KLASICS
Kendari Journal of Maritime and Holistic Nursing
https://jurnal.karyakesehatan.ac.id/K
Volume 05 | Number 01 | January | 2025
E- ISSN: 2774-6577

# Relationship of Knowledge to Drug Medication Compliance in Pulmonary Tuberculosis Patients in the Working Area of the Kabawo Health Center

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***Keywords***: *Knowledge, medication adherence, pulmonary TB*

**Abstract**. *Compliance with taking medication is essential for the success of therapy for pulmonary tuberculosis patients because irregular treatment can result in resistance (resistance) of Mycobacterium Tuberculosis germs to Anti-Tuberculosis Drugs (OAT) called multi-drug resistance (MDR) and even risk of death. To prevent this, pulmonary TB sufferers need to know information about how it is transmitted, stages and goals of treatment, side effects of drugs, and complications so that it can influence consent, planning, and decision-making. This study aimed to determine the relationship between Knowledge and medication adherence among pulmonary TB sufferers in the Kabawo Community Health Center Working Area. The research method used was a quantitative type with a cross-sectional study design involving a sample of 62 pulmonary TB sufferers using a simple random sampling technique in drawing samples according to the inclusion and exclusion criteria. Data using primary and secondary data were tested using the Fisher exact test. According to the Fisher exact test analysis, the study results showed a significant relationship between Knowledge and adherence to taking medication in pulmonary TB sufferers in the Kabawo Health Center Working Area, which obtained a p of 0.022 (<0.05). It is recommended that Knowledge be increased to comply with taking medication.*

## Introduction

Medication adherence is the patient's attitude toward consuming medicines according to the recommendations. Considering the many factors that can affect it, it is a reasonably complex phenomenon. (1). Compliance is the degree of appropriateness of an individual's behavior with medical or health advice. It describes the use of medications according to prescription directions and includes their use at the correct time. (2).

Globally, every 10 million people are infected with pulmonary TB spread across eight countries, namely Bangladesh, China, India, Nigeria, the Philippines, and South Africa; every year, 1.5 million people die. (3). Pulmonary TB cases in Indonesia are the 3rd highest in the world after India and China in 2019, which is around 845,000 cases. (4). Data on pulmonary TB patients in Indonesia confirmed as many as 2,762 cases in 2020 and 2021, as many as 1,216 cases. (5).

After a person is diagnosed with TB, continue with a series of TB treatments consisting of an intensive phase for the first two months and an advanced phase for the next four months so that the length of the treatment period

can cause saturation for the patient and become one of the factors that will affect the level of patient compliance in taking medication (6). Patients who enter the advanced phase seem to feel cured and then stop treatment(7).

Increased Knowledge can change a person's perception, habits, or attitudes. Research shows that knowledge-based behaviors last longer than non-knowledge-based ones(8). Knowledge is considered very important for the success of TB treatment because patients will receive information about the mode of transmission, stages of treatment, treatment goals, drug side effects, and disease complications. The Knowledge a person has will affect attitude, planning, and decision-making(9).

Previous research has shown a relationship between Knowledge and adherence to anti-tuberculosis drugs in pulmonary TB patients at the Teladan Medan Health Center. (10) There is a significant relationship between the level of Knowledge and the level of adherence to taking anti-tuberculosis drugs (OAT) at Budi Lestari Hospital Bekasi, with sufficient and unidirectional correlation: the higher the level of Knowledge, the higher the Compliance in treatment and vice versa. (11).

The number of pulmonary TB patients in the Kabawo Health Center Working Area in 2023 was 125 cases, and in 2024, in January-April, as many as 35 people. A preliminary study conducted on seven pulmonary TB patients showed that three people said they knew the risks if they did not comply with medication. In contrast, four other people said they felt bored and often forgot if they were not reminded of the medication schedule.

Based on this background, the researcher took the initiative to conduct a study on the Relationship of Knowledge to Drug Adherence in Patients with Pulmonary TB in the Working Area of the Kabawo Health Center.

## Method

The research method used is quantitative, with a cross-sectional study design involving 62 people with pulmonary TB. The sample was drawn using a simple random sampling technique following inclusion and exclusion criteria. The primary and secondary data were tested using the Fisher *exact test*.

