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Cross-sectional correlational study on Patient Satisfaction with Total Quality Management in Saudi Arabia's Healthcare Industry

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Abstract

Over the last decade, healthcare organizations worldwide have faced many challenges mainly concerned with their services' efficiency, effectiveness, and quality. There has been a pressing need for healthcare organizations to embrace or adopt new approaches to managing the quality of services to enhance patient satisfaction. Quality management plays a role in determining healthcare outcomes and patient satisfaction in hospitals. Aim: to examine the connection between total quality management (TQM) and patient satisfaction (PSAT). Methodology: a quantitative cross-sectional correlational study, a convenience sample of 320 in-patients receiving treatment at a governmental hospital, Alnoor Hospital in Saudi Arabia. Data was collected using two questionnaires: total quality management (TQM) and patient satisfaction (PSAT) with data analysis conducted using SPSS26. Conclusion: The findings revealed that total quality management positively influenced patient satisfaction. Limitation: Since there are fewer studies on total quality management in the healthcare sector than in manufacturing industries, this research makes a substantial contribution to the body of literature already in existence and merits additional study. Furthermore, this research offers significant perspectives for managers in the healthcare industry about strategic planning and decision-making procedures.

Keywords: *Patient Satisfaction, Total Quality Management, Healthcare Sector and Saudia Arabia.*

Introduction

Over the last decade, healthcare organizations worldwide have faced many challenges mainly concerned with their services' efficiency, effectiveness, and quality. There has been a pressing need for healthcare organizations to embrace or adopt new approaches to managing the quality of services to enhance patient satisfaction. Quality management plays a role in determining healthcare outcomes and patient satisfaction in hospitals *(Mohamed et al., 2021)*. Over the past three decades, the health and well-being of the Saudi populace have improved, but the pace of improvement has been sluggish and falls short of international standards. In these efforts to raise the standard of healthcare, patient satisfaction is a crucial aspect of the services provided *(Omer et al., 2022& Pratama, et al., 2024)*.

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Saudi Arabia has implemented several strategies and initiatives to improve healthcare delivery and increase patient satisfaction. However, the healthcare industry still needs critical attention *(Utino et al., 2023).* The administration has concentrated on enhancing patients' access to high-quality healthcare to address this problem *(Tofik et al., 2023*). For the sake of the people's health in Saudi Arabia, healthcare still has to be improved *(Alruwais et al., 2024& Tessema et al., 2024).*

Despite the significant progress, infectious diseases, disorders affecting mothers and children, and other factors continue to produce a high rate of death and morbidity. Considerable variations exist in service utilization, patient satisfaction, and health outcomes between regions and socioeconomic groups *(González & Marino 2020).* Research on the standard of care in hospitals is infrequent and usually overlooks this problem *(Aktar, 2021& Alruwais et al., 2024).*

The research aim is to examine the connection between total quality management (TQM) and patient satisfaction (PSAT). According to certain research, customer satisfaction is significantly improved by high-quality services. Related research has shown that the banking, hotel, and catering services sectors were all positively impacted by service quality *(DAM, S. M., & DAM, T. C. 2021).* TQM research has attracted the attention of both scholars and practitioners, leading to a substantial body of work, but research in the healthcare industry is lacking *(Sabella et al., 2014& Tessema et al., 2024).*

Prior research has mostly concentrated on TQM and PSAT. Nevertheless, despite the increased focus on healthcare quality, these studies have frequently ignored the healthcare sector in favor of the manufacturing sector *(Agyapong et al., 2018& Tessema et al., 2024).* Moreover, previous studies have mostly examined the direct relationship between total TQM and service quality, ignoring the potential for TQM to affect PSAT. There is a shortage of comprehensive studies on the use of TQM in the healthcare systems of Saudi Arabia and other developing countries.

