Uluslararası ANADOLU Sosyal Bilimler Dergisi

International Anatolian Journal of Social Sciences

e-ISSN: 2619-9475

https://dergipark.org.tr/tr/pub/ulasbid

Araştırma Makalesi / Research Article *2024, Cilt: 8, Sayı: 1, Sayfalar: 164-176*

DOI: https://doi.org/10.47525/ulasbid.1402805

THE RELATIONSHIP BETWEEN TOTAL QUALITY MANAGEMENT, PATIENT SATISFACTION, SERVICE QUALITY, AND TRUST IN THE HEALTHCARE SECTOR: THE CASE OF ETHIOPIAN PUBLIC HOSPITALS

SAĞLIK SEKTÖRÜNDE TOPLAM KALİTE YÖNETİMİ, HASTA MEMNUNİYETİ, HİZMET KALİTESİ VE GÜVEN ARASINDAKİ İLİŞKİ: ETİYOPYA KAMU HASTANELERİ ÖRNEĞİ

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Geliş Tarihi / Date Applied **10.12.2023**

Kabul Tarihi / Date Accepted **13.03.2024**

ABSTRACT

The aim of this research is to investigate the direct effects of total quality management (TQM) on perceived service quality (SQ) and patient satisfaction (PSAT), the impact of SQ on PSAT and patient trust (TR), and the influence of PSAT on TR among in-patients in selected Public Hospitals in Northern Ethiopia. Employing a quantitative approach, a questionnaire was administered via convenience sampling. The study included a sample of 293 in-patients receiving treatment in selected public hospitals in Ethiopia, with data analysis conducted using Amoss26 and SPSS26. The findings revealed that total quality management positively influenced patient satisfaction and perceived service quality, while SQ also had a positive effect on PSAT and TR. Moreover, PSAT exhibited a positive impact on TR among in-patients in selected public hospitals in Northern Ethiopia. This research significantly contributes to the existing literature and warrants further investigation, as there is a dearth of studies on total quality management in the healthcare sector compared to manufacturing industries. Additionally, this study provides valuable insights for healthcare sector managers in strategic planning and decision- making processes.

Keywords: Service Quality**,** Patient Satisfaction, Total Quality Management, Healthcare Sector, Consumer Behavior.

ÖZET

Bu araştırmanın amacı, Kuzey Etiyopya'daki seçilmiş kamu hastanelerinde toplam kalite yönetiminin (TKY) algılanan hizmet kalitesi (HK) ve hasta memnuniyeti (HM) üzerindeki etkisini; algılanan hizmet kalitesinin hasta memnuniyeti ve hasta güveni üzerindeki etkisini, ayrıca hasta memnuniyetinin hasta güveni üzerindeki etkisini araştırmaktır. Araştırmada nicel yöntem kullanılmıştır, Örneklem Etiyopya'daki seçilmiş kamu hastanelerinde tedavi gören 293 yatan hastadır. Veriler Amoss26 ve SPSS26 kullanılarak analiz edilmiştir. Araştırma sonucunda toplam kalite yönetiminin hasta memnuniyeti ve algılanan hizmet kalitesi üzerinde olumlu etkisinin olduğunu gösterdiği gibi, algılanan hizmet kalitesinin de hasta memnuniyeti ve hasta güveni üzerinde olumlu etkisinin olduğunu göstermiştir. Ayrıca hasta memnuniyetinin hasta güveni üzerinde de olumlu etkisinin olduğu ortaya çıkmıştır. Bu çalışmanın sağlık sektöründe toplam kalite yönetimi alanında hizmet verenlere, literatüre ve ilerideki araştırmalara katkı yapacağı düşünülmektedir.

Anahtar Kelimeler: Hizmet Kalitesi, Hasta Memnuniyeti, Toplam Kalite Sağlık Sektörü, Toplam Kalite Yönetimi, Tüketici Davranışları.

