Research Paper

Shaping Patient Loyalty through Quality Care: Analyzing Patient Satisfaction in Public Hospitals in Ghana

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Abstract

Public hospitals in Ghana face challenges such as limited resources and inconsistent care delivery, which impact patient satisfaction and loyalty. In this context, enhancing service quality is crucial for retaining patients and improving healthcare outcomes. This study investigates the role of service quality in shaping patient loyalty and explores patient satisfaction as a mediator in selected public hospitals in Ghana using the SERVQUAL model. A survey was conducted among 200 outpatients from five public health facilities in Kumasi, Ghana, between January and February 25, 2024. A quantitative methodology was applied to evaluate how patients' perceptions of service quality influence their loyalty toward public healthcare providers. In order to analyze the data, SPSS and the smart partial least square (PLS) software version 3.0 were used for structural equation modeling (SEM). The findings revealed that communication, the physical environment, and responsiveness significantly affect patient loyalty, whereas factors such as privacy, safety, and a customer-friendly atmosphere do not. Additionally, this study confirmed that patient satisfaction mediates the relationship between service quality and patient loyalty, underscoring the importance of service quality in enhancing both satisfaction and loyalty in health care. Based on these insights, this study recommends that health care institutions improve their service quality to strengthen public healthcare systems. The significance of this paper extends beyond regression analysis, as it also addresses the delayed effects of service quality on patient loyalty, considering both direct and indirect influences in the regression models.

Keywords *Patient Satisfaction, Service Quality, Patient Loyalty, Healthcare Sector, Ghana*

INTRODUCTION

Healthcare access and patient satisfaction are fundamental rights for all individuals. However, in Ghana, particularly in the Ashanti region, many citizens face significant barriers to these rights. Challenges include inadequate healthcare infrastructure, a shortage of medical professionals, and limited access to essential services, which can lead to overcrowded facilities and extended waiting times (Dandis et al., 2022). The situation is further compounded by socioeconomic disparities that affect health outcomes, as rural populations often have less access to quality healthcare than urban residents (Hemberg et al., 2024). Compared with other regions, such as parts of South Africa and Kenya, where healthcare systems have made strides in accessibility and quality, Ghana's healthcare landscape remains underdeveloped (Ali et al., 2024).

While service quality is crucial in healthcare delivery, academic research in this area has been relatively limited in the service marketing literature over the past thirty years. Meeting patient needs is a critical issue that has drawn the attention of researchers, hospital administrators, government officials, and healthcare professionals because it contributes to patient satisfaction and loyalty (Al Owad et al., 2022). Acquiring new patients is generally more costly than retaining current ones (Anabila, 2021). Therefore, maintaining high levels of patient satisfaction remains a primary focus for healthcare providers. Hemberg et al. (2024) note that survey results show

dissatisfied patients in public hospitals often turn to private facilities for care, underscoring the importance of enhancing service quality in public hospitals.

Empirical research has explored the relationships among service quality, patient satisfaction, and patient loyalty across various service sectors. In healthcare, although institutions may offer similar services, quality can vary significantly (Ali et al., 2024; Aladwan et al., 2021). In emerging countries like Pakistan, public and private hospitals deliver health care services that differ in operational efficiency, efficiency, and work culture (Karamat et al., 2019). Ghana has begun to place considerable emphasis on improving the quality of medical services, yet significant gaps remain in the understanding.

Despite the importance of service quality, specific elements of patient satisfaction and loyalty within Ghana's public healthcare context remain underexplored. Previous research has largely focused on general patient satisfaction without adequately investigating the nuanced impacts of service quality dimensions, such as communication, responsiveness, and the physical environment, on patient loyalty. Addressing this gap is crucial because unexamined aspects of service quality may lead to persistent issues in patient retention and satisfaction, ultimately affecting the overall efficacy of the healthcare system (Dandis et al., 2022). Given the significance of this issue, this study poses the following research questions:

1. How does patient satisfaction influence patient loyalty to selected public hospitals in the Ashanti region?
2. What specific aspects of service quality most significantly affect patient satisfaction in public hospitals?
3. How can improvements in service quality enhance overall patient loyalty in the public healthcare sector in Ghana?
4. What mediating role does patient satisfaction play in the relationship between service quality and patient loyalty?

This study underscores the importance of improving healthcare service quality in Ghana's public hospitals. By examining patient behaviors and their effects on loyalty and satisfaction, healthcare providers can gain a competitive edge. Unlike prior studies that mainly focused on patient satisfaction, this research investigates how service quality influences patient loyalty, with patient satisfaction serving as a mediating factor. By focusing on select public hospitals in Ghana, this study aims to offer deeper insights into enhancing healthcare service quality to uphold patients' rights to access and satisfaction.

