



Influence of Service Waiting Time and Service Quality on Patient Satisfaction and Its Impact on Patient Loyalty: A Case Study at the Pediatric Polyclinic

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Abstract

Patient satisfaction serves as a critical indicator in evaluating the quality of healthcare service delivery. This study stems from concerns regarding extended waiting times experienced by patients at the Pediatric Polyclinic of Indriati Hospital Boyolali, which are believed to contribute to diminished satisfaction and loyalty among service users. The primary objective of this research is to assess and map the influence of service waiting time and service quality on patient satisfaction, as well as to examine the subsequent impact on patient loyalty toward the healthcare institution. A quantitative research approach was employed using a survey method, with data analyzed through causal statistical techniques utilizing Structural Equation Modeling (SEM) based on Partial Least Squares (PLS). Data were collected via a convenience sampling method, involving 100 respondents who were currently receiving or had recently received services at the Pediatric Polyclinic of Indriati Hospital Boyolali. The findings reveal that both service waiting time and service quality have a significant and positive impact on patient satisfaction. Furthermore, these two variables also directly affect patient loyalty. Importantly, patient satisfaction was found to act as a significant mediating variable, bridging the influence of service waiting time and service quality on loyalty. These results underscore the necessity of enhancing service process efficiency and improving the quality of service interactions as key strategies for building trust and fostering long-term loyalty among hospital service users.

Introduction

A hospital is a type of business that engages in services by providing clinical medical services to patients. High-quality hospitals offer a wide range of services, including emergency rooms, outpatient care, inpatient care, procedure rooms, and specialized care units. As an institution engaged in health services, hospitals carry out their duties with the support of various human resource skills, both from professionals and non-professionals (Yudiastini, 2024; Moncatar et al., 2021; Olatunji et al., 2024).

According to the World Health Organization (WHO), hospitals are an important aspect of the social and health system that plays a role in providing complete services, including the treatment of disease (curative) and its prevention (preventive) to the community (World Health Organization & World Bank Group, 2018). As a health care institution, there are currently several hospitals that have undergone various kinds of changes, such as competing by providing quality health facilities and services. So that the hospital will be oriented towards patient satisfaction as a form of existence of the hospital (Yuhan et al., 2024; Bhati et al., 2023).

Patient satisfaction is the final result (*outcome*) of health service delivery which is closely related to improving service quality. This satisfaction can be interpreted as a patient's emotional reaction that arises after they evaluate the performance of the services received and compare them with their expectations (Soumokil et al., 2021; Hasibuan, 2023; Chen et al., 2022; Nguyen et al., 2021). From the results of research by the *Technical Assistance Research Program* (TARP), it states that 96% of consumers who do not feel satisfied will secretly switch to a competitor's service and will even tell others about the bad experience or bad service they received (Lupiyoadi, 2014; Yang et al., 2022; Buttle & Burten, 2002).

Based on the Regulation of the Minister of Health of the Republic of Indonesia Number HK.01.07/Menkes/1128/2022 concerning Hospital Accreditation Standards in 2022, patient and family satisfaction is used as one of the benchmarks in assessing the quality of hospital management. Assessment of this aspect can be done through the implementation of patient and family satisfaction surveys (Afrizal & Suhardi, 2018; Park, 2021; Abu-Rumman et al., 2022).

Based on the Decree of the Minister of Health of the Republic of Indonesia (2022), increasing customer satisfaction as part of the health service unit's business strategy includes patient satisfaction with medical and nursing services, supporting services, and available facilities and infrastructure. This level of satisfaction can be evaluated through patient survey results. Patient satisfaction reflects the quality of services provided and is one of the main indicators in efforts to improve the quality of health services. Satisfied (Sukur, 2023) patients tend to follow medical advice, remain loyal to the agreed treatment plan, and show high compliance.

Conversely, if patients are dissatisfied or disappointed with the services received, they are less likely to follow the planned treatment, ignore medical advice, or transfer to another health facility. Referring to the Implementation of the inventory of public satisfaction by the public service group is based on Law Number 25 of 2009 regarding Public Service Degrees, the implementation of which is further regulated in Government Regulation of the Republic of Indonesia Number 96 of 2012. In addition, this activity also refers to the official guidance enshrined in the Regulation of the Minister of Civil Apparatus Affairs and Bureaucratic Upheaval Number 14 of 2017, the Banjarnegara Islamic Hospital as an entity institution of public service exposure is required to carry out a review of customer user enjoyment with a regular rhythm, at least once a year. From the many hospitals that have developed in Indonesia, the contestation between hospital occupancy is getting tighter, therefore improving the quality of service must be improved (Sesrianty et al., 2019).

Indriati Boyolali Hospital is a private hospital located in Central Java Province, one of its services is the Pediatric Polyclinic. From the data of patient visits at the Children's Polyclinic throughout 2024 was 1,327 visits and the number of patient visits data from from January to February 2025 was 362 visits from various cases such as bronchopneumonia, tuberculosis, epilepsy, *weight faltering*, *stunting*, lactation counseling, growth and development, and immunization. It was found that there was a problem of long waiting times as patients and families queued to get health services at the pediatric polyclinic. So that the accumulation of patients available in the waiting room around the pediatric polyclinic.

