

The Relationship Of Knowledge And Compliance With Medication In Pulmonary Tuberculosis Patients At The Somambawa Health Center, Somambawa District, Nias Selatan District

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ABSTRACT

Tuberculosis (TB) is an acute or chronic infection caused by the bacterium Mycobacterium Tuberculosis. Knowledge of tuberculosis is very important in curing disease. Knowledge is what people know about health and illness or health. The cure for tuberculosis patients is greatly influenced by adherence to taking tuberculosis medication. Compliance with taking medication is an adherent behavior towards treatment that requires the willingness of the patient and establishes a rule that has been agreed upon between the health care provider and the patient. The purpose of this study was to determine the relationship between knowledge and medication adherence in pulmonary tuberculosis patients. The research design used is Cross Sectional. Samples were 31 pulmonary tuberculosis patient respondents at the Somambawa Health Center, Somambawa District, South Nias Regency. The sampling technique was purposive sampling. Collecting research data using a questionnaire of knowledge of pulmonary tuberculosis patients and Morisky Medication Adherence Sacle (MMAS). Data were analyzed with the Spearman Rho correlation test. The results showed that there was a relationship between knowledge and medication adherence in tuberculosis patients ($p=0.008$, $r=0.466$). The results of this study can recommend that the need for nursing actions that can increase knowledge so that adherence in taking medication also increases.

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INTRODUCTION

Pulmonary tuberculosis is an infectious disease that continues to increase every year throughout the world. Pulmonary tuberculosis is Tuberculosis (TB) is an acute or chronic infection caused by the bacteria Mycobacterium Tuberculosis (Ministry of Health, 2014). These germs usually enter the human body through the air (breathing) into the lungs, then the germs spread from the lungs to other body organs through the blood, lymph glands, respiratory tract, spreading directly to other body organs (Somantri, 2018).

The prevalence of pulmonary tuberculosis in 2020 is estimated at 10 million people falling ill with tuberculosis (TB) worldwide, 5.6 million men, 3.3 million women and 1.1 million children. There are 1.5 million people dying from Tuberculosis in 2020 worldwide. Tuberculosis is the 13th cause of death and the second most infectious killer after COVID-19. In 2020, TB was present in all countries and age groups. In 2020, 30 countries with a high TB burden accounted for 86% of new TB cases. Eight countries accounted for two-thirds of the total, with India leading the tally, followed by China, Indonesia, the Philippines, Pakistan, Nigeria, Bangladesh and South Africa (WHO, 2021).

Indonesia is one of the countries with the highest TB burden in the world with an estimated number of people falling ill due to TB reaching 845,000 with a death rate of 98,000 or the equivalent of 11 deaths/hour. Of this number of cases, only 67% have been found and treated, so there are 283,000 TB patients who have not been treated and are at risk of becoming a source of infection for people around them (Ministry of Health, 2021).

In 2019, the number of tuberculosis cases was found to be 33,779 increased compared to all tuberculosis cases discovered in 2018, namely 26,418. According to gender, the number of cases in men was 21,194, higher than in women, namely 12,585. In each district/city throughout North Sumatra, more cases occur in men than women. The highest number of pulmonary tuberculosis cases reported in 2019 was in districts/cities with large populations, namely Medan City, namely 12,105 cases and Deli Serdang Regency, namely 3,326 cases. The number of tuberculosis cases in 2019 in South Nias province was 167 cases (Sumutprov, 2019).

Knowledge of Tuberculosis is very important in curing the disease. Efforts to control TB disease must be balanced with good knowledge. Knowledge is what people know related to health and illness or health, for example the meaning, causes, methods of transmission and ways of preventing a disease. Based on the research results of Akbar et al. (2016) that 58.30% had good knowledge and 41.70% had poor knowledge of pulmonary tuberculosis in the Sienjo Community Health Center working area. The research results of Sari et al. (2016) also found that 51.5% of tuberculosis patients had sufficient knowledge and 48.5% had insufficient knowledge among outpatient pulmonary tuberculosis patients in Jakarta.

Healing of tuberculosis patients is greatly influenced by compliance with taking tuberculosis medication. Medication adherence is a behavior that is compliant with medication that requires the patient's willingness and forms a rule that has been agreed upon between the health service provider and the patient. According to research results by Mando & Sutriningsih (2018), compliance with taking medication for pulmonary tuberculosis patients was found to be 91.4% compliant and 8.6% negligent at the Janti Community Health Center, Malang City. In line with the results of research by Yulisetyaningrum et al (2019) showing that 78.9% were compliant and 21.1% were non-compliant in tuberculosis patients at RSI. Sunan Kudus.

