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THE RELATIONSHIP BETWEEN KNOWLEDGE WITH ANTI-TUBERCULOSIS TREATMENT AND MEDICATION ADHERENCE AMONG TUBERCULOSIS PATIENTS

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ABSTRACT

Tuberculosis is still one of the 10th deadliest diseases in the world The biggest risk factor for this disease is a weakening of the body's immune system caused by several diseases such as HIV/AIDS and malnutrition. The aim of this research is to find out the picture and relationships knowledge and the level of compliance of Tuberculosis sufferers in treatment at the Margajaya Health Center, Tanjungsari District , Sumedang Regency in 202 3 . The research method used in this research is quantitative research. The population in this study were all Tuberculosis sufferers who were treated at the Margajaya Community Health Center from November 202 2 to May 202 3 . The sampling that will be used in this research is total sampling , namely samples taken from the entire population, which in this study are all Tuberculosis sufferers treated at the Margajaya Community Health Center who at the time of the research were still undergoing treatment with details of 35 people using univariate and bivariate data analysis techniques in SPSS application. The results of this research have a significance value of 0.0 03 , so there is a significant influence between Knowledge to Compliance of Tuberculosis patients in treatment at Margajaya Community Health Center . It is hoped that Tuberculosis sufferers can carry out treatment as fully as possible so that they do not experience treatment failure which results in the patient failing to recover or even getting worse due to bacterial factors becoming increasingly resistant to the medication being taken.

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1. INTRODUCTION

Tuberculosis (TB) is an infectious disease caused by the bacterium Mycobacterium Tuberculosis (WHO , 2014) . The biggest risk factor for this disease is a weakening of the body's immune system caused by several diseases such as HIV/AIDS and malnutrition. Bad environmental factors and bad habits can increase the risk of developing tuberculosis . Health workers who work in health centers also have a high risk of contracting tuberculosis patients (Ministry of Health, 2022) . Tuberculosis is still one of the 10th deadliest diseases in the world. It is estimated that 1.2 million people worldwide died from Tuberculosis with a negative HIV test and 280,000 people died from Tuberculosis with a positive HIV test (Previously 678,000 people in 2018). The death rate is lower compared to previous years (WHO, 2020). Everyone can get this disease, both children and adults. However, adults are more often affected by Tuberculosis . In 2019 the number of Tuberculosis cases worldwide reached a total of 10 million confirmed cases with 5.6 million male cases and 3.3 million female cases (WHO, 2020).

Indonesia is one of the countries with the highest incidence of tuberculosis in the world apart from China, Pakistan, India, the Philippines, South Africa and Nigeria. The most common tuberculosis disease in Indonesia is pulmonary tuberculosis . In Indonesia, the estimated number of Tuberculosis cases has reached 842,000 cases and the number of Tuberculosis cases in Indonesia ranks third in the world after India and China (Ministry of Health of the Republic of Indonesia, 2019). In 2019, Tuberculosis cases in Indonesia totaled 361,832 with an incidence rate of 136 per 100,000 population. Of this number, 40% were found to be of productive age, namely 20-45 years (Ministry of Health of the Republic of Indonesia, 2019).

In West Java, the number of new cases of bacteriologically confirmed Tuberculosis in 2019 totaled 189,303, men dominated with a total of 103,705 cases followed by women, namely 85,598 cases (opendata.jabarprov.go.id). In 2021, the total number of Tuberculosis cases in Sumedang was found to be 1,321 cases. Of these cases, there were 184 cases of Tuberculosis in children aged 0 - 14 years, while at the Margajaya Community Health Center in 2021 it was known that there were 35 people suffering from BTA (+) pulmonary tuberculosis , of which 32 people had finished treatment and 3 people had dropped out of treatment . In 2022 cases will increase to 40 cases with 35 people completing treatment and 5 still undergoing treatment. From several surveys, the number of new cases of Tuberculosis is 2 times higher in men than in women. This may occur due to men's smoking habits (Ministry of Health of the Republic of Indonesia, 2018).

