



Comparing public and private hospitals' service quality

Arwa Alumran^{1,2} · Hanadi Almutawa^{1,3} · Zainab Alzain^{1,4} · Arwa Althumairi¹ · Nauman Khalid⁵

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Abstract

Background Saudi Arabia's health care system has undergone major changes in recent years to enhance the quality of the services it renders to the community. This study is designed to measure the quality of health care services from the patients' perspective and to compare the service quality of public and private hospitals in the eastern region of Saudi Arabia.

Methods The study has a quantitative cross-sectional design, with a questionnaire based on the SERVQUAL dimensional model. It was a random sample of 258 inpatients at private and public hospitals in Eastern Saudi Arabia.

Results Patients at private hospitals perceived a higher level of quality of the health care services ($t = 3.390, p < 0.01$).

Conclusions Further research on the financial and leadership dimensions of health care quality will contribute to improved planning for health care services.

Keywords Eastern Province · Saudi Arabia · Health care service quality · Patient perception · Private hospitals · Public hospitals · SERVQUAL model

Introduction

Health care services in Saudi Arabia have improved and increased significantly during recent years. The first Department of Public Health was established in 1925 in Medina during the King Abdulaziz period. The Ministry of Health (MoH) was established in 1950, and 20 years later, the first 5-year development plans were introduced to improve the Saudi health care system. After this 5-year plan, significant improvement was observed in all sectors of the Saudi health system at the dispensary and hospital level (Almalki et al. 2011). The MoH is the major government provider and financer of health care services in Saudi Arabia, with a total of 244 hospitals and

2037 primary health care facilities. The other government bodies include referral hospitals, security forces medical services, army forces medical services, National Guard health affairs, Ministry of Higher Education hospitals, ARAMCO hospitals, Royal Commission for Jubail and Yanbu Health Services, school health units of the Ministry of Education and the Red Crescent Society (Almalki et al. 2011). Apart from the referral hospitals, Red Crescent Society and the teaching hospitals, each of these agencies provides services to a defined population, usually employees and their dependants. Additionally, all of them provide health services to all residents during crises and emergencies (Almalki et al. 2011). An overview of the health system in Saudi Arabia is highlighted in Fig. 1.

According to Albert et al. (2018), Saudi Arabia has 274 (58.3%) public hospital (i.e., Ministry of Health Hospitals), 152 (32.3%) private hospitals and 44 (9.4%) quasi-governmental hospitals. Also, Albert et al. (2018) mentioned the total number of beds in each sector, with 41,852 (59.1%) beds in the public sector, 17,428 (16.3%) beds in the private sector and 11,581 (16.3%) beds in the semi-quasi sector. For the purpose of this study, the quasi-public hospitals were included with the private sector. In addition, private sector patients have the option to pay out of pocket or can be covered by insurance companies.

Globally, researchers have conducted many studies to measure the quality of health care services rendered by various

✉ Arwa Alumran

¹ Health Information Management and Technology Department, College of Public Health, Imam Abdulrahman bin Faisal University, Dammam, Saudi Arabia

² Alkhobar, Saudi Arabia

³ Royal Commission Health Services Program, Jubail, Saudi Arabia

⁴ Dental Hospital, Imam Abdulrahman bin Faisal University, Dammam, Saudi Arabia

⁵ Environmental Health Department, College of Public Health, Imam Abdulrahman bin Faisal University, Dammam, Saudi Arabia

