

THE RELATIONSHIP BETWEEN THE QUALITY OF HEALTH SERVICES AND TUBERCULOSIS PATIENTS' SATISFACTION AT THE PALU CITY HEALTH CENTER

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ABSTRACT

INTRODUCTION:

Tuberculosis is an infectious disease that is still a global concern and most sufferers are of productive age. Factors for treatment failure are usually related to treatment supervision and the quality of health services. This study aimed to analyze the relationship between the quality of health services and the level of satisfaction of tuberculosis patients at the Palu City Health Center.

METHODS:

This research is quantitative research with cross sectional study conducted on 116 respondents. The instrument used in this research is a questionnaire. The analysis in this study used the Chi-Square and Multiple logistic regression.

RESULTS:

The results of the analysis showed that availability ($p < 0.001$), respect and caring ($p < 0.001$), safety ($p < 0.001$), timeliness ($p < 0.001$) and tangible ($p < 0.001$) were associated with tuberculosis patient satisfaction. The multivariate analysis found that timeliness ($p = 0.002$; OR = 17.692) was the most dominant factor in influencing patient satisfaction.

CONCLUSIONS:

Availability, respect and caring, safety, timeliness, and tangibles are related to the satisfaction of tuberculosis patients. Timeliness service is the most dominant factor influencing the satisfaction of tuberculosis. Palu City Health Center are expected to continue to make efforts to improve health services by health workers in the TB program to increase comfort and improve patient health.

KEYWORDS

tuberculosis, quality of health services, patient satisfaction

INTRODUCTION

Tuberculosis is still a global concern that accounts for a quarter of the total population contaminated with TB, and most of the sufferers are of productive age (15–55 years). TB is also related to economic loss, where a person suffering from TB is considered to lose their family income for about 3–4 months, and if they die, their family will lose future potential income for 15 years. It means losing income until the children can be considered to earn money at that age and add family income. Indonesia experienced an increase in cases diagnosed with TB in 2015, from 331,703 to 393,323 in 2020.[1] Indonesia through the Ministry of Health in several years is implementing a TB-related control program by making a regulation covering TB prevention and control programs [2]. Several factors associated with TB treatment failure in patients are typically related to supervisory supervision and the quality of health services. [3]

Achieving the mission of a healthy Indonesia needs to be done by increasing access to health services and increasing quality health resources in accordance with the quality standards of health care services. Assessment of the quality of services for TB patients can be seen from the satisfaction and experience of patients during treatment Failure to meet health service standards for TB has serious consequences, resulting in increased transmission due to delayed diagnosis and treatment; increased mortality and morbidity due to inappropriate treatment; and increased drug resistance due o patient dropouts.[4–6]

The Key Quality Characteristics Assessment for Hospitals theory developed by Sower *et al.* [7] can be used to help assess health facilities to measure the quality of their health services. Research by Halim & Wulandari [8] obtained the largest value in the respect and caring category, which shows that the patient's expectations are quite high compared to other patient and their care categories. Respect and caring require officers to focus fully on patients and be patient and responsive in carrying out their obligations. Another study by Sayori *et al.* [9] observed that there was an influence between service quality and the satisfaction of inpatients at the Jayapura Hospital in Jayapura City, Papua on the safety aspect.

SERVQUAL (Service Quality) is often used in evaluating the quality of health services.[10] According to Alim *et al.* [11], their research found that there was a correlation of tangibles (i.e. physical facilities of the building, equipment

and facilities used in the process of health services) on patient satisfaction. The study explains that there are several hospital services that make patients satisfied, such as condition of the waiting room which is clean and the physical appearance of health workers is good. Meanwhile, Datuan *et al.* [12] study found a connection between patient satisfaction and punctuality. The efficiency of the job done by health services can be determined by how quickly officials give their services.

Based on a preliminary study conducted through interviews with five TB patients seeking treatment at the Palu City Health Center, South Sulawesi, Indonesia, it was found that there were as many as four patients who said that the services provided by the Puskesmas (*Public Health Centre*) officers did not meet their expectations, which included prevention, transmission, to the process of effective and appropriate treatment. Based on this background, the researchers wanted to study the relationship between the quality of health services and the level of satisfaction of tuberculosis patients at the Palu City Health Center.

