# The Relationship among Service Quality, Patient Satisfaction and Patient Loyalty: Case Study in Jordan Mafraq 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 in mafraq governmental hospital. A survey was conducted to gather data with a complete of 400 patients. To obtain the results and to analyse the hypothesis, the study used PLS-SEM Statistical technique. The findings showed that service quality had a positive direct effect on patient loyalty and patient satisfaction. Meanwhile, patient satisfaction mediated the relationship between service quality and patient loyalty. The study recommends that public hospital managers and healthcare providers should initiate continuous quality improvement programs and monitor healthcare quality to gain patient satisfaction patient and loyalty in return. Future studies may include other factors such as perceived value, trust, availability of hospital resources that can affect patient satisfaction and loyalty.

## Introduction

One of the key strategies for hospitals to enter new markets includes providing high-quality services and distributing high-quality products, which provide competitive advantages such as customer loyalty (Kinkel et al., 2012). Evidently, high quality is one of the most important marketing tools, as is differentiation removal, which leads to loyalty through satisfaction (DoVale et al., 2016). According to Oliver (1999), customer loyalty has become a primary focus of discussion in the marketplace. Customer loyalty is a part of an organisation's priorities since a fair level of a profit margin is derived from loyal customers.

Obtaining patient loyalty to one hospital has become a big challenge since many of the patients are exploring other existing primary service providers based on the information available at their disposal (George & Sahadevan, 2019). For example, studies have shown that families and individuals patronise more than one hospital at a time in some cases by accessing both public and private hospitals depending on the situation and nature of the ailment. The reasons may be due to different specialisations of providers, care for patients, time spent to assess health services, the cost involved, proximity, convenience, emergency cases and other variables measured by various researchers (Kamra et al., 2016). As the competition among healthcare providers is increasing, the establishment of strong relationships with patients give rise to their satisfaction, and this may result in patients returning to the same health institution, creating a concept called loyalty.

There is a load on the health system from the growing number of the Jordanian population which shows a growth rate of 1.8% and 2.7 million Syrian refugees, including 1.3 million refugees in the Zaatari camp in Mafraq Governorate, where the Mafraq Governmental Hospital is located, to the increasing need for health care and health facilities (Guo et al., 2012; El-Khatib et al., 2020). As the state of health services, especially in public governmental hospitals, is disappointing. The Mafraq Governmental Hospital treats 30% of the refugees, which is the largest percentage of the rest of the governmental hospitals, where the hospital's absorptive capacity is 90 bed, and this leads to increasing pressure on providing treatment services and increasing the load on the Medical devices and human staff, including doctors, nurses, and employees, and an increase in the exchange of medical and non-medical consumables (Al-Rousan et al., 2018).

Like many other public healthcare systems around the world, the general public hospitals face their share of problems. A serious challenge for the general public hospitals is to fulfil 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. 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 hospital management, doctors, and patients at the identical time (Krause et al., 2015).

Examining perceived health service quality in government hospitals and its impact on patient satisfaction is required. With this background, the objectives of this study are to look at the impact of perceived service quality on patient satisfaction and loyalty at mafraq hospital (Katon, 2003; Wang et al., 2007).

**Literature Review**

**Patient loyalty**

Kandampully et al. (2015) defined loyalty as customer behaviour and desire to not only repurchase the products and services in the future but also voluntarily recommend the products and services to a friend or someone else. Loyal behaviour can be explained in three stages, namely, repurchase, hold and recommend. First, repurchase – they buy again and reuse the product and services. Second, hold – they find it difficult to switch to other products or services. Finally, recommend – they recommend the products to their family, friends, colleagues, and others (Rigopoulou et al., 2008).

In this study, loyalty refers to patients' encouragement to revisit a hospital for obtaining further healthcare services. For healthcare providers, patient loyalty is very important, and it can be defined as a patients' commitment to continue utilizing the services and products in the future and recommends the hospital services to other patients (Zhou et al., 2017). Loyal patients provide economic value and are invaluable assets to the hospital as they show loyal characteristics when they keep making repurchase product lines and services, referencing others, and showing resistance to the competitors (Juhana et al., 2015). It may take some time to establish patient loyalty. This can be started with a process of using hospital services and repeating the services. In turn, such affiliation may develop strong patient loyalty that can be indicated in the ways they say positive things, recommend friends and continue purchasing. In brief, a mutual connection is established between a hospital and a loyal patient.