LITERATURE REVIEW
Healthcare Service Quality

Service quality, a key aspect of business management, has been widely discussed and highlighted in both academic and professional fields (PJ et al, 2023; Sharif & Lemine, 2024; Susanto, 2024). It is defined as customers' overall perception of a business and the relative superiority or inferiority of its services (Zeithaml, 1988; Taylor & Baker, 1994). Parasuraman et al. (1985) established that service quality can be assessed by comparing customers' expectations with their actual perceptions of service performance. Customers form initial expectations before experiencing a service, build impressions throughout the process, and ultimately evaluate the service by contrasting their perceptions with those expectations. In essence, service quality means that customer expectations and needs should be met during service delivery (Tan et al., 2016). From these perspectives, service quality can be considered a measure of how well a service meets consumer expectations.

Patient Satisfaction

Patient satisfaction, as defined by Ali et al. (2024), is the consumer's overall evaluation of a good or service. In the context of health services, patient satisfaction (PS) is a key outcome reflecting how well the actual service performance meets patient expectations (Engelbrecht, 2005; Hojat et al., 2011). Mohsan et al. (2011) described satisfaction as the extent to which a service or product fulfills a customer's needs and expectations. Various methods can be used to assess customer satisfaction, focusing on how well their needs were met and whether the service was enjoyable or disappointing. According to Pekkaya et al. (2019), satisfaction measures incorporate customer expectations and perceived service quality.

Al-Azzam et al. (2015) explored several factors that affect general customer satisfaction, while Zaid et al. (2020) noted that satisfaction acts as a mediator between perceived service quality (PSQ) and behavioral intentions (BIs). Nguyen and Nagase (2021) confirmed the positive effect of PSQ on customer satisfaction, and Foroughi et al. (2019) recognized its role in enhancing customer loyalty. Achieving high patient satisfaction is a primary goal for health care organizations because it is vital for assessing their service delivery (Nguyen & Nagase, 2019).

According to Kurniawan and Jufri (2022), dissatisfaction occurs when performance does not meet expectations, whereas satisfaction results when performance meets or surpasses expectations. Körner et al. (2015) support this view, suggesting that satisfaction is an emotional response based on the performance of a product relative to expectations. If the perceived outcome is less than expected, dissatisfaction follows; if it meets expectations, the customer may feel neutral. In banking, customer satisfaction can be assessed through factors such as service reliability, information availability, product accessibility, value for money, customer service responsiveness, and wait times (Mankgele, 2021).

Patient Loyalty

Patient loyalty is fostered when providers meet the needs and interests of their patients (Aliman & Mohamad, 2016). According to Bentum-Micah et al. (2020), satisfied patients are more likely to return for future medical services. Physicians can better understand the service quality aspects that matter most to patients by prioritizing and addressing these elements effectively. A study conducted at a private hospital in Sana'a, Yemen, examined factors influencing patient loyalty and found that reliability, empathy, and trust were significant determinants. In contrast, responsiveness and physical aspects had a minimal impact on patient loyalty.

Securing the loyalty of existing customers is a key marketing goal. Incentives, such as loyalty programs, can encourage consumers to develop brand loyalty and make repeat purchases. Customers who are satisfied with a business' products and services are more likely to recommend it to others. Kee et al. (2023) noted that customers with strong brand loyalty tend to make more frequent purchases from a single company than customers from other companies. Customer loyalty is crucial for many businesses because it significantly affects a brand or a company sustainability (Juliana et al., 2021).

The SERVQUAL model

The SERVQUAL model, introduced by Parasuraman et al. (1985), is a multi-item scale designed to measure customer perceptions of service quality in retail environments. It categorizes service quality into five key dimensions: reliability, tangibility, responsiveness, empathy, and assurance. In service development studies, many researchers have employed the SERVQUAL model, often emphasizing new dimensions and adapting certain aspects to align with their specific research topics and models. For example, in a cross-sectional study, Essiam (2013) applied these SERVQUAL dimensions to analyze quality attributes and patient satisfaction in public university

hospitals, identifying responsiveness, empathy, assurance, reliability, and tangibility as the strongest predictors of patient satisfaction. Similarly, Shahabi et al. (2024) conducted research at Bandar Abbas Shahid Mohammadi Hospital in southern Iran, revealing issues across all five service quality dimensions, except for the overall service quality.

Another study, such as Yousapronpaiboon and Johnson (2013) also found that the five SERVQUAL dimensions significantly influenced overall service quality, with reliability, assurance, tangibles, and responsiveness having the greatest impact. Whereas, a study by Al-Awamreh and Suliman (2019) assessed patient satisfaction using eight criteria: interpersonal care, physical environment, effectiveness, competence, comfort, cleanliness, individualized information, and general directions.