METHODS

STUDY DESIGN

This type of research is quantitative analytic with a cross sectional design. This study design aims to test the hypothesis that there are associations between service quality including availability, respect and caring, safety, timeliness, and tangible and tuberculosis patient satisfaction at the Palu Health Center.

STUDY AREAS AND TARGET POPULATION

The population in this study is tuberculosis patients who were undergoing treatment programs at the Kamonji Health Center, Singgani Health Center, Talise Health Center, Sangurara Health Center, and Tipo Health Center at Palu City, Central Sulawesi, Indonesia. Patients were enrolled based on patient registered data at the Puskesmas and then contacted to ask about their willingness to take part in the research.

SAMPLE SIZE DETERMINATION AND TECHNIQUES

This study used a total sampling technique. Total sampling is a sampling technique when all members of the population are used as samples [13]. Population in this study came from five health centers according to data from Palu City Health Office therefore the sample that used as a study was 116 patients.

INSTRUMENTS AND PROCEDURES

The instrument used in this study was questionnaire. The instrument was made using a Likert scale on the independent variable and the Guttman scale on the dependent variable. The reliability of the questionnaire in this study was tested using the Cronbach Alpha (α) test, with $\alpha=0.60$. Therefore, the instrument was deemed reliable. We explain the description of the study to patients starting from the purpose, benefits, research procedures, and confidentiality of patient data. Patients were also given a written informed consent to sign. Then we conducted interviews with patients with questionnaires containing questions related to information about the availability of services; the attitude of the officers who were respectful and caring; the safety felt by the patients; the timeliness of services; and tangible of Health Center services. Availability referred to in this study is the availability of care or services provided for the information needs that are entitled to be received by patients. Respect and caring referred to in this study is the attitude of health workers who respect and care when serving patients. Safety referred to in this study is a sense of well-being, security and comfort that is not related to side effects, infections and other negative impacts that patients feel when carrying out treatment and care at the health center. Timeliness referred to in this study is the timeliness of health workers in providing services, then also looking at the care given to patients in the most useful or necessary time. The tangibles referred to in this study are the availability of physical

facilities, equipment and means of communication in the health service process.

DATA ANALYSIS

For descriptive characteristics, a univariate analysis was conducted. The Chi-square test and Multiple logistic regression were applied in the bivariate and multivariate analyses, respectively. The multivariate test includes research factors that had significant bivariate results. All the data were analyzed using SPSS 26 software.

ETHICAL STATEMENT

This research has received an approval from the Research Ethics Commission of the Faculty of Public Health, Hasanuddin University with the approval number: 7320/UN4.14.1/TP.01.02/2022.

RESULTS

As set out in Table 1, most respondent's age group is 29-34 years (23 respondents 19.9%), and most of the respondents are female (59 respondents 50.9%). In relation to occupation, it is known that most of the respondents work as entrepreneurs (29 respondents 25%), the highest education level is senior high school (75 respondents 64.7%), and most of the respondents live with their partners (82 respondents 70.7%).

TABLE 1. DISTRIBUTION OF RESPONDENT CHARACTERISTICS

Characteristics	n	%
Age Group		
16-21	22	19
22-28	17	14.7
29-34	23	19.9
35-40	14	12.1
41-47	13	11.2
48-53	13	11.2
54-60	11	9.5
61-66	3	2.6
Gender		
Male	57	49.1
Female	59	50.9
Profession		
Government Employees	16	13.8
Private Employees	16	13.8
Housewife	24	20.7
Entrepreneur	29	25.0

Farmer	1	0.9
Fisherman	1	0.9
Student	28	24.1
Other	1	0.9

Last Education

Primary School	1	0.9
Secondary School	3	2.6
Senior High School	75	64.7
Diploma	1	0.9
Bachelor	35	30.2
S2-S3	1	0.9

Living With

Husband/Wife	82	70.7
Parent	16	13.8
Siblings	4	3.4
Live Alone	5	4.3
Other	9	7.8

Source: Primary Data, 2022

Table 2 shows that most of the respondents feel that the availability of care or service is always available at the Health Center (63 respondents 54.3%), in relation to the respect and caring variable (52 respondents 44.8%) feel the care from the officers is good. For the safety variable, 44 respondents (37.9%) answered that safety when receiving health services was already high. In relation to the timeliness variable, (40 respondents 34.5%) answered that

the timeliness of the service was good. On the tangible variable 60 respondents (51.7%) answered that the physical evidence from the Health Center service was good, and on the patient satisfaction variable as many as 42 respondents (36.2%) were satisfied with the services from the Health Center. In comparison, as many as 74 respondents (63.8%) considered that they were still dissatisfied with the services of the Health Center.