**Service quality**

Service quality indicates the difference between customer expectation about the service and customer perceptions about the actual service provided, and it has received intense research attention in service marketing (Yang et al., 2016). The delivery of high service quality is a strategy to gain the existing patients' satisfaction and loyalty. For patients, quality means obtaining full respect, attention, sympathy and understanding from all human elements dealing directly or indirectly with her/him during the stay in the hospital (Freund & Dorczak, 2019; Gilligan & Lowe, 2018).

Health services quality is essential for hospital performance. Zeithaml et al. (1988) Conceptualise service quality as the disparity between the factual service that customers gain and the perceived service that customers expect. Service quality as a multidimensional construct is generally based on the judgment of customers about the service provider and the interaction of customers with the services themselves (Hamzah et al., 2017). SERVQUAL has been applied to determine service quality within the service industry. It is an approach that draws five

dimensions of service quality, including physical evidence, tangibles, reliability, responsiveness, assurance, and empathy. Previous research used SERVQUAL for healthcare service evaluation, and it is considered an essential and critical factor that helps organisations to achieve success and stability in the market as it enhances the competitive advantage of the organisations and its superiority in the long term (Bon & Mustafa, 2013).

**Patient satisfaction**

It is possible to interpret customer satisfaction as an attempt to accomplish something or make it appropriate. Customer satisfaction is a condition when customers' desires, expectations, and needs are met. A service is deemed to be satisfactory if it is capable of fulfilling customers' needs and expectations. According to Kotler (2003), customer satisfaction is defined as an evaluation of a product that shows the customer's discrepancy after comparing the perceived results of a product and its expected output. If product quality delivers expectations, it means that the consumer is satisfied. But if the quality does not meet customer expectations, then the customer is not satisfied. Thus, patient satisfaction occurs when patient requirements have been met or surpassed. Patient satisfaction is a patient's level of feeling that emerges in comparison to what the patient has expected to be the results of patient-acquired health services performance. If the results are deemed to be equal to or exceed the expectations, the patient gains a sense of satisfaction. Otherwise, when the results are not in line with expectations, the patient experiences a sense of disappointment or dissatisfaction (Juhana et al., 2015). As a result of the judgment made by healthcare consumers to see whether their expectations were met or not, patient satisfaction can be described as consumer feelings based on experiences gained after they have received healthcare services and treatment (Asnawi & Awang, 2018).

**Hypotheses development**

**Service quality and patient loyalty**

Numerous studies have highlighted the relevance of service quality and customer loyalty in the realm of business (Gong & Yi, 2018; Hadi et al., 2019; Meesala & Paul, 2018). In addition, Jayawardhena (2010) states that the perceptions about the quality of service are derived from a customer's individual service encounter with the service provider, during which the customer assesses the quality and develops a judgment. Thus, a positive judgment by a consumer about the service quality may cultivate the feeling of loyalty towards the service provider. Anbori et al. (2010) examined the relationship between service quality dimensions and loyalty and showed that empathy and assurance dimensions had a strong influence on patients' willingness to return to a hospital. Past studies have found that the quality of service directly affected customer loyalty (Asadpoor & Abolfazli, 2017; Pratminingsih et al., 2018). Thus, this study hypothesized the following:
H1: Service quality has a positive effect on patient loyalty in mafraq governmental hospital.

**Service quality and patient satisfaction**

Lower perceived quality results in higher dissatisfaction, while examining the impact of service quality, a study found that customer satisfaction affected by service quality (Kassim & Abdullah, 2010). Another study found that customer satisfaction resulted from the quality of service (Asadpoor & Abolfazli, 2017). If service industries meet customer requirements and expectations, they may achieve a high level of customer satisfaction (Rigopoulou et al., 2008). Zaid et al. (2020) reported that satisfaction and loyalty were positively affected by service quality provided by healthcare providers. Meanwhile, a study by Jiang & Wang (2006), showed that in the case of valuable services, such as healthcare services, the pleasure of good services was more important than the satisfaction itself. Chahal & Kumari (2010), observed a strong relationship between service quality and consumer satisfaction, also consumers' perception of quality was an important variable that determined the level of satisfaction. Therefore, this study hypothesized that:

H2: Service quality has a positive effect on patient satisfaction in mafraq governmental hospital.

