

Service quality on use level of dental and oral health service at Puskesmas I Kemranjen

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Abstract

Purpose: Along with the development of technology and the level of education, it is easy for the public to access information. With this, many people demand good quality health services, especially dental and oral health treatment, because customers pay attention to the result of the service. Good service quality can affect customer satisfaction and can support customers in using dental and oral services. **Methods:** This research was an observational analytic with a cross-sectional approach. This research was conducted at the work area of Puskesmas I Kemranjen from February to March 2022. The total sample was 179 respondents that met the inclusion criteria. The sampling technique used cluster random sampling. The instruments used in this research were the SERVQUAL service quality questionnaire and the service use level questionnaire. The statistical test used was a Spearman correlation test and continued with the ordinal logistic regression test. **Results:** The results of spearman correlation test analysis showed that there was a significant relationship between tangible ($p < 0,001$, $r = 0,513$), reliability ($p < 0,001$, $r = 0,602$), responsiveness ($p < 0,001$, $r = 0,580$), assurance ($p < 0,001$, $r = 0,589$), empathy ($p < 0,001$, $r = 0,551$) on the use level of dental and oral health services at Puskesmas I Kemranjen. The results of ordinal logistic regression analysis on the tangible dimensions obtained $p = 0,024$ and $OR = 3,717$; on the reliability dimension obtained $p = 0,018$ and $OR = 4,508$; on the responsiveness dimension obtained $p = 0,003$ and $OR = 6,240$; on the assurance dimension obtained $p = 0,014$ and $OR = 3,962$, on the empathy dimension $p = 0,039$ and $OR = 3,320$. **Conclusion:** According to the research results, there was a significant relationship between tangible, reliable, responsiveness, assurance, and empathy regarding the use level of dental and oral health services at Puskesmas I Kemranjen.

Keywords: dental and oral health; service quality; use level

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INTRODUCTION

Health services are part of the Indonesian health system and directly deal with the community [1]. Indonesians have the right to quality health services,

guaranteed safety, and affordability [2]. Good health services are essential because they can affect people's interest in visiting healthcare facilities [3]. According to Basic Health Research (RISKESDAS), in 2018, the number of Indonesians who utilize dental and oral

health services still needs to grow. As many as 95,6% of the population never went to dental medical personnel [4].

To make it easier for the community to obtain dental and oral health services and general health services, the Government has built a first-level health institution in Puskesmas. Along with the development of technology and the level of education, it is easy for the public to access information, so people demand good quality health services [5]. People are especially concerned about the results of dental and oral care services. Service quality is how well the services are provided [3]. The quality of health services can be seen from the tangible of health care workers, the reliability of health care workers, the responsiveness of health care workers, the assurance of action provided, and the empathy of health care workers [6].

Service quality is not only seen from the point of view of the service provider but also the perception of the service recipient. The perception of service recipients on the services provided can be a measure of the good or bad quality of service [3,7]. Good-quality health services refer to patient expectations and are more concerned with meeting patient needs [8].

Based on the research of Putri et al., the quality of dental and oral health services at Puskesmas in Banyumas Regency on the dimensions of reliability, responsiveness, assurance, and empathy is good, but on the dimensions of tangible it is still quite bad at 50,5% and as many as 70% of Dental Clinics at Puskesmas in Banyumas Regency has fewer old patient visits than new patients, thus showing a lack of interest in reusing the services that have been provided [9].

Poor quality of dental and oral health services can cause a decrease in the image of the Puskesmas, patient satisfaction, and patient loyalty, which can cause a decrease in the use level of health services [10]. Factors that affect the decrease in the use level of dental health services include the ineffectiveness of the service system, lack of facilities, undisciplined health workers' work schedules, unfriendly health workers, unclear communication to patients, complicated administration, and the high cost of services [11].

Puskesmas I Kemranjen is in Banyumas Regency, Central Java Province. Based on the preliminary studies that have been carried out, the available dental and oral health services are preventive, promotive, and curative services. Data on patient visits to the dental clinic at Puskesmas I Kemranjen shows a decline in patient visits in the last three years, from 2018 to 2020. Therefore, this study analyzed the relationship between service quality and dental and oral health services use at

Puskesmas I Kemranjen. The dimensions used in this research are the SERVQUAL dimensions introduced by Parasuraman et al. in 1980. This dimension assesses service quality based on the difference between expectations and perceptions. According to previous research, the SERVQUAL dimensions designed by Parasuraman are the most valid and effective dimensions for assessing the quality of dental and oral health services in Indonesia. This study analyzes the relationship between service quality seen from five dimensions (tangible, reliability, responsiveness, assurance, empathy) on the use level of dental and oral health services at Puskesmas I Kemranjen.