Atıf Citation

Tessema, D.H., Assefa, H. K., Obeng, H. A., & Nuhu, J. A. (2024). The relationship between total quality management, patient satisfaction, service quality, and trust in the healthcare sector: the case of ethiopian public hospitals. *Uluslararası Anadolu Sosyal Bilimler Dergisi, 8*(1), 164-176. DOI: https://doi.org/10.47525/ulasbid.1402805

1. INTRODUCTION

Despite advancements in the health and well-being of the Ethiopian population over the past three decades, progress has been slow and falls short of global targets. Patient satisfaction is a key component of the health services offered to the public in such attempts to improve the quality of healthcare (Omer et al., 2022). Ethiopia has been putting several plans and initiatives into practice to enhance patient satisfaction and improve the delivery of healthcare. But vital emphasis is still needed for the healthcare sector (Utino et al., 2023). To address this issue, the administration has focused on improving the provision of high-quality healthcare to the general public (Tofik et al., 2023). Ethiopia is frequently used as an illustration by the international community to promote primary health care (Croke et al., 2020). However, healthcare still needs improvements for the well-being of the second-largest populous nation in Africa.

Even with the notable advancements, there is still a high rate of death and morbidity from infectious diseases, disorders affecting mothers and children, and other causes. Between geographic locations and socioeconomic categories, there are notable differences in the use of services, patient satisfaction, and health outcomes (González & Marino 2020). Studies on the quality of care received in medical facilities are rarely conducted and frequently ignore this issue (Aktar, 2021). The aim of this research is to investigate how Total Quality Management (TQM) affects patient satisfaction and trust in the healthcare industry. Both researchers and practitioners have shown a keen interest in TQM research, resulting in a significant body of research (Sabella et al., 2014). However, there isn't ample study in the healthcare sector.

Previous studies have predominantly focused on TQM and PSAT. However, these studies have often overlooked the healthcare sector, favoring manufacturing industry, despite the growing emphasis on healthcare quality (Agyapong et al., 2018). Furthermore, prior research has primarily focused on examining the direct correlation between overall TQM and service quality, neglecting to exploration the possibility of TQM influencing TR through PSAT and SQ. Thorough research on the application of TQM in Ethiopia's healthcare system and other developing nations like Africa is scarce. Alshrbaji et al. (2022) point out that previous research has primarily focused on the application of TQM in the industrial sector. In comparison Western countries, emerging and Arab nations have conducted fewer studies on TQM, with less emphasis placed on other fields like healthcare.

The fact that the research examines important facets of high-quality healthcare makes it extremely important. It offers important insights into how TQM, SQ, PSAT, and TR interact with one another in the setting of public hospitals. Understanding these relationships may lead to improvements in healthcare delivery, patient satisfaction, and public trust in healthcare institutions. Moreover, this study could result in policy suggestions aimed at lowering a multitude of risk factors. The geographic surroundings, education, social status, population behaviors, and demographic characteristics are some of these components (Wasihun et al., 2023). Ethiopia's healthcare problems can be mitigated by putting these variables' policy recommendations into practice.

2. LITERATURE REVIEW

2.1 Total Quality Management

TQM refers to a managerial system that plays a crucial role in improving an organization's ability to accomplish performance goals by ensuring high service quality through continuous improvement, therefore meeting or surpassing patient expectations. Implementing TQM is

crucial for healthcare personnel to efficiently carry out their responsibilities and enhance the rates of retention among nurses and doctors (Abbas, 2020). For quality assurance and management, the International Organization for Standardization (ISO) has established an extensive set of international standards, including ISO 9000, ISO 9001, and ISO 10001. Satisfaction with clients and the caliber of goods and services are given priority by ISO 9000. It is widely implemented by healthcare organizations to improve service standards (Zaid et al., 2020). The measurement of TQM from a patient perspective using process quality, interaction quality and environmental quality was also studied by (Alshrbaji et al., 2022; Nguyen et al., 2019; Zaid et al., 2020 and Zarei et al., 2015).