## Research Results and Discussion

## Univariate Analysis
## Characteristics of Respondents

**Table 1 Distribution of Respondent Frequency based on Respondent Characteristics at Kabawo Health Center**

| Characteristics of Respondents | n (%) | Mean±Std. Deviation |
|---|---|---|
| **Age** | | **56,47±6,605** |
| **Gender** | | |
| Man | 32 (51,6) | |
| Woman | 30 (48,4) | |
| **Last education** | | |
| SD | 5 (8,1) | |
| JUNIOR | 21 (33,9) | |
| SMA | 31 (50) | |
| D3/S1 | 5 (8,1) | |
| **Work** | | |
| Civil Servants/Retirees | 5 (8,1) | |
| Self-employed | 19 (30,6) | |
| IRT | 18 (29) | |
| Merchant | 10 (16,1) | |
| Farmer | 4 (6,5) | |
| Not working | 6 (9,7) | |

*Source: primary data, 2024*

Table 1 shows that the average age of the respondents is 56.47 years, with a standard deviation value of 6.605. The respondents' gender was dominated by 32 men (51.6%). The last education was dominated by high school, with as many as 31 people (50%), and the least was elementary school and D3/S1, with as many as five people each (8.1%). The work was dominated by self-employed, as many as 19 people (30.6%), and at least four farmers (6.5%).

## Research Variables

**Table 2 Distribution of Respondent Frequency Based on Research Variables at Kabawo Health Center**

| Characteristics of Respondents | Frequency (n) | Presentation (%) |
|---|---|---|
| **Medication Compliance** | | |
| Obedient | 29 | 46,8 |
| Non-compliant | 33 | 53,2 |
| **Knowledge** | | |
| Good | 14 | 22,6 |
| Enough | 15 | 24,2 |
| Less | 33 | 53,2 |

*Source: primary data, 2024*

Table 2 shows that 29 respondents (46.8%) are compliant with taking medication, and 33 people (53.2%) are not compliant. In contrast, 14 respondents (22.6%) have good Knowledge, 15 people (24.2%) are sufficient, and 53.2% are lacking).

## Bivariate Analysis

The results of this study's bivariate analysis, using the chi-square test, determine the relationship of Knowledge to medication adherence in patients with pulmonary tuberculosis in the Kabawo Health Center's working area. The following table presents the results.

**Table 3 Knowledge Relationship to Drug Medication Compliance in Pulmonary TB Patients in the Working Area of the Kabawo Health Center**

| Knowledge | Medication Compliance | | | | | | *ρ value* |
|---|---|---|---|---|---|---|---|
| | Obedient | | Non-compliant | | Sum | | |
| | n | % | n | % | n | % | |
| Good | 11 | 17,7 | 3 | 4,8 | 14 | 22,6 | |
| Enough | 7 | 11,3 | 8 | 12,9 | 15 | 24,2 | 0,022 |
| Less | 11 | 17,7 | 22 | 35,5 | 33 | 53,2 | |
| Total | 29 | 46,8 | 33 | 53,2 | 62 | 100 | |

*Source: primary data, 2024*

Table 3 shows that of the 14 respondents (22.6%) with good Knowledge, 11 people (17.7%) are obedient in taking medication. There are three people (4.8%) who are not compliant in taking medication, while out of 15 respondents (24.2%) who have sufficient Knowledge, there are seven people (11.3%) who are obedient. There are eight people (12.9%) who are not compliant, and of 33 respondents (53.2%) who had less Knowledge, there were 11 people (17.7%) who were obedient in taking medication, and there were 22 people (35.5%) who did not comply.

In addition, based on the results of the Fisher exact test analyst, a p-value *of* 0.022 (<0.05) was obtained, meaning that H1 was accepted and H0 was rejected, so there was a significant relationship between Knowledge and medication adherence in patients with pulmonary TB in the Kabawo Health Center Working Area.

## Discussion

The results of this study showed that there were 11 respondents (17.7%) who had good Knowledge and obedience in taking medication and three people who did not obey (4.8%). Where based on the results of the respondent's answers to the questionnaire stated that the respondents took medication regularly according to the dosage of the drug carried out according to the client's weight could be cured, knowing about TB disease could be cured by taking the medication regularly and routinely; a sound immune system will accelerate the healing process of TB disease, and TB disease makes the physical condition decrease, and the body becomes thin.

This study also showed that among respondents who had sufficient Knowledge, there were seven people (11.3%) who were obedient to take medication and eight people (12.9%) who did not comply with the questionnaire where based on the results of the respondent's answers to the questionnaire stated that the respondents had reduced or stopped treatment without telling the doctor because when taking the drug you feel more unwell, knowing about excessive smoking habits can aggravate TB disease and isolate toiletries and eating can prevent the transmission of TB disease. Previous research shows that the Knowledge referred to in this study is about taking medicine, things that are usually done and not usually done during treatment, and side effects of drugs. With Knowledge, a person can obtain and improve their health degree (12).

In addition, this study also showed that respondents who had less Knowledge and obedience in taking medication 11 people (17.7%) and those who lacked as many as 22 people (35.5%) were based on the results of the respondents' answers to the questionnaire stated that respondents had difficulty remembering to take all drugs every day in 2 stages, namely the initial stage for 2 months, the advanced stage was given 3 times a week for 4 months, Respondents knew that TB disease is most susceptible to the older adult and adults because there has been a decrease in immunity. It develops in slums and dense settlements (13).