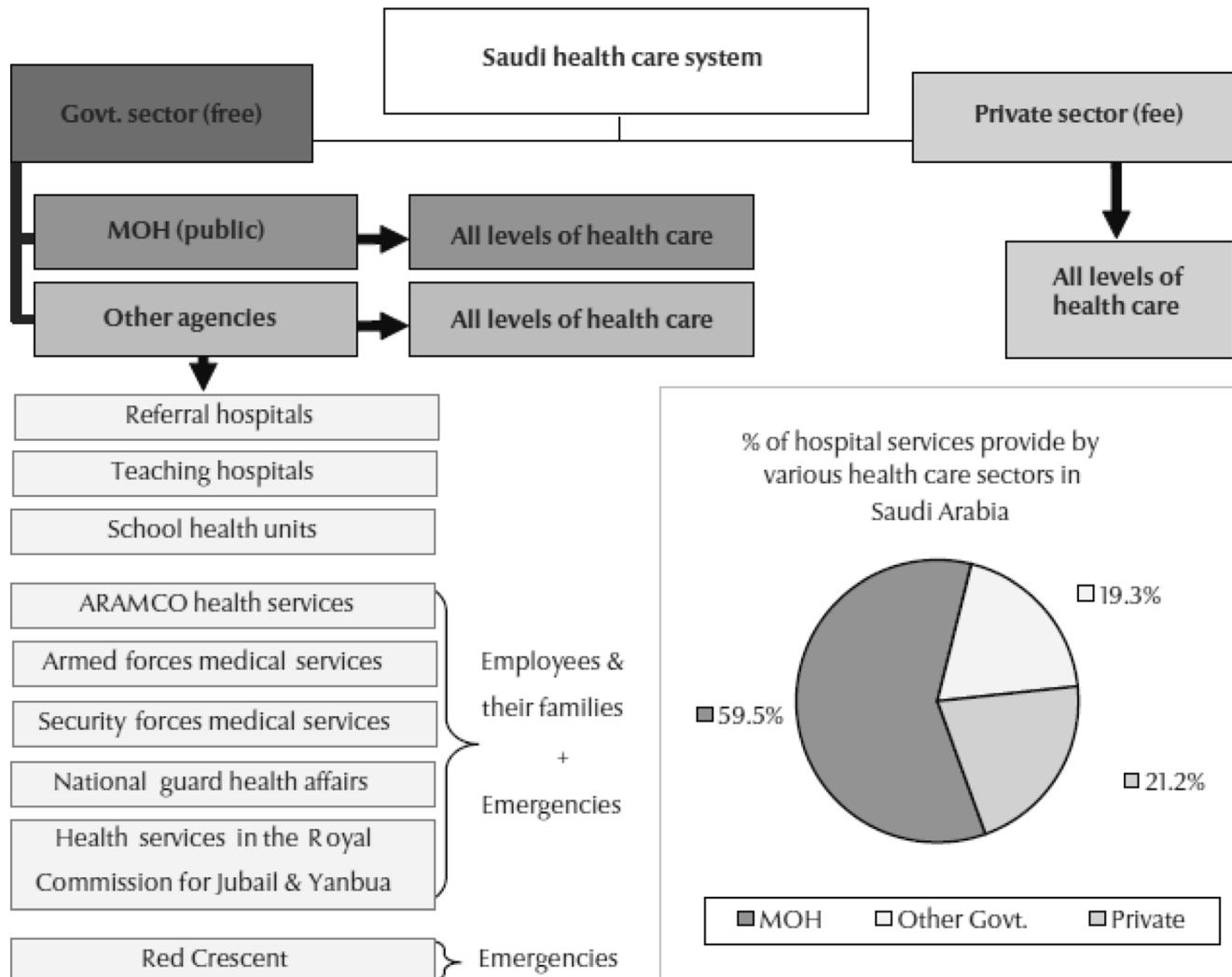


Fig. 1 Current structure of health care sectors in Saudi Arabia

health care systems. A desire to improve the quality of health care services provides a system with a competitive advantage, supports customer loyalty, improves worker productivity and ensures that the available resources are utilized efficiently (Mosadeghrad 2013). However, it is difficult to objectively measure service quality, as multiple factors must be considered. According to marketing researchers (Parasuraman et al. 1985) tangibly measuring the quality of products through several means (such as quality standards and product specifications), the service quality remained undefined because of its intangibility and subjectivity. In 1985, other researchers (Parasuraman et al. 1985) tried to identify a framework through which to measure service quality from the customers' perspective; the result was the SERVQUAL dimensional model. This model comprises five dimensions that encompass the basic merits of customer satisfaction (Anderson and Sullivan 1993): reliability, assurance, tangibility, empathy and responsiveness (Parasuraman et al. 1988). Subsequently, researchers have debated the various aspects of this model,