Hypotheses Development
Healthcare Service Quality and Patient Satisfaction

Research has established a direct correlation among patient satisfaction and perceived care quality, with higher perceived care quality generally leading to greater patient satisfaction (Alibrandi et al, 2023). Evaluating service levels in medical institutions often involves assessing patient satisfaction, as demonstrated by Shabir et al. (2016), who found a strong connection among patient satisfaction and the quality of medical care. Almomani et al. (2020) also explored this relationship, examining discrepancies between perceived and expected service quality to assess patient satisfaction.

The current business era, often referred to as the "Quality Era," highlights the growing importance of service quality in competitive markets (Peeler, 1996). Service quality is increasingly recognized as a key competitive advantage, with Berry et al. (2004) describing service quality as a vital competitive tool and Clow and Vorhies (1993) referring to it as essential to organizational success. The performance of staff significantly influences the level of service provided, particularly in the restaurant industry (Bell et al., 2005). Service quality is primarily evaluated based on the customer's experience compared to their expectations, and it plays a crucial role in determining client satisfaction (Dandotiya et al., 2024). Overall, customer satisfaction is closely connected to the quality of services or products and has a substantial impact on purchasing behavior and organizational success (Oliver, 1980; Zhong & Moon, 2020; Soren et al., 2023). The following hypothesis was derived:

H1: Healthcare service quality affects patient satisfaction

Healthcare Service Quality and Patient Loyalty

The concept of loyalty is currently gaining considerable attention in the service industry, with considerable attention given to how it influences customer behavior and business outcomes. Customer loyalty often manifests through repeat purchases and expectations of enhanced offerings or services (Wider et al., 2024). However, mere loyalty does not guarantee sustained customer retention. Factors such as prompt service, accuracy, reliability, and responsiveness to customer needs and preferences play crucial roles in shaping loyalty. These factors have psychological and behavioral effects that drive long-term commitment.

Service quality (SQ) characteristics are pivotal in influencing these factors because they directly impact customer perceptions and experiences (Huma et al., 2020; Kim et al., 2017; Setiawati et al, 2023). High service quality can enhance customer satisfaction, which in turn fosters loyalty by creating positive experiences and expectations. Afthanorhan et al. (2018) highlighted a positive correlation between service quality and customer loyalty, emphasizing that loyalty often serves as a dependent variable in the service quality framework. This relationship indicates that

improvements in service quality can lead to increased customer loyalty, making it essential for businesses to focus on delivering high-quality service to cultivate and maintain a loyal customer base.

Moreover, understanding the interplay between service quality and loyalty can provide valuable insights for businesses seeking to strengthen customer relationships and drive long-term success. Companies that prioritize enhancing service quality can better address customer needs, build stronger emotional connections, and ultimately achieve higher levels of customer loyalty and retention. This comprehensive approach underscores the importance of integrating service quality improvements into strategic planning to realize the sustainable competitive advantage (Hristov et al., 2022). This led to the formulation of the following hypothesis:

H2: Healthcare service quality affects patient loyalty

Patient Satisfaction and Loyalty

Achieving patient satisfaction requires medical facilities to effectively address patient preferences and needs before and after treatment (Ramli et al., 2019). When patients perceive that their expectations are met and they are satisfied with their care, they are more likely to trust their service providers (Shie et al., 2022), develop loyalty to healthcare institutions (Ramli et al., 2019), and recommend these institutions to others (Rahman et al., 2021). This, in turn, can contribute positively to institutions' financial performance (Yıldırım et al., 2022). Conversely, dissatisfied patients may terminate their treatment prematurely or switch to another facility, signaling a failure in service delivery. Therefore, healthcare organizations must ensure that patient care is not only continued but is also completed to satisfy patients' satisfaction (Kumar et al., 2021).

Nuntluanga (2021) highlighted that contented patients are more likely to stick with the same medical facility for their subsequent needs, reinforcing the idea that patient satisfaction is closely tied to patient loyalty. This connection is consistently supported by the literature, which highlighted a strong link between the quality of healthcare services and patient loyalty (Jawabreh et al., 2024; Quadree & Pahari, 2022). Hinson et al. (2020) further elaborated that behavioral intent includes not only the likelihood of returning to the hospital but also recommendations to others, thus illustrating the broader implications of patient satisfaction on both retention and referral. The following hypothesis was derived:

H3: Patient satisfaction affects patient loyalty

The Association Between Service Quality, Patient Satisfaction, and Patient Loyalty in Public Healthcare

The current research places significant emphasis on the mediating effect of patient satisfaction on the association between service quality and patient loyalty in public healthcare. Numerous studies (Bashir et al., 2012; Tan et al., 2016) have emphasized the subjective nature of customer satisfaction. Customer satisfaction is defined by Tse and Wilton (1988) as the reaction of a customer to an assessment of the perceived discrepancy between previous expectations (or performance norms) and actual performance.

