The mediating role of patient satisfaction between service quality and patient loyalty: Case Study in Zarqa Governmental Hospital

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Abstract. This study aimed to investigate the impact of perceived health care service quality on patient satisfaction and patient loyalty at one amongst largest government hospitals in Jordan. For this purpose, the study developed an instrument supported modified ‘SERVQUAL’ using five service quality dimensions, namely: empathy, tangible, reliability, responsiveness and assurance. A survey was conducted to gather data with a complete of 400 patients. To obtain the results and to analyze the hypothesis, the study used PLS-SEM Statistical technique. Results show that there's an effect of perceived health care service quality on patient satisfaction and patient loyalty. Reliability had the foremost influence, followed by empathy and assurance. The study provided a collection of recommendations.

Keywords: Service Quality, Patient satisfaction, patient loyalty.

1. Introduction

The expanding numbers of public and private healthcare centers have brought about the serious climate in the worldwide medical services industry. This circumstance needs collaboration and backing from the specialist organizations (Managers, Doctors, Nurses, Lab experts and so on) working in the emergency clinics to zero in on setting up convincing emergency clinic picture and giving satisfaction and fulfillment to the patients to guarantee and make sure about their reliability (Asnawi et al., 2019; Salleh et al., 2020). Subsequently, offering a high Support Quality will guarantee the patients' fulfillment and devotion to continue tapping the administration gave. Universally, medical care directors are worried about how persistent impression of value wellbeing administrations impacts their decisions among emergency clinics. Hanefeld, Powell-Jackson, and Balabanova (2017) and Mosadeghrad (2014a) clarified a few purposes behind improving quality in medical care administrations in created nations; beginning with recording elevated level of patient fulfillment related with significant expenses, understanding quality strategies encourages troughs to take care of issues, upgrade relations between wellbeing suppliers and to distinguish techniques in helping lessening waste and sparing. Along these lines, non-industrial nations that wish to acquire persistent fulfillment and dedication most tap from the encounters of cutting edge nations medical care the executives framework. In this way, directors of Jordanian wellbeing area should fuse consumer loyalty and saw administration quality in leave techniques which turn will expand steadfastness among the current customers (Amin and Zahora Nasharuddin, 2013; Zamanan et al., 2020).

Service quality has become a crucial topic seeable of its significant relationship to profit, cost saving and market share. The interest in service quality of the health care is expanding. There's a growing consensus that patient satisfaction is a significant indicator of health care quality and
many hospitals are looking for approaches to vary the delivery of patient care through quality improvement initiatives (Rula, 2017). Service quality is difficult to live thanks to its characteristics include intangibility, heterogeneity and inseparability. Definitions of service quality hold that this can be the results of the comparison that customers make between their expectations a couple of service and their perception of the way the service has been performed. The interest in health care service quality is increasing. With increasing pressure to live quality, patient based assessments of medical aid are getting increasingly important (Rula, 2017). Patients offer a novel perspective for evaluating the nontechnical aspects of medical aid.

Jordan has quite a advanced healthcare system. The country was ranked by the world Bank to be the quantity one healthcare services provider within the region and among the highest five within the world (Health in Jordan, Wikipedia). There were 106 hospitals in Jordan in 2019 with a complete capacity of 12,081 beds. MOH hospitals accounted for 38% of those (4618 beds). The private sector contains a total of three,998 beds (33% of the beds in Jordan) (The National Strategy for Health Sector in Jordan 2015–2019). Jordan has witnessed development within the field of health, especially within the establishment of public and personal hospitals. The Ministry of Health, since its establishment in 1951, has taken all necessary measures and procedures continuing to supply medical and nursing services at acceptable level and with high efficiency within the affiliated hospitals.

Zarqa hospital is one of the most important governmental hospitals in Jordan and was established in 2014. It provides medical care to government employees and their dependents, underprivileged families in Zarqa, and patients who are referred from healthcare centres in other parts of the country. It has up-to-date technology and is serviced by knowledgeable doctors. Hospitals executives aims to provide excellent quality of health services and medical education, design to meet the needs of our community. The hospital vision is to move hospital into a leading organization in promoting health services and medical training and education for the local community that they serve.

Currently, it is equipped with 500 beds & has 1,200 government employees However, like many other public healthcare systems round the world, the general public hospitals face its share of problems. a serious challenge for the general public hospitals is to fulfill the growing expectations and demand for health services thanks to increment, increases in cases of chronic health condition and therefore the presence of refugees in the country. additionally to the expected rise within the proportion groups of teens and therefore the elderly, rising healthcare costs and therefore the increasing rate of drain mainly to Gulf countries because of low salaries, lack of incentives and regulations, and long working hours (Ajlouni, 2010).

