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The Impact of Total Quality Management on Patient Satisfaction with Mediating Role of Perceived Service Quality of Healthcare

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Abstract: This study aims to investigate the impact of total quality management (TQM) on patient satisfaction (PS). In addition to this mediating role of perceived service quality (PSQ) for the same has also been studied.The data has been analyzed using regression and correlation analysis on the primary data collected through a close-ended questionnaire. The data from 154 patients in different hospitals in Rawalpindi have been collected by filling up the online Google form. All the items in the questionnaire were based on a five-point Likert scale ranging from strongly agree to strongly disagree. Results of the study indicated an insignificant relationship between total quality management and patient satisfaction. Furthermore, the significant indirect effect of TQM on PS through the mediating role of PSQ further supports the hypothesis. On the basis of the findings of this study, it is suggested that healthcare managers should opt for oriented management strategies for patient satisfaction. Good quality healthcare services result in boosting patient satisfaction. Additionally, to meet the patient's expectations both the technical as well as functional competencies of the healthcare service providers ought to be enhanced. The contribution of this study is the establishment of the indirect effect of total quality management on patient satisfaction through the mediating effect of perceived service quality.

Keywords: Total quality management, Patient satisfaction, Perceived service quality

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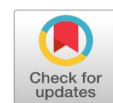
INTRODUCTION

Globalization has resulted in a changing business environment because competition has increased and become more challenging than before. In addition, customer's expectations regarding service quality are higher than ever. In order to deliver superior quality goods and services, organizations need to adopt certain strategies. For this many organizations have adopted ISO standards such as ISO 9001. In addition, a number of Total Quality Management (TQM) practices are being adopted by organizations in order to improve customer satisfaction and increase organizational performance (Irfan et al., 2012).

TQM is considered one of the most evident progress in management for the last twenty years. It has received global attention and organizations and governments all around the world are taking an interest in it. The concept of TQM was started in Japan in the early 1980s and afterward spread to different parts of the world (Al Shdaifat, 2015).

Total Quality Management is defined as "a management philosophy concerned with people and work processes that focuses on customer satisfaction and improves organizational performance" (Sadikoglu & Olcay, 2014). According to Al Shdaifat (2015), the philosophy of TQM is; that in order to achieve customer satisfaction, continual improvement of internal and external processes of organizations is required.

In the current era of competition, the adoption of quality improvement strategies has become very important for companies to expand effectively. This can be done through the implementation of principles of TQM. The key principles of TQM include: "customer focus, obsession with quality, scientific approach, long-term commitment,

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teamwork, and continual improvement systems, education, and training, freedom through control, unity of purpose and employee involvement and empowerment" (Kusumah, 2013).

Quality management is of far most importance in healthcare organizations as well. This is because of the reason that healthcare organization faces many challenges such as high costs of healthcare services, government regulations, customer influence, technological dependence, and hospital initiatives. (Aiken et al., 2012). Additionally, due to customer and public pressures, healthcare markets have been changed from producer-oriented to customer-oriented. All these changes have a significant impact on hospital management as well. These challenges can be dealt with through the implementation of TQM practices (Balasubramanian, 2016).

Perceived service quality (PSQ) is the significant factor affecting client satisfaction. Therefore it is important for public health institutions to enhance the healthcare service quality by focusing on elements affecting patient satisfaction (Agyapong & Kwateng, 2018). In general, the quality of services is enhanced as a result of the application of TQM practices, which increase patients' (consumers') satisfaction (Nguyen & Nagase, 2019).

