



## ANALYSIS OF THE RELATIONSHIP BETWEEN SERVICE QUALITY AND PATIENT SATISFACTION LEVELS

Rinda Purnama<sup>1\*</sup>, Ratno Adrianto<sup>2</sup>, Irfansyah Baharuddin Pakki<sup>2</sup>

<sup>1</sup>Master of Public Health, Universitas Mulawarman, Jl. Sei Kalian No.93 Samarinda, Kalimantan Timur. 75112 Indonesia.

<sup>2</sup>Faculty of Public Health, Universitas Mulawarman, Jl. Sei Kalian No.93 Samarinda, Kalimantan Timur. 75112 Indonesia.

\*rindapurnama77@gmail.com

### ABSTRACT

Patient satisfaction is an important element in evaluating service quality by measuring the patient's response after obtaining health services by comparing it with what he expects. This study aims to determine the variables related to the quality of health services to outpatient satisfaction at the Tepian Baru Health Center, East Kutai Regency. This type of research uses a quantitative research method with a Cross Sectional Study approach. The sample size used in this study was calculated using the Lemeshow formula of 357 respondents. The data collection technique used a questionnaire developed from the dimensions of each variable in the study. The instrument was tested for validity and reliability before use. The validity test showed that all question items had a correlation coefficient greater than the r-table value (0.361), indicating that the items were valid. Data analysis was carried out in three stages: univariate analysis to describe each variable, bivariate analysis using the Chi-Square test to determine the relationship between service quality dimensions and patient satisfaction, and multivariate analysis using multiple logistic regression to identify the most dominant variable. The results of the study showed that there was a positive and significant influence of the variables of Access/affordability, Efficiency, Human Relations, Comfort and Punctuality variables on the level of patient satisfaction at the Tepian Baru Health Center, East Kutai Regency. In this study, a multivariate test was also carried out with the multiple logistic regression method to see which variable had the most influence on the level of patient satisfaction, the results were obtained that the most dominant variable related to the level of patient satisfaction at the Tepian Baru Health Center was the Comfort variable with an Odd Ratio (OR) value of 52.367, meaning that the respondents gave their opinion on the importance of the role of comfort having a chance of 52 times related to the level of patient satisfaction at the Puskesmas New Edge.

Keywords: health center; patient; satisfaction; service quality

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## INTRODUCTION

Community Health Centers are healthcare facilities widely used by the public as a network and spearhead in healthcare services in Indonesia. As a public service in the field of health, the community health center aims to improve efficiency in the implementation of medical and health referrals (Ivana et al., 2020). Patient satisfaction is the result of patients' assessment of healthcare services by comparing what is expected with the reality of the healthcare services received (Pohan & Imbalo, 2016). Based on the 2021 profile data from the Kutai Timur District Health Office, only 3 primary health centers have primary accreditation status: Sepaso Health Center, Tepian Baru Health Center, and Batu Ampar Health Center. This study focuses on the Tepian Baru Health Center because it has the highest accreditation status in Kutai Timur District with primary accreditation. Therefore, in its operations, Tepian Baru is always required to maintain patient trust by improving service quality (Tepian Baru, 2021).

The 2023 Tepian Baru Public Health Center patient satisfaction index report has a total summary of 87 (IKM, 2023). Data on the elements of assessment criteria: requirements (0.50), procedures (0.40), time (0.40), cost (0.31), service hours (0.36), competence (0.32), behavior (0.50), complaints (0.40), facilities and infrastructure (0.29). Patient satisfaction surveys often only show the percentage of achievement, but still with notes or even with values below the standard satisfaction interval, such as the Infrastructure element being the lowest and other elements having relatively standard values and still requiring significant quality improvement to increase customer satisfaction from the satisfaction survey conducted at the Tepian Baru Public Health Center. The data from the recapitulation of the number of patient visits to the Tepian Baru Public Health Center over the past 3 years (2020-2022) shows that in 2020 there were a total of 12,619 visits, in 2021 there were 13,635 visits, and in 2022 there were a total of 12,956 visits, with fluctuations/increases and decreases in visits each year. Meanwhile, based on patient visit data for 2023 (January – July), the total number of patient visits was 5,086, with increases and decreases in the number of patient visits similar to previous years.