Moreover, since, the ministry of health operates 38 percent of all hospital beds within the country and upgrading the quality of services provided publically hospitals may be a demand from hospitals management, doctors and patients at the identical time. Examining perceived health service quality in government hospitals and its impact on patient satisfaction is required. With this background, the objectives of this study is: - to look at the impact of perceived service quality on patient satisfaction at Zarqa hospital, and to see which dimension of the five has the best impact on overall patient satisfaction statistics.
2. Literature Review

2.1 Patient loyalty
As client loyalty is that the results of systematically positive emotional expertise associate degreed perceived worth of an experience with satisfaction (Ghaith et al., 2018; S. M. Lee et al., 2012), it's complicated to measure. In this study, client loyalty as a live of structure performance is delineate by the intention of go back and recommendation of the hospital to potential customers. Definition of loyalty in step with Phillip Kotler and Keller (2013) was a powerfully command commitment to create another purchase or purchase a specific product or service once more within the future albeit the impact of the case and promoting efforts that would probably cause the transition behavior. Griffin and Herres (2002) outlined a consumer loyalty is claimed to be loyal or disloyal once consumer shopping for behavior shows frequently or there's a condition during which the buyer needs the acquisition of a minimum of twice in an exceedingly bound time interval. Furthermore, R. L. Oliver (2010) steered that there ought to be a definition of loyalty not solely count what has been done by the customer, however conjointly should take advantage of the psychological sense of loyalty. Loyal clients who were holders of the commitment to re-purchase a subscription to the merchandise or services that are systematically within the future albeit laid low with the case and also the potential promoting effort that may lead to the displacement behavior. relevance the customer expertised, Goodman (2019) disclosed that customer loyalty can't be created rather like that, however it ought to be designed by the company. The loyalty might be measured in 3 dimensions that include: repeat patronage, change behavior, and word of mouth (Lemon & Verhoef, 2016).

2.2 Patient satisfaction
As client loyalty is that the results of systematically positive emotional expertise associated perceived worth of an experience with satisfaction (Ghaith et al., 2018; Lee et al., 2012), it's complicated to measure. In this study, client loyalty as a live of structure performance is described by the intention of return and recommendation of the hospital to potential customers. Definition of loyalty per Phillip Kotler and Keller (2013) was a powerfully command commitment to form another purchase or purchase a selected product or service once more within the future although the impact of things and promoting efforts that might doubtless result in the transition behavior. Griffin and Herres (2002) outlined a consumer loyalty is alleged to be loyal or disloyal once consumer shopping for behavior shows frequently or there's a condition within which the patron needs the acquisition of a minimum of two occasions in an exceedingly sure time interval. Furthermore, Oliver (2010) steered that there ought to be a definition of loyalty not solely count what has been done by the customer, however additionally should take advantage of the psychological sense of loyalty. Loyal clients who were holders of the commitment to re-purchase a subscription to the merchandise or services that are systematically within the future although suffering from things and also the potential promoting effort that may lead to the displacement behavior. relevancy the customer expertised, Goodman (2019) disclosed that customer loyalty can not be created rather like that, however it ought to be designed by the company. The loyalty might be measured in 3 dimensions that include: repeat patronage, switch behavior, and word of mouth (Aburumman, Salleh, Omar & Abadi, 2020; Lemon & Verhoef, 2016).
2.3 Service Quality and SERVQUAL model

Service quality is a central issue in services marketing and has been discussed in a number of writings even before the well-known SERVQUAL research by Parasuraman, Zeithaml, and Berry (1985). According to Zeithaml, Berry, and Parasuraman (1996) service quality is “the delivery of excellent or superior service relative to customer expectations”. Service quality is recognized as a multi-dimensional construct (Leisen Pollack, 2008) and researchers have listed a variety of service quality determinants (Albrecht & Zemke, 1985; Grönroos, 2000; Parasuraman et al., 1985). Grönroos (2000), postulated two types of service quality: technical quality (i.e. what the clients or customers really received from the service), and functional quality (i.e. the manner in which the service is delivered). More recently, he proposes that service quality can be described in terms of professionalism and skills, attitudes and behaviour, accessibility and flexibility, reliability and trustworthiness, service recovery, service scape, reputation and credibility (Grönroos, 2000). Lehtinen and Lehtinen (1991), claimed that there are three service quality dimensions, namely, physical quality, corporate quality and interactive quality. The last dimension perceives that service quality emerges from the interaction between the health specialist (service provider) and service receiver and is therefore necessary to enhance the customer-focused view of service quality which has been delivered (Svensson, 2006).

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

2.4 Dimensions of Service Quality

In particular, this study considers eight dimensions of service quality (tangibles, responsiveness, empathy, assurance, reliability) that have an impact on customer satisfaction and loyalty, in order to identify each factor’s potential impact on the Jordanian hospital sector.

