

THE RELATIONSHIP OF THE LEVEL OF KNOWLEDGE WITH COMPLIANCE IN TAKING ANTI-TUBERCULOSIS PULMONARY DRUGS IN THE COMMUNITY HEALTH CENTER TANJUNG PINANG JAMBI CITY YEAR 2024

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ABSTRACT

Background: Pulmonary tuberculosis (TB) is a disease caused by *Mycobacterium tuberculosis*. TB primarily affects the lungs and can be transmitted to others through airborne particles when an infected person coughs or sneezes. Despite being an ancient disease, TB remains the leading cause of death among infectious diseases globally. The world has yet to eradicate TB. This research aims to determine the relationship between the level of knowledge and compliance with taking anti-tuberculosis medication among patients at the Tanjung Pinang Health Center, Jambi City, in 2024.

Method: This study is a quantitative analysis conducted at the Tanjung Pinang Health Center in Jambi City. Data collection was performed using a survey methodology with questionnaires. The total sample size was 31 individuals, selected through a total sampling technique. The data were analyzed using the Chi-square test.

Results: The results indicated that respondents generally had a fairly good level of knowledge (45.2%) and a high rate of medication compliance (61.3%). Statistically, the p-value was 0.002 ($P < 0.05$), indicating a significant relationship between the level of knowledge and compliance with taking anti-tuberculosis medication.

Conclusion: There is a significant relationship between the level of knowledge and compliance with taking anti-tuberculosis medication among pulmonary tuberculosis patients at the Tanjung Pinang Community Health Center, Jambi City, in 2024.

Keywords: Knowledge, Compliance, Pulmonary Tuberculosis

INTRODUCTION

Pulmonary tuberculosis (TB) remains a significant public health issue in Indonesia, including in Jambi City. As of 2022, Indonesia recorded over 824,000 TB cases, with a detection rate of 34% and a treatment success rate of 74%. In Jambi Province, there were 3,431 detected TB cases in the Jambi City Health Center area in 2022. The recurrence rate of TB cases decreased from 11.8% in 2021 to 5% in 2022.

One of the critical factors influencing the success of pulmonary TB treatment is patient compliance with medication. In 2022, patient compliance in taking pulmonary TB medication in Indonesia was 85% for drug-sensitive TB and 55% for drug-resistant TB.

Other influencing factors include patient characteristics and knowledge about pulmonary TB.

According to the Tanjung Pinang Health Center report in Jambi City for 2023, pulmonary TB cases have been on the rise, with 78 new cases reported. In 2024, 31 patients sought treatment at the Tanjung Pinang Community Health Center, with the recurrence rate increasing to 8%. Additionally, it was found that in 2021, approximately 61.8% of patients had poor knowledge regarding pulmonary TB (Armidia, 2021).

From the existing problems, when drug compliance is lacking or the patient becomes bored with taking the medication, this can lead to therapy failure, increased morbidity

and mortality, and a rise in pulmonary TB cases with Acid-Fast Bacilli (AFB) that are resistant to Anti-Tuberculosis Drugs (ATDs). This phenomenon is widely known as Multi-Drug Resistant TB (MDR-TB) (Kirana et al., 2016).

Patient characteristics can also influence the relationship between the level of knowledge and adherence to taking pulmonary TB medication. Patients with lower levels of education tend to have less knowledge about pulmonary TB and lower adherence to medication regimens. This lack of knowledge can negatively impact both the treatment and prevention of the disease. For instance, patients may be unaware of basic aspects of pulmonary TB, such as its causes, symptoms, side effects, modes of transmission, and treatment protocols. Consequently, they may fail to comply with treatment guidelines and neglect appropriate preventive measures.

Based on previous research by (Marta et al, 2023) regarding the relationship between the level of knowledge and compliance with taking anti-tuberculosis medication in pulmonary TB patients, it was found that out of 60 patients, 31 (51.70%) had a good level of knowledge, 29 (48.30%) had a sufficient level of knowledge, and none had a low level of knowledge.

This study aims to determine the relationship between the level of knowledge and compliance with taking anti-pulmonary tuberculosis medication at the Tanjung Pinang Community Health Center, Jambi City, in 2024.

METHODS

This research employs a cross-sectional study design on pulmonary TB patients, conducted at the Tanjung Pinang Community Health Center in Jambi City in 2024. The sample size consists of 31 individuals, selected through total sampling. The data will be analyzed using the Chi-square test, with

significance determined by a p-value of <0.05 .

RESULTS AND DISCUSSION

Table 1. Characteristics of Respondents

Characteristics	Group	Frequency	Percentage (%)
Gender	Man	14	45.2
	Woman	17	54.8
	Total	31	100
Education	No school	1	3.2
	Elementary school	10	32.3
	Junior high school	8	25.8
	Senior high school	9	29
	College	3	9.7
	Total	31	100
Work	Not working/housewife	22	71
	Employed	4	12.9
	Private employees	1	3.2
	Trader	1	3.2
	Farmer	3	9.7
	Total	31	100

Based on Table 1, the characteristics of respondents are as follows: Of the 31 respondents (100%), 17 (54.8%) were female and 14 (45.2%) were male. This indicates a higher number of female patients in the sample, likely due to a higher proportion of women visiting the health center during the sampling period. This finding is consistent with Oktavia et al. (2016), who reported no significant relationship between gender and the incidence of pulmonary TB. Since TB is an infectious disease caused by bacteria, other factors, such as environmental conditions like dampness and inadequate lighting, may contribute to its prevalence.