According to *Alshrbaji et al. (2022),* The research is crucial since it looks at significant aspects of high-quality healthcare. It provides crucial information about the interactions between TQM, and PSAT in the context of Alnoor Hospital. Gaining insight into these connections could enhance patient satisfaction, healthcare delivery, and patients' confidence in healthcare organizations. Furthermore, this study may lead to recommendations for policies that reduce a wide range of risk factors. These factors include demographics, population behaviors, socioeconomic status, education, and geographic location *(Wasihun et al., 2023: Pratama, et al., 2024 & Tessema et al., 2024).* By implementing these factors' policy recommendations, Saudi healthcare issues can be lessened.

Literature Review

Total Quality Management

TQM stands for complete quality management. TQM is a management system that can improve both organizational and individual performance. It helps organizations gain a competitive edge, and spurs the creation of high-quality services, low prices, and efficient times *(Qasrawi et al., 2017 &Zwain et al., 2017).* Because TQM seeks to reduce waste through effective resource usage, it is also an environmentally beneficial method *(Yusr et al., 2017).* By guaranteeing high service quality through continuous improvement, TQM is a managerial approach that is essential to enhancing an organization's capacity to meet or exceed patient expectations and achieve performance goals *(Abbas, 2020).* Moreover, TQM significantly boosts individual capacities to create new products or services or enhance the performance of current ones by emphasizing training and development as well as continuous improvement in all areas *(Hollingworth and Valentine, 2014; Shafiq et al., 2017& Abbas, J,2019).*

According to Abbas, J (2019), Total Quality Management (TQM) is a management system that emphasizes ongoing improvement through tools, techniques, and values. TQM's ultimate objective is to boost customer contentment through higher-quality goods and services with the lowest possible resource use.

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TQM implementation is essential for healthcare workers to effectively fulfill their duties and increase nurse and physician retention rates, *(Abbas, 2020).* The International Organization for Standardization (ISO) has created a comprehensive set of international standards for quality assurance and management, such as ISO 9000, ISO 9001, and ISO 10001. ISO 9000 prioritizes customer satisfaction and the quality of products and services. Healthcare organizations use it extensively to raise service standards *(Zaid et al., 2020& Tessema et al., 2024).*

Patient Satisfaction

Hospitals today are very different from those of the past, where attempts to guarantee the security and comfort of Hospitalized patients are governed by rules and laws. Advanced technology-using hospitals have been widespread around the world, including in Saudia Arabia, and have been serving a large patient population for many years. Saudia Arabia's health sector is expanding quickly, resulting in significant Competition. For healthcare organizations to thrive, they must draw in and keep Clients. Consumers are essential to an organization's existence and prosperity *(Pratama et al., 2024).*

The expression of a client's enjoyment or disappointment following a comparison of opinions regarding the effectiveness or outcomes of a good or service is known as patient satisfaction. The patient is satisfied if the goods or service lives up to expectations; if not, they are dissatisfied. A key component of health services is patient satisfaction. The degree of a person's perceived state, which arises from comparing the actual outcome or appearance with their expectations, is known as satisfaction. Attitudes and knowledge on the caliber of health services, service procedures, and service systems might be used to interpret this patient satisfaction as contentment with access to healthcare services *(Almomani, R et al., 2020&&Pratama et al., 2024).*

Customer satisfaction is the number of customers, or percentage of all consumers, whose reported experience with an organization, its products, or its services exceeds predefined satisfaction criteria. Patient satisfaction is a key metric for assessing health in the healthcare industry. Studies have indicated that a patient's degree of enjoyment influences how quickly they recover. The quality of the service and product should be such that it successfully meets the needs and expectations of the patients *(Duggirala & Rajendran, 2008; Salleh & Ghazali, 2018; Nazri et al., 2022 &Tessema et al., 2024).*

Total Quality Management and Patient Satisfaction

According to *Lashgari et al. (2015),* TQM is a process used to improve or attain patient satisfaction. By offering training and promoting knowledge exchange, the application of total quality management (TQM) concepts maximizes physicians' efficacy and efficiency. According to *Nguyen & Nagase (2021),* patient happiness and total quality management (TQM) correlate positively. Total quality management (TQM) and patient satisfaction (PSAT) were found to be directly correlated in a recent study by *Nguyen, Tran, and Nguyen (2021).* The use of TQM for patient satisfaction is not well understood, according to *Alshrbaji et al. (2022).* The evaluation underlined the need for additional research in this field. Customer satisfaction should be the priority for healthcare systems (*Tessema et al., 2024).*

Methodology

Research Design

A quantitative, cross-sectional, correlation research.