Tuberculosis can be prevented and cured. Approximately 85% of Tuberculosis patients can be cured by administering a drug regimen for 6 months by obediently taking the medication given. The high rate of Tuberculosis in Indonesia is influenced by several factors, namely, knowledge and attitudes, residential density, lighting, humidity, ventilation, house floors and house walls . The sanitation of the home environment greatly influences the presence of Mycobacterium Tuberculosis bacteria , where Mycobacterium Tuberculosis bacteria can live for 1-2 hours or even several days to weeks depending on the presence or absence of sunlight, ventilation, humidity, temperature and density of the home occupants (WHO, 2019) . Several other factors that influence the transmission of Tuberculosis in general include the concentration of the number of germs inhaled, the length of time since being infected with the germ, the age of the person infected, and the person's immune system (Ministry of Health of the Republic of Indonesia, 2014).

Tuberculosis has a direct impact on the cost of health services (diagnosis, treatment and transportation control) for sufferers and their families, decreases the performance and productivity of sufferers, and causes a decrease in family income (Annual household income) by 20-30% so that efforts to prevent and control Tuberculosis are necessary. . Moreover, currently Tuberculosis is not just regular Tuberculosis , but there have been many cases of Tuberculosis -HIV, Tuberculosis -MDR, and Tuberculosis -DM which require special treatment and treatment. Efforts to prevent and control Tuberculosis are carried out using the DOTS (Directly Observed Treatment Shortcourse Chemotherapy) approach or treatment of pulmonary Tuberculosis with direct supervision by the Drug Ingestion Supervisor (PMO). This is to monitor medication taking so as to reduce the risk of being absent or dropping out of medication.

Failure to follow up or patient non-compliance with the provisions and duration of regular treatment to achieve healing is a result of low levels of public knowledge. The healing process for Tuberculosis patients can be realized quickly, if cooperation between the patient and his family and health service providers, especially doctors, must be well established and supported by the patient's knowledge of the importance of complete Tuberculosis treatment (Octavienty et al. 2019). Data in 2022 there will be 3 people who are absent from follow-up and do not comply with treatment and it can be concluded that the number of sufferers of BTA (+) pulmonary tuberculosis cases at the Margajaya Community Health Center is still non-compliant during the treatment period so that out of 40 patients or 100% target compliance with taking medication Tuberculosis only reached 32 patients or 80 % , so the author was interested in conducting research on "The Relationship between Knowledge and Compliance with Tuberculosis Patients in Treatment at the Margajaya Health Center, Tanjungsari District, Sumedang Regency in 2023 ".

2. METHOD

When conducting research, we need to follow the applicable rules or principles, so that the research results obtained can be said to be valid. Research methods are basically scientific ways to obtain data with specific purposes and uses. The research method used in this research is quantitative research. Quantitative means based on quantity or quantity. Quantitative Research is research that takes large amounts of data. It could be tens, hundreds, or maybe thousands. This is because the population of quantitative research respondents is very broad. Generally, quantitative research uses survey methods to collect data from large populations.

The type of research used in this research is quantitative research. This research uses an analytical research type using a cross- sectional method . This research was conducted at the Margajaya Health Center, Tanjungsari District, Sumedang Regency. The population of this study was 35 TB patients recorded at the Margajaya health center in the period November 2022 - May 2023 . The sample was taken using a total

sampling technique so that the number of respondents for this study was 35 people. The research instrument used in this research is a questionnaire that has been tested for validity and reliability by previous researchers. Hypothesis testing was carried out using the Chi-Square test.

3. RESULTS AND DISCUSSION

a. Results

The research results include independent variables (knowledge and attitudes about Tuberculosis) and dependent variables (Medication Adherence). Data are presented in frequency and percentage distributions and analyzed using the Chi Sq ua re test :

Univariate Analysis

Based on the results of collecting research data by distributing a questionnaire containing 24 statements regarding knowledge about Tuberculosis and Compliance with its treatment , the following data was obtained :

1. Knowledge Overview

Tab l e 1 Knowledge Based Overview

Knowledge	Frequency	Percentage (%)
Good	17	48.6
Enough	10	28.6
Not enough	8	22.9
Total	35	100.0

Based on table 1 , it can be concluded that the patients with the most knowledge and frequency are in the Good category, 17 of them patients (48 , 6 %) and patients with the least knowledge and frequency were in the less than 8 category patients (22 , 9 %) .