Based on the research conducted by (Amelia, 2018), "Factors Related to the Quality of Health Services on the Satisfaction of BPJS Outpatient Patients at Pacerakkang Health Center, Makassar City" showed that there is a relationship between the technical competence variable and patient satisfaction ( $p=0.000$ ), there is no relationship between access (affordability) and patient satisfaction ( $p=0.123$ ), there is a relationship between the comfort variable and patient satisfaction ( $p=0.001$ ), there is no relationship between the interpersonal variable and patient satisfaction ( $p=0.080$ ), and there is a relationship between the timeliness variable and patient satisfaction ( $p=0.000$ ). Based on the results of this research, improving patient satisfaction with health services provided by a health service institution is related to several dimensions of health service quality, namely technical competence, access, efficiency, interpersonal relationships, comfort, and timeliness. In order to improve the quality of healthcare services, it is necessary to measure and evaluate patient satisfaction levels regularly, accurately, and continuously. This study aims to examine the relationship between service quality and patient satisfaction levels at the Tepian Baru Community Health Center in East Kutai Regency. Specifically, it seeks to analyze how variables such as access/affordability, efficiency, interpersonal relationships, comfort, and timeliness influence patient satisfaction, as well as to identify the dominant factor affecting patient satisfaction at the health center.

## **METHOD**

This study aims to determine the factors related to the quality of health services and their impact on outpatient satisfaction at the Tepian Baru Community Health Center in East Kutai Regency. Using a quantitative research method with a cross-sectional study approach, which is a type of research design that involves collecting data at a specific point in time (Arfan et al., 2021). The research was conducted from November 2022 to January 2023. The population of this study consisted of 5,086 patients who received healthcare services at the Tepian Baru Community Health Center during 2023. The sample size used is the Lemeshow formula, and the minimum sample size based on calculations is 357 samples/respondents. Data were collected using a structure questionnaire developed based on the dimensions of each variable in the study, including access/affordability, efficiency, human relations, comfort, punctuality, and patient satisfaction. The questionnaire was distributed directly to respondents who met the inclusion criteria at the health center. Before data collection, the instrument was tested for validity using the Corrected Item-Total Correlation and for reliability using Cronbach's Alpha ( $\alpha > 0.7$ ), indicating that the instrument was valid and reliable. The collected data were then processed and analyzed through three stages: univariate analysis to describe the characteristics of respondents and variables, bivariate analysis using the Chi-Square test to identify relationships between service quality dimensions and patient satisfaction, and multivariate analysis using multiple logistic regression to determine the most dominant factor.

**RESULT**

The research was conducted at the Tepian Baru Community Health Center, which received the highest accreditation in 2023, with a total of 357 respondents. The following are the characteristics of the respondents:

Table 1.  
Respondents Characteristics

Characteristics	Categories	f	%
Gender	Male	191	53.5
	Female	166	46.5
Age	17-25	77	21,5
	26-35	144	40.3
	36-45	96	26,9
	46-55	36	10,1
	>55	4	1,2
Occupation	Teacher	9	2.5
	Farmer	35	9.8
	Private Employee	37	10.4
	Company Staff	119	33.3
	Student	6	1.7
	Honorary Worker	6	1.7
	Entrepreneur	20	5.6
	Unemployed (Housewife)	122	34.1
Education	Civil Servant	3	.9
	Elementary School	14	3.9
	Junior High School	114	31.9
	Senior High School	202	56.6
	Bachelor's Degree	27	7.6

Table 1 presents the respondents characteristics, indicating that most respondents were female, belonged to the young adult to middle-aged group, and had a senior high school educational background. And the following univariate analysis presents the distribution of respondents responses in this study:

Table 2.  
Univariate Analysis Results

Characteristics	Categories	f	%
Access / Affordability	Poor	206	57.7
	Good	151	42.3
Efficiency	Poor	191	53.5
	Good	166	46.5
Human Relations	Poor	168	47.1
	Good	189	52.9
Comfort	Poor	182	51.0
	Good	175	49.0
Punctuality	Poor	180	50.4
	Good	177	49.6
Patient Satisfaction	Dissatisfied	126	3.9
	Satisfied	231	31.9

Table 2, it can be seen that most respondents rated accessibility as poor, and a similar pattern was observed for efficiency. Meanwhile, for the human relations variable, the majority of respondents provided a good rating. Comfort and timeliness were also largely rated as poor. However, for the patient satisfaction variable, the results showed a more positive trend, with 64.7% of respondents reporting satisfaction. The bivariate analysis results of this study at Tepian Baru Community Health Center are as follows:

Table 3  
Relationship Between Access/Affordability and Patient Satisfaction

Indicator		Satisfied		Total	%	P-Value		
		Dissatisfied	%				Satisfied	%
Access / Affordability	Poor	104	50.5	102	49.5	206	100	0,000

Good 22 14.6 129 85.4 151 100

Table 3, 102 out of 206 respondents with poor access/affordability, while 151 respondents with good access/affordability stated a satisfaction level (satisfied) of 129 regarding the Tebian Baru Community Health Center. This indicates a *p-value* of  $0.000 < 0.05$ , indicating a relationship between patient access/affordability and patient satisfaction level. Next, there is a relationship between efficiency and patient satisfaction, which is:

Table 4.  
Relationship Between Efficiency and Patient Satisfaction

Indicator		Satisfied				Total	%	P-Value
		Dissatisfied	%	Satisfied	%			
Efficiency	Poor	109	57.1	82	42.9	191	100	0,000
	Good	17	10.2	149	89.8	166	100	
	Total	126	35.3	231	64.7	357	100	

Table 4, it can be seen that the P-value =  $0.000 < 0.50$  indicates a relationship between efficiency and patient satisfaction. This is similar to the relationship between the human relations variable and patient satisfaction, which has a P-value of  $0.000 < 0.50$  and indicates a relationship between human relations and patient satisfaction. This data can be seen as follows

Table 5  
The Relationship between interpersonal repationships and patient satisfaction

Indicator		Satisfied				Total	%	P-Value
		Dissatisfied	%	Satisfied	%			
Human Relationship	Poor	15	8.9	153	91.1	168	100	0,000
	Good	111	58.7	78	41.3	189	100	

The following table presents data on respondents' relationship between comfort and patient satisfaction:

Table 6  
The Relationship Between Comfort and Patient Satisfaction

Indicator		Satisfied				Total	%	P-Value
		Dissatisfied	%	Satisfied	%			
Comfort	Poor	124	68.1	58	31.9	182	100	0,000
	Good	2	1.1	173	98.9	175	100	

Based on Table 6, it can be seen that the p-value =  $0.000 < 0.05$ , which indicates a relationship between comfort and patient satisfaction levels. and finally:

Tabel 7  
The Relationship Between Punctuality and Patient Satisfaction

Indikator		Satisfied				Total	%	P-Value
		Dissatisfied	%	Satisfied	%			
Punctuality	Poor	120	66	60	33.3	180	100	0,000
	Good	6	3.4	171	96.6	177	100	

Table 7 shows that out of a total of 177 respondents, 171 expressed good timeliness satisfaction, while 60 out of 180 respondents indicated less satisfactory timeliness. Next, the multivariate analysis in this study uses multiple logistic regression tests, which is one of the mathematical model approaches used to analyze the relationship or influence of several independent variables on a dichotomous or binary categorical dependent variable. The results can be seen as follows :

Table 8  
Results of the Multivariate Analysis Test on Service Quality and Patient Satisfaction

Categories		Variable in the Equation (95%)			
		Sig.	Exp(B)	Lower	Upper
Step 1	Access	.192	1.730	.760	3.937
	Efficiency	.867	1.094	.382	3.129
	Convenience	.000	43.497	9.811	192.837
	Punctuality	.000	9.436	3.369	26.426

