Empirical Examination of SERVQUAL regarding patient satisfaction and loyalty within the UAE Healthcare Industry

Ahmed Abdulkareem Mosa Alhatti[a], [a]Management and Science University, Malaysia,

The healthcare industry has been booming around the world. The aim of this research is to measure the effect of SERVQUAL dimensions on patients' satisfaction and examine the mediating role of satisfaction on patients' loyalty. SERVQUAL model was used to develop the conceptual basis for this study. The model includes five independent, one mediating and one dependent variable. A quantitative approach was used as a research design. In order to collect primary data, this study developed a well-structured questionnaire based on prior SERVQUAL items. During one month, this study managed to obtained 412 respondents based on non-probability sampling. Multiple regression and Sobel test were applied to test the hypotheses. The results indicated all the four dimensions of the SERVQUAL model significantly affect both patients' satisfaction and loyalty except for tangibility. Moreover, the Sobel test confirmed the mediating effect of satisfaction on patients' loyalty. This study can be considered as further empirical evidence about the effectiveness of the SERVIQUAL model in the UAE healthcare industry. Based on the results, this study provides several practical implications for the above mentioned industry.

Key words: *SERVQUAL, Satisfaction, Loyalty, Empathy, Responsiveness, UAE.*

Introduction

Excellent service is important to achieve quality industries. In the present time of exceptional challenges, observing and improving service quality is fundamental for creating productivity and business volume. In both the manufacturing and service industries, quality improvement is the chief factor that affects customer satisfaction .

During the three most recent decades, the nature of social insurance service have been increasingly examined, as life has become transformed and there is sufficient information available for better medicinal options. Changing the nature of medicinal consideration facilities has become an essential concern for patients in order to give more convenience to patient service quality which has become progressively more important for emergency clinics wanting to satisfy and maintain patients (Anderson et al., 2007). As Quality of Life is severely influenced by social insurance benefits more than other areas, medicinal services suppliers that neglect to understand the significance of service quality and consumer loyalty (Tarofder, Azam, & Jalal, 2017) might lose patients. Patients are becoming increasingly aware w about the nature of human service lodgings provided by emergency clinics(Holder & Berndt, 2011). Purchasers of human service lodging have particularly higher prospects and definitively adhere to high level of accuracy, dependability, responsiveness, and sympathy from accommodation providers (Kitapci, Akdogan, & Dortyol, 2014; Arun Parasuraman, Berry, & Zeithaml, 1991).

Service quality is characterised as the distinction between client recognition and their desires, as quality is acceptable if execution meets with desire. We can likewise distinguish between fulfilment and client input (Bara, et al., 2002). Fulfilled clients show long- term association with their specialist organisation which results in increased consistence that prompts better results in wellbeing . Consumer loyalty is a significant part of service organisations and is particularly identified with service quality (Tarofder, et al., 2016; Brinkerhoff & Wetterberg, 2013).

At the point when service quality improves, the likelihood of consumer loyalty increases. Expanded consumer loyalty prompts the completion of results, for example, duty, dedication, client maintenance, and production of a commonly remunerating association with the specialist organisation and the client, extended client resistance for service failures and positive verbal dissemination about the association (Kitapci et al., 2014; Njong & Tchouapi, 2014).

While there have been endeavours to study service quality, there has been no broad concession about its estimation . To date, the majority of work has endeavoured to utilise the SERVQUAL methodology with the end goal of quantifying service quality. Measurements of service quality (SERVQUAL) were initially presented by Parasuraman, et al., in 1955 in the area of service quality (Zeithaml, et.al. 1990). SERVQUAL was created dependent on the perspective on client appraisal. It has five conventional measurements or factors and are expressed as pursues (Van Iwaarden, et al., 2003):

(1) Tangibles. Physical facilities, equipment and personnel appearance

(2) Reliability. Ability to perform the promised service dependably and accurately

(3) Responsiveness. Willingness to help customers and provide prompt service

(4) Assurance (including competence, courtesy, credibility and security). Knowledge and courtesy of employees and their ability to inspire trust and confidence

(5) Empathy (including access, communication, understanding the customer). Caring and individualised attention provided by the firm to its customers.