Apart from that, research results from Wulandari et al (2020) show that of the 23 respondents who had high medication adherence, 16 respondents (69.6%) and 7 respondents (30.4%) had moderate adherence. From the statement regarding compliance with taking medication, the problem with respondents was the long duration of treatment and forgetting to bring medication when traveling.

The results of interviews conducted with 10 pulmonary tuberculosis patients at the Somambawa Community Health Center, Somambawa District, South Nias Regency showed that the patients said that anti-tuberculosis drugs could be stopped when they felt better because if consumed continuously it could damage the kidneys, patients sometimes forgot to take the medicine, patients got bored of taking the medicine continuously, lazy in taking medicine because the medicine is very bitter and a lot of medicine is consumed, tired of going to the health center when the medicine has run out because the distance between the house and the health center is very far, the average house has no ventilation, and there is not enough sunlight entering the house .

METHOD

This type of research is quantitative, descriptive, correlative, or called cross sectional. This study aims to determine the relationship between knowledge and adherence to taking medication in pulmonary tuberculosis patients at the Somambawa Community Health Center, Somambawa District, South Nias Regency.

The collection technique used a purposive sampling method with a total sample of 31 people. The measuring instruments used were the pulmonary tuberculosis patient knowledge questionnaire and the Morisky Medication Adherence Scale (MMAS) questionnaire. This study used the Spearman Rho test with a p value <0.05 to determine whether there was a relationship between knowledge and medication adherence in tuberculosis patients.

RESULTS AND DISCUSSION

Table 1. Characteristics of Respondents from Pulmonary Tuberculosis Patients at the Somambawa Community Health Center, Somambawa District, South Nias Regency

Data	Frekuensi (n)	Persentasi (%)
Gender		
Man	22	71
Woman	9	29
Total	31	100
Age		
Late Adulthood (36-45 Years)	5	16,1
Early Elderly (46-55 Years)	23	74,2
Late Elderly (56-65 Years)	3	9,7
Total	31	100
Marital status		
Not Married	0	0
Marry	25	80,6
Widower	6	19,4
Widow	0	0
Total	31	100
Last education		
No school	5	16,1
elementary school	10	32,3
JUNIOR HIGH SCHOOL	6	19,4
SENIOR HIGH SCHOOL	10	32,3
D3	0	0
S1	0	0
Other	0	0
Total	31	100
Work		
Not working/ IRT	11	35,5
Civil servants/BUMN	0	0
Private sector employee	0	0
Self-employed	0	0
TNI/POLRI	0	0
Farmer	8	25,8
Laborer	12	38,7
Total	31	100
Income		
< IDR 1,000,000	10	32,3
IDR 1,000,000 - IDR 2,000,000	17	54,8
IDR 2,100,000 - IDR 3,000,000	4	12,9
IDR 3,100,000 - IDR 4,000,000	0	0
> IDR 4,100,000	0	0
Total	31	100
Duration of TB Drug Consumption		
Never	7	22,6

The Relationship Of Knowledge And Compliance With Medication In Pulmonary Tuberculosis Patients At The Somambawa Health Center, Somambawa District, Nias Selatan District. Candra Meriani Damanik, et.al

< 1 Month	8	25,8
≥ 1 Month	8	25,8
≥ 2 Months	5	16,1
≥ 3 Months	3	9,7
≥ 4 Months	0	0
≥ 5 Months	0	0
≥ 6 Months	0	0
Total	31	100

The characteristics of respondents based on gender in this study were that the majority of respondents were male, 22 people (71%) and 9 people (29%) were female. The characteristics of respondents based on age in this study were that the majority of respondents were aged 46-55 years (early elderly), namely 23 people (74.2%), less than a quarter of respondents aged 36-45 years (late adults), namely 5 people (16.1 %) and aged 56-65 years (late elderly), namely 3 people (9.7%).