Although increasing attention is being given to TQM and its relation to the quality of services and satisfaction of customers, limited literature is available with respect to the healthcare sector (Agyapong & Kwateng, 2018). Additionally, some empirical studies focused on the measurement of the impact of TQM practices on an organization's performance in the context of the healthcare sector (Irfan et al. 2012; Duggirala et al., 2008). A number of studies concluded a positive and significant relationship between TQM factors, PSQ, patient satisfaction (PS), and behavioral intentions (BIs) (Zaid et al., 2020; Abu-Rumman, Mhasnah, & Al-Zyout, 2021). In the context of Pakistan, limited literature is available regarding TQM practices in healthcare organizations. Moreover, previous studies focused on the direct causal relationship between TQM practices and the performance of healthcare organizations (Irfan et al., 2012). A little attention is given to studying the effect of TQM practices on patient satisfaction in the Pakistan context.

The direct effect of TQM and PSQ has been studied in a number of empirical studies (Zaid et al., 2020; Abu-Rumman, Mhasnah, & Al-Zyout, 2021) but limited empirical evidence is available regarding the mediating role that can be played by PSQ in a relationship of TQM and PS. The present study contributes to the existing literature on TQM, PSQ, and PS. Since it estimates the mediating role played by PSQ in the relationship of TQM and PS in the health sector in Pakistan.

This research aims to explore the relationships between TQM, PSQ, and PS of the healthcare organizations in Pakistan. Specifically, this study is intended to examine:
- The impact of TQM factors on PS.
- The mediating role of PSQ in the relationship between TQM and PS.

LITERATURE REVIEW

Total Quality Management and Patient Satisfaction

Healthcare organizations are of fundamental importance in every society. An increasing importance is being placed on TQM in healthcare because it results in reducing costs and providing high-quality healthcare. TQM pertains to the continuous improvement of function and processes of organizational management (Anil & Satish, 2019).

In healthcare services, "TQM is an inclusive strategy comprising of organizational and attitude change for enabling personnel to learn and use quality methods, in order to reduce costs and meet the requirements of patients and other customers" (Overtveit, 2000). Also, TQM is defined as the "Maximization of patient's satisfaction considering all profits and losses to be faced in a healthcare procedure" (Donabedian, 1989).

When the performance of the product or service is in excess of its expectations then it results in consumer satisfaction. Satisfaction is the state of the consumer's mind once he or she consumes it and it shows the level of likes or dislikes about the service he or she has after experiencing it (Woodside et al., 1989).

A hospital is a place where the population is provided with both curative and preventive care. There are two metrics for measuring quality of care; patient outcome and patient satisfaction (Kotler, 2000). Patient satisfaction can be explained as "the result of judgment made by the healthcare consumers after analyzing the medical outcome of the process in order to see if their expectations have been accomplished or not" and satisfaction was defined as "the consumers' feelings based on the experiences gained after consumption" (Andreea & Ruxandra , 2016).

Most healthcare organizations utilize TQM to improve PS same as other organizations (Almsalam, 2014). Abu-Rumman, Mhasnah, and Al-Zyout (2021) examined direct and indirect (mediating) relationships between the TQM, PSQ and PS in Jordan. The results of the study exhibited, a direct relationship between the TQM and PS. Another study conducted in Palestine asserted the positive and significant relationships among TQM, PSQ, PS, and BIs (Zaid etal., 2020). Based on the understanding of the foregoing discussion, the following is hypothesized.

H_1: TQM will have a significant and positive impact on PS.

The Mediating Role of Perceived Service Quality

The Institute of Medicine defines healthcare quality as "the degree to which healthcare services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge" (U.S. National Library of Medicine, 2017). Perceived quality of the service provided in the hospitals is "the user's overall evaluation of what is received and what is given" (Duggirala et al., 2008). In order to measure the quality of healthcare services, a number of items have been developed (Parasuraman et al., 1985). Service quality in the healthcare sector is measured using the framework of SERVQUAL. It includes five service quality dimensions: "Reliability, Assurance, Tangibles, Empathy, and Responsiveness" (Damen, 2017). The concise definitions of all dimensions are as follows:

Reliability : "The ability to perform the promised service dependably and accurately".

Assurance : "The knowledge and courtesy of employees and their ability to convey trust and confidence".