Good service will undoubtedly be appreciated by clients . Great quality service will offer advantages, including forming an amicable connection between the suppliers of products and ventures with patients, increasing client dependability that is gainful for the specialist organisations. The nature of service has a close association with patient fulfilment and consequently, tolerant fulfilment has a close association with client dependability. Great service quality provides the driving force for clients to build solid ties with the organisation. Over long-term, such holding enables emergency clinics to observe the patient's desires and needs (Juhana, et al., 2015).

Service quality is the most significant vital dynamic regarding specialist organisations to gain an advantage , so it ought to improved on the whole and estimated as closely as possible (Lee & Yom, 2007). Currently, in light of expanded expectations for everyday comforts and increased client demand, there are expectations of exclusivity in human services to patients. Therefore, it is becoming increasingly challenging for researchers, emergency clinic directors, government policymakers, and therapeutic specialists to choose factors which fulfil patient expectations (Al-Borie & Sheikh Damanhouri, 2013)., As service quality cannot be merely adequate to be considered, there is a requirement for medical clinics to look elsewhere for fulfilment to create reliability to limit obvious dangers, t requiring increased cost and endeavouring to attract new clients as opposed to maintaining them (Juhana et al., 2015)

In spite of the fact that the accentuation on patient dependability is expanding, the immediate connection among SERVQUAL and patient reliability is still disregarded for both open and private social insurance specialist organisations so as to discover distinctions in the nature of human services, tolerant fulfilment, and commitment to patients (Meesala & Paul, 2018).

The present study will examine the connection between SERVQUAL, understanding fulfilment, and steadfastness in the medicinal services industry. The primary goal of this paper is to choose those factors that impact on consumer loyalty which are unpredictable, yet this examination will rearrange them by applying logical investigation (Juhana et al., 2015; Meesala & Paul, 2018). It will likewise inspect the quality of general social insurance service and explore the overall significance of medicinal service quality measurements for patient fulfilment and commitment in both open and private division human services

specialist organisations. In addition, the interceding impact of patient fulfillment will likewise be considered between human service quality and patient dedication.

This article will address the following research questions:

Q 1. How does the quality of hospitals' healthcare perceived services affect patient loyalty and satisfaction within public and private sector hospitals?
Q 2. Does patient satisfaction mediate the relationship between the SERVQUAL model and patient loyalty?
Q 3. Does patient satisfaction affect patient loyalty?

In summary, this examination will dissect the effect of SERVQUAL factors on the patient fulfilment and how it improves patient stability in a fast developing nation. It will also reveal those basic components, which can be valuable for service associations in creating nations by and large.

Literature Review

In service writing, service quality is becoming the most significant research area   for specialists and experts alike.   Service quality can be grouped into two distinct ways of thinking,   the Nordic and American schools from which the Nordic school is characterised by service quality in two ways, utilitarian and specialised, whereas the American school is characterised by five measurements "(1) Tangibles (Physical offices, gear, and presence of faculty); (2) Reliability (Ability to play out the guaranteed service constantly and precisely); (3) Responsiveness (willingness to support client and give brief service); (4) Assurance (knowledge and graciousness of representatives and capacity to inspire trust and certainty); (5) Empathy (caring, individualised consideration provided by the firm to its client)" (Grönroos, 1984). In this investigation, we to utilise these measurements.

Service quality is understood to be a fluid idea thus it is difficult to measure, (Tarofder, et al. 2019; Graham Saunders, 2008). The World Health Organisation   (Organization, 2006) suggests that a framework of wellbeing should be upgraded in six measurements: (1) viability (adherence to proof base and results in improved wellbeing result), (2) productivity (boosting asset use and keeping away from waste), (3) availability (convenient and topographically sensible), (4) acknowledgment/persistent focused (considers singular inclinations), (5) fairness (does not shift in quality because of components, for example, sexual orientation and financial status) and (6) security (limits hazard and damage); so as to improve the nature of consideration. This WHO structure is general and relates more to the open conveyance framework, however not the administrative parts of value service. Since our

exploration focuses on these service quality measurements only, discourse is introduced as a writing audit.

To measure apparent service quality, a scale specific to SERVQUAL was created by Parasuraman et al. (Anantharanthan Parasuraman, Zeithaml, & Berry, 1985), which has been effectively trialled by a few service areas . It depends on 22 things, involving five measurements in particular substantial quality, confirmation, unwavering quality, compassion, and responsiveness. SERVQUAL scale which is used to evaluate apparent service quality is reflected as extraordinary compared to other concurred and versatile instruments in various service areas and it tends to be altered by mindful association (Hasan, et al. , 2019). These five measurements establish a quality framework that will potentially improve practical quality and service execution (Arun Parasuraman et al., 1991).