The characteristics of respondents based on their latest education in this study were more than a quarter of respondents, namely 10 people (32.3%) had completed elementary school, 10 people (32.3%) had graduated from high school, 6 people (19.4%) had graduated from junior high school, and 5 people (16.1) do not go to school. The characteristics of respondents based on marital status in this study were that the majority were married, 25 people (80.6%) and less than a quarter of the respondents were widowers, 6 people (19.4%). Characteristics of respondents based on work, namely less than half of the respondents worked as laborers, 12 people (38.7%), did not work/housewives, 11 people (35.5%), and a quarter of the respondents worked as farmers, 8 people (25.8%). The characteristics of respondents based on income are that more than half of the respondents have an income of IDR 1,000,000 - IDR 2,000,000 as many as 17 people (54.8%), more than a quarter of respondents who earn < IDR 1,000,000 as many as 10 people (32.3%) , and less than a quarter of respondents who earn IDR 2,100,000 - IDR 3,000,000 are 4 people (12.9%). The characteristics of respondents based on the length of time they have taken TB drugs are that more than a quarter of respondents have a history of taking TB drugs < 1 month and ≥ 1 month as many as 8 people (25.8%), less than a quarter of respondents do not have a history of taking TB drugs as many as 7 people (22, 6%), ≥ 2 months as many as 5 people (16.1%), and ≥ 3 months as many as 3 people (9.7%).

Table 2. Knowledge of Pulmonary Tuberculosis Patients at Somambawa Community Health Center, Somambawa District, South Nias Regency

Knowledge	n	%
Good Knowledge	3	9,7
Sufficient Knowledge	21	67,7
Lack of Knowledge	7	22,6
Total	31	100

Based on table 2, Knowledge of Pulmonary Tuberculosis Patients at the Somambawa Community Health Center, Somambawa District, South Nias Regency, it was found that more than half of the respondents had sufficient knowledge, 21 people (67.7%), less than a quarter of respondents had insufficient knowledge, 7 people (22.6%). %, and 3 respondents who had good knowledge (9.7%).

Table 3. Compliance with Taking Medication for Pulmonary Tuberculosis Patients at the Somambawa Health Center, Somambawa District, South Nias Regency

Medication Adherence	Frekuensi (n)	Persentasi (%)
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The Relationship Of Knowledge And Compliance With Medication In Pulmonary Tuberculosis Patients At The Somambawa Health Center, Somambawa District, Nias Selatan District. Candra Meriani Damanik, et.al

High Compliance	13	41,9
Low Compliance	18	58,1
Total	31	100

Based on table 3, Compliance with Taking Medication for Pulmonary Tuberculosis Patients at the Somambawa Community Health Center, Somambawa District, South Nias Regency, it was found that more than half of the respondents had low medication compliance, 18 people (58.1%) and less than half of the respondents had high medication compliance. as many as 13 people (41.9%).

Table 4. Relationship between Knowledge and Compliance with Taking Medication in Pulmonary Tuberculosis Patients at the Somambawa Community Health Center, Somambawa District, South Nias Regency

Variable Relationships	<i>p-value</i>	<i>r</i>	Correlation Direction
Relationship between Knowledge and Medication Compliance	0,008	0,466	Unidirectional (+)

The results of this study show that there is a relationship between knowledge and adherence to taking medication in pulmonary tuberculosis patients with a significant value of 0.008, which means a significant value of <0.05. The strength of the relationship between knowledge and medication adherence is 0.466, where a value of 0.30 to 0.49 indicates a moderate correlation. The criterion for the direction of correlation in this research is positive, which means that the relationship between the two variables is in the same direction, where the more knowledge the patient has, the more adherence to taking medication will increase.

DISCUSSION

Knowledge of Pulmonary Tuberculosis Patients at Somambawa Community Health Center, Somambawa District, South Nias Regency

Based on the results of research on the knowledge of Pulmonary Tuberculosis Patients at the Somambawa Community Health Center, Somambawa District, South Nias Regency, it was found that more than half of the respondents had sufficient knowledge, 21 people (67.7%). The results of this research are in line with the research results of Suprobo (2015) that more than half of the respondents, namely 32 people (60.4%) have high knowledge. Apart from that, research results that show high knowledge in TB patients are research by Hasudungan (2020) which shows 69.6% have high knowledge, research by Akbar et al. (2016) showed that more than half of the respondents had good knowledge (58.30%) at the Sienjo Community Health Center, and the research results of Karuniawati et al. (2015) showed that the majority had high knowledge of TB patients at BKKBM Surakarta.

A person's knowledge is influenced by many factors, including education, experience and facilities. Usually the higher a person's education, the more information they receive and the higher their knowledge. According to research conducted by Rasooli et al. (2015) that in patients suffering from tuberculosis, age, gender, and student are significantly related to knowledge ($p < 0.001$). A total of 233 patients (81.8%) had a comprehensive understanding of tuberculosis, both the symptoms and transmission of tuberculosis. This study also found that tuberculosis patients being illiterate or unable to read and write was significantly related to the level of knowledge about tuberculosis.