This definition aligns with the expectation-disconfirmation theory, which determines satisfaction by comparing pre-purchase expectations with post-purchase evaluations. When a product or service surpasses expectations, ''positive disconfirmation'' is said to occur, "negative disconfirmation" arises when expectations are unmet, and "confirmation" happens when expectations are exactly met (Oliver, 2006). Although closely related to service quality, the key distinction is that customer satisfaction is evaluated after the experience, whereas service quality

is assessed beforehand (Parasuraman et al., 1988). Additionally, satisfaction expectations pertain to anticipated performance during a transaction, whereas service quality expectations focus on future performance criteria (Boulding et al., 1993).

Awan and Rehman (2014) highlighted that many businesses employ marketing strategies aimed at enhancing customer satisfaction, with the belief that increased satisfaction will lead to greater loyalty and profitability. Their claim is validated by a substantial body of research that indicates that customer satisfaction is a strong predictor of loyalty. For instance, Avgeli et al. (2020) demonstrated that higher levels of customer satisfaction correlate strongly with increased loyalty, while Zhang et al. (2022) found that customer satisfaction positively impacts loyalty. However, Lam et al. (2021) caution that this relationship can be influenced by various additional factors, suggesting that while satisfaction is important, other variables also play a role. The study proposed that:

H4: Service quality affects patient loyalty through patient satisfaction in public health care

Theoretical Framework

Numerous studies have been conducted to identify the connections among healthcare delivery, patient satisfaction, healthcare delivery quality, and behavioral intentions (Naidu, 2009). Patient satisfaction acts as a moderator of the active association between patient loyalty and the quality of medical services (Shabbir et al., 2016). Using a study framework, the association between patient loyalty, patient satisfaction, and the quality of healthcare services was investigated (See Figure 1).
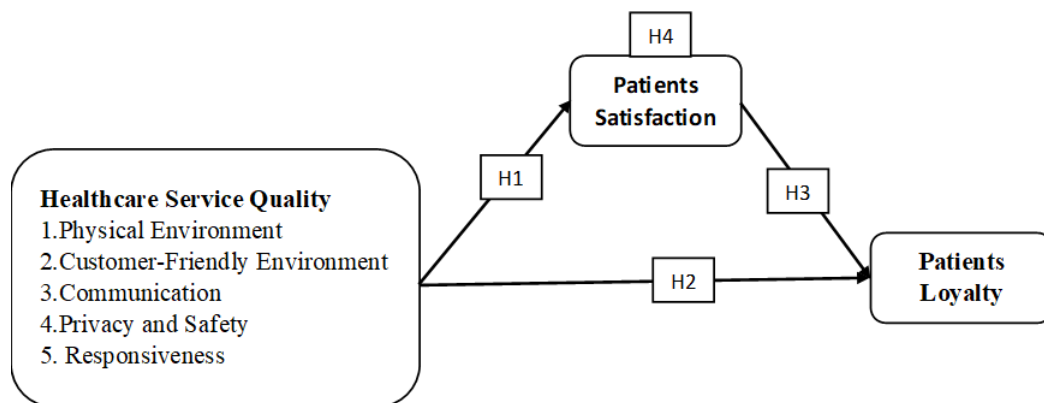

Figure 1. Theoretical Framework
Source: Authors own construction, 2024

RESEARCH METHOD

The study involved patients from five public health facilities in the Ashanti region. The researchers evaluated five hospitals and clinics to manage the research instruments. Approximately 300 participants were selected from public health institutions such as Juaben Hospital, Agogo Hospital, Manhyia Hospital, Suntreso Polyclinic, and Kumasi South Hospital. Participants were chosen using basic randomization procedures or convenience sampling, meaning that only those who were willing and available in a particular unit or department were contacted (Saunders et al., 2009). A total of 200 individuals were surveyed, and the response rate was 67%.

Neuman (2005) suggested that a response rate between 50% and 65% is acceptable. The research used both primary and secondary data, with questionnaires as the primary data collection tool.

Measures

This study explored the influence of healthcare service quality and patient satisfaction on patient loyalty using scales adapted from prior research. The independent variable, healthcare service quality, included several dimensions: the physical environment, assessed using a three-item scale adapted from Kondasani and Panda (2015); the friendliness of the environment, measured using a three-item scale from Shie et al. (2022); communication, evaluated using three items adapted from Kondasani and Panda (2015); privacy and security, measured using three items from Shie et al. (2022); and responsiveness, assessed using a three-item scale adapted from Aagja and Garg (2010) and Sureshchandar et al. (2002). The mediating variable, patient satisfaction, was measured using a three-item scale modified from Kondasani and Panda (2015) and Andaleeb (2001). Additionally, patient loyalty, the dependent variable, was evaluated using a five-item scale adapted from Kondasani and Panda (2015).

FINDINGS AND DISCUSSION
Data Analysis and Presentation

SPSS version 25 and Smart PLS version 3 were used to test the theoretical model proposed in this research.