Among the 31 respondents (100%), 1 (3.2%) had no formal education, 10 (32.3%) had attended primary school, 8 (25.8%) had secondary school education, 9 (29.0%) had completed high school, and 3 (9.7%) had higher education. Additionally, research by Absor et al. (2020) indicates that education level can affect treatment compliance and dropout rates in pulmonary TB patients.

The highest percentage of respondents had only primary school education (32.3%). This is consistent with Pameswari (2016) as cited in Ahdiyah et al. (2022), which found that 48.15% of respondents had only primary school education. Regarding employment, 22 respondents (71.0%) were unemployed/

domestic workers, 4 (12.9%) were self-employed, 1 (3.2%) was a private employee, 1 (3.2%) was a trader, and 9 (29.0%) were farmers. The majority of respondents were unemployed or domestic workers, which reflects the common demographic of TB patients at the Tanjung Pinang Community Health Center, Jambi City. This finding aligns with Siregar et al. (2015), who reported that employment type is not significantly related to the incidence of pulmonary TB. In fact, working outside the home may reduce the risk of TB infection due to decreased time spent at home and potentially lower contact with TB patients.

Table 2. Respondents' level of knowledge

Knowledge	Frequency	Percentage (%)
Poor	8	25.8
Sufficient	14	45.2
Good	9	29.0
Total	31	100.0

Based on Table 2, the characteristics of respondents according to their level of knowledge are as follows: Among the 31 respondents (100%), 8 (25.8%) had poor knowledge, 14 (45.2%) had sufficient knowledge, and 9 (29.0%) had good knowledge about the causes, transmission, symptoms, and treatment of pulmonary TB. Thus, the highest percentage of respondents had sufficient knowledge, with 14 respondents (45.2%).

The prevalence of sufficient knowledge among respondents can be attributed to several factors. The average education level of respondents is elementary school, and many patients seeking treatment at the Tanjung Pinang Community Health Center, Jambi City, are elderly individuals or housewives. These groups often lack exposure to information that could be gained through working outside the home. This finding aligns with research by Marta (2023), which reported that 51.70% of respondents had quite good knowledge regarding the causes, prevention, and treatment of pulmonary TB.

According to Notoatmodjo (2012), a

person's knowledge can be influenced by their level of education, access to information, cultural background, and personal experiences. Based on Table 3, the characteristics of respondents according to their compliance with taking medication are as follows: Among the 31 respondents (100%), 9 (29.0%) had low compliance, 3 (9.7%) had moderate compliance, and 19 (61.3%) had high compliance with taking medication. Therefore, the highest percentage was found in patients with high adherence to taking medication, with 19 respondents (61.3%).

This high level of compliance is likely due to the presence of a PMO (Patient Medication Observer) at the Tanjung Pinang Community Health Center, Jambi City, who supervises and reminds patients to take their medication.

Table 3. Compliance with Taking Pulmonary TB Medication

Compliance	Frequency	Percentage (%)
Low	9	29.0
Moderate	3	9.7
High	19	61.3
Total	31	100.0

This finding is consistent with research conducted by Ahdiyah et al. (2022), which reported a high level of compliance (76.47%) with taking pulmonary TB medication at the Putri Ayu Community Health Center. The level of compliance in pulmonary TB patients is crucial, as irregular treatment can lead to the development of germ resistance to Anti-Tuberculosis Drugs (OAT) (Pameswari et al., 2016).

Table 4. Relationship between level of knowledge and compliance with taking anti-pulmonary tuberculosis medication

Tuberculosis medication									
Knowledge	Compliance								p-value
	Low		Moderate		High		Total		
	N	%	N	%	N	%	N	%	
Poor	6	75	0	0	2	25	8	100	0.002
Sufficient	3	21.4	3	21.4	8	57.1	14	100	
Good	0	0	0	0	9	100	9	100	
Total	9	29	3	9.7	19	61.3	31	100	

Based on Table 4, the relationship between the level of knowledge and compliance with taking anti-tuberculosis medication (OAT) is as follows: Among the respondents, 6 (75%) with poor knowledge had low adherence to

taking OAT, while 3 (21.4%) with sufficient knowledge also had low adherence. There were 3 respondents (21.4%) with sufficient knowledge who had moderate adherence to taking OAT. Among the respondents with high compliance, 2 (25%) had poor knowledge, 8 (57.1%) had sufficient knowledge, and 9 (100%) had good knowledge.

The statistical analysis shows a P value of 0.002 ($P < 0.05$), indicating a significant relationship between the level of knowledge and compliance with taking anti-pulmonary tuberculosis medication at the Tanjung Pinang Community Health Center, Jambi City, in 2024. This result is consistent with the research conducted by Wulandari (2019), which found a significant relationship between the level of knowledge and adherence to medication in TB patients (P value = 0.002) with a correlation value of 0.602, indicating a very strong relationship. This suggests that the higher the level of knowledge in TB patients, the higher their adherence to taking medication.

The findings suggest that knowledge of TB patients is primarily obtained from information provided by health workers. Researchers hypothesize that non-compliance in this study could also be due to factors such as boredom with taking medication, perceived side effects, the size and amount of medication, and the support or role of family members/cadres who accompany them in taking medication.

A person's knowledge can change their beliefs and paradigms, influencing their attitudes or behaviors toward an object. Thus, knowledge is one of the key factors that influence the behavior of pulmonary TB patients in adhering to their treatment. Good knowledge among pulmonary TB patients will likely lead to better adherence to taking anti-tuberculosis medication. Conversely, a lack of knowledge can lead to non-compliance due to a lack of awareness of the benefits of adherence and the consequences of

non-compliance.

CONCLUSION

Based on the research results and discussion, it can be concluded that there is a significant relationship between the level of knowledge and compliance with taking antituberculosis medication at the Tanjung Pinang Community Health Center, Jambi City.

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