Tangibles : "The appearance of physical facilities, equipment, personnel, and communication materials".

Empathy : "The provision of caring, individualized attention to the customer".

Responsiveness : "The willingness to help customers and to provide prompt service" (Balasubramanian, 2016; Damen, 2017).

A number of studies asserted that improved healthcare service quality leads to increased patient satisfaction (Damen, 2017; Meesala & Paul, 2018; Sitio & Ali, 2019). Zaid et al.(2020) revealed that PSQ was positively associated with PS. In some studies, the mediating role of PS is measured between service quality and patient loyalty (Asnawi, 2019; Meesala & Paul, 2018; Fatima et al., 2018). A number of studies mentioned above have investigated the direct causal relationship between PSQ and PS. On an actual elementary level, there is limited literature available on whether or not PSQ played a mediating role between TQM and PS. Abu-Rumman, Mhasnah, and Al-Zyout (2021) investigated the mediating role of PSQ in the relationship of TQM and PS in Jordan. The study confirmed that an indirect relationship was present between PSQ and PS. Hence, based on a review of the literature it is hypothesized that:

H_2: Perceived service quality will mediate the relationship between TQM and PS.
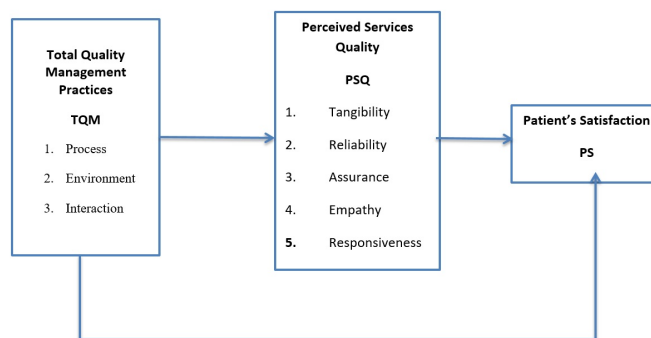
Model of the Study

Figure 1: Conceptual framework

METHODOLOGY

Sample and Data Collection Procedure

The participants who participated in the current study were patients of different hospitals. Data was collected by using the convenient sampling technique. In the present study, close-ended questionnaires were used for data collection and a quantitative approach was used for the analysis of data.

Due to the COVID situation, it was not possible to physically collect data from patients in hospitals. Therefore, online data collection was done through Google Forms in which a link to the questionnaire was created and shared with patients. Participants were asked to fill questionnaire keeping in view their last hospital visit.

In this study, data was collected anonymously. Confidentiality was assured to the respondents. The participation of the patients was voluntary and the purpose of the study was explained to participants in a cover letter.

The link to the questionnaire was shared with 200 participants, and only 170 replied back. 16 cases had to be excluded due to missing data for different variables. In total, 154 responses were collected, resulting in a response rate of 77%.

The demographic details of respondents are as follows. In the present study, 49.4% of respondents were 20-29 years of age. 55.2% were females. The majority 33.8% had a monthly income between Rs.26, 000 to Rs.40, 000. 53.2% of participants had graduated from university and 26% had completed their secondary education. 48.1% of the study population was married.

Measures Used

All variables were measured on 5 point Likert scale where 1 represented the low value of the variables and 5 represented the high value of the variables.

Total quality management (TQM) : TQM was measured using a 12-item scale developed by Zaid et al. (2020). Among 12 items: 4 were related to the process; 5 were related to interaction, and 3 were related to the environment. The sample item is "You were informed about the time the services would be performed". The Cronbach alpha reliability of this scale was 0.73.

Perceived service quality (PSQ) : A 15-item scale of Meesala & Paul (2018) was used to measure PSQ. Out of 15 items, 3 were related to tangibility, 3 were related to reliability; 3 were related to responsiveness, 4 were related to assurance and 2 were related to empathy. A sample item is "Hospital's physical facilities are visually appealing". Cronbach alpha of this scale was 0.79.