with some arguing that the five dimensions can be merged into two categories: core services and augmented services (McDougall and Levesque 1995). Other researchers expressed doubts that the SERVQUAL model was sufficient to measure service quality because of its dependence on customers' perceptions instead of on more objective performance measures (Carman 1990). Despite these and other arguments, researchers have used the SERVQUAL model to conduct studies on various industries around the world, thus proving its effectiveness and reliability.

The measurement of health care service quality has been an active topic of discussion. In 2001, a research group presented a study on the quality of health services in Bangladesh, finding that all the dimensions measured (satisfaction, responsiveness, assurance, communication, discipline and tips) were statistically significant; of them, discipline had the greatest impact on quality (Andaleeb 2001). In 2003, researchers conducted a study in the United Arab Emirates to compare the service quality of public and private hospitals; the public sector had

better results than the private sector for the dimensions used in that study (empathy, tangibles, reliability, administrative responsiveness and supporting skills) (Jabnoun and Chaker 2003). In Turkey, researchers completed two studies (in 2006 and 2010) to compare the service quality of public and private hospitals in separate regions, and the results for both indicate that private services have higher quality than public services (Taner and Antony 2006; Yeşilada and Direktouml 2010). In 2011, researchers from Pakistan compared the service quality of private and public hospitals in one area of Pakistan, showing that private care generally provided a higher quality of care than public care in the measured dimensions (empathy, tangibles, assurance, timeliness and responsiveness) (Irfan and Ijaz 2011).

Ensuring that health care services are of high quality is a crucial element of Saudi Vision 2030, which has led to the introduction of a project aimed to increase health care privatization throughout the nation (Saudi Vision 2030 2016). Improving the understanding of health care service quality in Saudi Arabia will directly and indirectly increase profitability in the sector (Dagger et al. 2007), meet community needs and enhance policy development (McAlexander et al. 1994). Researchers conducted one study of Saudi Arabia's health care service quality in public and private hospitals; in this 2013 study, the researchers stated that they lacked adequate resources and that the study's small sample size could not represent Saudi Arabia as a whole (Al-Borie and Sheikh Damanhour 2013). This study is thus focused on using patients' perceptions to identify and compare the quality of health care services provided by public and private hospitals in the Eastern Province of Saudi Arabia. The Eastern Region is selected because of the dense population and its diverse cultural background; moreover, no previous study is available from this region. Saudi Arabia is in the process of transformation and digitalization; the outcome of this study will help the government to formulate a new policy framework on health care. Moreover, its findings will either support or detract from the governmental decision to engage in health care privatization.

Methods

This study is intended to compare the quality of health care services rendered by public and private hospitals in the Eastern Province of Saudi Arabia. The following design and criteria are meant to attain this objective.

This study has a quantitative cross-sectional design to detect the patients' perceptions regarding the quality of health care services provided in the Eastern Province hospitals to compare the performance of public and private hospitals. The dependent variable is the quality of health care services; it is measured using the international SERVQUAL

dimensional model, which includes the following dimensions: tangibles, reliability, responsiveness, assurance and empathy. The independent variable is the hospital type (public or private). All the public and private hospitals located in the Eastern Province of Saudi Arabia were included in the study.

The study's sample includes inpatients who completed a web-based questionnaire after being hospitalized in a public or private facility within a year of the beginning of the study. Those who were hospitalized outside of the Eastern Province are excluded from the study. The questionnaire was distributed in November 2018, and it included a consent form and an assurance regarding the confidentiality of the provided information.

Of the 607 questionnaires that were completed, only 258 were included in the study sample, as only those responses matched the inclusion criteria. For confidentiality, the collected data were stored and maintained using organized and protected data sets.