TABLE 2. DISTRIBUTION OF RESPONDENTS BASED ON VARIABLES

Variable	n	%
Availability		
Available	63	54.3%
Not Available	53	45.7%
Respect and caring		
Good	52	44.8%
Not Good	64	55.2%
Safety		
High	44	37.9%
Low	72	62.1%
Timeliness		
Good	40	34.5%
Not Good	76	65.5%
Tangible		
Good	60	51.7%
Not Good	56	48.3%
Patient satisfaction		
Satisfied	42	36.2%
Less Satisfied	74	63.8%

Source: Primary Data, 2022

Table 3 shows that the percentage of satisfied patients is higher in the availability of care or services as 37 respondents (58.7%), good respect and caring as 35 respondents (67.3%), high safety as 37 respondents (84.1%), good timeliness as 36 respondents (90%), and good tangible as 32 respondents (53.3%), as well as the proportion between those five variables and patient satisfaction, significantly differ ($p < 0.001$) which means there

is relationship between those variables and tuberculosis patient satisfaction at the Palu City Health Center.

Table 4 shows that the most dominant variable affecting patient satisfaction is timeliness, with odds ratio (OR) 17.692, 95% Confidence Interval (95% CI = 2.797-111.916), $p = 0.002$; therefore, it can be interpreted that good timeliness can increase patient satisfaction 17 times higher than the poor timeliness. Safety also had significant result with OR = 9.366 (1.225-71.623), $p = 0.031$.

TABLE 3. RELATIONSHIP BETWEEN SERVICE QUALITY AND TUBERCULOSIS PATIENT SATISFACTION AT THE PALU CITY HEALTH CENTE

Variables	Patient Satisfaction						p-value
	Satisfied		Less Satisfied		Total		
	n	%	n	%	n	%	
Availability							
Available	37	58,7	26	41,3	63	100	
Not Available	5	9,4	48	90,6	53	100	
Respect and caring							
Good	35	67,3	17	32,7	52	100	<0.001
Not Good	7	10,9	57	89,1	64	100	
Safety							
High	37	84,1	7	15,9	44	100	<0.001
Low	5	6,9	67	93,1	72	100	
Timeliness							
Good	36	90	4	10	40	100	<0.001
Not Good	6	7,9	70	92,1	76	100	
Tangibles							
Good	32	53,3	28	46,7	60	100	<0.001
Not Good	10	17,9	46	82,1	56	100	

Source: Primary Data, 2022

TABLE 4. DOMINANT FACTORS AFFECTING TUBERCULOSIS PATIENT SATISFACTION AT THE PALU CITY HEALTH CENTER

Variables	B	Sig.	Exp (B)	95% CL	
				Lower	Upper
Availability	0.774	0.340	2.168	0.443	10.616
Respect and caring	-0.002	0.998	0.998	0.156	6.381
Safety	2.237	0.031	9.366	1.225	71.623
Timeliness	2.873	0.002	17.692	2.797	111.916
Tangibles	-0.430	0.618	0.651	0.120	3.518
Constant	-7.868	0.000	0.000		

Source: Primary Data, 2022

According to Table 3 and Table 4, our hypothesis about the relationship between service quality and TB patients' satisfaction was deemed accepted for which there were five indicator of quality service had significant results

($p < 0.001$). However, multivariate analysis shows that only two indicators of quality service (i.e., timeliness and safety) had a dominant impact on TB patients' satisfaction which can be indicated that in further analysis two out of five

quality service indicators was deemed accepted as dominant factor affecting patient satisfaction.

DISCUSSION

RELATIONSHIP BETWEEN AVAILABILITY AND TUBERCULOSIS PATIENT SATISFACTION

Availability is an element that is assessed in terms of the availability of health services, namely services that are always provided for the needs of patients who need them and can also be seen from the information needs received by patients. The results show that availability was related to patient satisfaction with the treatment program for tuberculosis patients at the Palu City Health Center. Based on the distribution results, it was found that most respondents felt the availability of care or services. This was because most of the patients were satisfied with the good availability factor. The availability of drugs and health facilities is a factor in patient satisfaction with services, and officers always explain drugs and drug doses that must be taken appropriately to patients.