METHODS

This research is classified as an analytic observational study with a cross-sectional approach. The subjects in this study were people aged ≥ 18 years, physically and mentally healthy, and able to communicate well. The sample size in this study was calculated using the two-proportion difference formula. The value of Z_{α} is 1,96, Z_{β} is 0,84, P is 0,34, P1 is 0,42, and P2 is 0,26, so the minimum sample size was obtained 170 people, and an addition of 5% was made so that the total sample was 179 people.

This research was conducted from February 13, 2022, until March 10, 2022, in the working area of Puskesmas I Kemranjen, namely in the villages of Sibrama, Kecila, Sibalung, and Petarangan. Sampling in this study was cluster random sampling using population data randomized by the Microsoft Excel application from 22.596 residents aged ≥ 18 years in Sibrama, Sibalung, Kecila, and Petarangan villages taken as many as 179 people. In Sibrama Village, 3.440 people took as many as 27; in Sibalung Village, 6.963 people took as many as 55; in Kecila Village, 6.268 people took as many as 50, and in Petarangan Village from 5.925 people took as many as 47. From a total of 179 subjects, two subjects from Sibalung Village were excluded because they were not willing to be research respondents, so the community was re-randomized separately using the Microsoft Excel application.

The independent variable of this research is the quality of dental and oral health services, and the dependent variable is the use level of dental and oral health services at Puskesmas I Kemranjen. Service quality is excellent or bad dental health services based on satisfaction. It is measured using a service quality questionnaire with SERVQUAL dimensions by Parasuraman, which has been tested for validity and reliability.

The validity test results are r arithmetic $>$ r table 0,312, and the results of the Cronbach Alpha is 0,953. The level of service used is the arrival of the community to carry out examinations or treatment at the dental clinic at Puskesmas I Kemranjen. Measured using a questionnaire on the use level of services by Irma, which has been tested for validity and reliability. The validity test results are r arithmetic $>$ r table 0,312, and the results of the Cronbach Alpha is 0,808.

The SERVQUAL service quality questionnaire uses a Likert scale with answer choices 1 (very poor), 2 (poor), 3 (enough), 4 (good), and 5 (very good). The categorization scores are grouped into 3: which is said to be poor quality if the score is 5-11, it is said to be moderate quality if the score is 12-18, and it is said to be good quality if the score is 19-25 [12].

The use level of service questionnaire was measured using a Likert scale with answer choices 1 (strongly disagree), 2 (disagree), 3 (disagree), 4 (agree), and 5 (strongly agree). The categorization of scores is grouped into 3, which are said to have a low utilization rate if the score is 11-23, it is said to be a moderate utilization rate if the score is 24-36, it is said to be a high utilization rate if the score is 37-50 [13].

The statistical test in this research is the Spearman, which looks at the significance of the p -value and the level of relationship strength at the r . If the p -value $<$ 0,05, it indicates a significant relationship between the two research variables. The multivariate analysis model will include Dimensions with a p -value $<$ 0,25 in bivariate analysis. Multivariate analysis in this study used an Ordinal Logistic Regression test.

RESULTS

The frequency distribution of the characteristics subjects in the age category is at least \leq 25 years old, as many as 12,3% (22 respondents), and the most at the age of \geq 46 years old, as many as 49,2% (88 respondents). The frequency distribution of the characteristics of the subjects based on gender was the least in women, as many as 49,7% (89 respondents), and the most in men, as many as 50,3% (90 respondents). The frequency distribution of subject characteristics based on village origin is at least 15,1% (27 respondents) in Sibrama Village and the most in Sibalung Village 30,7% (55 respondents) (Table 1).

Table 1. The frequency distribution of the characteristics subjects of this research (n=179)

Characteristics of subjects	n	%
Age		
\leq 25 years old	22	12,3
26-35 years old	26	14,5
36-45 years old	43	24,0
\geq 46 years old	88	49,2
Gender		
Male	90	50,3
Female	89	49,7
Village origin		
Sibrama	27	15,1
Sibalung	55	30,7
Kecila	50	27,9
Petarangan	47	26,3

In the tangible dimension, p -value $<$ 0,001 (p $<$ 0,05) showed a significant relationship between tangible and the use level of dental and oral health services at Puskesmas I Kemranjen. The value of the correlation coefficient is 0,513, which means that the strength of the relationship between tangible and use level of service is 0,513 or moderate.