Long waiting times have the potential to aggravate the condition of patients who need immediate medical consultation. Therefore, reducing the duration of waiting time is one of the crucial steps in efforts to improve the quality of health services (Paramita, 1967). Prolonged waiting times should be a major concern as they can not only worsen the patient's condition but also cause anxiety for the waiting family. This also has an impact on inefficiencies in the flow of services and results in a loss of productive time that can actually be utilized by patients and their families for other activities (Sari & Noviyanti, 2023; Dawoodbhoy et al., 2021).

Based on a preliminary survey, the researcher found that out of 10 patient complaints submitted to the hotline of Indriati Boyolali Hospital, there were 6 patients who criticized the waiting time for examination and service in the pediatric polyclinic. Most patients faced boredom during the waiting process, both in the registration phase and while waiting for the results of the prescription from the doctor. This is an important concern regarding the assessment of patient satisfaction based on the long waiting time and needs to be improved.

One aspect that plays a role in determining the level of patient satisfaction is the quality of service provided. As the number of patients or users of hospital services increases, the need to continuously improve service quality becomes increasingly important. In the midst of rapid technological advances, people's insights and knowledge are also broadening, making them more careful in choosing health facilities. This encourages competition between health service providers to become increasingly fierce, so hospitals are required to provide the best service to meet customer expectations (Nuraliza, 2024; Haryono et al., 2024; Arief & Muslikh, 2024).

There are five main components used to assess the quality of service in hospitals. First, reliability, which reflects the institution's ability to provide services according to promises or established standards. Second, assurance, which is a guarantee that the hospital has adequate human resources and technology to provide services to patients. Third, tangibles or physical aspects, including tangible evidence of the services provided. Fourth, empathy, which is the hospital's ability to show care and concern for patients. Finally, responsiveness, which describes the speed and accuracy of hospital staff in responding to and resolving patient complaints (Widodo & Prayoga, 2022; Akbar et al., 2022).

In organizing services in hospitals, understanding the level of patient satisfaction with the services provided plays an important role. Patients who have a positive experience will generally feel satisfied. This satisfaction includes various aspects, such as patient expectations, condition of facilities and infrastructure, hospital environment, effectiveness of communication and information, level of patient participation, and quality of interpersonal relationships. One of the results of patient satisfaction is the emergence of loyalty to health care institutions, in this case hospitals (Widodo & Prayoga, 2022). The sustainability of hospital operations is highly dependent on patient loyalty, which in turn is influenced by their experience of overall service quality. Individuals who feel satisfied are more likely to repeat using identical services and suggest them to others (Abdurrouf & Sari, 2017; Fared et al., 2021). Therefore, to achieve optimal service quality, it is necessary to make efforts to improve the overall quality of service that can be measured through the degree of community satisfaction with the services provided.

Considering the background previously described and strengthened by various theories and results of previous studies, the researcher decided to raise a research topic entitled: "Analysis of the Effect of Waiting Time and Service Quality on Patient Satisfaction and its Implications for Patient Loyalty (Case Study at Indriati Boyolali Hospital Pediatric Polyclinic)".

Methods

The study uses statistics and measures to examine the connections between service waiting time, the quality of the service, patient satisfaction, and how loyal they remain. As explained by Sugiyono (2016), quantitative research means looking at observable phenomena by combining statistics, mathematics, and computational techniques. This way of research is appropriate to consider hypotheses and make conclusions that generalize to a wider population.

The descriptive part of the study tries to spotlight and carefully explain patients' views on the wait for service, the way care is delivered, how happy they are with it, and their loyalty to the Pediatric Polyclinic of Indriati Boyolali Hospital. At the same time, the verifying process

checks whether the relationships between waiting time, service quality, satisfaction, and loyalty have been found to be significant.

As a way to look at these interconnections, this study uses the Structural Equation Modeling - Partial Least Squares (SEM-PLS) approach. When there are many complicated relationships among latent constructs in the research model, SEM-PLS is most appropriate for predictive modeling and theory testing. For data analysis, SmartPLS 3.0 was used, so both the outer models (measurement models) and the inner models (structural models) could be evaluated.

To collect data, a questionnaire was applied to 100 patients, and these included those who received services as well as those that had recently been at the Pediatric Polyclinic. Non-probability sampling and an incidental method were used, so the participants were chosen only if they were reachable and agreed to take part when collecting the data. Sometimes, using this method means findings cannot be generalized as well because they were not chosen at random. In order to imagine how the main latent variables influence one another, a conceptual path model is made. It forms the basis for analyzing SEM, as it shows the direct and indirect ties between the different constructs. As a whole, the relationship between the variables in this study can be reviewed through the visual illustration in the following figure:

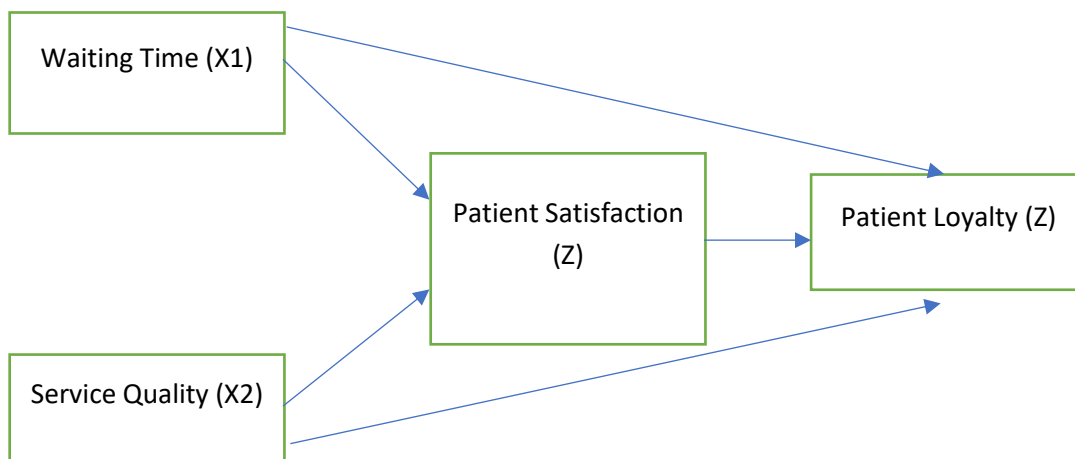


Figure 1. Path Diagram of the Relationship between Research Variables

In the first step, the researchers checked the measurement model, and the next step involved the structural model. The outer model assessment measured the constructs' validity and reliability using convergent and discriminant validity, which included loading factors, Average Variance Extracted (AVE), and Fornell-Larcker criteria, and also relied on reliability coefficients (Cronbach's Alpha and Composite Reliability). At the same time, analyzing the inner model called for reviewing R-square, Q-square, and bootstrapping tests to calculate path coefficients and mediation effects.

Result and Discussion

Research Results

Starting from the data collected through the questionnaire instrument and analyzed with the Partial Least Square estimation approach through the PLS algorithm, a comprehensive model path chart is obtained which is shown in Figure 4.1.

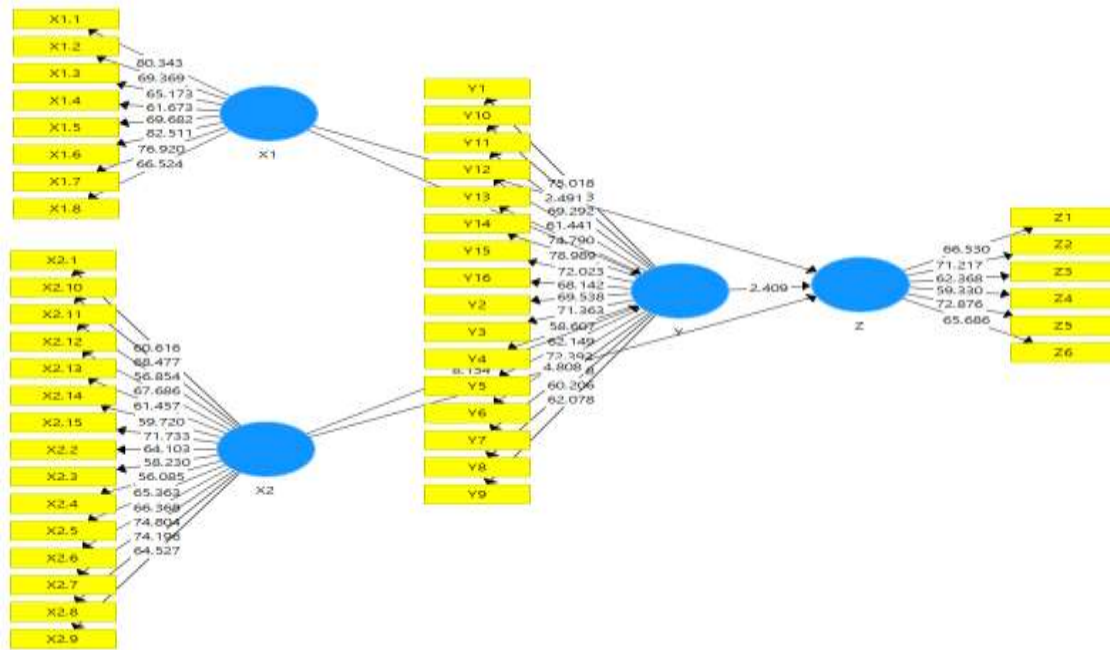


Figure 2. Standardization coefficient of structural modeling

Source: SmartPLS 3.0 Data Processing,

Measurement Model (*Outer Model*)

Assessing the *Outer Model* or *Measurement Model*

The validity test consists of *convergent validity* and *discriminant validity*.

Convergent validity

Loading Factor

Table 1. *Outer Loadings (Measurement Model) Variable X1 (Service Time)*

Manifest Variable	Loading Factor	Ket
X1.1	0.906	Valid
X1.2	0.899	Valid
X1.3	0.910	Valid
X1.4	0.885	Valid
X1.5	0.906	Valid
X1.6	0.924	Valid
X1.7	0.933	Valid
X1.8	0.906	Valid

Source: Data Processed by Researchers with SmartPLS 3.0, 2025

Table 1 above shows that there is no loading factor value that is less than 0.70, so all manifest variables related to satisfaction in this study can be used.