In developing nations, patients will generally depend intensely on the treating doctor's suggestions . A McKinsey study likewise exhibits the significance of the doctor's choice even in developing nations. To decide components impacting clinic choice, McKinsey studied (Grote, Newman, & Sutaria, 2007) in excess of 2000 US patients with the business protection or Medicaid in 2007; the patients examined were approached to allot 100 points as per their significance . The four components were: (a) patient experience, (b) hospital reputation, (c) physician's decision, and (d) location; on average , they gave 41 points to patient involvement, 21 to doctor's choice, 20 points to notoriety of the emergency clinic, and 18 to the area. Remarkably, the doctor's choice is the second most significant factor.

Isik et al. (Isik, Jones, & Sidorova, 2011) contemplated the materialness of SERVQUAL measurements to human service through basic conditions demonstrating the study . Their study recommends that SERVQUAL is helpful in evaluating service quality in emergency clinics. Each measurement could be distinguished through the components of value service enhancements. For example, quality service and consumer loyalty are applicable to accomplish improved authoritative execution. A concise talk on ideas of patient fulfilment and dependability and suggestions to the medical clinic are described in the accompanying segment (Meesala & Paul, 2018).

Patient Satisfaction

Lack of concern can be translated as a push to satisfy something or create something satisfactory. Consumer loyalty is a condition wherein the needs, desires of clients are met. A service is viewed as palatable if it can address clients' issues and desires . As indicated by Kotler (Kotler, 2003), consumer loyalty is a sentiment of joy or disillusionment about a particular object or item . If the presentation meets these desires, the client is fulfilled. If it doesn't meet client desires, the client is unfulfilled (Izadi, et al. 2017). Patient fulfilment can be decided by whether these desires have been met or surpassed. Quiet fulfilment is a

patient's degree of inclination that emerges because of quality service.. If the outcomes are felt to approach or surpass desires, it will cause fulfilment, generally, there will be an inclination of frustration or disappointment when the outcomes do not meet desires (Juhana et al., 2015).

Various studies report that patient fulfilment is impacted by various factors (Peprah & Atarah, 2014), the accompanying variables assume a basic job fulfils patients; the mentalities of medical caretakers toward patients, the ability to convey brief service without waiting, the capacity to disperse data to patients and accessibility of forward-thinking hardware. Others incorporate the clinic's capacity to render 24-hour service, the persistence of the specialist to plainly clarify patient diagnosis before giving treatment, offering patients detailed data about their drug, and the presentation of the e emergency clinic. Parasuraman et al. (A1985) disclosed fulfilment in connection to supporting quality. They contend that service quality is characterised as the gap between anticipated service (client desires) and seeing service (client observations). If client desire is more prominent than execution, quality becomes disagreeable and a service quality gap emerges. This does not imply that the service is of low quality but instead that client desires have not been met and consequently client disappointment develops which allows for the opportunity to improve the meeting of client desires (Bahadori, et al., 2018).
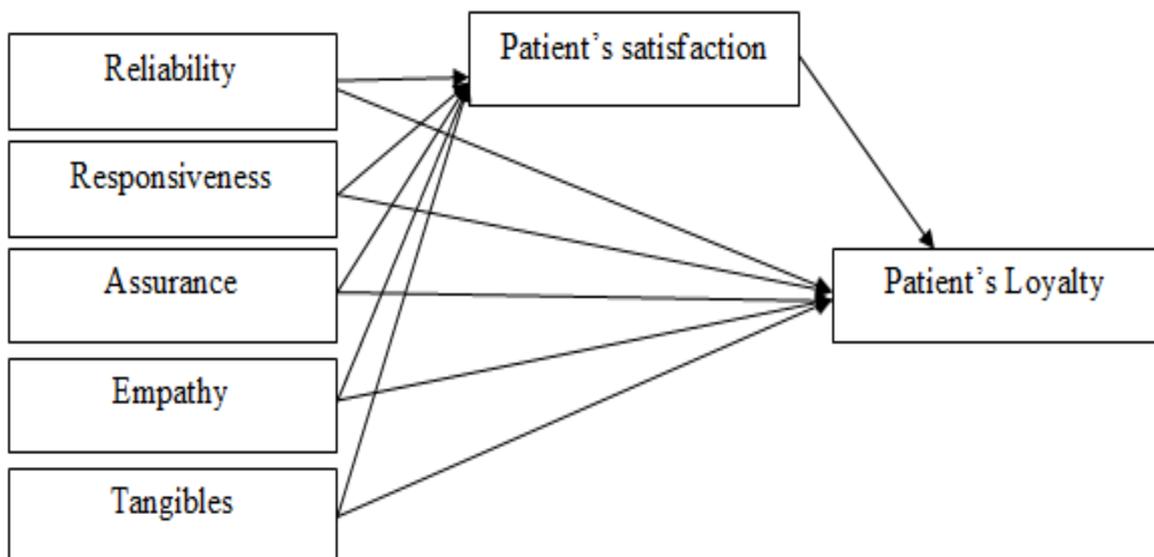
Loyalty