The findings from this research is in line with the research of Ayaad et al. [14], which suggests that there is a significant relationship between the availability variable and the quality of health services. The availability of information systems and human resources can increase the quality of health services, drug management, and save time for patient care.

RELATIONSHIP BETWEEN RESPECT CARING AND TUBERCULOSIS PATIENT SATISFACTION

Respect and caring are the desired behaviors and actions of health workers which are assessed in terms of providing services to patients respectfully and courteously to fulfil the patient's rights as human beings. The results of this study indicate that respect and caring have a significant relationship to patient satisfaction while undergoing treatment programs at the Palu City Health Center. Based on the results for this study of the distribution of the respect and caring categories, it was found that most of the respondents answered less well. This was assumed to be due to the lack of attention from Puskesmas officers to patients. Officers are considered to have not given special time to patients to consult about the illness they are suffering from, and officers do not have a clear record of the disease experienced by the patient.

The results of the study presented by Gusinga [15], showed a significant relationship between the caring

behavior of nurses and patient satisfaction. Patients expect health workers to listen carefully, give advice, respect patients, support recovery, and take care of patients physically and emotionally.

RELATIONSHIP BETWEEN SAFETY AND TUBERCULOSIS PATIENT SATISFACTION

Safety is the behavior of providing a sense of security for treatment and care, avoiding the side effects of infection, injury, or other negative effects that may occur when providing services at the Puskesmas to patients. The results showed that safety had a relationship with patient satisfaction for those undergoing treatment programs at the Palu City Health Center. Based on the results of the distribution of the safety category, most patients feel that security from the Puskesmas is still low. This is assumed because patients feel that there is still a lack of discipline in health protocols implemented by officers, for example, such as using masks when meeting io that patients feel they are still not safe in interacting with officers.

Additional supporting research was proposed by Fatima et al. [16], who found that patient privacy and safety were positively related to patient satisfaction. The results also indicate that all staff are intended to provide care to their patients; provide a clean and comfortable client environment; have strong communication, productively go to patient calls; for specialist accessibility; comfortable working hours for clients within the hospital; and advances in input systems.

RELATIONSHIP BETWEEN TIMELINESS AND TUBERCULOSIS PATIENT SATISFACTION

Timeliness is the provision of services according to the time specified by the officers to the patient without waiting too long. The results showed that timeliness had a relationship with patient satisfaction while undergoing treatment programs at the Palu City Health Center. The results of the distribution of the timeliness category showed that most of the patients felt that timeliness was still not good. This was assumed to be because of the delay in services felt by patients, such as in the administrative process where officers were not in place when the patient wanted to take medication and also in the delay in information related to the status of TB diagnosis to patients.

These results are in line with the research of Datuan et al. [12], which states that timeliness affects patient satisfaction. Respondents said that the punctuality of opening and closing times for services was good, officers did not make

patients wait long to get health services, and service officers arrived at the administration department on time.

RELATIONSHIP BETWEEN TANGIBLES AND TUBERCULOSIS PATIENT SATISFACTION

Tangible is the appearance of services provided by health care that can be seen, such as the physical structure of the health care, the integrity of medical equipment, the cleanliness of the room, and the appearance of hospital staff that can be seen and felt directly by the patient. The results showed that tangible had a relationship with patient satisfaction undergoing treatment programs at the Palu City Health Center. This is because most tuberculosis patients still feel the good tangibles owned by the health center in accordance with the patient's referrals, such as a neat and clean Puskesmas waiting room, officers who have clean and complete medical equipment, clean and tidy appearance of officers and good condition. The health center building is good and still suitable for use.

As stated in the research conducted by Alim et al. [11] good tangibles are very important given by the health providers because what is seen and felt directly by the patient will change the patient's perception of the health providers. This means that if the patient feels that the physical facilities, the cleanliness of the waiting room, and the appearance of the health officers who provide services to the patient are good, the patient's perception of the health providers will also be good.