In addition, the results of this study also showed that there was a significant relationship between Knowledge and adherence to medication in patients with pulmonary TB in the Kabawo Health Center Working Area where based on the results of the respondents' answers to the questionnaire stated that the respondents knew about if they had complaints such as prolonged cough, shortness of breath, coughing up blood, fever, weakness, lack of appetite were symptoms of TB, The process of curing TB disease, in addition to routine treatment, also needs nutritious food and taking medication half an hour before breakfast and at least 2 hours after dinner.

This study's results align with previous research, which found a relationship between the level of Knowledge and medication adherence in pulmonary tuberculosis patients (14). Other studies also showed a significant relationship between the level of Knowledge and adherence to taking anti-tuberculosis drugs in pulmonary TB patients at Budi Lestari Hospital Bekasi, where patients with a good level of Knowledge were patients who adhered to treatment (11).

The theory states that the patient's Compliance greatly influences the success of pulmonary tuberculosis treatment in swallowing the drug (15). Patient adherence to swallowing medication is closely related to their pknowledge of pulmonary tuberculosis. Good Knowledge will give rise to an attitude to react to objects by accepting, responding, appreciating, and discussing them with others and inviting them to influence or encourage others to respond to what they have believed (Notoatmodjo, 2020).

The researcher's assumption of the results of this study is that the respondents' good knowledge of the stages of pulmonary TB treatment can help pulmonary TB patients comply with treatment so that they can be cured.

## Conclusion

Based on the results of the study, it can be concluded that there is a significant relationship between Knowledge and adherence to medication in patients with pulmonary TB in the Kabawo Health Center Working Area according to the results of the Fisher exact test analysis obtained *a p* of 0.022 (<0.05). It is recommended that patients remain compliant when taking medication so that complications do not occur in patients with pulmonary TB.

## References

1. Munro. Patient adherence to tuberculosis treatment: a systematic review of qualitative. research.www.plosmedecine.org; 2018.
2. Siregar. Farmasi Rumah Sakit Teori dan Penerapan. EGC : Jakarta; 2017.
3. WHO. Tuberculosis Paru. Vol. doi : ISSN. Jakarta : Kementerian Kesehatan RI; 2023.
4. Kemenkes. Profil Kesehatan Indonesia. 2020.
5. Dinas Kesehatan Provinsi Sulawesi Tenggara. Profil Kesehatan Provinsi Sulawesi Tenggara. Provinsi Sulawesi Tenggara; 2022.
6. Yuni IDAM. Hubungan Fase Pengobatan TB dan Pengetahuan tentang MDR TB dengan Kepatuhan Pengobatan Pasien TB. In: Skripsi. Surabaya: Departemen Epidemiologi Kesehatan Masyarakat Universitas Airlangga; 2018.
7. Nugroho W. Keperawatan Gerontik. Yogyakarta: Nuha Medika; 2017.
8. Rahmasari C, Sartika A. Pengetahuan Dan Sikap Penderita Tb Paru Terhadap Kepatuhan Minum Oat Pendahuluan. Univ Med Suherman. 2022;

9. Notoatmodjo. Promosi Kesehatan dan Ilmu Perilaku. Jakarta : Rineka Cipta; 2019.
10. Sirait H. Hubungan Pengetahuan Dan Sikap Dengan Kepatuhan Minum Obat Anti Tuberkulosis Pada Pasien Tb Paru Di Puskesmas Teladan Medan Tahun 2019. J Ris Hesti Medan Akper Kesdam I/Bb Medan. 2020;5(1), 9–15.
11. Halim M, Nofrika V, Widiyanto R, Puspitasari D. Hubungan Tingkat Pengetahuan dengan Kepatuhan Minum Obat Anti Tuberkulosis (OAT) pada Pasien TB Paru. Maj Farm. 2023;19(1):24.
12. Adam L. Pengetahuan Penderita Tuberkulosis Paru Terhadap Kepatuhan Minum Obat Anti Tuberkulosis. Jambura Heal Sport J. 2021;2(1):12–8.
13. Retno AKW. Hubungan Pengetahuan Dan Motivasi Dengan Kepatuhan Minum Oat Pada Penderita Tuberkulosis Paru Di Puskesmas Mangunjaya Kabupaten Bekasi Tahun 2021. 2022;(8.5.2017).
14. Susilo A, Al Hasbi H, Sayekti Heni Sunaryanti S, Dewi Sunarno R, Anggraeni T. The Relationship Level Of Knowledge And Drug Compliance In Pulmonary Tuberculosis Patients In The Outpatient Installation Of Muhammadiyah Selogiri Hospital. Avicenna J Heal Res. 2023;6(1):120–7.
15. Kemenkes RI. Sistem Kesehatan Nasional. Jakarta; 2019.
16. Notoatmodjo S. Promosi Kesehatan dan Ilmu Perilaku. Jakarta: Jakarta : Rineka Cipta; 2020.