Steadfastness refers to a client's pledge towards a brand, store or provider, and reflected in predictable recurrence of purchases e. While client unwaveringness with regards to advertising services is characterised by Dick and Basu (1994), it is typically reflected in reasonable acquisition from suppliers of comparative services based on commitment . Steadfast purchasers repurchase. Patients will give monetary incentive to the emergency clinic (Gómez-Cruz, 2019). The devoted patient is a priceless resource for the emergency clinic, while the attributes of patients who are faithful include continuing to repurchase, purchase between product offerings and services, referencing other people and indicating protection from the contenders (Solayappan, Jayakrishnan, & Velmani, 2011).

The advertising accentuates client unwaveringness as it impacts on social goals. In the service area, accentuation on dependability is additionally expanding on the grounds that the outcome of patient fulfillment prompts an expansion in the hierarchical picture . Faithfulness is -characterised as a serious commitment to an item or service (Chumpitaz Caceres & Paparoidamis, 2007).

Zeithaml et al. (1996) maintain that, the conduct of rebuying is characterised by keeping up associations with specialist organisations, while verbal exchange is refers to correspondence

in which clients will inform others regarding to their involvement with an item or service (Kitapci et al., 2014). This experience can be positive as it brings together dependability, rebuying conduct and positive verbal communication, (Famiyeh, Asante-Darko, & Kwarteng, 2018).

Conceptual Model of this Study

Hypotheses

H1: There is a significant positive direct effect of reliability on patient satisfaction and loyalty.

H2: There is a significant positive direct effect of responsiveness on patient satisfaction and loyalty.

H3: There is a significant positive direct effect of assurance on patient satisfaction and loyalty.

H4: There is a significant positive direct effect of empathy on patient satisfaction and loyalty.

H5: There is a significant positive direct effect of tangibles on patient satisfaction and loyalty.

H6: There is a significant mediating effect of patient satisfaction on patient loyalty by service characteristics.

Research Design

This study adopts a quantitative research approach by collecting primary data through a valid structure questionnaire. A deductive method is applied to develop the hypothesis and it is tested by executing the most appropriate statistical techniques. The study design includes a cross sectional approach to test the hypothesis, which requires the application of a causal method.

Instrument Development

A structured questionnaire was developed by adopting items from Rehaman and Husnain (2018). There were 25 items that measure seven variables. All items were slightly modified due to the Arabic context. Five point Likert scale was used to measure the variables. There were three sections in the questionnaire including demographic, hypothesis based and patient suggestions. Nominal scale was applied in the demographic section. Several steps were taken into consideration before finalising the questionnaire including pre-test and pilot test. Moreover , this study also tests three important validities including face, content and construct.

Sampling and Respondent Profile

Due to patient confidentiality , this study was not able to obtain the appropriate sample frame. Hence, non-probability, continence sampling was used to collect data from four reputable hospitals from the UAE. During a four week period, this study was able to obtain 412 in-door patients as respondents from those four hospitals. The study achieved a 32 percent response rate without offering any gift to the respondents. Respondents' characteristics indicated that there were more females than males , more specifically, 60.2 percent of respondents were female . Our respondents' age covers a wide range of ages from 25 to 70, with the average age of 46.7 . The monthly average income of our respondents was 25523 dirhams. Interestingly, 4.5 percent patients were foreigners. Almost 91 percent of respondents had insurance. Last but not least, 86.7 percent were married. Overall, study respondents had a wide range of attributes, which strengthened the data analysis.