Research Technique

The research technique was a non-probability convenience sampling Technique. A convenience sampling Technique is a way of selecting participants or clinical cases from the target population based on accessibility in the area (e.g., a hospital), medical records database, website, or consumer membership *(Stratton, S. J., 2021).*

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Research Setting

Current research was conducted in the western region of Saudi Arabia in a general hospital In Makkah City affiliated with the Ministry of Health (MOH). The hospital was Alnoor Hospital.

Sample Size

The sample size was evaluated using a power analysis of 320 in-patients at Alnoor Hospital in Saudi Arabia male and female patients older than eighteen. According to *Kemal Ö. (2020),* For advancements to occur, study results must be processed precisely, at this point, biostatistics is crucial for gathering reliable data, conducting objective comparisons, and accurately interpreting the results. It is crucial to perform power analysis in scientific research to appropriately evaluate the results. It is possible to show whether or not the results are significant by using power analysis to determine how many samples should be included in the study.

Data Collection

The structured English version of the questionnaire was translated by an expert translator into the Arabic language to be consistent with the current setting. The expert translator used a translating and back-translating technique to maintain the instrument's validity and measure what needed to be measured. The structured English version of the questionaries was distributed to patients through a convenience sampling approach with a consent form attached to the questionaries which requested the respondent's willingness to participate in answering the questions. The response rate was 83%.

Data Analysis Method

In this research, SEM was used to evaluate the study framework using SPSS statistics and SPSS Amos software following the completion of Composite reliability and Cronbach Alpha average variance extracted (AVE). (CR).

Forza & Filippini (1998) state that a suitable sample size for the SEM method is greater than 100 observations, however, 50–400 observations are just as appropriate. As a result, the research sample size (n = 320) meets the criteria for SEM analysis.

Measurement

Data collection for this research includes two tools as the following:

The first tool for total quality management (TQM). The questionnaire was adapted by the researcher based on *(Zarei et al., 2015; Nguyen et al., 2019 & Alshrbaji et al., 2022).* It includes three dimensions (process quality (PQ), interaction quality (IQ), and environmental quality (EQ) which cover 12 items. Four items measured process quality (PQ), five items measured interaction quality (IQ), and three items measured environmental quality (EQ). The scoring system of the tool was measured with a five-point Likert scale ranging from (1= Strongly Disagree), (2= Disagree), (3=Neutral), (4=Agree) to (5= Strongly agree).

The second tool for patient satisfaction (PSAT). The questionnaire was adapted by the researcher based on *(Nguyen et al., 2021)* and includes five items. *Schneider & White (2004)* assert that the SERVQUAL scale needs to be updated to be used in all circumstances. *Leninkumar, (2017)* provided the customer satisfaction metrics, with a minor modification added to the SERVQUAL scale to consider local perspectives. *Paul and Meesala (2018)* declare that the items were modified in response to suggestions from experts in the sector. The scoring system of the tool was measured with a five- points Likert scale ranging from (1= Strongly Dissatisfied), (2= Dissatisfied), (3=Neutral), (4=Satisfied) to (5= Strongly Satisfied).