Ethical approval was obtained from the Institutional Review Board at Imam Abdulrahman bin Faisal University and the study hospital. All participants' data are kept on a secure website to ensure confidentiality. An online survey was used to collect the data; however, this led to difficulty in estimating the total population of patients who received the questionnaire link. In addition, there were limited resources, time constraints and a lack of research assistants.

Results

The questionnaire was distributed through an online survey and consisted of five main parts based on SERVQUAL's five dimensions. The questionnaire included 30 items, divided as follows: 9 items related to the participants' demographics, 4 items on each of the SERVQUAL dimensions and 1 item on the patients' overall satisfaction with the health care services they received. The participants answered each item using a 5-point Likert scale. The participating patients came from all categories of the community, so there was a need for the questionnaire to be translated into Arabic (in addition to English). The SERVQUAL questionnaire was the most suitable tool for this study, as it relates specifically to service quality and as many researchers in various fields have proven its effectiveness and validity.

The data were analysed using the Statistical Package for the Social Sciences Software (IBM 2010), including the use of descriptive univariate statistics, frequencies and percentages to analyse the demographic data. Cronbach's alpha was used to test the instrument's reliability, the chi-squared test to assess the significance of associations between the demographic variables and outcome variable (type of health care facility). An independent-sample *t*-test was used to identify the mean difference between public and private health care facilities with

regard to the individual quality dimensions and overall quality.

Of the 258 participants, 40% were between 20 and 30 years old; 29% were between 31 and 40 years old, and only 5% were < 20 years old. Regarding nationality and gender, 97% were Saudi and 80% were female. Exactly half of the participants held bachelor's degrees, and most (76%) were married. Table 1 presents the descriptive statistics of the study participants.

The reliability of the study's five dimensions was verified using Cronbach's alpha. Table 2 shows that all the dimensions were reliable and that assurance was the most reliable (with $\alpha = 0.932$). This proves that the items for each dimension were coherent and consistent.

The independent-sample *t*-test indicated evidence of a difference in perceived service quality between public and private hospitals. Table 3 shows a clear and significant difference (at the 0.01 level) between public and private hospitals in all the dimensions except for assurance (for which the difference was significant at the 0.05 level). There was also a significant difference in overall satisfaction between private and public hospitals (Fig. 2).

The private hospitals had higher scores than the public hospitals for all five dimensions. Therefore, the inpatients from the private hospitals were generally more satisfied than those from the public hospitals.

Discussion

This study's objective was to measure the service quality of hospitals in Saudi Arabia's Eastern Province. A comparison of the means for each dimension reveals that consumers overall had neutral and satisfactory experiences. These results contrast with those of Emirati and Turkish studies, for which the responses were generally negative regarding overall health care service quality (Al-Neyadi et al. 2016; Caha 2007). The dominance of free, government-funded care in Saudi Arabia explains the relatively positive responses of this study's participants, as public hospitals allow for greater accessibility to specialized care, often at no cost or at affordable prices, compared with private hospitals. This likely increased customer satisfaction in Saudi Arabia.

This study's participants are predominantly Saudi, married and female, and most hold a bachelor's degree. More than half

Table 1 Descriptive statistics of the study participants

Variables	Public health care setting <i>N</i> = 131 (%)	Private health care setting <i>N</i> = 127 (%)	Total	Bivariate statistics 2
Nationality				
Saudi	128 (98)	121 (95)	249	1.135
Non-Saudi	3 (2)	6 (5)	9	
Gender				
Male	34 (26)	17 (13)	51	6.423*
Female	97 (74)	110 (87)	207	
Marital status				
Single	32 (24)	18 (14)	50	6.003
Married	92 (70)	105 (83)	197	
Divorced	5 (4)	2 (2)	7	
Widowed	2 (2)	2 (2)	4	
Education level				
Illiterate	1 (1)	0 (0)	1	9.024
Elementary/intermediate	5 (4)	5 (4)	10	
Secondary school [†]	29 (22)	23 (18)	52	
Diploma	23 (18)	10(8)	33	
Bachelor	56 (43)	73 (57)	129	
Masters/PhD	17 (13)	16 (13)	33	
Age				
< 20 years old	11 (8)	3 (2)	14	4.685
20 to 30 years old	50 (38)	52 (41)	102	
31 to 40 years old	36 (27)	39 (31)	75	
> 40 years old	34 (26)	33 (26)	67	