In the reliability dimension, p -value $<$ 0,001 (p $<$ 0,05) showed a significant relationship between reliability and dental and oral health services use at Puskesmas I Kemranjen. The value of the correlation coefficient is 0,602, which means that the strength of the relationship between reliability and use level of service is 0,602 or more vital.

In the responsiveness dimension, p -value $<$ 0,001 (p $<$ 0,05) showed a significant relationship between responsiveness and dental and oral health services use at Puskesmas I Kemranjen. The value of the correlation coefficient is 0,580, which means that the strength of the relationship between responsiveness and use level of service is 0,580 or moderate.

In the assurance dimension, p -value $<$ 0,001 (p $<$ 0,05) shows a significant relationship between assurance and the use level of dental and oral health services at Puskesmas I Kemranjen. The value of the correlation coefficient is 0,513, which means that the strength of the relationship between assurance and use level of service is 0,589 or moderate.

Table 2. The relationship of service quality on the use level of dental and oral health service at Puskesmas I Kemranjen

Dimensions		Use level of services								p-value	r
		Low		Moderate		High		Total			
		n	%	n	%	n	%	n	%		
Tangible	Poor	19	54,3	15	42,9	1	2,9	35	100	<0,001	0,513
	Moderate	23	27,1	37	43,5	25	29,4	85	100		
	Good	1	1,7	23	39,0	35	59,3	59	100		
Reliability	Poor	26	65,0	12	30,0	2	5,0	40	100	<0,001	0,602
	Moderate	16	22,2	39	54,2	17	23,6	72	100		
	Good	1	1,5	24	35,8	42	62,7	67	100		
Responsiveness	Poor	16	59,3	11	40,7	0	0,0	27	100	<0,001	0,580
	Moderate	25	31,3	39	48,8	16	20,0	80	100		
	Good	2	2,8	25	34,7	45	62,5	72	100		
Assurance	Poor	19	48,7	18	46,2	2	5,1	39	100	<0,001	0,589
	Moderate	22	37,3	28	47,5	9	15,3	59	100		
	Good	2	2,5	29	35,8	50	61,7	81	100		
Empathy	Poor	21	55,3	17	44,7	0	0,0	38	100	<0,001	0,551
	Moderate	18	27,3	31	47,0	17	25,8	66	100		
	Good	4	5,3	27	36,0	44	58,7	75	100		

Table 3. Ordinal logistic regression analysis

Service quality	Estimate	p-value	OR	95% CI	
				Lower	Upper
Tangible	-1,313	0,024	3,717	-2,452	-0,175
Reliability	-1,506	0,018	4,508	-2,758	-0,254
Responsiveness	-1,831	0,003	6,240	-3,030	-0,631
Assurance	-1,377	0,014	3,962	-2,469	-0,284
Empathy	-1,200	0,039	3,320	-2,337	-0,063

In the empathy dimension, p-value <0,001 (p<0,05) showed a significant relationship between empathy and the use level of dental and oral health services at Puskesmas I Kemranjen. The value of the correlation coefficient is 0,551, which means that the strength of the relationship between empathy and use level of service is 0,551 or moderate.

The tangible, reliability, responsiveness, assurance, and empathy dimensions are significantly related to the use level of dental and oral health services at Puskesmas I Kemranjen with p-value <0,05, where the 95% confidence interval does not exceed 1 (**Table 3**). The dimensions of tangible, reliability, responsiveness, assurance, and empathy have an odds ratio >1, which indicates that the five dimensions are risk factors that

affect the use level of dental and oral health services at Puskesmas I Kemranjen. The dimension with the most significant risk affecting the use level of dental and oral health services at Puskesmas I Kemranjen is the dimension of responsiveness because it has the highest odds ratio.