Categories	Variable in the Equation (95%)				
	Sig.	Exp(B)	Lower	Upper	
Human Relations	.206	.516	.185	1.440	
Step II	Access	.166	1.759	.791	3.909
	Convenience	.000	43.328	9.785	191.867
	Punctuality	.000	9.621	3.519	26.303
	Human Relations	.114	.493	.205	1.185
Step III	Convenience	.000	52.367	12.051	227.560
	Punctuality	.000	9.385	3.460	25.454
	Human Relations	.045	.420	.180	.980

Based on the data obtained, the significant values for the comfort, timeliness, and interpersonal relationships variables, with an Exp(B) value or Odds Ratio (OR) of:

1. Comfort variable with an Exp(B) value of 52.367, meaning respondents believe the comfort dimension is important and has a 52 times higher chance of being related to patient satisfaction levels at the Tepian Baru Public Health Center.
2. Timeliness variable with an Exp(B) value of 9.385, meaning respondents believe the timeliness dimension is important and has a 9 times higher chance of being related to patient satisfaction levels at the Tepian Baru Public Health Center.
3. Interpersonal relationships variable with an Exp(B) value of 0.420, meaning respondents believe the interpersonal relationships dimension is important and has a 0.5 times higher chance of being related to patient satisfaction levels at the Tepian Baru Public Health Center.
4. The most dominant variable related to patient satisfaction levels at the Tepian Baru Public Health Center is the comfort variable with an Odds Ratio (OR) value of 52.367, meaning respondents believe the role of comfort is important and has a 52 times higher chance of being related to patient satisfaction levels at the Tepian Baru Public Health Center.

## DISCUSSION

Chi-Square test analysis showed that all service quality variables were significantly related to patient satisfaction at the Tepian Baru Community Health Center, East Kutai, with a p-value of 0.000 or  $p < 0.05$ . Easy access without geographical, social, economic, and language barriers was proven to increase patient satisfaction, supporting Pohan's theory (2019) as well as the findings of Amelia (2018) and Hamid et al. (2020), which emphasize the importance of service accessibility. Service efficiency, including drug availability, queue management, waiting time, and staff discipline, is also an important factor, as patients perceive the speed and accuracy of service to greatly influence quality perception, as stated by Nurhayani & Marzuki (2022). Interpersonal relationships, which include friendly, polite, and empathetic interactions, as well as effective communication, play a significant role in increasing satisfaction, supporting the findings of Sapitri & Sari (2021) although differing from the results of Ramadhani (2021). The comfort of physical facilities, cleanliness, waiting areas, ventilation, and environmental arrangement influences patients' positive perceptions, aligning with Pohan's theory and Amelia's (2018) research, although differing from N. Bur's (2021) findings, which did not find a significant relationship. The timeliness of service, including staff discipline and schedule regularity, is also a determinant of patient satisfaction, indicating that good time management strengthens the quality of care. Overall, improvements in work discipline, queue management, drug availability, and physical facility upgrades are recommended to strengthen patient trust and loyalty.

## CONCLUSION

There is a relationship between access/affordability as a dimension of service quality variables and the level of the Tepian Baru Community Health Center, with a P-value of 0.000. There is a relationship between efficiency as a dimension of service quality variables and the level of the Tepian Baru Community Health Center, with a P-value of 0.000. There is a relationship between interpersonal relations as a dimension of service quality variables and the level of the Tepian Baru Community Health Center, with a P-value of 0.000. There is a relationship between comfort as a dimension of service quality variables and the level of the Tepian Baru Community Health Center,

with a P-value of 0.000. There is a relationship between timeliness as a dimension of service quality variables and the level of the Tepian Baru Community Health Center, with a P-value of 0.000. The most dominant variable influencing patient satisfaction levels at the Tepian Baru Community Health Center is the comfort variable, with an Odds Ratio (OR) of 52.367, meaning respondents believe comfort plays a significant role and is 52 times more likely to be associated with patient satisfaction levels at the Tepian Baru Community Health Center.

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