attract new patients. Hence, the importance of patients to the service provider is crucial and as observed by Arasli *et al.* (2008), the idea of treating the patient as a partner in the care experience is one for exploration.

IMPLICATIONS

The study provides hospital managers with useful guidelines from which to develop some future strategies for the promotion of a quality health service. The effectiveness of the organizations' marketing activities should be evaluated in terms of the actual message being relayed to or received by the patient and not only in terms of management intentions. Staff education, especially in terms of developing customer care (empathy) and inter-

personal skills should be regarded as investments in the future enhancement of service quality (Camilleri and O'Callaghan, 1998). Hospital managements should regularly provide adequate training for their staff and whilst this may well be costly and not result in short-term profitability without this, there will inevitably be problems in the long term. Additionally, hospitals managements should recruit staff with particular social skills that promote the development of long standing relationships with customers.

RECOMMENDATIONS

The study has a few limitations which should be considered when interpreting its results and these naturally form the basis of suggestions for future research. One limitation is that the data were collected from patients in Amman, Jordan and hence, the findings may not be generalizable to other contexts. A direction for future research would be to replicate this study in other countries to assess the perceptions of service quality with healthcare services. A methodological limitation should also be noted, since this study focuses on the perception sub-scale and the dimensions of the questionnaire may not represent all service quality aspects.

Other dimensions may be added and adopted if required in future studies. Finally, the study can be replicated in different cultures to provide cross-cultural comparisons and to take account of both patients and managers viewpoints regarding the service quality provided by hospitals.

REFERENCES

- Andaleeb, S.S., 2001. Service quality perceptions and patient satisfaction: A study of hospitals in a developing country. *Soc. Sci. Med.*, 52: 1359-1370.
- Arasli, H., E. Ekiz and S. Katircoglu, 2008. Gearing service quality into public and private hospitals in small islands. *Int. J. Healthcare Qual. Assurance*, 21: 8-23.
- Badri, M.A., S.T. Attia and A.M. Ustadi, 2008. Testing the not so obvious models in healthcare quality. *Int. J. Qual. Healthcare*, 21: 159-174.
- Badri, M.A., S. Attia and A.M. Ustadi, 2009. Healthcare quality and moderators of patient satisfaction: Testing for causality. *Int. J. Healthcare Qual. Assurance*, 22: 382-410.
- Bennett, R. and A. Barkensjo, 2005. Relationship quality, relationship marketing and client perceptions of the levels of service quality of charitable organizations. *Int. J. Service Ind. Manage.*, 16: 81-106.