2.4.1 Reliability

LB Berry et al. (1988), Parasuraman et al. (1985) and A. Parasuraman, Zeithaml, and Berry (1994) found that reliability means organizations perform a service correctly the first time. Moreover, it shows that organizations strive to fulfill promises and pay attention to the results. Reliability has been classed as the main and first dimension of the SERVQUAL service quality model. Studies of Lam (2002) ranked reliability as first in the dimensions of the service quality model.
2.4.2 Assurance
Assurance has been defined as employees’ courtesy and knowledge, and their capacity to transfer confidence and trust to customers (A. Parasuraman et al., 1994). The opinions of researchers on the ranking of assurance among service quality dimensions is varied. Assurance is ranked first according to Gronroos (1988), while the author of (A. Parasuraman et al., 1994) ranked it in fourth place. Assurance means keeping customers informed in their native language and listening to them, regardless of their educational level, age, and nationality. A. Parasuraman et al. (1994), states that assurance indicates the attitudes of the employees and their behavior, and the staff’s ability to provide friendly, confidential, courteous, and competent services.

2.4.3 Responsiveness
A. Parasuraman et al. (1994), highlighted that the responsiveness of willing employees involves telling customers exactly when things will be done, giving them undivided attention, promoting services, and responding in accordance with their requests. Responsiveness was ranked as the third dimension in SERVQUAL 1994.

2.4.4 Tangibles
LB Berry et al. (1988), Parasuraman et al. (1985) and A. Parasuraman et al. (1994) identify tangibles as physical facilities (equipment, personnel, and communications materials). It is the physical picture or image of the service that customers will use to assess and evaluate quality. Tangibles are associated with the physical facilities, tools, and machines used in order to provide the service, as well as representations of the services, such as statements, cards (debit and credit), speed, and efficiency of transactions. Several privileges are included in tangibles such as; external appearance, counters in the bank, overdraft facilities, opening hours, and speed and efficiency of transactions. Parasuraman et al. (1988), stated that tangibles have the same importance as empathy. The authors argued that it is advisable to consider including opening hours of operations under the empathy dimension; furthermore, the reliability dimension may include overdraft privileges (Agbor, 2011). Sultana and Das (2016), consider tangibles as a distinct element, showing consistency across cultures.

2.4.5 Empathy
Customers need to feel that they are arrange priority by the organization providing the services. Empathy means caring, paying personal attention, and providing services to customers (A. Parasuraman et al., 1994). The core of empathy is conveying the feeling that the customer is unique and special. A. Parasuraman et al. (1994), stated that quantitative studies that have identified service quality model dimensions have used security, credibility, and access to measure empathy.

3. Theoretical Framework

3.1 Hypotheses Development
This study was guided by the following hypotheses;
H1: Service quality has significant effect on patient loyalty in Zarqa public hospital.
H2: Service quality have significant effect on patient satisfaction in Zarqa public hospital.
H3: Patient satisfactions have significant effect on patient loyalty in Zarqa public hospital.
H4: Patient satisfaction mediates the relationship between service quality and patient loyalty in Zarqa public hospital.

3.2 Research Model
The following model illustrate the variables of the study where it is service quality shown as independent variables and patient satisfaction as an intermediate variable and patient loyalty as a dependent variable.

4. Research methodology

4.1 Study population and sample
Based on a survey questionnaire, the current study adopted a quantitative research design method. Sekaran and Bougie (2016) said that a population in research refers to an entire group of people or organizations that are of interest to the Researcher. The population of this study will be the Jordanian patients who has visited a public hospital in Jordan. The researcher selected 400 as sample size. On the other hand, the greater the sample, the higher the rate of confidence, the smaller the variance of error, the greater the representation of results, the more homogeneous the sample will be (Creswell, 2012).

4.2 Measurement of Study
Questionnaire was used to collect data for this study. The close-structured questionnaire was adopted from previous studies.

5. Data analysis and results
This study used the software of Smart PLS version 3.3.2 to analysis the data. Figure 2 shows the results of the PLS algorithm including factor loading, path coefficients, and coefficient of determination. All items achieved loading more than 0.70 except item TAN8 which achieved loading less than 0.40. Thus, item TAN8 has been deleted.
The test of Cronbach’s alpha, composite reliability, and average variance extracted were performed as shown in Table 1. Thus, all constructs in the current study have convergent validity.