Factor Analysis

This study applied Exploratory Factor Analysis (EFA) to unidimensional factors. Principles of components were executed to examine the number of factors from 31 constructs included in this study. With a value of .854, Kaiser-Mayer-Olkin confirmed the strength and sufficiency of the sample and the association between variables. EFA results are presented in the Table 1 including Cronbach alpha value. Based on the alpha value, it is clear that all

scales within this study are highly reliable as the lowest value of the alpha was .834. There were six factors where the eigenvalues were more than 1. These six factors explained 72.4 percent of the total variance of this study, which is considerably high. Hence, EFA confirmed the six factors to be used to explain the dependent variable, namely patients' loyalty. Results indicated that Reliability constructed by the five contracts with the highest eigenvalues of 10.10. This variable explained 32.60 percent of the variance. The factor loading value was higher than the 0.50.

Table 1: Exploratory Factor Analysis

	Component					
	1	2	3	4	5	6
Rel 1	.877					
Rel 2	.843					
Rel 3	.787					
Rel 4	.780					
Rel 5	.775					
Res 1		.755				
Res 2		.750				
Res 3		.716				
Res 4		.626				
Res 5		.616				
Assu 1			.752			
Assu 2			.732			
Assu 3			.699			
Assu 4			.668			
Assu 5			.652			
Tan 1				.882		
Tan 2				.824		
Tan 3				.810		
Tan 4				.792		
Tan 5				.783		
Emp 1					.886	
Emp 2					.865	
Emp 3					.824	
Emp 4					.805	
Emp 5					.791	
Emp 6					.741	
PATSAT 1						.855

PATSAT 2						.803
PATSAT 3						.795
PATSAT 4						.772
PATSAT 5						.695
Alpha	.995	.904	.913	.834	.911	.879

With 4.280 eigenvalues, a second factor called responsiveness emerged. This variable was explained by 13.80 percent of total variance and five constructs were loaded with a minimum of .616. Similarly, a third factor, Assurance, consisted of five items with minimum factor loading of .652. The Eigenvalue of this factor was 2.569, which explained 8.288 of total variance. The results confirmed that the fourth independent factor, entitled Tangibility, consisted of five items as well as a minimum factor loading of .783 and explained 7.198 of total variance. With the eigenvalue of 1.409, a fifth factor labelled as Empathy, explained 5.544 of total variance. This factor consisted of six items with a minimum loading value of .741. Lastly, patient satisfaction emerged with five items and the minimum factor loading was .695. This factor is considered as the mediating factor in this study and it explained the 4.10 percent of total variance. Hence, these six variables had been taken into consideration for the next level of analysis.

Direct Effect of Service Characteristics on Customer Satisfaction and Repurchase Intention

This study applied multiple regression to estimate the direct effect of service characteristics on both patients satisfaction and loyalty. Regression results are presented in Table 2 and 3. The results indicate that adjusted R square for both satisfaction and loyalty were .732 and .541 respectively. It confirmed that service characteristics influence both satisfaction and loyalty by more than 50 percent. Moreover, based on the F value, results confirmed that both models were statistically significant. In relation to the direct effect of each characteristics, results indicate that reliability has a relatively stronger effect on loyalty than satisfaction. More specifically, reliability explained 74 percent of patients loyalty, in contrast to 40 percent of patient satisfaction. Similarly, responsiveness has a significant effect on both patient satisfaction and loyalty. The responses indicated that responsiveness explained 48 percent of patient satisfaction. In relation to assurance, the results show that it has a positive effect on both, however, it explains patient satisfaction more than loyalty. More precisely, , assurance explained 41 percent of patient' satisfaction, but only 20 % of loyalty. The results indicate that empathy is not statistically significant for patient loyalty despite it being

significant for satisfaction. Empathy explained 25 % of patient. Regression results confirmed that tangibility was not important for either satisfaction nor loyalty.