P* < 0.05, *P* < 0.01, ****P* < 0.001

[†]High school

Table 2 Measuring reliability of the instrument dimension

Dimension(s)	Factor loading
Tangibles ($\alpha = 0.884$)	
The hospital has modern-looking equipment	0.741
The physical facilities in the hospital are visually appealing	0.843
Personnel in the hospital are neat in appearance	0.691
Materials associated with the service (such as pamphlets or statements) are visually appealing	0.694
Reliability ($\alpha = 0.895$)	
When the hospital promises to do something by a certain time it does so	0.645
When you have a problem, the hospital shows a sincere interest in solving it	0.723
The hospital gets things right the first time	0.652
The hospital insists on error-free records	0.529
Responsiveness ($\alpha = 0.910$)	
The personnel in the hospital tell you exactly when services will be performed	0.649
Personnel in the hospital gives you prompt service	0.643
Personnel in the hospital are always willing to help you	0.758
Personnel in the hospital are never too busy to respond to your requests	0.712
Assurance ($\alpha = 0.932$)	
The behaviour of personnel in the hospital instills confidence in you	0.769
You feel safe in your dealings with the hospital	0.797
Personnel in the hospital are consistently courteous with you	0.706
Personnel in the hospital have the knowledge to answer your questions	0.709
Empathy ($\alpha = 0.921$)	
The hospital gives you individual attention	0.667
The hospital has operating hours convenient to all its patients	0.638
The hospital has your best interests at heart	0.761
The personnel of the hospital understand your specific needs	0.755

(69%) of the participants were between 20 and 40 years old at the time of the study, which indicates that young adults are the heaviest consumers of health care services in the Eastern Province. These findings are compatible with the population characteristics in the 2017 statistical report issued by the Saudi Ministry of Health (MoH 2010).

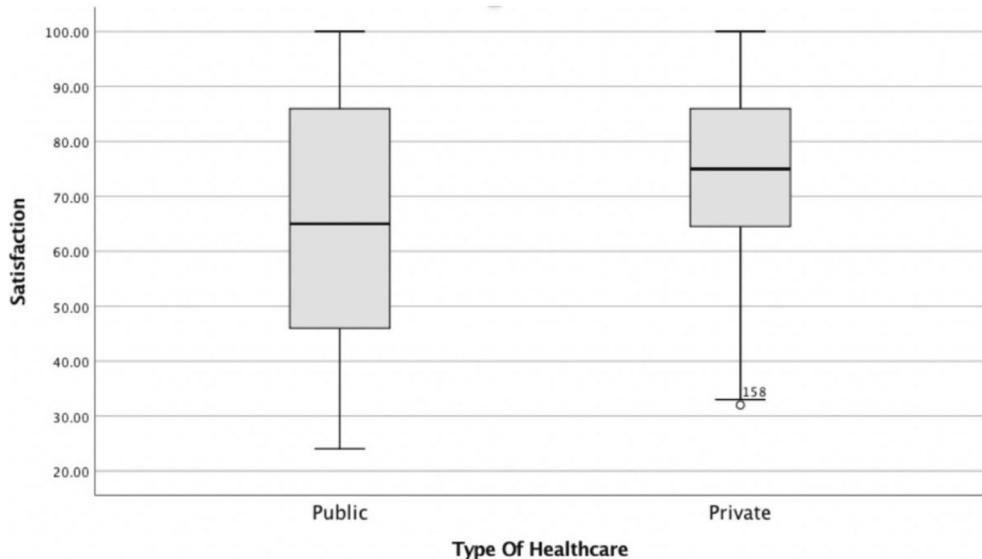
The public and private hospitals' mean service quality differs significantly in all five dimensions, with private care having higher scores in all dimensions. This finding supports the results from most of the published studies,

including results from Pakistan, Turkey and Saudi Arabia (Khan 2018; Shabbir et al. 2016; Taner and Antony 2006). All these results indicate that private hospitals provide higher quality health care services than do public hospitals, particularly in the dimensions of tangibles and responsiveness. The public hospitals' non-profit nature may reduce their managers' focus on health care service quality, thus leading the private hospitals to produce better results in this measure, as their managers must concentrate on marketing their services to obtain greater profits.