Table 1. Participants Information

Variables	Categories	Frequency	Percentage
Gender	Male	82	41%
	Female	118	59%
	Total	200	100.0%
Age	16-20 years	21	10.5%
	21-30 years	94	47%
	31-40 years	62	31%
	41-50 years	23	11.5%
	Total	200	100.0%
Educational status	JHS	11	5.5%
	SHS	81	40.5
	Diploma	41	20.5%
	Degree	59	29.5%
	Postgraduate	8	4%

Source: Field data (2024)

Research Results

This research employed structural equation modeling (SEM) to test the hypotheses. A two-step analytical approach (Anderson & Gerbing, 1988) using Smart PLS version 3 was used for the analysis.

Validity and Reliability

Reliability testing was conducted to ensure a consistent measurement of the intended underlying structure. The results are presented in Table 1. An acceptable reliability coefficient should be greater than 0.7, with higher values indicating more reliability (Hair Jr et al., 2014). All variables had alpha coefficients exceeding 0.7, demonstrating strong internal consistency.

Content validity was used in the validity assessment. Literature reviews, along with input from educational experts and medical professionals, were employed to select items for the scale and ensure that they adequately covered the constructs being measured. Patient feedback was also considered to confirm that all items were clear in terms of language and meaning (Fornell & Larcker, 1981).

Table 2. The result of Construct Validity Analysis

Research constructs	Cronbach's alpha	Rho _A	CR	AVE	Loadings
Communication	**0.932**	**0.938**	**0.957**	**0.881**	
C1: It is easy to communicate with doctors and staff in this hospital.					**0.912**
C2: The tests and procedures are adequately explained by the healthcare team.					**0.952**
C3: Doctors and staff are willing to listen and provide clear answers to my questions.					**0.950**
Customer-Friendly Environment	**0.924**	**0.941**	**0.952**	**0.868**	
CFE1: The hospital staff were friendly and approachable during my visits.					0.921
CFE2: The hospital provides a comfortable environment in its waiting and treatment areas.					0.935
CFE3: The hospital staff showed respect for my personal needs and preferences during my care.					0.939
Patients Loyalty	**0.992**	**0.992**	**0.993**	**0.967**	
PL1: I intend to return to this hospital for any future healthcare needs.					**0.990**
PL2: I would recommend this hospital to my friends and family for their healthcare needs.					0.976
PL3: If I have a choice, I will prefer this hospital over other healthcare facilities.					0.979
PL4: I trust the healthcare providers at this hospital to provide high-quality care.					0.988
PL5: I feel a sense of loyalty to this hospital					0.984

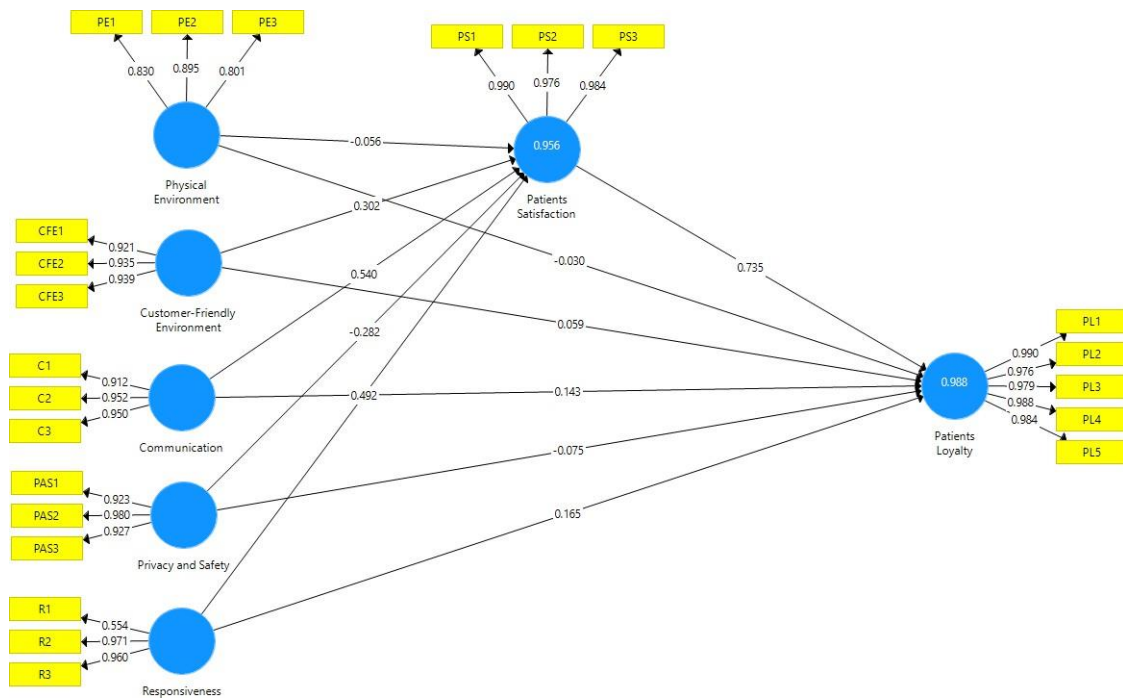| Research constructs	Cronbach's alpha	Rho _A	CR	AVE	Loadings
based on my experiences here.					
Patients Satisfaction	**0.983**	**0.983**	**0.989**	**0.968**	
PS1: Overall, I am satisfied with the care I received during my hospital visit.					**0.990**
PS2: I felt that the healthcare providers listened to my concerns and addressed them effectively.					**0.976**
PS3: I would recommend this hospital to friends and family based on my experience.					**0.984**
Physical Environment	**0.797**	**0.816**	**0.880**	**0.710**	
PE1: The hospital's facilities are consistently clean and well-maintained.					**0.830**
PE2: The waiting and treatment areas are spacious and provide adequate seating for patients.					**0.895**
PE3: The hospital medical equipment is easily accessible and well-organized for patient care.					**0.801**
Privacy and Safety	**0.939**	**0.956**	**0.961**	**0.891**	
PAS1: The hospital ensures that my personal and medical information is confidential.					**0.923**
PAS2: I feel that my privacy is being respected during medical consultations and treatments.					**0.980**
PAS3: The hospital provides a safe environment with visible safety protocols in place.					**0.927**
Responsiveness	**0.794**	**0.926**	**0.882**	**0.724**	
R1: The hospital staff respond promptly to my requests and concerns.					**0.554**
R2: Doctors and nurses are readily available when I need assistance.					**0.971**
R3: The hospital staff handles emergencies quickly and efficiently.					**0.960**