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Result and Discussion

Measurement Model Assessment

The validity and reliability of the research model were examined using Amos (see Table 1). Convergent validity was examined using the average variance extracted (AVE) and outer loadings. Cronbach's alpha (α), composite reliability (CR), and internal consistency were evaluated. The factor loadings were higher than the 0.70 cutoff, as seen in Table 1. Additionally, Cronbach's alpha is above 0.70, and CR is within an acceptable range above 0.70 *(Hair et al., 2017)*. As a result, the data is reliable and internally consistent. In addition, there is no problem with convergent validity because the AVE value is a desirable number greater than 0.50 *(Dash and Paul, 2021)*. The items' high reliability was demonstrated by the fact that the factor loadings likewise surpassed the permissible limit of 0.6 *(Ringle & Sarstedt 2021)*. Refer to Table 1 and Graph 1.

Table1. Internal Consistency and Reliability (N=320. CA, Cronbach's Alpha; CR, Composite Reliability; AVE, Average Variance Extracted.

Constructs	Items	CA
EnvironmentalQuality	EQ1	0.882
	EQ2	
	EQ3	
Interaction quality	EQ4	0.903
	IQ2	
	IQ3	
	IQ4	
	IQ5	
Process quality	IQ6	0.890
	PQ2	
	PQ3	
	PQ4	
Patient Satisfaction	PQ5	0.900
	SAT2	
	SAT3	
	SAT4	
	SAT5	

Constructs	Items	Factor Loading
EnvironmentalQuality	EQ1	0.796
	EQ2	0.783
	EQ3	0.809
Interaction quality	IQ1	0.816
	IQ2	0.745
	IQ3	0.782

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	IQ4	0.814
	IQ5	0.703
Process quality	PQ1	0.838
	PQ2	0.726
	PQ3	0.827
	PQ4	0.767
Patient Satisfaction	SAT1	0.785
	SAT2	0.783
	SAT3	0.772
	SAT4	0.774
	SAT5	0.763

Constructs	Items	CR
EnvironmentalQuality	EQ1	0.843
	EQ2	
	EQ3	
Interaction quality	IQ1	0.886
	IQ2	
	IQ3	
	IQ4	
	IQ5	
Process quality	PQ1	0.863
	PQ2	
	PQ3	
	PQ4	
Patient Satisfaction	SAT1	0.885
	SAT2	
	SAT3	
	SAT4	
	SAT5	

Constructs	Items	AVE
EnvironmentalQuality	EQ1	0.633
	EQ2	
	EQ3	
Interaction quality	IQ1	0.602
	IQ2	
	IQ3	
	IQ4	
	IQ5	