- Bolton, N.R. and J.H. Drew, 1991. A longitudinal analysis of the impact of service changes on customer attitudes. *J. Marketing*, 55: 1-10.
- Brennan, P.F., 1995. Patient satisfaction and normative decision theory. *J. Am. Med. Inform. Assoc.*, 2: 250-259.
- Camilleri, D. and M. O'Callaghan, 1998. Comparing public and private hospital care service quality. *Int. J. Healthcare Qual. Assurance*, 11/4: 127-133.
- Choi, K., W. Cho, S. Lee, H. Lee and C. Kim, 2004. The relationship among quality, value, satisfaction and behavioral intention in healthcare provider choice: A South Korean study. *J. Bus. Res.*, 57: 913-921.
- Cronin, Jr. J.J. and S.A. Taylor, 1994. Servperf versus Servqual: Reconciling performance-based and perceptions minus expectations measurement of service quality. *J. Market.*, 58: 125-131.
- Donabedian, A., 1980. *Explorations in Quality Assessment and Monitoring. Vol. 1, The Definition of Quality and Approaches to Its Assessment.* Health Administration Press, Ann Arbor, MI.
- Gronroos, C., 1984. A service quality model and its marketing implications. *Eur. J. Market.*, 18: 36-44.
- Gronroos, C., 1988. Service quality: The six criteria of good perceived service quality. *Rev. Bus.*, 9: 10-13.
- Gummesson, E., 1991. Truths and myths in service quality. *Int. J. Service Ind. Manage.*, 2: 7-16.
- Hasin, M.A.A., R. Seeluangswat and M.A. Shareef, 2001. Statistical measures of customer satisfaction for health-care quality assurance: A case study. *Int. J. Healthcare Qual. Assurance*, 14: 6-14.
- Jabnoun, N. and M. Chaker, 2003. Comparing the quality of private and public hospitals. *Managing Service Qual.*, 13: 290-299.
- Kasper, H., P.V. Helsidngen and Jr. de Vaies, 1999. *Services Marketing Management an International Perspective.* John Wiley and Sons, Chichester.
- Lewis, B. and G.H. Bingham, 1991. The youth market for financial services. *Int. J. Bank Marketing*, 9: 3-11.
- Liljander, V. and T. Strandvik, 1994. The Relationship Between Service Quality, Satisfaction and intentions. In: *Quality Management in Services II* Van Gorcum, Kunst, P. and J. Lemmink (Eds.). SSEN/Maastricht University, USA.
- Lim, P.C. and N.K.H. Tang, 2000. A study of patients' expectations and satisfaction in singapore hospitals. *Int. J. Health Care Qual. Assurance*, 13: 290-299.
- Maxwell, R., 1984. Prospectus in NHS management: Quality assessments in health. *Br. Med. J.*, 288: 148-172.
- McGlynn, E., 1995. Quality assessment of reproductive health services. *Western J. Med.*, 163: 19-27.
- Meirovich, G., Y. Brender-Ilan and A. Meirovich, 2007. Quality of hospital service: The impact of formalization and decentralization. *Int. J. Healthcare Qual. Assurance*, 20: 240-252.
- Oliver, R., 1981. Measurement and evaluation of satisfaction process in retail setting. *J. Retailing*, 57: 25-48.
- Owusu-Frimpong, N., S. Nwankwo and B. Dason, 2010. Measuring service quality and patient satisfaction with access to public and private healthcare delivery. *Int. J. Public Sector Manage.*, 23: 203-220.
- Padma, P., C. Rajendran and L.P. Sai, 2009. A conceptual framework of service quality in healthcare perspectives of Indian patients and their attendants. *Bench Market. Int. J.*, 16: 157-191.
- Parasuraman, A., V.A. Zeithaml and L.L. Berry, 1985. A conceptual model of service quality and its implications for future research. *J. Market.*, 49: 41-50.
- Parasuraman, A., V.A. Zeithaml and L.L. Berry, 1988. SERVQUAL: A multiple item scale for measuring consumer perceptions of service quality. *J. Retailing*, 64: 12-40.
- Schiffman, L. and L. Kanuk, 1987. *Consumer Behaviour.* 3rd Edn., Prentice-Hall, Englewood Cliffs, NJ.
- Smith, A.E. and K.D. Swinehart, 2001. Integrated systems design for customer focused healthcare performance measurement: A strategic service unit approach. *Int. J. Healthcare Qual. Assurance*, 14: 21-29.
- Tomes, A.E. and S.C.P. Ng, 1995. Service quality in hospital care: The development of in-patient questionnaire. *Int. Healthcare Qual. Assurance*, 8: 25-33.
- Townsend, P.L., 1986. *Commit to Quality.* John Wiley and Sons, New York.
- Youssef, F., D. Nel and T. Bovaird, 1995. Service Quality in NHS Hospitals. *J. Manage. Med.*, 9: 66-74.
- Zeithaml, V. and M. Bitner, 2000. *Services Marketing: Integrating Customer Focus across the Firm.* 2nd Edn., Irwin McGraw-Hill, USA.
- Zineldin, M., 2006. The quality of healthcare and patient satisfaction: An exploratory investigation of the 5Qs model at some Egyptian and Jordanian medical clinics. *Int. J. Healthcare Qual. Assurance*, 19: 60-92.