Table 2: Direct effect of independent variables on Satisfaction and Loyalty

Predictor	Patient satisfaction		Patient Loyalty	
	Adjusted R Square: .732		R Square: .541	
	Standardized Beta	Significant Value	Standardized Beta	Significant Value
Reliability	.405	.000	.740	.000
Responsiveness	.480	.000	.215	.039
Assurance	.415	.000	.209	.015
Tangibles	.084	.135	.076	.301
Empathy	.250	.000	.086	.239
F Value and Sig Value	106.486	.000	46.558	.000

Table 3: Direct effect of Patient Satisfaction on Loyalty

Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.524	.195		2.690	.008
	Satisfaction	.842	.048	.782	17.368	.000

a. Dependent Variable: Loyalty

Regression results confirmed that reliability is the most important determinant for patient loyalty as well as their satisfaction in the context of hospital services. Results also indicate that responsiveness plays an important role in both cases. Between these two characteristics, reliability plays an important role in determining patient loyalty, whereas, responsiveness is important for patient satisfaction. Similarly, regression results indicate that doctors' confidence and skills play an important role in determining patient satisfaction and loyalty, however, assurance has a stronger effect on satisfaction than loyalty. According to an interesting finding presented by regression analysis, physical facilities such as hospital equipment are not important at all. Moreover, empathy plays an important role in determining patient satisfaction but not in loyalty.

Mediating Effect of Patient Satisfaction

This study executed the Sobel test to examine the mediating effect of patient satisfaction on loyalty. Hypothesis five proposed the mediating relationship and this study applied the four steps of Sobel test suggested by Baron and Kenny. According to their suggestions, this study measured the effect of service characteristics on mediating variables. In the second stage, this

study measures the association between service characteristics and dependent variables, the results of which are presented in Table 4. In the third stage, this study combined the effect of service characteristics and mediating variables on dependent variables. In the final stage, this study applied Sobel calculator to measure the mediating effect of patient satisfaction on patients loyalty. Table 4 presents the final effect based on the Sobel calculation.

Table 4: Results of Mediating Effect

Hypothesis	Step 1	Step 2	Step 3
5a	Reliability → Satisfaction β=-.405, p<0.000	Reliability → Loyalty β=-.740, p<0.000	Reliability + Satisfaction → Loyalty $\beta_{reliability}$=-.116 - p=0.000 $\beta_{satisfaction}$=.687, p<0.000
5b	Responsiveness → Satisfaction β=.480, p<0.000	Responsiveness → Loyalty β=0.215, p<0.000	Responsiveness + Satisfaction → Loyalty $\beta_{responsiveness}$=.232, p=0.000 $\beta_{satisfaction}$=.927, p<0.000
5c	Assurance → Satisfaction β=.415, p<0.0005	Assurance → Loyalty β=.209, p<0.0005	Assurance + Satisfaction → Loyalty $\beta_{assurance}$=.105, p=0.109 $\beta_{satisfaction}$=.705, p<0.000
5d	Tangibles → Satisfaction β=.084, p<0.135	Tangibles → Loyalty β=.086, p<0.239	Tangibles + Satisfaction → Loyalty $\beta_{tangible}$=-.362, p=0.000 $\beta_{satisfaction}$=.536, p<0.0000
5e	Empathy → Satisfaction β=-.250, p<0.0005	Empathy → Loyalty β=-.417, p<0.0005	Empathy + Satisfaction → Loyalty $\beta_{empathy}$= -.126 - p=0.016 $\beta_{satisfaction}$=.847, p<0.000

Table 5: Sobel Statistic

	Sobel Statistic		
Predictor	Test Statistics	Standard Error	P Value
Reliability	4.275	0.099	0.000
Responsiveness	4.354	0.099	0.000
Assurance	6.030	0.672	0.000
Tangibles	1.487	0.058	0.136
Empathy	4.333	0.053	0.000

Table 4 clearly indicates that patient satisfaction has a significant mediating effect on patient loyalty. More specifically, there is a significant reduction in the effect of independent

variables in step 3 compared with step 2 on loyalty. For example, in step 2, the effect of reliability on loyalty was .740; whereas this effect had dropped significantly at .116 when patient' satisfaction was included in the model (step 3). Similarly, assurance effect in step 2 was .209, which dropped to .109 in step 3. However, the effect of tangibility increased significantly in step 3 compared to step 2 (Table 3). Afterwards, this study used the Sobel calculator to measure the significance of the mediating effect. Based on the results presented in Table 4, it clear that patient satisfaction has a significant mediating effect on patient loyalty by reliability, responsiveness, assurance and empathy. The significant value for all those values was below 0.05. The Sobel test also indicated that there is no significant mediating effect of patient satisfaction on patient loyalty by tangibility.