Table 2. *Outer Loadings (Measurement Model) Variable X2 (Service Quality)*

Manifest Variable	Loading Factor	Ket
X2.1	0.893	Valid
X2.2	0.907	Valid

X2.3	0.877	Valid
X2.4	0.907	Valid
X2.5	0.893	Valid
X2.6	0.911	Valid
X2.7	0.910	Valid
X2.8	0.907	Valid
X2.9	0.901	Valid
X2.10	0.893	Valid
X2.11	0.895	Valid
X2.12	0.896	Valid
X2.13	0.918	Valid
X2.14	0.910	Valid
X2.15	0.904	Valid

Source: Data Processed by Researchers with SmartPLS 3.0, 2025

Table 3 above shows that there is no loading factor value that is less than 0.70, so all manifest variables related to service quality in this study can be used.

Table 3. *Outer Loadings (Measurement Model) Variable Y (Satisfaction)*

Manifest Variable	Loading Factor	Ket
Y1	0.909	Valid
Y2	0.901	Valid
Y3	0.891	Valid
Y4	0.890	Valid
Y5	0.901	Valid
Y6	0.914	Valid
Y7	0.906	Valid
Y8	0.891	Valid
Y9	0.900	Valid
Y10	0.918	Valid
Y11	0.889	Valid
Y12	0.889	Valid
Y13	0.898	Valid
Y14	0.883	Valid
Y15	0.894	Valid
Y16	0.893	Valid

Source: Data Processed by Researchers with SmartPLS 3.0, 2025

Table 3 above shows that there are no values less than 0.70, so all manifest variables related to satisfaction in this study can be used

Table 4. *Outer Loadings (Measurement Model) Variable Y (Loyalty)*

Manifest Variable	Loading Factor	Ket
Z1	0.914	Valid
Z2	0.904	Valid

Z3	0.906	Valid
Z4	0.890	Valid
Z5	0.918	Valid
Z6	0.899	Valid

Source: Data Processed by Researchers with SmartPLS 3.0, 2025

Table 4 above shows that there are no values less than 0.70, so all manifest variables of satisfaction in this study can be considered valid for use.

Average Variance Extracted (AVE)

Table 5. *Average Variance Extracted (AVE)*

Variable	Average Variance Extracted (AVE)	critical value
X1 (Service Time)	0.826	0.5
X2 (Service Quality)	0.813	
Y (Satisfaction)	0.806	
Z (Loyalty)	0.820	

Source: Data Processed by Researchers with SmartPLS 3.0, 2025

Based on Table 5, it can be seen the results of convergent suitability as measured using the *average variance extracted* (AVE) indicator. This finding indicates that all latent constructs have an AVE value that exceeds 0.5. This indicates that the elements that make up the latent constructs show adequate convergent validity based on the AVE value.

Root AVE and Correlation between Latent Constructs (Fornell-Locker)

The discriminant validity test is then carried out using the Fornell-Larcker criteria, namely by comparing the square root of the AVE (\sqrt{AVE}), which must have a value greater than the correlation value between constructs. The square root value of AVE can be found in the PLS algorithm output, which is found in the Fornell-Larcker criteria as presented in Table 4.14, which is the processing result in this study.

Table 6. *Fornell Larcker Criterion*

	X1	X2	Y	Z
X1	0.909			
X2	0.976	0.901		
Y	0.980	0.983	0.898	
Z	0.972	0.981	0.977	0.905

*) the value in the diagonal direction in bold is the root value of AVE

Source: Processed Data with SmartPLS 3.0

Based on the figures in the table above, it can be concluded that all constructs analyzed show adequate discriminant validity, because the AVE value is greater than the highest correlation value between constructs.

Reliability Analysis

After conducting the validity test, the next step is reliability testing to assess the level of internal consistency between indicators in a construct. This evaluation can be done through the Cronbach's Alpha value, provided that it must exceed 0.7, and through Composite Reliability

which is also required to be above the 0.7 threshold. Table 4.15 below presents the reliability values of the variable constructs analyzed.

Table 7. *Reliability and Cronbach Alpha*

Variable	Cronbach's Alpha	Composite Reliability	critical value	Ket
X1	0.970	0.974	0.7	Reliable
X2	0.984	0.985		Reliable
Y	0.984	0.985		Reliable
Z	0.956	0.965		Reliable

Source: Data Processed by Researchers with SmartPLS 3.0, 2025

Table 7 shows that each variable contains Cronbach's Alpha and Composite Reliability values that exceed 0.7, indicating that the constructs and dimensions are reliable and meet the reliability criteria.

Structural Model (*Inner Model*)

Inner model evaluation is an assessment of the relationship between hidden constructs. The estimated relationship between constructs can be illustrated as follows: the hidden construct of satisfaction (Y) is influenced by the constructs of service duration (X1) and service quality (X2). Testing of the inner model includes the coefficient of determination (R-square), effect contribution (F-square), and predictive relevance (Q-square). Below is an overview of the quantities referred to in the structural design:

Goodness of Fit (R-Square)

The R-Square (R^2) value on the dependent construct illustrates the extent to which the independent variables affect the dependent construct. R^2 describes the extent to which the exogenous variables in the model are able to explain the endogenous variables.