**Patient satisfaction and patient loyalty**

Most of the time, customer satisfaction is a primary precedent for customer loyalty, and in other words, customer loyalty is considered a direct result of customer satisfaction (Biscaia et al., 2017). Further, Kamra et al. (2016) note that customer loyalty improves in part through customer satisfaction as one of the most influencing factors. Most studies confirmed that satisfied customers indicated a greater possibility to buy back and communicate positively toward the organization (Martínez & Del Bosque, 2013). Previous studies have shown that satisfaction has a positive and important impact on customer loyalty (Dagger & O'Brien, 2010; Chao et al., 2015). Highly satisfied customers tend to be loyal supporters of the company and spread positive news about how they are satisfied with the company (Ganiyu, 2017; Lovelock & Wirtz, 2015). Customer satisfaction provides two major benefits to the company, namely loyalty, and participation in positive verbal recommendations. Thus, customer satisfaction is a crucial element for organizations that wish to increase customer loyalty and create a better business achievement (Zaid et al., 2020). Thus, this study hypothesized the following:

H3: Patient satisfaction has a positive effect on patient loyalty in mafraq governmental hospital.

**Mediating role of patient satisfaction between service quality and patient loyalty**

Many studies have examined the relationship between customer satisfaction, perceived service quality, and customer loyalty (Deng et al., 2010). Pakurár et al. (2019) state that a strong connection exists between the quality of service and customer satisfaction. Kessler & Mylod (2011), investigated how patient satisfaction affected the propensity to return to a hospital, the results showed a significant link between satisfaction and loyalty. Chahal & Kumari (2010) explained that service quality led to the patient satisfaction and patient loyalty.

Customer satisfaction in the healthcare industry was also found to positively affect patient loyalty (Meesala & Paul, 2018). Fatima et al. (2018) showed that, overall, patient satisfaction was a significant mediating variable between perceptions of service quality and loyalty of foreign patients. Similarly, Shahid Iqbal. (2018) also found that customer satisfaction played a mediating role in driving customer loyalty through service quality. Thus, this study hypothesized the following:

H4: Patient satisfaction mediates the relationship between service quality and patient loyalty in mafraq governmental hospital.

**Theoretical Framework**

Figure 1 below shows a model expressing the variables of the study. The model shows service quality as an independent variable, patient satisfaction as a mediator variable and patient loyalty as a dependent variable.
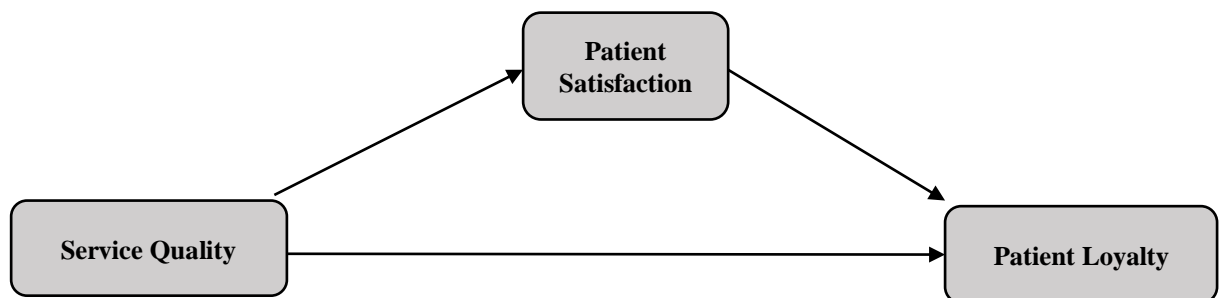


Figure 1. Proposed framework

**Research Methodology**

The current study adopted a quantitative research design method by using questionnaires as data collection tools adopted from previous studies, which were distributed to individuals by applying the convenience sampling method. The population of this study was composed of patients who had visited Mafraq hospital in Jordan, the patients who are sampled in this study are adult patients who can provide information or can communicate well so that they can fill out questionnaires, whereas if patients cannot provide information about this study, they can be replaced by family or couples. The sample size was determined in line with the power of analysis, such as the minimum number of samples based on the model's complexity. Following Green's (1991) table and using two predictors from the research framework at medium effect size as suggested by Gefen et al. (2011) the minimum sample size for this study was set as 74 patients. 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 (Klassen et al., 2012). Thus, the data were gathered from 400 patients and the analysis method starts from looking at data characteristics through descriptive statistics and further analysis of multivariate data analysis includes factor analysis and Partial Least Square (PLS). In Table 1, the study variables, item numbers and sources of adapted scales are shown.