2. Compliance Overview

Tab l e 2 Overview Based on Compliance

Obedience	Frequency	Percentage (%)
Obedient	22	62.9
Not obey	13	37.1
Total	35	100.0
Total	100	100.0

Based on table 2 , it can be concluded that the patients with the highest frequency of compliance were in the 22 compliance category patients (62 , 9 %) and 13 patients (37.1%) were non-compliant.

Bivariate Analysis

Bivariate analysis in this research was carried out to determine the influence between the independent variable (knowledge and attitudes about Tuberculosis) and the dependent variable (Medication Adherence) on patients. Tuberculosis in the UPTD Margajaya Health Center, Sumedang Regency in 2023. The statistical test used is Chi Square

1. The Relationship between Knowledge and Adherence to OAT Treatment in TB Patients

The following are the results of research regarding the influence between Knowledge and Compliance were tested using the Chi Square Statistical Test technique using the help of the Statistical Product and Services Solution 25 program (SPSS). The following is a table of test results for the two variables.

Table 3 Results of Statistical Tests of Relationships Knowledge with Compliance in Tuberculosis patients in treatment at the Margajaya Health Center

Knowledge	Obedience						P-value
	Obedient		Not obey		Total		
	F	%	F	%	F	%	
Not enough	1	3.0	7	20.0	8	23.0	0.003
Enough	7	20.0	3	8.5	10	28.5	
Good	14	40.0	3	8.5	17	48.5	
Total	22	63.0	13	37.0	35	100.0	

Based on table 3 , the result is P=Value 0.0 03 , so there is a significant influence between Knowledge and Compliance in Tuberculosis Patients in treatment at the Margajaya Health Center . . This shows that both variables have an influence Positive , meaning getting better Knowledge means the patient will be more compliant with treatment and vice versa. Knowledge level patients Which good and obedient with the highest frequency, namely 14 patients (40.0 %) .

3.2 Discussion

1. Compliance Overview

The picture shown in this study is that the majority of patients with the highest level of compliance with the highest frequency are in the adherent category , namely 22 patients (62 , 9 %), while the frequency of the non-compliant category was 13 patients (3 7, 1 %). One of the problematic factors in Tuberculosis treatment is treatment compliance, based on data from the Ministry of Health, the success rate for Tuberculosis treatment has been decreasing since 2016 (Ministry of Health, 2022). Compliance with Tuberculosis sufferers in treatment means that the patient will undergo Tuberculosis treatment and take Tuberculosis medication in accordance with the recommendations of the treating Doctor, including appropriate dosage and punctuality repeatedly until the results of the examination state that the patient has completely recovered and the risk of transmission to other people is negative (0) .

In line with the results of research conducted by Gunawan, Simbolon & Fauzia (2017), the results of pulmonary TB patient compliance with pulmonary TB treatment in this study showed that there were compliant patients (90.7%) and non-compliant patients (9.3%) . This is because of the patient Tuberculosis at the Margajaya Community Health Center often receive instructions from officers to always be obedient in undergoing treatment and always obey the instructions of the officers in charge. Another source of compliance that can be closely related to patient compliance is pressure . In this case, the patient experiences a lot of pressure both from within himself, from those closest to him , and from society who sometimes stay away because they don't want to catch the disease . This factor also influences patients so they don't want to take medication so they don't look sick and made him disobedient to his treatment.

2. Knowledge Overview

The picture shown in this study is that the majority of patients with the highest level of knowledge are in the good category , namely 17 patients (4 8 , 6 %). Meanwhile, for Knowledge , the frequency of the sufficient category is 10 patients (28 , 6 %) and for Knowledge the frequency of the poor category was 8 patients (2 2, 8 %). Knowledge is information or information that a person knows or is aware of. Another definition of knowledge is information, facts and concepts that a person has learned and understood through experience, observation and study. Knowledge can also include an understanding of the abstract concepts and principles underlying phenomena and events in the world. In modern society, knowledge is considered an important source of power in making decisions and achieving goals in various areas of life .