Table 8. *R-Square*

Endogenous	R Square	Strong Relationship
Y	0.975	Strong
Z	0.969	Strong

Source: SmartPLS 3.0 Data Processing, 2025

Based on the results of evaluating the structural model through analyzing the R-Square value on the dependent construct, it is found that the R-Square value for variable Y is 0.975. This figure indicates that the model is in a very strong category in explaining these variables. Similarly, the R-Square value for construct Z was recorded at 0.969, which also reflects that the model has excellent explanatory ability. Thus, it can be concluded that the model built has met the criteria of high predictive feasibility and has good estimation quality.

Q-Square Predictive Relevance

Q-square (predictive relevance) in the structural framework acts as a measuring tool to assess the extent to which the model has the capability of predicting the observed values of endogenous variables. If the Q^2 value exceeds zero, it indicates that the model has a sufficient level of predictive relevance. In other words, the model is considered suitable for forecasting purposes (Defni et al., 2023). The calculation of the Q^2 value is formulated through the following equation:

Table 9. *Q Square* Predictive Relevance

Variables	<i>R-Square</i>	<i>1-R Square</i>
<i>Satisfaction (Y)</i>	0,975	0,025
<i>Loyalty (Z)</i>	0,969	0,031
$Q^2 =$	$Q^2 = 1 - ((1 - R_1^2) \times (1 - R_2^2))$ $Q^2 = 1 - ((1 - 0,975) \times (1 - 0,969)) = 0,999225$	
Error =	$=100\% - 99,9\% = 0,1\%$	

Based on the calculation of the Q^2 value, a figure of 0.999225 was obtained. This value indicates that the independent variable has a very good predictive ability of the dependent variable. Thus, the Q^2 value that exceeds zero indicates that the research model used has a high level of *predictive relevance*. Furthermore, through the results of the calculation of the R Square and Q^2 values, it can be concluded that the model structure built is classified as strong and reliable (*robust*), so it is suitable for use in the further hypothesis testing process.

Hypothesis Testing

After the bootstrapping process, the value displayed on the path diagram represents the results of the t test used to determine the level of significance of the relationship between variables. A relationship is declared significant if the t value in the structural model ≥ 1.98 and the significance value (p-value) is below the 0.05 threshold. Under these conditions, the null hypothesis (H_0) is declared to be granted, which indicates a substantial influence between the independent variable and the dependent variable. The hypothesis testing in this study was carried out through the following stages:

Table 10. Hypothesis Testing Results

Path	<i>Original Sample (O)</i>	<i>T-Statistics</i>	<i>P-value</i>	Conclusion
X1 -> Y	0.444	6.563	0.000	H_0 is rejected
X2 -> Y	0.549	8.154	0.000	H_0 is rejected
X1 -> Z	0.195	2.491	0.013	H_0 is rejected
X2 -> Z	0.523	4.808	0.000	H_0 is rejected
Y -> Z	0.272	2.409	0.016	H_0 is rejected
X1 -> Y -> Z	0.121	2.294	0.022	H_0 is rejected
X2 -> Y -> Z	0.149	2.249	0.025	H_0 is rejected

Source: SmartPLS 3.0 Data Processing, 2025

The results of hypothesis testing indicate that the Service Time variable has a significant and positive impact on Patient Satisfaction, as reflected in the calculated t value of 6.563 which exceeds the t table value of 1.98, as well as a significance level of 0.000 which is below the 0.05 threshold. Similarly, the Service Quality variable is proven to have a significant influence on Patient Satisfaction, with a calculated t value of 8.154 and a significance value of 0.000. Furthermore, both Service Time and Service Quality significantly influenced Patient Loyalty, with t values of 2.491 and 4.808 respectively. This finding suggests that improvements in service time and quality dimensions directly lead to the formation of patient loyalty to the services provided. In addition, the mediation path analysis shows that Patient Satisfaction is a significant intermediary variable in the relationship between Service Time and Service Quality to Loyalty. This is evidenced by the calculated t value of 2.294 for Service Time and 2.249 for Service Quality, respectively. All relationships between variables in this study show a positive

direction of influence, which confirms that increasing the efficiency of service time and service quality will encourage increased patient satisfaction. This satisfaction, in turn, strengthens patient loyalty to the services at Indriati Boyolali Hospital's Pediatric Polyclinic.

The Effect of Service Time on Patient Satisfaction at the Indriati Boyolali Hospital Pediatric Polyclinic

The duration it takes for a patient to receive outpatient or inpatient care, from registration to examination by a doctor, is known as waiting time. This waiting time is related to various types of medical services in hospitals, such as medical record management, emergency services, and polyclinics. The waiting time reflects the quality of service provided by hospital staff to patients. Waiting times, which are often a source of complaints, can indicate how the hospital manages many service elements based on patient needs and expectations (Prisya & Achmadi, 2024).