Table 1
Scales used in research

| Variable | | No of items | Reference |
|---|---|---|---|
| Service Quality | Reliability | 4 | Parasuraman et al. (1988) |
| | Assurance | 4 | |
| | Tangibles | 4 | |
| | Empathy | 6 | |
| | Responsiveness | 4 | |
| Patient Satisfaction | | 5 | Huyen (2016) |
| Patient Loyalty | | 7 | Oliver (1999) |

## Data Analysis and Results

This study used the Smart PLS software version 3.3.2 to analyse the data. Figure 2 shows the results of the PLS algorithm, including factor loading, path coefficients and coefficient of determination (Kitapci et al., 2014; Chudasama et al., 2020). All items achieved appropriate values of more than 0.70, except item EM6, which achieved a value of less than 0.40. Thus, item EM6 was deleted.
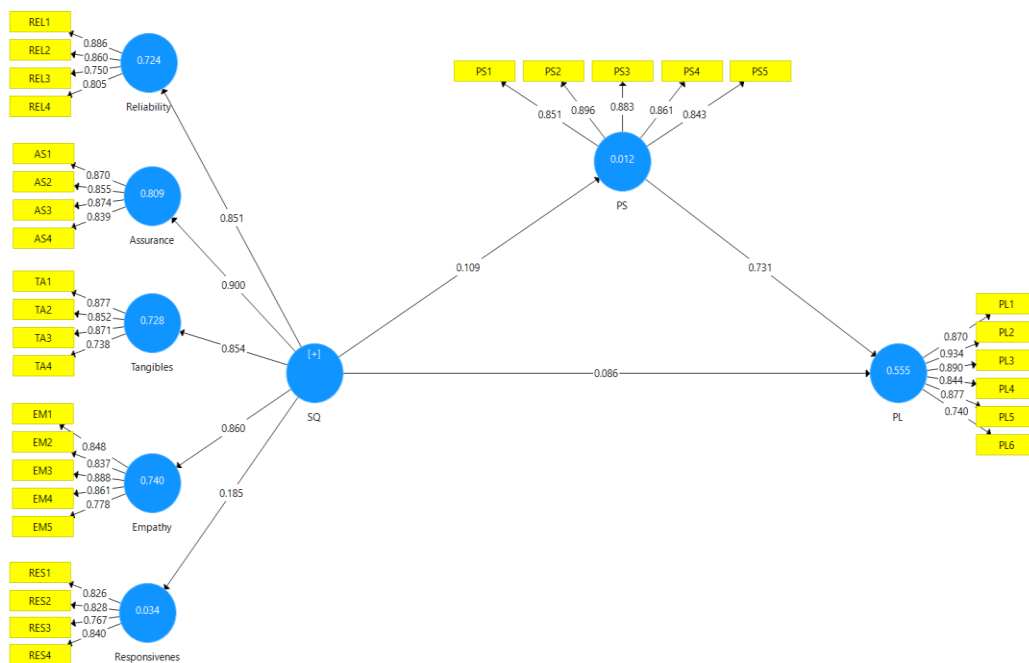


Figure 2. Results of PLS algorithm

Table 2 shows the results for the tests performed, namely Cronbach's alpha, composite reliability, and average variance extracted. Based on Table 2, all constructs in the current study had convergent validity. According to the recommendations of Hair et al. (2017), items that achieve the values of more than 0.70 for Cronbach's alpha and composite reliability should be retained.

Table 2
Convergent validity

| Construct | | Cronbach's Alpha | Composite Reliability | Average Variance Extracted |
|---|---|---|---|---|
| Service Quality | Reliability | 0.845 | 0.896 | 0.684 |
| | Assurance | 0.882 | 0.919 | 0.739 |
| | Tangibles | 0.856 | 0.903 | 0.700 |
| | Empathy | 0.898 | 0.925 | 0.711 |
| | Responsiveness | 0.835 | 0.888 | 0.666 |
| Patient Satisfaction | | 0.918 | 0.938 | 0.752 |
| Patient Loyalty | | 0.929 | 0.945 | 0.742 |

The test of Heterotrait-Monotrait Ratio (HTMT) was performed to examine discriminant validity. Table 3 shows that the HTMT values were all smaller than 0.85 for each construct and were within the range of 0.200 to 0.796 (Hair et al., 2016).