In line with research conducted by Retno TW 2017 with the title The Relationship between Knowledge and Motivation and the level of Compliance with Taking Medicine in TB Patients, the results showed that the majority of respondents' knowledge was good, namely 55 respondents (55%). Meanwhile, the number of respondents with sufficient knowledge was 37 respondents (37%) and those with insufficient knowledge were 8 respondents (8%) . This is because patients often receive and follow socialization about the dangers and methods of treating Tuberculosis both from officers and from accessed social media . So that the patient knows what the disease is and how to treat Tuberculosis and also knows what to do when undergoing Tuberculosis treatment and how to prevent Tuberculosis .

3. Connection Knowledge with Compliance

From the results of this research with a significance value of 0.0 03 , there is a significant influence between Knowledge to compliance of Tuberculosis patients in treatment at the Margajaya Health Center . This shows that both variables have an influence Positive , meaning getting better Knowledge means the patient will be more compliant with treatment and vice versa.

This research is in line with Joyce B (20 22) who focuses on testing how knowledge influences the compliance of Tuberculosis sufferers in treatment at the Special Lung Hospital in Medan City. Results from research proves that the researcher's hypothesis shows positive results, with a value (p) of 0.000 which means <0.004, which means that there is a significant influence between the two variables, namely knowledge on compliance with taking medication for tuberculosis patients .

The level of knowledge can influence a person's level of compliance , and the level of compliance can also influence a person 's level of knowledge . In a cause and effect relationship, knowledge can be the cause or main cause in reducing the level of Compliance somebody. Good knowledge will influence Tuberculosis sufferers to be able to do things regularly so that it can influence their behavior.

Another factor that influenced the results in this study was that the researchers reached all parts of the population, namely all Tuberculosis patients at the Margajaya Health Center. In the process, patients have different levels of knowledge . Even though the majority of patients' knowledge is good, there are still patients whose knowledge is not good and this does not rule out the possibility of factors causing patients not complying , namely the factor of looking for references that are difficult to find because there are patients who are elderly and still IT literate so that patients do not receive information about their disease. Moreover, if when taking medicine at the Community Health Center, the patient is represented by someone else , then it is certain that the patient does not know information about the disease he is suffering from and how to treat it and there are also family and relatives who do not provide complete knowledge because they both do not know about it. Tuberculosis disease and how to treat it , especially the people in their environment only know that Tuberculosis is an infectious and dangerous disease and they don't know that this disease can be prevented and can be treated if the patient adheres to treatment.

This is because family support as a PMO , friends and other social support influence attitudes toward treatment in Tuberculosis sufferers . Another factor that influences the results in this research is the researcher reaching all parts of the population, namely all Tuberculosis patients at the Margajaya Health Center. In the process, patients have different levels of attitude . Even though the attitude of the majority of patients is good, there are still patients who are disobedient and it does not rule out the possibility of factors causing patient disobedience This is a factor in the patient's indifference to his illness and the patient thinking that his illness will heal by itself even though he does not comply with the doctor's recommendations. Moreover, there are also some patients who do not receive support from their family and closest relatives because they are afraid of contracting the disease the patient is suffering from, which influences the patient's attitude of being indifferent and ignoring their illness. This condition also often makes the patient mentally down and causes the patient to be reluctant to seek treatment. to the puskesmas and are even lazy to comply with taking the medicine even though a home visit has been made and the puskesmas doctor or officer has given the medicine to the patient. This attitude influences patients' non-compliance with their treatment so that often there are still patients who do not complete treatment and whose disease gets worse and even enters the MDR (Multidrug Resistance Tuberculosis) category . .

4. CONCLUSION

1. Description Patients with the highest knowledge and frequency were 17 in the good category patients (48.6 %).
2. Description Patients with the highest level of compliance with the highest frequency were 22 in the adherent category patients (62 , 9 %).
3. There is a relationship knowledge with compliance in Tuberculosis sufferers in treatment at the Margajaya Community Health Center with a PV alue value of 0.003 .

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