2.2. Service Quality

According to Ali et al. (2021), service quality refers to the difference between a patient's anticipated services and their perception of the services received. This technique evaluates the disparity between guests' expectations and the experience they receive. The service performance component of the service quality scale can be assessed using four dimensions as the service quality scale: tangibles, reliability, responsiveness, and empathy (Zeithaml et al., 1988). According to Schneider & White (2004), the SERVQUAL scale cannot be applied in every situation in the initial state without being modified. Service quality refers to the attitude that customers have towards the services that are offered to them (Koros et al., 2020). Furthermore, according to Abror et al. (2019), a service's quality is assessed based on how well it meets the needs and expectations of the client; the greater the level of satisfaction, the better the fit.

2.3. Patient Satisfaction

The number of clients, or proportion of total consumers, whose reported experience with a company, its goods, or its services above predetermined satisfaction targets is known as customer satisfaction (Nazri et al., 2022). Patient satisfaction is a crucial indicator of the state of well-being in the healthcare sector. Research has shown that the level of pleasure experienced by a patient has an impact on the progression of their recovery (Salleh & Ghazali, 2018). The service and product should possess a level of quality that effectively fulfils the demands and expectations of the patients. Aside from total quality management (TQM) and SQ, there are certainly other factors that influence patient happiness, such as the level of trust individuals have in the healthcare sector (Duggirala & Rajendran, 2008).

2.4. Patient Trust

Patient trust refers to the patient's confidence in the medical experts' competence in diagnosing and treating their condition, as well as their ability to prioritize the patient's requirements. This trust allows the patient to confidently seek and receive medical treatments (Liu et al., 2021). A study conducted by Gambarov et al. (2017) looked at the relationship between loyalty and trust in a hospital context, and they found that there was a substantial and robust correlation between the two variables. Chalidyanto (2021) found that implementing complete quality management ideas leads to an increase in patient loyalty by improving their satisfaction with the hospital's service quality. The healthcare business should prioritize patients' safety and provide services with the utmost efficiency and effectiveness, as these factors are crucial.

2.5. Hypothesis development

2.5.1. TQM, Patient satisfaction and Service Quality

TQM is a methodology used to enhance service quality by using continuous improvement practices, with the ultimate goal of achieving patient satisfaction (Lashgari et al., 2015). Implementing total quality management (TQM) principles helps optimize the efficiency and effectiveness of doctors by providing training and facilitating knowledge sharing. Nguyen & Nagase (2019) discovered a positive correlation between total quality management (TQM) and service quality.

A recent study conducted by Nguyen, Tran, and Nguyen (2021) discovered a direct correlation between total quality management (TQM) and PSAT. Alshrbaji et al. (2022) noted a lack of knowledge on the application of TQM about patient satisfaction. The review emphasized the necessity for more investigation in this area. Healthcare systems should prioritize client happiness. Therefore, drawing from the analysis of existing literature, the following hypotheses are formulated:

H1: Total quality management has a significant impact on PSAT

H2: Total quality management has a significant impact on perceived service quality

2.5.2. The relationship between Perceived service quality, Trust and Patient Satisfaction

Patients who see their treatment as subpar are more likely to change providers, which has an impact on profitability. Trust leads patients to promote the institute to others through word-of-mouth communication. Service quality is a trustworthy indicator of satisfaction, according to Suhail and Srinivasulu's (2021) study. Another study of Titing & Sudarnice (2022), also found a significant and positive relationship between service quality and customer satisfaction.

Prior studies on the association between service quality and customer trust were carried out by Thaichon and Thu (2015) and Kurnianingrum et al. (2020), who found significant relationship between the two. When an organization offers the highest quality of service, its customers will trust the service it offers. Therefore, drawing from the analysis of existing literature, the following hypotheses are formulated:

H3: Perceived service quality has a significant impact on patient trust

H4: Perceived service quality has a significant impact on PSAT

2.5.3. The relationship between patient satisfaction and patient trust

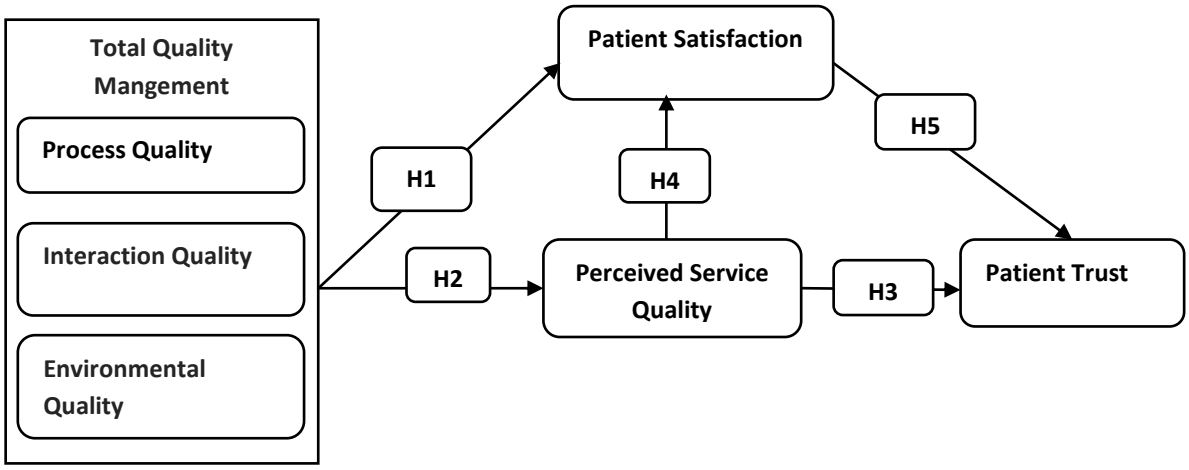
According to Choi et al. (2004), physician concerns, staff issues, the convenience of treatment procedures, tangible objects, and health-care service quality characteristics are essential factors for patient satisfaction. Previous studies about the relationship between customer satisfaction and trust by Assaker et al. (2020), Kalia et al. (2021), and Fauzi & Suryani (2019) found a significant and positive relationship between the two. Patients who are satisfied with the staffs of the hospital can have trust in them. Furthermore, contentment has a positive impact on trust, according to Hung et al. (2019).

The primary focus of this research work was the initial investigations into the level of patient interpersonal trust in their doctors, which is closely linked to the perception of the doctors' trustworthiness in their words and acts. As the researcher is aware, there is no research conducted on the influence of TQM on patient trust in the healthcare context, specifically in

developing countries. Thus, based on the literature reviews the following hypotheses are constructed:

H5: Patient satisfaction has a significant impact on TR

Figure1. Theoretical Model



3. METHODOLOGY

3.1. Study Population

The population being studied consisted of a sample of in-patients from particular public hospitals in Northern Ethiopia. Patients who are over the age of eighteen, both men and women. There were 293 in-patients in the sample. The study's factors included TQM, SQ, PSAT, and TR. study.

3.2. Data Collection

A cross-sectional study was conducted. An Ethiopian translator converted the questionnaires used for the purpose of this research from English to Amharic. The Amharic version was interpreted back into English by a professional translator to assess the translation's trustworthiness.

The structured Amharic version of the questionaries was distributed to patients through convenience sampling approach with consent form was attached to the questionaries which is requesting the respondent's willingness to participate in answering the questions. Data was collected with non-probability sampling called convenience sampling based on favorable availability of conditions. The questionaries distributed were 384 since the population is infinite, with 293 proper responses, which is a 76% response rate. The sample size of the study was based on Meyer (1979) and Fox et al. (2007) recommendation that suggest that the sample size for an infinite population is 384.

3.3. Data Analysis Method

To test the study hypotheses, data from the questionnaire was analyzed using structural equation modelling (SEM) in AMOS version 26. Individual elements were categorized, and a construct was established before any statistical investigation. SEM was utilized in this paper to assess the study framework, which was supported by SPSS statistics and SPSS Amos software

after performing Cronbach Alpha average variance extracted (AVE) and Composite reliability (CR).

According to Forza & Filippini (1998), an appropriate sample size for the SEM approach is more than 100 observations, while observations ranging from 50 to 400 are equally suitable. Because of this, the research's sample size (n = 293) satisfies the requirement for SEM examination.

3.4. Measurement

We used a 5-point Likert-type scale where 1 = "strongly disagree" and 5 = "strongly agree" for all construct items except patient satisfaction which used 5- a point Likert scale where 1= "strongly dissatisfied" and 5 = "strongly satisfied".