Based on the conditions discovered directly by the researcher during the course of this research, some limitations may be of direct concern to future researchers. The limitations in this study are the number of health centers selected for research, which is five Puskesmas with a total of 116 respondents, which does not describe the real situation in all of Palu City health centers. The data collection that is measured is only using quantitative questionnaire, therefore, it is not clear what causes and reasons can be explained by respondents regarding their ratings of the quality of health services.

CONCLUSION AND RECOMMENDATION

From the study results it can be concluded that availability, respect and caring, safety, timeliness, and tangibles are related to the satisfaction of tuberculosis patients at the Palu City Health Center. Timeliness of service is the most dominant factor influencing the satisfaction of tuberculosis patients at the Palu City Health Center. Health centers are

expected to continue to make efforts to improve health services by health workers in the TB program so as to increase comfort and improve patient health.

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References

1. WHO. Global TB Report 2020. Accessed on October 4th, 2021. <https://www.who.int/publications/i/item/9789240013131>
2. Ministry of Health Republic of Indonesia. Regulation of The Minister of Health of The Republic of Indonesia Number 21 of 2020 Concerning the Ministry of Health's Strategic Plan for 2020-2024. <https://peraturan.bpk.go.id/Home/Details/152564/permenkes-no-21-tahun-2020>
3. Suarayasa K, Pakaya D, Felandina Y. Situation Analysis of Pulmonary Tuberculosis Management in Sigi Regency. *J Kesehat Tadulako*. 2019;5(1):1–62.
4. Syapitri H, Hutajulu J, Aryani N, Saragih FL. The Relationship of The Quality of Health Services With the Satisfaction Level of Lung TB Patients That are Taking a Treatment Program. *J Surya Muda*. 2021 Feb;3(1).
5. Merzistya ANA, Adi MS, Sutiningsih D, Rahayu SR. The Quality of Tuberculosis Services in Patients' Perspectives: a Literature Review. *J Adm Kesehat Indones*. 2021;9(1):67.
6. Stallworthy G, Dias HM, Pai M. Quality of tuberculosis care in the private health sector. *J Clin Tuberc Other Mycobact Dis*. 2020;20:100171.
7. Sower V, Duffy JA, Kilbourne W, Kohers G, Jones P. The dimensions of service quality for hospitals: Development and use of the KQCAH scale. *Health Care Management Review*. 2001;26:47–59.
8. Halim CN, Wulandari RD. Analysis of the Causes of Decrease in Patient Visits Based on the GAPS Service Quality Model. *J Adm Kesehat Indones*. 2013;1(2):182–191.
9. Sayori FT, Maidin A, Sudirman I. Papua Province In 2013 Service Quality Inpatient Care of Patient Satisfaction Levels in Jayapura Hospital Papua Province in 2013. *Bagian Manajemen Pelayanan Kesehatan, Fakultas Kesehatan Masyarakat, Universitas Hasanuddin*, 2B. 2013;1–13.
10. Parasuraman A, Zeithaml VA, Berry LL. SERVQUAL: A Multiple-Item Scale Measuring Consumer Perception of

Service Quality. Wiley Encyclopedia of Management. 1988:1.

11. Alim A, Tangdilambi N, Badwi A. Health Service Quality (Analytical Study of Outpatients at Makassar Hospital). *J Manaj Kesehatan Yayasan RSDr Soetomo*. 2019;5(2):165.
12. Datuan N, Darmawansyah, Daud A. The Effect Of Quality Of Health Services On Satisfaction Of BPJS Participants Patients In Makassar Hajj Regional General Hospital. 2018;6(1):1–7.
13. Sugiyono. *Quantitative Research Methods, Qualitative and R&D*. Alfabeta: Bandung. 2011
14. Ayaad O, Alloubani A, ALhaja EA, Farhan M, Abuseif S, Al Hroub A, et al. The role of electronic medical records in improving the quality of health care services: Comparative study. *Int J Med Inform*. 2019;127(April):63–67.
15. Gurusinga R. Nurse Caring Behavior on Patient Satisfaction in Hospitals. *J Aisyah J Ilmu Kesehatan*. 2020;5(1):129–134.
16. Fatima T, Malik SA, Shabbir A. Hospital Healthcare Service Quality, Patient Satisfaction and Loyalty: An Investigation in context of Private Healthcare Systems *International Journal of Quality & Reliability Management* Article information :2018;(April).