Patient satisfaction : This variable was measured using the scale of (Tucker & Adams, 2001). It consisted of 14 items and the sample item was "Convenience of the location of treatment". The Cronbach alpha reliability was found to be 0.70.

Control Variables

A one-way ANOVA was executed in order to control variation in dependent and mediating variables due to demographic variables, Demographic variables used in the study are age, gender, education, monthly income and marital status. A one-way ANOVA was performed in order to control variation in PSQ (mediating variable) and PS (dependent variable). The result obtained from ANOVA indicated that there is no significant difference in the mean value of perceived service quality between groups on the basis of age, gender, monthly income, and marital status (see Table 1). So these variables not need to be controlled. However, there is a significant difference in the PSQ values of respondents on the basis of their education level. So, education will be used as a control variable while doing regression analysis for PSQ.

Similarly, the results of one-way ANOVA indicated that there were significant differences in patients' satisfaction across monthly income ($F = 4.54$, $p < 0.05$). So, monthly income will be used as a control variable while doing regression analysis for PS. While the analysis reports no significant difference in the mean values of PS among groups on the basis of age, gender, marital status, and education.

Table 1: One-way ANOVA

Sources of Variation	PSQ		PS	
	f Value	*p* Value	*f* Value	*p* Value
Age	1.91	0.13	0.57	0.64
Gender	1.48	0.23	0.41	0.84
Monthly Income	1.64	0.18	4.54	0.004
Education	5.09	0.002	0.5	0.68
Marital Status	0.55	0.82	0.61	0.44

N= 154, *PSQ* =Perceived Service Quality, *PS*=Patient Satisfaction

RESULTS

Correlation Analysis

Correlation analysis is a crucial check in any research analysis since it increases the certainty and precision of the findings. It ranges between -1 and +1. The presence of a positive sign signifies a positive correlation between two variables and vice versa (Jalil, 2020). Pearson correlation has been employed in the current study to calculate the correlation coefficient. Table 2 below presents the results of the correlation analysis between the study variables, which are patient happiness/ satisfaction, perceived service quality, and total quality management.

Table 2: Descriptive statistics and correlation analysis

	Mean	S.D	1	2	3
1 TQM	3.2	0.59	-0.73		
2 PSQ	3.33	0.59	0.59*	-0.79	
3 PS	3.08	0.51	0.24*	0.35*	-0.7

**(*N*= 154, * *p*< 0.05, alpha values in brackets)

(*TQM* = Total Quality Management, *PSQ* = Perceived Service Quality, *PS* = Patient's Satisfaction)

Hypothesis 1is supported by the evidence provided by Table 2, which shows that patient satisfaction is positively and significantly associated with total quality management i.e (r = 0.24, p <0.05). Whereas, Initial support for hypothesis 2 is provided by the positive and significant correlation between perceived service quality and total quality management i.e (*r* = 0.59, *p* < 0.05) as well as patient satisfaction (*r* = 0.35, *p* < 0.05).

Regression Analysis

The regression analysis's findings are displayed in Table 3. The study's first hypothesis demonstrates the direct relationship between TQM and the dependent variable, patient satisfaction, while the second hypothesis demonstrates the indirect relationship between TQM and PS with perceived service quality acting as a moderator. Hayes process mediation model has been used.

Table 3: Regression analysis

Predictors	β	S.E	*t*	*p*
Direct effect				
TQM→PS	0.54	0.08	0.68	0.5
Indirect Effect				
TQM→PSQ→PS				
Bootstrap result of indirect effect	Indirect effect	LL 95% CI	UL 95% CI	
	0.16	0.06	0.3	

(*TQM* = Total Quality Management, *PSQ* = Perceived Service Quality, *PS* = Patient's Satisfaction, Un-standardized regression coefficient reported, bootstrap sample size 5000, *LL*=lower limit, *CI*= Confidence interval, *UL*=Upper limit)

Patient satisfaction and overall quality management were shown to have no significant link (β= 0.54, *p* = 0.50).