The TQM items were 12 with 3 dimensions, which include process quality (PQ) 4 items, interaction quality (IQ) 5 items, and environmental quality (EQ) 3 items adapted from (Zarei et al., 2015; Nguyen et al., 2019 and Alshrbaji et al., 2022). There were 15 items in total, measuring service quality on a five-point rating system. These items included 3 each for tangibility, empathy, reliability, assurance, and responsiveness. These materials were modified from Parasuraman et al. (1988) and Anabila et al. (2020). According to Schneider & White (2004), the SERVQUAL scale cannot be applied in every situation in its original form without being modified. Measures of customer satisfaction were taken from Leninkumar (2017) and a small adjustment was made to the SERVQUAL scale to account for regional viewpoints. Meesala and Paul (2018) state that changes were made to the items in response to recommendations from specialists in the industry. The Five measures of Patient Satisfaction (PSAT) are adapted from (Nguyen et al., 2021). Five measuring items for Patient trust (TR) are adapted from (Gambarov et al., 2017).

4. RESULTS AND DISCUSSION

4.1. Measurement Model Assessment

Amos was used to analyze the reliability and validity of the research model (see Table 1). The outer loadings and average variance extracted (AVE) were used to check for convergent validity. The internal consistency, Cronbach's alpha (α), and composite reliability (CR) were assessed. As indicated in Table 1, the factor loadings were above the threshold of 0.70. The value of Cronbach's alpha is also above 0.70 and the value of CR is also in an acceptable range greater than 0.70 (Hair et al., 2017). Consequently, there is internal consistency and reliability in the data. Besides this, the value of AVE has a desirable value over 0.50, so there is no convergent validity issue (Dash and Paul, 2021). The factor loadings were also exceeding the acceptable limit of 0.6, indicating strong reliability of the items (Ringle & Sarstedt 2021). See Table 1.

Table1. Internal Consistence and Reliability

Constructs	CA	Items	Factor Loading	CR	AVE
Environmental quality	0.885	EQ1	0.798	0.840	0.636
		EQ2	0.789		
		EQ3	0.807		
		IQ1	0.813	0.882	0.601
Interaction quality	0.905	IQ2	0.744		
		IQ3	0.788		
		IQ4	0.816		

		IQ5	0.708		
		PQ1	0.834	0.866	0.619
Process quality	0.892	PQ2	0.722		
		PQ3	0.824		
		PQ4	0.761		
Assurance	0.806	ASS1	0.783	0.824	0.611
		ASS2	0.823		
		ASS3	0.736		
Empathy	0.875	EMP1	0.707	0.784	0.549
		EMP2	0.724		
		EMP3	0.789		
Reliability	0.883	REL1	0.733	0.811	0.589
		REL2	0.808		
		REL3	0.761		
Responsiveness	0.906	RES1	0.807	0.826	0.613
		RES2	0.787		
		RES3	0.754		
Tangibility	0.945	TAN1	0.895	0.900	0.749
		TAN2	0.878		
		TAN3	0.822		
Patient satisfaction	0.901	SAT1	0.786	0.883	0.603
		SAT2	0.784		
		SAT3	0.770		
		SAT4	0.775		
		SAT5	0.766		
Trust	0.884	TR1	0.770	0.880	0.596
		TR2	0.820		
		TR3	0.711		
		TR4	0.794		
		TR5	0.761		

N=293. CA, Cronbach's alpha; CR, Composite reliability; AVE, Average variance extracted.

4.2. Structural model fit indices

As identified by Hair et al. (2017) acceptable value for model fit indicated at Table 2. The incremental fit value with an acceptable range as indicated in Table 2. The table below indicate that all Goodness-of-fit measures of the model are accepted and had perfect model fit. Generally, measures such as Chi-square/DF<5, RMSEA <0.08, NFI between 0&1, CFI> 0.90 and TLI>0.90 had been utilized to evaluate how well the measurement model fit the data gathered (Hair et al., 2017). The value of (Chi-square/DF=2.164), (RMSEA=0.063), (NFI=0.853), (TLI=0.904) and (CFI=0.915) were in acceptable range.