Source: Field data (2024)

Discriminant Validity

Tests were conducted using the AVE (Average Variance Extracted) criteria (Fornell & Larcker, 1981). When each construct's square root of the AVE exceeds its correlations with all other constructs, discriminant validity is proven. In other words, as this study has shown, the square root of the AVE must be greater than the off-diagonal values in the corresponding rows and columns of the correlation matrix. This verified the measurements' discriminant validity. Table 3 presents the square root of the AVE and the results of the variable correlations.

Table 3. Discriminant Validity

	C	CFE	PL	PS	PE	PAS	R
Communication	0.938						
Customer-Friendly Environment	0.849	0.931					
Patients Loyalty	0.882	0.929	0.984				
Patients Satisfaction	0.880	0.929	0.992	0.984			
Physical Environment	0.466	0.553	0.539	0.544	0.843		
Privacy and Safety	0.963	0.810	0.810	0.810	0.495	0.944	
Responsiveness	0.776	0.871	0.940	0.934	0.652	0.722	0.851

Source: Field data (2024)

Figure 2. The model fits the data perfectly

Table 4. Structural Analysis

Study's Hypothesis	Hypothesis	Path coefficients	Sample Mean (M)	Standard Deviation (STDEV)	T - Statistics	P - Values	Supported/Rejected
PE-> PS	H1a	-0.056	-0.056	0.093	2.060	**0.040**	Supported
CFE-> PS	H1b	0.302	0.304	0.106	2.881	**0.004**	Supported
C -> PS	H1c	0.540	0.543	0.056	4.247	**0.000**	Supported
PAS-> PS	H1d	-0.282	-0.285	0.050	2.705	**0.007**	Supported

Study's Hypothesis	Hypothesis	Path coefficients	Sample Mean (M)	Standard Deviation (STDEV)	T - Statistics	P - Values	Supported/Rejected
R -> PS, where	H1e	0.492	0.488	0.088	5.399	**0.000**	Supported
PE-> PL	H2a	-0.030	-0.031	0.098	2.077	**0.038**	Supported
CFE-> PL	H2b	0.059	0.057	0.070	0.964	**0.335**	Rejected
C -> PL	H2c	0.143	0.145	0.095	2.221	**0.027**	Supported
PAS-> PL	H2d	-0.075	-0.075	0.049	1.836	**0.067**	Rejected
R-> PL	H2e	0.165	0.165	0.091	3.910	**0.000**	Supported
PS-> PL	H3	0.735	0.737	0.047	8.488	**0.000**	Supported

Source: Field data (2024)

Table 5. Indirect Effects

	Hypothesis	Path Coefficient	T Statistics (|O/STDEV|)	P Values	Supported/Rejected
PE-> PS -> PL	4a	-0.041	1.983	**0.048**	**Supported**
CFE-> PS-> PL	4b	0.222	3.514	**0.000**	**Supported**
C -> PS -> PL	4c	0.396	3.792	**0.000**	**Supported**
PAS-> PS-> PL	4d	-0.207	2.660	**0.008**	**Supported**
R -> PS -> PL	4e	0.362	4.100	**0.000**	**Supported**