Service time is a significant aspect that determines patient satisfaction in health services. The faster and more efficiently a service is provided, the higher the likelihood of patient satisfaction, as they do not have to wait too long to get the care they need. Optimal service time reflects the efficiency of medical personnel, readiness of facilities, and good management in patient management. Conversely, long waiting times can lead to discomfort, stress, and even distrust of the quality of services provided. Therefore, hospitals and healthcare facilities must ensure fast, responsive and effective service processes to increase patient satisfaction and loyalty. The first hypothesis test results in a t-count value of 6.563, which is greater than the t-table of 1.98, and the significance value (0.000) is smaller than 0.05, which indicates that H₀ is rejected. This shows that service time has a considerable influence on satisfaction. The positive Original Sample (O) value indicates that Service Time has a constructive impact on Satisfaction, which means that the longer the duration of Service Time, the higher the level of Patient Satisfaction at the Children's Health Center.

This finding confirms the importance of efficiency in service time in health facilities, especially in pediatric polyclinics, where patients often require fast and responsive service. Slow service can cause inconvenience for patients and their families, potentially reducing the level of satisfaction and trust in the hospital. Therefore, the hospital needs to continue to improve the service management system, such as optimizing the doctor's schedule, improving the queuing system, and increasing coordination between departments to make service time more efficient and provide a better experience for patients (Youn et al., 2022; Laskowski et al., 2009; Musa et al., 2024; Ala & Chen, 2022; Niu et al., 2023).

The Effect of Service Quality on Patient Satisfaction at the Indriati Boyolali Hospital Pediatric Polyclinic

Service quality refers to the user's assessment of the quality of service received compared to the desired service standards. If the service is considered to meet expectations, then the quality of service is considered acceptable and satisfactory (Sitepu & Kosasih, 2024). Meanwhile, patient satisfaction refers to the degree to which patients' wishes, expectations and desires are fulfilled, which affects the likelihood of repeat purchases or long-term loyalty. This satisfaction is also critical to the success of an effective *Words-of-Mouth* strategy in improving reputation and trust in the services provided.

Service quality is a major factor affecting patient satisfaction in health services. Good service quality includes various aspects, such as reliability of medical personnel, responsiveness in dealing with patients, assurance of safety and comfort, and empathy in providing services. When patients receive quality services, they tend to feel more satisfied, trusting, and loyal to

the health facilities they use. Conversely, if service quality is poor, for example, poor communication, unclear procedures, or inadequate facilities, patient satisfaction will decrease, which can have an impact on the image and trust of the health service provider. Therefore, improving service quality should be a priority for hospitals and clinics to ensure a positive patient experience and increase their satisfaction. The second hypothesis test resulted in a t-count of 8.154, higher than the t-table of 1.98, with a significance value (0.000) < 0.05. Thus, H₀ is rejected, while H₁ is accepted. This shows that service quality (X₂) has a considerable influence on satisfaction (Y). The initial sample value (O) of 0.549 shows the effect is positive, but not too strong. This indicates that the greater the degree of patient satisfaction at the Indriati Boyolali Hospital Pediatric Polyclinic. This finding suggests that providing appropriate and comfortable service quality is a key aspect in increasing patient satisfaction.

These findings underscore the importance of improving service quality in health facilities to maintain and improve patient satisfaction. Service quality that includes reliability of medical personnel, easy access to information, comfort of facilities, and empathy in serving patients can provide a better experience for patients and their families. If service quality is not optimal, patients may feel less satisfied and choose other health services, which can have an impact on reputation and trust in the hospital. Therefore, hospitals need to continue to improve service standards by improving infrastructure, speeding up administrative processes, and improving the skills of medical personnel in providing responsive and quality services (Aminizadeh et al., 2024; Maulidin et al., 2024).

The Effect of Service Time on Patient Loyalty at Indriati Boyolali Hospital Pediatric Polyclinic

The Minister of Health of the Republic of Indonesia issued Decree of the Minister of Health of the Republic of Indonesia Number 129/Menkes/SK/II/2008 which establishes Minimum Hospital Service Standards. Outpatient services require a waiting time of ≤ 60 minutes from the time the patient registers until they are seen by a specialist. The duration of this wait refers to the time required for patients to obtain medical services, from arrival until the patient leaves the facility. The length of wait experienced by patients reflects how health care institutions manage various elements in the service delivery process based on patient conditions and expectations (Renwarin et al., 2024).

Service time plays an important role in building patient loyalty to a healthcare facility. When patients receive services that are fast, efficient, and in line with their expectations, satisfaction levels increase, which in turn can strengthen their loyalty. Patients who feel valued through timely service are likely to return to use the same health service and even recommend it to others. Conversely, service times that are too long or poorly managed can lead to discomfort and dissatisfaction, which risks decreasing patient loyalty. Therefore, healthcare facilities need to ensure an optimal service system, such as good queue management, sufficient availability of medical personnel, and increased efficiency in administrative processes to maintain patient loyalty in the long run.