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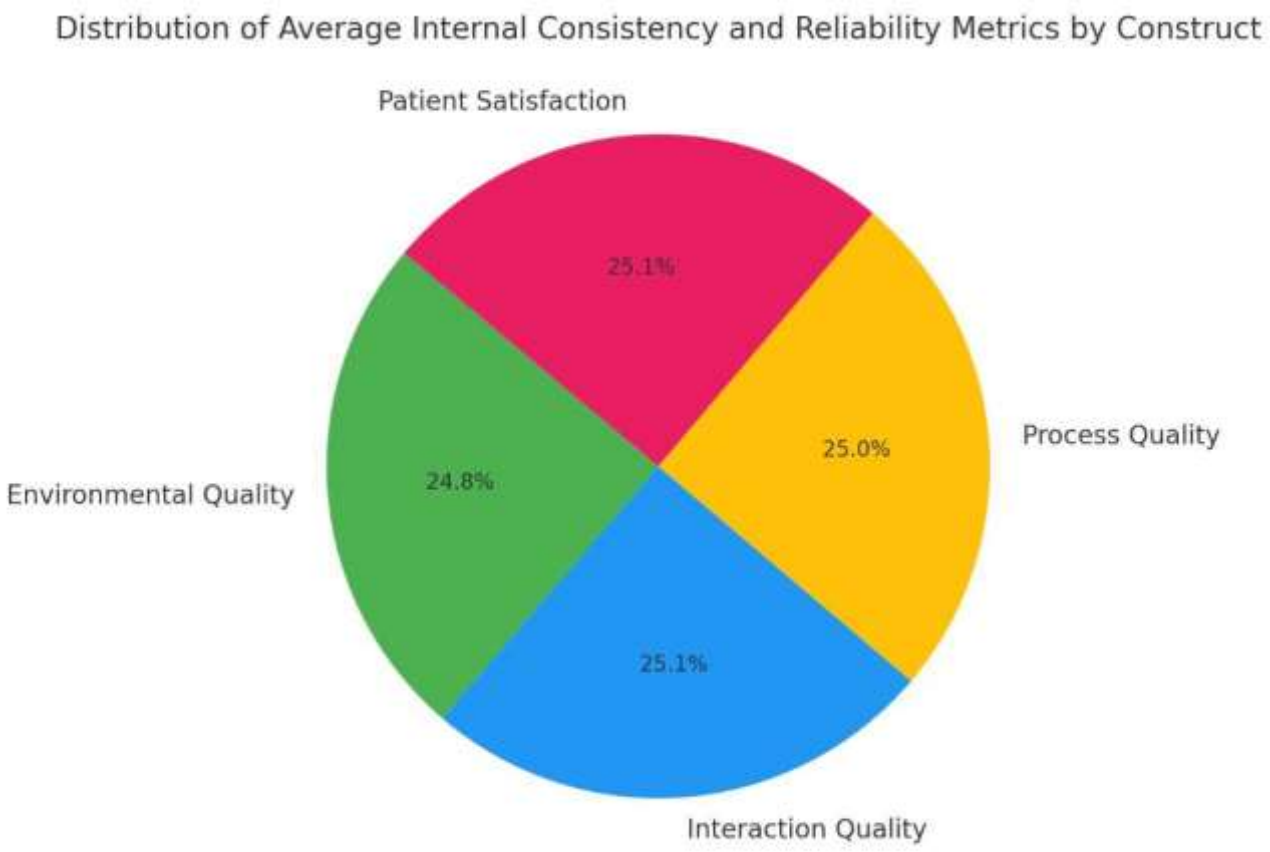
Process quality	PQ1	0.614
	PQ2	
	PQ3	
	PQ4	
Patient Satisfaction	SAT1	0.606
	SAT2	
	SAT3	
	SAT4	
	SAT5	

Graph1. Internal Consistency and Reliability Metrics by Construct

The following pie chart represents the values of Cronbach's Alpha (CA), Composite Reliability (CR), and



Average Variance Extracted (AVE) for each construct:

Conclusion

The effect of TQM on PSAT was evaluated in the research. The healthcare sector benefits from total quality management since it increases patient service delivery, efficiency, and trust. TQM increases the organization's competitiveness and adds value. The findings of the study have significant ramifications for Saudi public hospital administrators. Any society's health is greatly influenced by its healthcare system. Therefore, it should be a top priority to implement TQM concepts to boost effectiveness and efficiency. PSAT mediates the relationship between inpatient satisfaction and the quality of services received by patients. The service company should include these factors in its strategic planning and decision-making to improve customer satisfaction.

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Limitation and Future Research Direction

First, future research should be conducted in other geographical areas for the generalizability of the findings. Second, the data gathered from patients who were admitted, managers, and staff may be used in future studies. Third, the study's sample size was insufficient; perhaps future researchers will be able to do the study with a larger sample size.

Theoretical and Practical Implication

Because there are fewer studies on TQM in the healthcare industry than in the manufacturing sector, it significantly expands on what has previously been written and stimulates further research. Few of the studies examined the connection between TQM and PSAT, as far as the researchers are aware. Furthermore, more study is required in developing nations so that scholars can concentrate on this field. Additionally, this study has significant management ramifications for healthcare administrators who might want to consider and utilize the factors discussed in this paper when formulating strategic plans and choices. This study has a significant impact on managers' ability to increase PSAT through the use of TQM concepts and to perform better in a competitive and dynamic environment in the healthcare sector.

Conflict of Interest: The authors have no financial relationships with any person, institution, or organization that may be a party to this study and there is no conflict of interest.

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