Source: Field data (2024)

Table 6. Model Fit Summary

	Saturated Model	Estimated Model
SRMR	0.060	0.071
d_ULS	0.438	0.599
d_G	0.441	0.457
Chi-Square	522.970	538.478
NFI	0.843	0.839

Source: Field data (2024)

Note: C= Communication; CFE= Customer-Friendly Environment; PL= Patients Loyalty; PS= Patients Satisfaction; PE= Physical Environment; PAS= Privacy and Safety whereas R= Responsiveness. **$p<0.01$, *$p<0.05$, Bootstrapping (n=5000)

Summary of the Findings

This research examines the influence of service quality on patient loyalty in the Ghanaian

healthcare sector, with patient satisfaction serving as a mediating factor. The results, as shown in Table 4 and Figure 2, reveal that the physical environment significantly affects patient satisfaction (β = -0.056, t = 2.060, p = 0.040), supporting H1a; a customer-friendly environment significantly affects patient satisfaction (β = 0.302, t = 2.881, p = 0.004), supporting H1b; communication significantly affects patient satisfaction (β = 0.540, t = 4.247, p = 0.000), supporting H1c; privacy and security significantly affect patient satisfaction (β = -0.282, t = 2.705, p = 0.007), supporting H1d; and responsiveness significantly affects patient satisfaction (β = 0.492, t = 5.399, p = 0.000), supporting H1e. Additionally, the physical environment significantly affects patient loyalty (β = -0.030, t = 2.077, p = 0.038), supporting H2a; a customer-friendly environment does not significantly affect patient loyalty (β = 0.059, t = 0.964, p = 0.335), rejecting H2b; communication significantly affects patient loyalty (β = 0.143, t = 2.221, p = 0.027), supporting H2c; privacy and security do not significantly affect patient loyalty (β = -0.075, t = 1.836, p = 0.067), rejecting H2d; responsiveness significantly affects patient loyalty (β = 0.165, t = 3.910, p = 0.000), supporting H2e; and patient satisfaction significantly affects patient loyalty (β = 0.735, t = 8.488, p = 0.000), supporting H3.

Testing Model Fit

The fit indices for both the saturated model (measurement model) and estimated model (structural model) were identical because the model was fully saturated with no distinct pathways. The chi-squared value was 538.478, NFI was 0.839, and SRMR was 0.071, as presented in Table 6. The model demonstrated a good fit to the data, as all factor loadings were positive and statistically significant (Table 6).

Mediation Test

Table 5 explores whether patient satisfaction mediates the association between service quality and patient loyalty in the Ghanaian healthcare sector. The results confirm that the physical environment influences patient loyalty through patient satisfaction (B = -0.041, t = 1.983, p = 0.048), supporting H4a. A customer-friendly environment impacts patient loyalty through patient satisfaction (B = 0.222, t = 3.514, p = 0.000), supporting H4b. Communication also affects patient loyalty through patient satisfaction (B = 0.396, t = 3.792, p = 0.000), supporting H4c, whereas privacy and safety influence loyalty through patient satisfaction (B = -0.207, t = 2.660, p = 0.008), supporting H4d. Responsiveness affects patient loyalty through patient satisfaction (B = 0.362, t = 4.100, p = 0.000), supporting H4e. These findings align with previous research (Hair & Sarstedt, 2021; Lee et al., 2021; Wang, 2019), which suggests partial mediation when both direct and specific indirect effects have significant t-statistics. Thus, patient satisfaction partially mediates the relationship between service quality and patient loyalty. In Ghanaian public hospitals, a five-dimensional model was developed using regression analysis to assess customer perceptions of service quality and loyalty. The results suggest that a customer-friendly environment and privacy and security do not significantly contribute to loyalty, indicating that these aspects may not be adequately addressed by healthcare providers. The insights from this study offer valuable guidance for future research on service quality perceptions and loyalty.

Discussion

This research sought to explore patient perceptions of different dimensions of healthcare service quality, including physical environment, customer-friendly culture, communication, privacy and security, and responsiveness, and their effects on patient satisfaction and loyalty. The results reveal a significant connection among healthcare quality and patient loyalty, suggesting that hospitals can enhance patient loyalty by providing high-quality care. The positive association

among patient satisfaction and healthcare service quality indicates that higher service quality results in greater patient satisfaction. Moreover, the association between patient satisfaction and loyalty suggests that satisfied patients are more likely to remain loyal to healthcare providers. This is in line with earlier studies (Ramli et al., 2015; Chahal & Mehta, 2013; Wu et al., 2008) that demonstrated a connection between healthcare service quality, patient satisfaction, and loyalty. Additionally, patient satisfaction has been identified as a mediator between healthcare service quality and patient loyalty (Chahal & Kumari, 2010; Aliman & Mohamad, 2013; Akter et al., 2010; Mpinganjira, 2011; Shabbir et al., 2016).