H_1 is therefore not supported. The mediation hypothesis is backed by other study findings, which demonstrated a strong indirect influence of TQM on PS through PSQ.

DISCUSSION

Globalization, competition, and increased customer expectations have changed the business environment. As a result, TQM practices are being adopted by a number of organizations in order to increase customer satisfaction. Better management practices increase the functional capacity of healthcare organizations and enhance the quality of services provided by them. When the service quality of healthcare increases it also positively affects the level of patient satisfaction. In the context of the healthcare industry, this study aimed to investigate the direct and indirect relationships between overall quality management, perceived service quality, and patient satisfaction. By examining the mediating role that PSQ plays in the relationship between TQM and PS in Pakistan's health sector, the current study adds to the body of existing literature.

Based on the study's empirical analysis, patient satisfaction and overall quality management were found to have a negligible relationship. This result was contrary to the proposed hypothesis i.e. total quality management will positively and significantly affect patient satisfaction. The result is also in contrast to the finding of Zaid et al. (2020). This is may be due to the fact that the sample size was small in the current study (n=154).

Our findings supported our second hypothesis by demonstrating that, with a positive regression coefficient, perceived service quality completely mediates the relationship between the variable's total quality management and patient satisfaction. These results are consistent with the earlier study conducted by Abu-Rumman, Mhasnah, and Al-Zyout (2021). It is a major concern for managers of any healthcare organization to provide the best quality services to its patients. Therefore, it is very important for any healthcare organization to have knowledge about the satisfaction level of its patients. Maintaining and enhancing the quality of services is one of the key strategies for raising patient satisfaction. It is possible to improve overall quality management practices and raise patient satisfaction by improving the quality of healthcare services. According to Amin and Nasharuddin (2013), technical aspects of healthcare services are not been judged by patients rather they rely more on functional aspects which include location, utilization of the latest equipment, behavior of healthcare staff, etc. Therefore, in order to achieve service quality that ensures patient satisfaction total quality management practices should be adopted which include changes in managerial commitment level, the behavior of healthcare service providers, interaction with patients and empathic concerns (Agyapong et al., 2018).

Practical Implications

In this section, we will discuss practical implications that can be drawn from the findings of the present study which can be helpful to managers and service providers in the healthcare sector, especially in Pakistan. It is important for any healthcare organization to have knowledge about the level of their patients' satisfaction because it is an important factor of any healthcare process. Perceived service quality can play a key role in boosting patient satisfaction which in turn depends on the level and quality of total quality management practices adopted by any healthcare organization.

Traditional organizational culture needs to change to improve the effectiveness of total quality management practices. Also, proper involvement of top-level management and provision of practical support is required. Managers must adopt quality-oriented healthcare services to enhance the functional capacity of a healthcare organization, to increase its value addition, and to maintain its customer base because it is service quality through which total quality management affects patient satisfaction. To achieve satisfaction-oriented service delivery, managers need to focus on the process, interaction, attitudes, and empathic concerns of patients.

Limitations and Direction for Future Research

Along with its managerial implications, the study has a few limitations as well. The constraints of our investigation present prospects for subsequent studies. First, this research was based on a sample size of 154 respondents. In order to get more generalized, it is recommended to use a larger and more diverse sample size. Second, we used a convenient sampling technique; data was collected from patients from different hospitals. Because of the COVID pandemic, data was collected online from patients of different hospitals. For future research, it is recommended to collect data physically in hospitals to ensure reliability. Third, a cross-sectional study design

was used. Future researchers are suggested to use stronger research designs like longitudinal studies. Fourth, the present study looked at the overall impact of quality management practices in hospitals generally. Given that many public sector hospitals in Pakistan are known for their poor service quality, it is recommended that a comparative analysis of public and private hospitals be conducted in order to identify any weaknesses in the system.

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