Based on the results of interviews with several respondents who were suffering from pulmonary TB and were seeking treatment at the Sienjo Community Health Center, it was stated that some of them had sufficient knowledge because they had received counseling from health workers at the Somambawa Community Health Center, Somambawa District, South Nias Regency regarding TB disease, prevention, transmission and about treatment that must be carried out.

The Relationship Of Knowledge And Compliance With Medication In Pulmonary Tuberculosis Patients At The Somambawa Health Center, Somambawa District, Nias Selatan District. Candra Meriani Damanik, et.al

Respondents also said they got information apart from counseling and also from social media such as television and radio.

Compliance with Taking Medication for Pulmonary Tuberculosis Patients at the Somambawa Community Health Center, Somambawa District, South Nias Regency

Based on the results of research on medication compliance for pulmonary tuberculosis patients at the Somambawa Community Health Center, Somambawa District, South Nias Regency, it was found that more than half of the respondents had low medication compliance, 18 people (58.1%). Based on the results of the interview, it shows that the patient believes that anti-tuberculosis drugs can be stopped when they feel better because if consumed continuously it can damage the kidneys, the patient sometimes forgets to take the medicine, the patient gets bored of taking the medicine continuously, is lazy about taking the medicine because the medicine is very bitter and consuming a lot of medicine, tired of going to the health center when the medicine has run out because the distance between the house and the health center is very far, the average house has no ventilation, and there is a lack of sunlight entering the house.

The results of this research are in line with the research results of Fitri et al. (2018) found that the majority of pulmonary TB patients (78.4%) were not compliant in taking TB medication in the Sadabuan Health Center working area, Padangsidempuan City. Compliance in an attitude is a response that only appears when the individual is faced with a stimulus that requires an individual reaction. Compliance is an attitude that will appear in someone as a reaction to something that is in the regulations that must be implemented.

Based on research, it is known that respondents who have a positive attitude regarding the consumption of anti-tuberculosis drugs will comply with these provisions. Meanwhile, respondents had a negative attitude because they did not know clearly and effectively about the benefits of taking medication. Several respondents who did not comply indicated that they knew the function of TB drugs and had followed the education provided by health workers. Respondents were disobedient because they were influenced by other people not to take too much medication because it could damage the kidneys. This shows that the patient's positive attitude can be seen through the patient's participation in counseling activities carried out by health workers. The respondent's knowledge is lacking, but because the respondent imitates other people who have a positive attitude regarding compliance with taking medication, it influences their behavior to be positive.

The Relationship between Knowledge and Compliance with Taking Medicine in Pulmonary Tuberculosis Patients at the Somambawa Community Health Center, Somambawa District, South Nias Regency.

The results of this study show that there is a relationship between knowledge and adherence to taking medication in pulmonary tuberculosis patients with a significant value of 0.008, which means a significant value of <0.05 . The results of this research are in line with the research results of Fitria & Mutia, (2016) that there is a relationship between knowledge and compliance with taking anti-tuberculosis medication. This is also supported by the results of research from Purwanto, (2010) which states that there is a significant relationship between knowledge and adherence to taking anti-tuberculosis medication in TB patients. Factors that influence knowledge in TB patients include internal factors which include education, employment and age, while external factors include social, cultural and economic environmental factors (Notoatmodjo, 2014).

Knowledge is greatly influenced by education. In this study, 32.3% had elementary and high school education. Himawan et al., (2015) that a person's knowledge is supported by educational background, the longer a person has been in education, the better the person's level of knowledge. Apart from educational factors, another factor that can influence is the existence of health education

regarding TB at the Perak Timur Surabaya Community Health Center. With a good educational background, this will really support high medication adherence in TB patients, because of the background. Good education will make respondents better at receiving the information provided by health workers.

CONCLUSION

The results of research on the relationship between knowledge and adherence to taking medication in pulmonary tuberculosis patients at the Somambawa Community Health Center, Somambawa District, South Nias Regency in 2022, the following conclusions were obtained Knowledge of Pulmonary Tuberculosis Patients at the Somambawa Community Health Center, Somambawa District, South Nias Regency, it was found that more than half of the respondents had sufficient knowledg Compliance with taking medication for tuberculosis patients.

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