The third hypothesis test resulted in a t-count value of 2.491 which is higher than the t-table of 1.98 and a significance value of 0.013 which is smaller than 0.05. Thus, H₀ is rejected, which means that service time has a major influence on patient loyalty. The positive Original Sample (O) value indicates a positive influence, which means that the better the Service Time provided, the greater the Patient Loyalty in the Pediatric Polyclinic. This finding confirms that optimal service times not only increase satisfaction but also play a role in building patient loyalty. If patients feel comfortable in the service process, such as minimal waiting time and good responsiveness of medical personnel, they will be more likely to continue using the services of

the health facility in the future. Conversely, slow service times can cause dissatisfaction and encourage patients to look for alternatives. Therefore, hospitals need to continuously improve service efficiency through better queue management systems, utilization of technology in patient administration, and improved coordination among medical staff to maintain and increase patient loyalty.

The Effect of Service Quality on Patient Loyalty at Indriati Boyolali Hospital Pediatric Polyclinic

Christanto et al. (2024) define service quality as the difference between client expectations and their perceptions of the services they receive. Furthermore, Fauziah et al. (2023) suggest that service quality is a customer assessment of the difference between the level of service felt and expected. Based on Sugiharto et al. (2023), service quality refers to the various attributes and characteristics of a product or service that affect its capacity to meet customer needs, both stated and implied. This shows that the level of service provided by a company must be adequate to meet consumer expectations.

Service quality plays an important role in building patient loyalty to a health facility. When patients receive quality services such as good communication, comfortable facilities, competent medical personnel, and efficient service processes, they tend to feel satisfied and more loyal to the service. Patient loyalty is reflected in their tendency to return to utilize similar services in the future and recommend them to others. Conversely, low service quality can trigger dissatisfaction, erode patient trust, and encourage them to switch to other health facilities. Therefore, improving service quality should be the main focus for hospitals to maintain patient loyalty and improve the image and competitiveness of health services.

The fourth hypothesis test resulted in a t value of 4.808, higher than the t table value of 1.98, with a significance value of 0.000 (<0.05). Thus, H_0 is rejected, while H_1 is accepted. This shows that service quality (X_2) has a considerable influence on patient loyalty (Z). The initial sample value (O) of 0.523 indicates that the effect is positive, but not very strong. This indicates that the higher the degree of service quality provided by the Indriati Boyolali Hospital Pediatric Polyclinic, the higher the patient loyalty. This finding shows that providing appropriate and comfortable service quality plays an important role in increasing patient loyalty.

The results show that providing adequate and convenient services is an important aspect in building patient loyalty. Patients feel more confident and satisfied when they receive quality services, such as skilled medical personnel, fast response, and clean and comfortable facilities. This trust and comfort encourage people to use the same service again and promote it to others. Conversely, if the quality of care is unsatisfactory, such as unfriendly medical personnel, excessively long waiting times, or unsupportive facilities, patients may become frustrated and seek other health services. Therefore, hospitals must continuously improve their service quality to maintain patient loyalty and build a positive reputation in the community.

The Effect of Patient Satisfaction on Patient Loyalty in the Pediatric Polyclinic of Indriati Boyolali Hospital

According to Wartiningsih & Setyawan (2023), satisfaction is a person's feeling of pleasure that arises from comparing expectations with the reality obtained for a service or product. Patient satisfaction can be obtained with good service from medical personnel in health institutions. Meanwhile, Sari & Noviyanti (2023) argue that satisfaction occurs when expectations are compared to the reality received from a product, service, or activity. Patients will feel satisfied if the health center provides good service, otherwise the patient will be disappointed and can file a complaint.

Nuraliza (2024) defines patient satisfaction as a reaction to the mismatch between expectations and actual performance which ultimately forms patient loyalty. Satisfactory service not only results in satisfaction but also has the potential to attract new customers. Another impact is the improvement of the image of the health center, given the intense competition in the health sector, which encourages each health center to provide the best service and build trust with patients in meeting their health needs.

Patient happiness has a significant impact on patient loyalty in a healthcare setting. Patients who are satisfied with their experience, whether in terms of service quality, medical staff attitude, facility comfort, or efficient service time, are likely to use the healthcare service again in the future. High customer satisfaction fosters a strong relationship between the patient and the healthcare institution, encouraging them to return and even recommend the service to others. Conversely, dissatisfaction arising from poor or inadequate service can cause patients to seek better alternatives and reduce their loyalty. Thus, maintaining patient satisfaction through consistent and quality service is the key to maintaining and increasing patient loyalty, which in turn will contribute to the reputation and long-term success of the healthcare facility.

The fifth hypothesis test resulted in a t value of 2.409, higher than the t table value of 1.98, with a significance value of 0.016 (p value <0.05). Thus, H_0 is rejected, while H_1 is accepted. This shows that satisfaction (Y) has a considerable influence on loyalty (Z). The original sample value (O) of 0.272 shows that the effect is quite strong and positive. This indicates that the higher the level of patient satisfaction, the more loyal patients are to the Indriati Boyolali Hospital Pediatric Polyclinic. This finding highlights the need to provide a pleasant experience to maintain patient loyalty.