Table 2. The Goodness-of-fit measures of the model

Goodness of fit	Measure	Score	Threshold	Conclusion
Absolute fit	Chi-square	1283.268		
	DF	593		
	Chi-square/DF	2.164	< 5	Supported
	RMSEA	0.063	<0.08	
Incremental fit	NFI	0.853	Between 0&1	Supported
	TLI	0.904	>0.90	
	CFI	0.915	>0.90	

4.3. Hypotheses testing

Hypothesis test is performed with two side significance tests, the symbol *** implies the hypothesis is accepted at the 0.001 level.

Table 3. Hypothesis test results

Hypotheses	Path	β	S.E.	t-value	P-Value	Decision
H1	TQM→PSAT	0.34	0.114	4.041	***	Supported
H2	TQM→SQ	0.68	0.074	5.638	***	Supported
H3	SQ→TR	0.43	0.197	4.545	***	Supported
H4	SQ→PSAT	0.35	0.200	3.890	***	Supported
H5	PSAT→TR	0.17	0.070	2.354	0.019	Supported

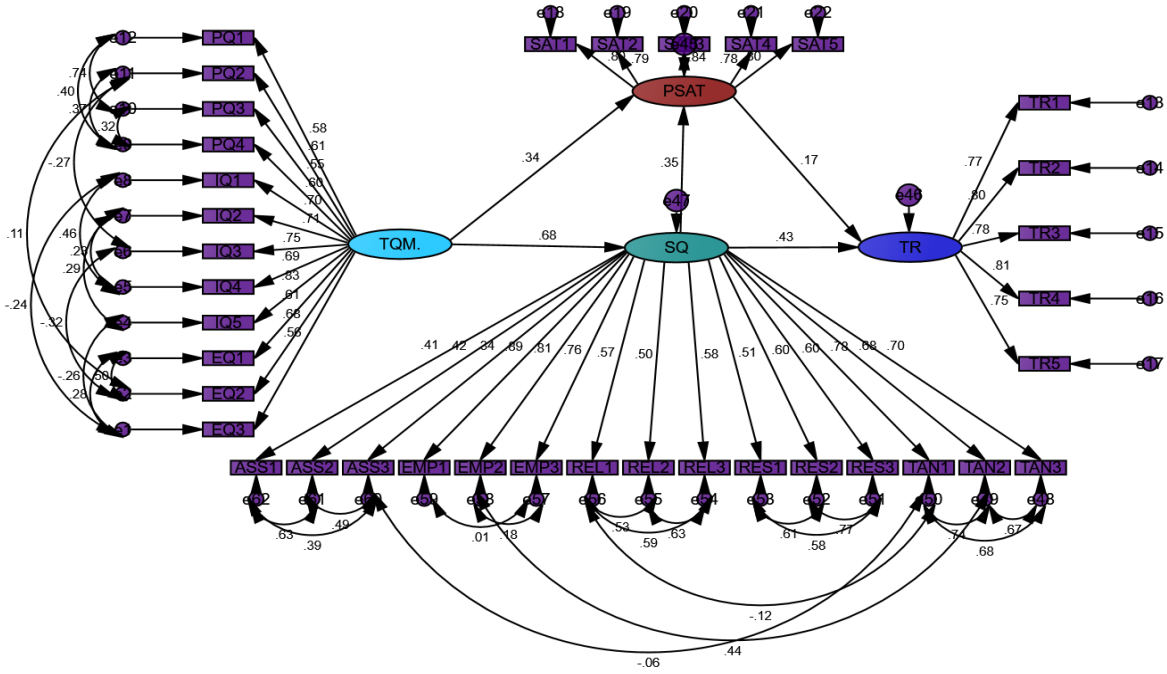
N=293. β, Standardized coefficient; S.E, Standardized estimate

The path TQM→PSAT was statistically significant (β = 0.34, t-value = 4.041, P = 0.001). Using the principles of total quality management, such as process quality, interaction quality, and environmental quality, leads to patient satisfaction in the healthcare sector. Our result is consistent with that of Nguyen and Nagase (2019). Thus, hypothesis 1 is supported. TQM→PSQ showed a positive sign (β = 0.68, t-value = 5.638, P = 0.001) and was of statistical importance (P = 0.001). This suggests that TQM had a positive impact on PSQ. The result is consistent with prior studies conducted by Alshrbaji et al. (2022), which found that the concepts of TQM and continuous improvement in healthcare performance can enhance the quality of healthcare services. Therefore, hypothesis 2 is supported.