Table 3
Heterotrait-Monotrait ratio (HTMT)

| Construct | Service Quality | Patient Satisfaction | Patient Loyalty |
|---|---|---|---|
| Service Quality | | | |
| Patient Satisfaction | 0.200 | | |
| Patient Loyalty | 0.267 | 0.796 | |

Testing of the proposed hypothesis is done using Structural Equation Modeling (SEM) with the help of PLS software version 3.3.2. Hypothesis test decision making is to look at the results of t-value, where if the value is positive it means that the variable has a positive effect, while to see its significance is to refer to the t-statistic value between variables, if the t value obtained is greater than t-table amounting to 1.96, meaning that the effect is significant (Hair, et al. 2016). Regarding the hypotheses testing as shown in Table 4, service quality was reported as having a positive direct effect on patient loyalty (Path Coefficient = 0.086; T-Value = 2.310; P-Value = 0.021; 2.5% LL= 0.011; 97.5% UL= 0.160), thus, hypothesis 1 was supported. Moreover, service quality was also reported as having a positive direct effect on patient satisfaction (Path Coefficient = 0.109; T-Value = 2.040; P-Value = 0.041; 2.5% LL= 0.004; 97.5% UL= 0.212), thus, hypothesis 2 was supported. Patient satisfaction was reported as having a positive direct effect on patient loyalty (Path Coefficient = 0.731; T-Value = 2.553; P-Value = 0.000; 2.5% LL= 0.670; 97.5% UL= 0.786), thus, hypothesis 3 was also supported (Rechel et al., 2009; Heller, 1982).

Table 4
Hypotheses testing

| No. | Hypotheses | Path Coefficient | T-Value | P-Value | Confidence Interval 2.5% LL | 97.5% UL | Decision |
|-----|------------|------------------|---------|---------|----------|----------|----------|
| H1 | SQ→PL | 0.086 | 2.310 | 0.021 | 0.011 | 0.160 | Supported* |
| H2 | SQ→PS | 0.109 | 2.040 | 0.041 | 0.004 | 0.212 | Supported* |
| H3 | PS→PL | 0.731 | 2.553 | 0.000 | 0.670 | 0.786 | Supported** |

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

It can be seen from the data in Table 5 that patient satisfaction was reported as having a mediating effect on the relationship between service quality and patient loyalty (Indirect Effect = 0.079; T-Value = 2.049; P-Value = 0.040; 2.5% LL= 0.003; 97.5% UL= 0.155); thus, hypothesis 4 was supported.

Table 5
Testing the mediating effect of patient satisfaction

| No. | Hypothesis | Indirect Effect | T-Value | P-value | Confidence Interval 95% LL | 95% UL | Decision |
|-----|------------|-----------------|---------|---------|----------|----------|----------|
| H4 | SQ→PS→PL | 0.079 | 2.049 | 0.040 | 0.003 | 0.155 | Supported* |

Note: *: $p<0.05$

**Conclusion and Recommendation**

The conclusions of this research are formulated based on the results of hypothesis testing, namely: H1 finding demonstrated that the quality of service had a positive effect on patient loyalty, H2 result shows that the quality of service has a positive effect on patient satisfaction (Peck et al., 2014; Philo, 1997). This means that the hospital staff controls the workload towards patient increase and provides a level of service and illness treatments that made the patient in Mafraq hospital satisfied and loyal. The finding of H3 demonstrated that patient satisfaction has a positive effect on patient loyalty, with the highest results from the other hypotheses, point out that the influence of patient satisfaction must be a major concern for hospitals to increase the loyalty of patients. With regards to the final hypothesis, the finding demonstrated that patient satisfaction mediated the relationship between the quality of service and patient loyalty (Andaleeb, 2001; Aliman & Mohamad, 2016; Minggu et al., 2019).

Patient loyalty is believed to be a key success factor in the healthcare service context because the business environment tends to be more competitive for the healthcare service business (Chang et al., 2013). Hospital managers should pay more attention to effectiveness performance to continuously promote quality, promoting a customer-centric culture, conducting consumer satisfaction surveys, and provide service recovery by responding to patients' complaints and providing

feedback. May include other factors such as perceived value, trust, availability of hospital resources that can affect patient satisfaction and loyalty.

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