This shows that patients who are satisfied with the services they receive, such as timeliness of service, professionalism of medical personnel, comfort of facilities, and attention given, tend to use the service again. This good experience builds the patient's emotional connection with the health facility, thereby increasing patient loyalty. Hospitals and clinics should therefore prioritize improving service quality in all areas to ensure patient satisfaction, as continued satisfaction is the basis of long-term patient loyalty (Bezerra de Oliveira et al., 2022; Ceissa et al., 2025; Chehayeb, 2023).

The Effect of Service Time on Patient Loyalty through Patient Satisfaction at the Indriati Boyolali Hospital Pediatric Polyclinic

Service time has a major influence on patient loyalty, which can be mediated by patient satisfaction. When service time is managed well, such as the reduction of long waiting times and fast and efficient service, patients tend to feel more satisfied with their experience. This satisfaction then contributes directly to developing patient loyalty, as satisfied patients are more likely to return and recommend the service to others. Conversely, service times that are too long or inefficient can decrease patient satisfaction, which risks reducing their loyalty to the healthcare facility. Therefore, good service time management is an important factor in creating a positive experience for patients, which in turn supports the establishment of long-term patient loyalty.

The sixth hypothesis test resulted in a t-value of 2.294, which is greater than the equivalent t-table of 1.98, with a significance figure (0.022) smaller than 0.05. Therefore, H_0 is ignored and H_1 is accepted. This phenomenon implies that Service Time (X1) shows a fairly significant impact on loyalty (Z) through satisfaction (Y). The pure sample score (O) of 0.121 indicates that the effect is positive, which implies that the more excellent the Duration of Service provided, the greater the Satisfaction Level achieved by the Patient, which ultimately leads to

a positive impact on Patient Loyalty. Thus, these findings support the concept that the quality-of-Service Time plays an important role in fostering loyalty through satisfaction as a mediating variable.

This suggests that when service times are managed efficiently, reducing long waiting times and providing prompt service, patients feel more satisfied with their experience. This satisfaction then becomes a factor that influences patient loyalty, as patients who feel rewarded with fast and responsive service are more likely to return and continue to use the service in the future. Thus, optimized service times not only heighten patient satisfaction, but also cement their loyalty, making it a key element in the strategy for long-term patient retention (Singh et al., 2023; AlOmari & Hamid, 2022; Amerta & Madhavi, 2023).

The Effect of Service Quality on Patient Loyalty through Patient Satisfaction at Indriati Boyolali Hospital Pediatric Polyclinic

Service quality has a significant impact on patient loyalty, with patient satisfaction as a mediator between the two. Patients are satisfied with their healthcare experience when they receive quality services such as skilled medical personnel, comfortable facilities, and good communication. This satisfaction motivates patients to remain loyal and use the same service in the future. Satisfied patients are likely to suggest the service to others, which will enhance the reputation of the healthcare facility. As a result, good service quality not only increases patient happiness but also builds loyalty, making it an important component in retaining patients and developing long-term partnerships.

The seventh hypothesis test resulted in a t-value of 2.249, higher than the t-table of 1.98, with a significance value of 0.025 (<0.05). Thus, H_0 is rejected, while H_1 is approved. This indicates that Service Quality (X_2) has an impact on loyalty (Z) through satisfaction (Y). The initial sample value (O) of 0.149 indicates that the impact is positive. This means that the higher the quality of service offered, the higher the patient satisfaction, which in turn has a positive impact on patient loyalty. This finding suggests that Quality of Service plays an important role in developing Patient Loyalty by increasing their happiness.

These results suggest that service quality has an important contribution in building patient loyalty through increasing their satisfaction. When patients receive quality services, such as professional medical personnel, comfortable facilities, and good responsiveness, they feel satisfied with the experience they receive. This satisfaction then becomes the foundation for patient loyalty, because patients who feel valued and satisfied with the services they receive, tend to reuse them, and even suggest them to other individuals. Therefore, improving service quality directly affects patient satisfaction, which in turn strengthens their loyalty to the healthcare facility, ensuring a long-term relationship and good reputation for the service provider.

Conclusion

Based on a review of the processed data and discussions that have been carried out, it can be concluded that hospital service time has a significant influence on the level of patient satisfaction. The more efficient the service provided, the higher the satisfaction felt by the patient. In addition, service quality also has a real impact on patient satisfaction, where quality and adequate services are able to increase patient comfort during treatment, thereby strengthening their positive perceptions of hospital services. Not only that, but efficient service times also contribute to shaping patient loyalty to services at the Indriati Boyolali Hospital Pediatric Polyclinic. Timeliness in service encourages patients to continue to use the service on an ongoing basis. The same also applies to service quality, which is proven to affect patient

loyalty. The higher the quality of service received, the greater the likelihood that patients will remain loyal to the polyclinic. Thus, improving service quality needs to be prioritized in the hospital's strategy to maintain and increase patient loyalty. Furthermore, patient satisfaction has been shown to play an important role in shaping loyalty, as patients who are satisfied with the time and quality of service received tend to show higher loyalty. This includes a desire to continue treatment to completion and provide positive recommendations to others. In addition, patient satisfaction also acts as an intermediary in the relationship between service time and service quality with patient loyalty. This means that providing fast and quality service indirectly increases patient happiness, which in turn encourages their commitment and loyalty to the healthcare institution.

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