Discussions and Practical Implications

Regression analysis clearly indicates that responsiveness is the most important service characteristic in hospitals. Similar results had been reported in numerous prior studies (Namahoot & Laohavichien, 2018; Wu, 2017). As most of the previous studies suggest, responsiveness plays an important role in fulfilling patient satisfaction, which eventually leads to higher levels of loyalty (Famiyeh, Asante-Darko, & Kwarteng, 2018; Shabbir, Malik, & Janjua, 2017). More precisely, responsiveness is related to prompt response from employees to solve patient problems. In other words, responsiveness pertains to the willingness of employees to assist patients in a short time. Prompt response to patient needs plays a crucial role in the healthcare industry (Idris & Naqshbandi, 2019; Shin & Hwang, 2017). In most cases, patients are not willing to wait for a longer period to obtain service in hospitals. Several prior studies mention that longer periods to respond to patients may create significant dissatisfaction. Hence, this study reports a strong positive effect of responsiveness on patient satisfaction which leads to patient loyalty.

Secondly, this study confirms the significant positive effect of assurance on both patient satisfaction and loyalty . Results indicate that assurance is the second most important service characteristic within the health care industry. Similar results have also been reported in most prior studies (Zolfagharian, Hasan, & Iyer, 2017; Subrahmanyam, 2017). Assurance is one of the prime concerns for patients in hospitals. It mainly reflects the skills of doctors and nurses; efficiency; constant feedback and so on. Based on the results, it is clear that assurance plays a very important role in satisfying patients in UAE hospitals. Moreover, the results also confirm that patient satisfaction has a significant mediating effect on patient loyalty by assurance. Similarly, reliability of hospital services plays an important role in satisfying patients. This characteristic has been included in the top three topics most studied . Reliability mainly emphasises the quality of service provided by hospitals and results indicate that it is the third most important factor affecting UAE patient satisfaction. The Sobel test also confirms that reliability has a significant mediating effect on patient loyalty through patient

satisfaction. Therefore, this study forms another empirical evidence on the effect of reliability on patient satisfaction and loyalty.

In relation to empathy, the results report that it is the fourth most important determinant for patient satisfaction and loyalty. Results indicate that taking care of patients, having good quality of care play an important role in improving patient satisfaction, which eventually improves patient loyalty. Similar results have been found in many previous studies (Gómez-Cruz, 2019), where the authors suggest that empathy is one of the important service characteristics that elevates patient satisfaction (Rahman, et.al. , 2017). This study also confirms a similar pattern. , This study also identifies an interesting yet inconsistent result which is that tangibility does not play any significant role in satisfying patients within the in healthcare industry (Sufi & Shojaie, 2018). Despite having a strong correlation between tangibility and patient satisfaction, this study clearly indicates that tangibility does not play any significant role within UAE health care. A possible cause could be the rule of standardisation for the healthcare industry in UAE (Akroush, et al. , 2016).

Based on the above findings, this study provides several practical suggestions for hospitals and the healthcare industry in UAE. Firstly, giving prompt response to patients must be of utmost priority for the UAE hospital . This includes minimising the registration process, attending to patients with the doctor and so on. Secondly, both doctors and nurses must be well equipped and competent in their profession. They must be skilful in handing patient problems effectively and efficiently. Thirdly, hospitals must ensure good quality service by providing ample information to patients. Last but not least, hospitals must adopt cutting-edge technology to maintain a healthy relationship with their patients by having an ongoing feedback system pre and post treatment.

Limitations and Further studies

Despite minimising several constraints, this study has a few limitations, which may create an avenue for further study. This refers firstly to the small sample size. This study collected respondents from only 4 hospital out of 25 in UAE, due to budget and time constraints. Therefore, generalising the finding would not be wise. However, this finding can be the foundation for further study and strongly suggests the collection of further samples to cross examination results. Secondly, this study replicates the SERVQUAL model. Despite the great popularity of this model , this study suggests including some other variables that can influence patient satisfaction and loyalty in the health care industry. Lastly, this study did not compare the service quality between private and public or national and international hospitals. This can be another important area for further research, which will provide a more in-depth understanding of how to improve services in the UAE health care industry.

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