DISCUSSION

Parasuraman says service quality can be assessed from tangible, reliability, responsiveness, assurance, and empathy [3]. Tangible includes providing physical facilities, available equipment, and the appearance of service providers [14]. Based on the results of the study,

it was found that there was a significant relationship between tangible and the use level of dental and oral health services at Puskesmas I Kemranjen, with the strength of the relationship in a moderate and positive direction. This research is in line with Fathania's research, which states that there is a relationship between tangible and interest in reusing health services at the Puskesmas Padang Panyang, Nagan Regency [15]. The same results can happen because the tangible is the first thing that can be observed directly so that someone will see the service for the first time from his physical condition. With neat, orderly, and clean conditions, people will assume that the health services provided are good overall, thus encouraging increased dental and oral health utilization [16,17].

Reliability is accuracy in providing services according to standards and by what has been promised [14]. Based on the results of the study, it was found that there was a significant relationship between reliability and the use level of dental and oral health services at Puskesmas I Kemranjen, with the strength of the relationship being muscular and moving in a positive direction. This study is in line with Sri et al.'s research, which stated that there was a relationship between reliability and interest in reuse at the Puskesmas Teling Atas [18]. The same results can happen because the reliability of health services depends on the ability and experience of service providers and their skills in providing appropriate services according to standard procedures in health services [16,17]. Based on the research of Kim et al., the reliability of services positively affects the intention to return to using the service when they first get the health service [19].

Responsiveness is the ability of service providers to help solve patient problems and provide services quickly [14]. Based on the results of the study, it was found that there was a significant relationship between responsiveness and the use level of dental and oral health services at Puskesmas I Kemranjen, with the strength of the relationship being moderate and positive direction. This study is in line with the research of Indra et al., which stated that there was a relationship between service responsiveness and interest in revisiting BPJS inpatients at Royal Prima Hospital, Jambi City [20]. Health service providers who are responsive in providing services are needed in healthcare facilities because health service providers are people who primarily interact with patients. Health services meet standards if the service process is fast and poses a manageable risk to patients [16,17]. According to Sitti et al.'s research, responsiveness is closely related to satisfaction with the services provided. This can

encourage patients to reuse services, create loyal patients, and advise people around them to use them [16].

Assurance includes the knowledge possessed by the service provider and the ability of the service provider to foster confidence and trust in the given action [14]. Based on the results of the study, it was found that there was a significant relationship between assurance on the use level of dental and oral health services at Puskesmas I Kemranjen, with the strength of the relationship being moderate and a positive direction. This study is in line with the research of Lela et al., which stated that there was a relationship between the assurance services provided and the interest in repeat visits of inpatients at the Bhineka Bakti Husada Hospital [21]. The same results can happen because assurance services are closely related to how health services are provided by standards, including accuracy, consistency, truth, compliance, and confidentiality to form patient confidence in the actions given. In addition, the assurance of services provided is influenced by service providers' knowledge, abilities, and skills [16,17].

Empathy is the ability of service providers to give attention and care to patients personally or individually [14]. Based on the results of the study, it was found that there was a significant relationship between empathy and the use level of dental and oral health services at Puskesmas I Kemranjen, with the strength of the relationship being moderate and positive direction. This research is in line with Susy's research, which states that there is a relationship between the empathy of service personnel and the interest in repeat visits at Puskesmas Sangkalan, West Aceh Regency [22]. This can happen because empathy is a relationship between service providers and patients, so it can affect the quality of health services [16,17]. A good relationship will foster credibility or trust by respecting, appreciating, paying attention, and being responsive [16,17]. Giving attention to service providers will increase patient satisfaction so that patients will remember it as a good experience. After receiving service, patients will return and become loyal patients, and they will tell people about their experiences when receiving these health services [16]. Good service must focus on patients with high empathy; this is very important so patients always feel cared for and well served [16].

The limitation of this study is that the measurement of service quality only covers some of the factors that can affect service quality because this study only uses the SERVQUAL dimension designed by Parasuraman; service quality can still be assessed using other broader

dimensions. The results of this research can provide information regarding the relationship between service quality and the use level of dental and oral health services at Puskesmas I Kemranjen so that it can provide input for the Government in its efforts to increase the use level of dental and oral health services at Puskesmas I Kemranjen.

CONCLUSION

Tangible reliability, responsiveness, assurance, and empathy significantly influence dental and oral health services utilization at Puskesmas I Kemranjen. Puskesmas I Kemranjen is expected to be able to maintain and further improve the quality of dental and oral health services by paying attention to the five dimensions of service quality because good service quality will satisfy customers and make them interested in using dental and oral health services again.

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