Additionally, the outcomes demonstrate that in public hospitals, the physical environment is a strong predictor of both patient satisfaction and loyalty. A friendly atmosphere created by hospital staff members contributes to higher customer satisfaction and loyalty, while effective two-way communication supports this as well. Patients are more inclined to discuss their issues openly when they feel understood by specialists. Privacy and security also play crucial roles in patient satisfaction and loyalty, as private hospitals minimize harm and reduce the risk of adverse events. To emphasize that hospitals should concentrate on providing care that meets each patient's specific needs, regardless of their social status, responsiveness was emphasized as a critical predictor of patient satisfaction and loyalty. These findings highlight the significance of different aspects of service quality in raising patient happiness and loyalty in medical settings.

CONCLUSIONS

The results show that public hospitals are committed to addressing patient needs and are designed to provide high-quality medical care. The survey findings demonstrate that staff members in these hospitals play a crucial role in ensuring comprehensive patient care by maintaining a clean and safe environment, facilitating effective communication, promptly responding to patient requests, and providing access to specialized care. Private hospitals also emphasize creating a client-friendly atmosphere and a responsive system tailored to patient needs. Their dedication to continuously refining procedures and frameworks underscores their commitment to providing superior care. The study suggests that high-quality healthcare services are strongly associated with increased patient satisfaction and loyalty, with satisfied patients likely to disseminate positive feedback and recommend the services to others.

Furthermore, the study highlights a growing trend among hospital administrators toward adopting patient-centered practices. This shift is driven by the recognition that patient satisfaction is integral to evaluating an organization's profitability and reputation. This research underscores the importance of various aspects of healthcare quality—such as customer friendliness, physical environment, responsiveness, communication, privacy, and security—in influencing patient loyalty through patient satisfaction. This underscores the need for health care organizations to maintain and enhance high-quality service standards to effectively build and sustain patient satisfaction and loyalty. By focusing on these critical areas, health care providers can better meet patient expectations, improve overall care delivery, and strengthen their competitive position in the market. The findings advocate for continuous improvement that aligns with patient needs and preferences, ultimately leading to improved patient outcomes and organizational success.

Practical Implication

This study provides a valuable explanatory model for healthcare organizations to evaluate patients' perceptions of service quality, satisfaction, and loyalty intentions. The proposed model enriches the current understanding by offering insights into healthcare delivery and pinpointing the factors that influence service quality. In addition, it outlines effective methods for measuring and enhancing service quality. For Ghanaian public hospitals, the findings advocate for the

implementation of comprehensive, large-scale service quality assessments. By systematically evaluating and addressing areas such as the physical environment, communication practices, and responsiveness, these hospitals can significantly increase patient satisfaction and foster loyalty. Enhanced patient satisfaction is likely to lead to more positive word-of-mouth recommendations, which can improve the hospital's reputation and attract more patients.

Moreover, the study highlights the importance of a patient-centered approach, suggesting that hospital administrators should focus on continuous improvement in service delivery to effectively meet patient needs. This could involve training staff to enhance their communication skills, improve the cleanliness and safety of facilities, and develop efficient systems for addressing patient concerns. Overall, these practical steps can help health care organizations not only meet but also exceed patient expectations, ultimately leading to improved patient outcomes and organizational success.

LIMITATION & FURTHER RESEARCH

The limitations of this study should be noted to guide future research. First, the study focused exclusively on public hospitals in Kumasi, Ghana, which may limit the generalizability of the findings to other regions or private healthcare institutions. Healthcare dynamics in private hospitals, which often operate under different structural and financial conditions, can yield different insights into service quality and patient loyalty. A comparative analysis between public and private hospitals could provide a more comprehensive understanding of healthcare service quality.

Second, the study relied on a cross-sectional design to capture patient perceptions at a single point in time. As patient satisfaction and loyalty can evolve, a longitudinal study could offer more robust insights into how these variables interact over an extended period. This approach is particularly useful for understanding the long-term effects of service quality improvements on patient loyalty.

Third, the sample size was limited to 200 outpatients, which may not fully represent the diversity of patient experiences across Ghana's public healthcare sector. Future studies could increase the sample size or extend the research to include inpatients and patients from various regions, allowing for a broader generalization of the findings. Additionally, while the SERVQUAL model was utilized to measure service quality, other models or frameworks can be employed to explore different dimensions of healthcare service delivery. Future research could investigate the role of hospital image, branding, and the financial implications of high-quality care delivery because these factors might influence patient perceptions and loyalty. By addressing these limitations, future studies can offer a more holistic view of the relationship between service quality, patient satisfaction, and loyalty in both public and private healthcare settings.

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