### Table 1: Convergent validity

<table>
<thead>
<tr>
<th>Construct</th>
<th>Cronbach’s Alpha</th>
<th>Composite Reliability</th>
<th>Average Variance Extracted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Quality</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reliability</td>
<td>0.915</td>
<td>0.934</td>
<td>0.704</td>
</tr>
<tr>
<td>Empathy</td>
<td>0.793</td>
<td>0.866</td>
<td>0.619</td>
</tr>
<tr>
<td>Assurance</td>
<td>0.917</td>
<td>0.938</td>
<td>0.752</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>0.874</td>
<td>0.906</td>
<td>0.620</td>
</tr>
<tr>
<td>Tangibles</td>
<td>0.926</td>
<td>0.940</td>
<td>0.690</td>
</tr>
<tr>
<td>Patient Satisfaction</td>
<td>0.917</td>
<td>0.938</td>
<td>0.752</td>
</tr>
<tr>
<td>Patient Loyalty</td>
<td>0.893</td>
<td>0.923</td>
<td>0.647</td>
</tr>
</tbody>
</table>

The test of Heterotrait-Monotrait Ratio (HTMT) was performed to examine discriminant validity. Table 2 shows the HTMT values were all smaller than 0.85 for each construct and were within the range of 0.268 to 0.845 (Hair et al., 2016).

### Table 2: Heterotrait-Monotrait Ratio (HTMT)

<table>
<thead>
<tr>
<th>Construct</th>
<th>Service Quality</th>
<th>Patient Satisfaction</th>
<th>Patient Loyalty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Quality</td>
<td>0.268</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient Satisfaction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient Loyalty</td>
<td>0.341</td>
<td>0.845</td>
<td></td>
</tr>
</tbody>
</table>

Regarding the hypotheses testing, this study used PLS bootstrapping techniques embedded with Smart PLS version 3.3.2 with 5000 bootstrap samples. Table 3 shows hypotheses testing including path coefficient, t-value, p-value, and confidence interval.
Table 3: Hypotheses testing

<table>
<thead>
<tr>
<th>No.</th>
<th>Hypotheses</th>
<th>Path Coefficient</th>
<th>T-Value</th>
<th>P-Value</th>
<th>Confidence Interval</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>SQ→PL</td>
<td>0.094</td>
<td>2.596</td>
<td>0.009</td>
<td>0.023 – 0.165</td>
<td>Supported*</td>
</tr>
<tr>
<td>H2</td>
<td>SQ→PS</td>
<td>0.209</td>
<td>4.072</td>
<td>0.000</td>
<td>0.105 – 0.309</td>
<td>Supported*</td>
</tr>
<tr>
<td>H3</td>
<td>PS→PL</td>
<td>0.752</td>
<td>25.630</td>
<td>0.000</td>
<td>0.693 – 0.808</td>
<td>Supported**</td>
</tr>
</tbody>
</table>

Note: *: p<0.05; **: p<0.000,

As shown in Table 3, service quality has a positive direct effect on patient loyalty (Path Coefficient = 0.094; T-Value = 2.596; P-Value = 0.009; 95% LL = 0.023; 95% UL = 0.165), thus H1 was supported. Moreover, service quality has a positive direct effect on patient satisfaction (Path Coefficient = 0.209; T-Value = 4.072; P-Value = 0.000; 95% LL = 0.105; 95% UL = 0.309), thus H2 was supported. In contrast, patient satisfaction has a positive direct effect on patient loyalty (Path Coefficient = 0.752; T-Value = 25.630; P-Value = 0.000; 95% LL = 0.693; 95% UL = 0.808), thus H3 was supported. Regarding the mediating effect of patient satisfaction, as shown in Table 4, patient satisfaction mediated the relationship between service quality and patient loyalty (Indirect Effect = 0.157; T-Value = 4.052; P-Value = 0.000; 95% LL = 0.077; 95% UL = 0.233), thus H4 was supported.

Table 4: Testing the mediating effect of patient satisfaction

<table>
<thead>
<tr>
<th>No.</th>
<th>Hypothesis</th>
<th>Indirect Effect</th>
<th>T-Value</th>
<th>P-value</th>
<th>Confidence Interval</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>H4</td>
<td>SQ→PS→PL</td>
<td>0.157</td>
<td>4.052</td>
<td>0.000</td>
<td>0.077 – 0.233</td>
<td>Supported*</td>
</tr>
</tbody>
</table>

Note: *: p<0.05

6. Conclusion and recommendation

Primarily, this study investigated the effects of Service Quality and Patient Satisfaction on Patient Loyalty of Zarqa public hospital in Jordan, which appeared as significantly positive relationships. It also conducted the mediating impact of Patient Satisfaction upon the correlation with Service Quality and on Patient Loyalty of Zarqa public hospital in Jordan, which had been assessed in this present study and it was significantly positive statistically. Hence, this study enhances one’s understanding of the relationships of both Service Quality, and Patient Satisfaction with Patient Loyalty of Zarqa public hospital in Jordan.

In order to provide good service performance, it is essential for hospital managers to develop patient loyalty programs and healthcare service performance strategy to implement a good quality management system and service effectiveness and efficiency in accordance with health care profession standards. Future research may include other variables that may affect patient loyalty, such as perceived value, trust, availability of hospital resources.

References