The path coefficient of SQ→TR was statistically significant (β = 0.43, t-value = 4.545, P = 0.001), which indicates that SQ has a significant influence on TR. Patients who receive quality service can have trust in the healthcare system; the result is consistent with that of Thaichon and Thu (2015) and Kurnianingrum et al. (2020). Thus, hypothesis 3 is supported. The path coefficient of SQ→PSAT was statistically significant (β = 0.35, t-value = 3.890, P = 0.001). SQ was found to significantly impact the PSAT. This finding is consistent with previous research by Aliman & Mohamad (2013) and Agyapong et al. (2018). Thus, hypothesis 4 is supported.

The path PSAT→TR was statistically significant (β = 0.17, t-value = 2.354, P = 0.019), implying patients who are satisfied with the service can trust their healthcare provider. Others also revealed that PSAT had a positive effect on TR (Hung et al., 2019; Liu et al., 2021). The application of TQM principles such as interaction quality, environmental quality and process quality can enhance service quality of the healthcare sector which can lead to patient satisfaction and patient trust.

Figure 1. Structure Model



In short, all the hypotheses are supported, TQM has a **statistically** significant influence on SQ and patient satisfaction, and SQ has an influence on perceived service quality and trust.

5. CONCLUSION

In our study, the impact of TQM on PSAT and SQ, SQ on PSAT and TR, and PSAT on TR was assessed. Total Quality Management is important for the healthcare industry because it enhances efficiency, effectiveness, and trust in delivering service to patients. TQM adds value to the company and makes it more competitive. The research's conclusions have important implications for public hospital managers in Ethiopia. The healthcare system plays a significant role in the well-being of any society. Thus, applying the principles of TQM to increase effectiveness and efficiency should be a priority. Through the mediation of PSAT and SQ, the quality of a service that patients receive has an impact on the inpatient's satisfaction, which directly and indirectly contributes to patient trust. To increase customer satisfaction, the service organization should take these aspects into account in its strategic planning and decision-making.

5.1. Limitation and future research direction

There are certain drawbacks to this research. First, the only sources of the data were the public hospitals located in Ghana. Comparable studies may be conducted for private hospitals, so the findings may differ from those of public hospitals. Second, future research should be conducted in other geographical areas for the generalizability of the findings. Third, although the data were gathered from patients who were admitted, managers and staff may be used in future studies.

Fourth, this study only analyzed the direct relationship between variables, future research may consider mediation between TQM and TR.

Fifth, the sample size for this study was not adequate, may be future researchers can increase the sample size and perform the study. Besides this, the type of hospital can be used as a moderator to the model of this study.

5.2. Theoretical and Practical Implication

It adds a lot to what's already been written and encourages more research because there are few studies on TQM in healthcare as compared to the manufacturing sector. To the best of our knowledge, none of the studies looked into the relationship between SQ and PSAT or TQM and TR. In addition, there is a need for further research in developing countries so researchers can focus on this area. Also, this study has important managerial implications for healthcare administrators who may desire to take the aspects covered in this paper into account and use them when making strategic plans and decisions. 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.

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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.

Support and Acknowledgments: The study received no support from any institution or organization.

Ethics Committee Permission: Ethical permission was taken from Ethics Committee of Cyprus International University CIU2022/020/002 IN 21.06.2022.

Contribution Declaration: Dagnu Haile Tessem's contribution rate is 50%, Assoc. Prof. Figen Yeşilada`s contribution rate is 15%, Hannan Ketema Assefa`s Contribution rate is 15%, Hayford Asare Obeng`s contribution rate is 15% and Japheth Ahmed Nuhu`s contribution rate is 5%.