Table 3 Difference in the means of perceived service quality between public and private hospitals

	Mean (SD)		Mean difference	t-test
	Public	Private		
Tangibles	13.51 (4.33)	15.17 (3.58)	-1.662	-3.363**
Reliability	13.44 (4.94)	14.89 (3.79)	-1.44702	-2.646**
Responsiveness	12.49 (5.05)	14.44 (3.72)	-1.95240	-3.543***
Assurance	14.11 (4.64)	15.37 (3.67)	-1.25557	-2.414*
Empathy	12.60 (5.09)	14.38 (3.99)	-1.77490	-3.124**
Satisfaction	66.16 (21.94)	74.25 (16.03)	-8.09166	-3.390**

Fig. 2 Difference in patient satisfaction scores between public and private hospitals



Reliability tests were conducted to ensure the appropriateness of the dimensions included in the study. This test's results indicate that all the dimensions are reliable and consistent. In addition, the independent-sample *t*-test shows satisfactory results regarding the probability that this study's sample can be extrapolated to the entire population.

The distribution of public and private health care facilities in rural and urban areas is worth mentioning. According to Ahmed and Damrah (2012), the Ministry of Health health care facilities provide basic services and some specialized services in some governmental centres, which is only available for Saudi nationals except for emergency services and some specialized services for non-Saudis. In addition, private sector health care facilities are scarce in rural areas (Ahmed and Damrah 2012), and since governmental hospitals are restricted mostly to Saudi nationals, non-Saudis are being forced to use the private sector services.

One of the major strengths of this study is the relatively large sample size, which will give the study more precision. Furthermore, this is the first study in the region to assess the service quality between public and private hospitals.

Data were collected in this study through an online survey, which limited our ability to calculate the response rate. Also, one of the downsides of a quantitative survey is that it does not fully allow us to understand the reasons behind the finding in the study, i.e., why the services from private hospitals were perceived to be of better quality than public. In addition, using an online survey to extract data from respondents limits the ability to know if the respondents answered the survey themselves or someone else did.

Conclusion

As the Saudi health care system moves towards privatization to improve the quality of its health care services, it is

important for leaders to measure and compare the service quality provided by both public and private hospitals. The patients' perceptions, in particular, can help leaders to identify the aspects of health care that most require attention so that they can develop plans for quality improvements. This study's results indicate that, in Saudi Arabia, private hospitals provide higher quality services than public hospitals, especially in terms of assurance. The study's limitations included a lack of time and the limited availability of research assistants; as a result, a web-based questionnaire was used rather than a selected sample. Therefore, further investigations of public and private hospitals should be conducted to determine the underlying causes of certain hospitals' poor performance and of the service-quality gaps between hospitals. Furthermore, other factors need to be looked at in future similar studies in Saudi Arabia, such as financial concerns and management insights, which will enhance the plans for improving Saudi Arabia's health care system.

This study has implications for a potential positive impact on the improvement of the overall quality of health care services, thus taking them one step closer to achieving part of the objectives of the 2020 national transformation programme of Saudi Arabia (Arabia 2016). The results of this study will inform policy-makers in the public sector hospitals so that they can improve the services and thus increase their quality from the patients' perspective.

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Compliance with ethical standards

Disclosure of potential conflicts of interest There is no conflict of interest relevant to this work.

Research involving human participants and/or animals Ethical approval was obtained from the Institutional Review Board at Imam Abdulrahman bin Faisal University and the study hospital.

Informed consent Informed consent was available to the participants along with the survey.

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