The relationship between family roles and medication adherence in tuberculosis patients at Puskesmas Ofa Padang, Mahondang, Asahan district, North Sumatra

Zuidah[1], Indah Wati[2]

[1,2]Prodi Ilmu Keperawatan, Fakultas Ilmu Kesehatan, Universitas Haji Sumatera Utara

Article Info	ABSTRACT
Keywords: The Role of the Family, Adherence to Taking Medicine, Tuberculosis	Tuberculosis (TB) is a direct infectious disease caused by TB germs, namely Mycobacterium tuberculosis. The family's role is to directly participate in supervising pulmonary tuberculosis sufferers so that they take medication regularly until completion of treatment. The aim of this research is to determine the relationship between the role of the family and adherence to taking medication in tuberculosis patients at the Ofa Padang Mahondang Community Health Center, Asahan Regency, North Sumatra. The design of this research is descriptive, namely with a cross sectional study approach. The population in this study was 180 people using an incidental sampling technique for 2 weeks so that the sample in the study was 30 people. The Role of the Family in Tuberculosis Patients at Ofa Padang Mahondang District Health Center. Asahan, North Sumatra, it is known that the majority of respondents, 14 people (47%), have enough. The research results showed that the majority of medication compliance was in the medium category, 15 people (50%). The conclusion of this research is that there is a relationship between the role of the family and compliance with taking medication in tuberculosis patients at the Ofa Padang Mahondang District Health Center. Asahan North Sumatra with a significance value of 0.541 with correlation analysis there is a positive r value of 0.002. It is recommended that health workers include the role of the family in every counseling in the community.
	Corresponding Author: Zuidah Universitas Haji Sumatera Utara, Medan zuidah66@gmail.com

INTRODUCTION

Tuberculosis (TB) is a direct infectious disease caused by TB germs, namely mycobacterium tuberculosis. (Ngasu and Kura, 2019). The source of transmission of TB patients is Acid-Resistant Bacilli (BTA) contained in sputum released when coughing or sneezing. The patient spreads TB germs into the air in the form of sputum splashes (droplet nuclei). (Lestari, 2021).

Worldwide, an estimated 9.9 million people suffered falling ill with tuberculosis in 2020. Geographically, in 2020 the most tuberculosis cases were in the WHO Region in Southeast Asia (43%), Africa (25%) and the Western Pacific (18%), with smaller parts in the Eastern Mediterranean (8.3%), the Americas (3.0%) and Europe (2.3%). (WHO, 2021).

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Based on the Global TB Report 2018, it is estimated that in Indonesia in 2017 there were 842,000 new TB cases (319 per 100,000 population) and 116,400 deaths due to TB (44 per 100,000 population) including HIV-positive TB. Despite the progress Indonesia has made, the number of new tuberculosis cases in Indonesia is still ranked third in the world and is one of the biggest challenges facing Indonesia and requires attention from all parties, as it provides a high morbidity and mortality burden. Tuberculosis is the highest cause of death after ischemic heart disease and cerebrovascular disease. In 2017, the mortality rate from tuberculosis was 40/100,000 population (without HIV-TB) and 3.6 per 100,000 population (including HIV-TB). (Ministry of Health, 2019). The highest and reported tuberculosis cases were found from Bogor Regency, Bandung City, East Jakarta City, Medan City, and Makassar City. (Ministry of Health RI, 2020).

A person can get tuberculosis infection without becoming ill, tuberculin testing can show positive results without any clinical, radiological pulmonary and laboratory abnormalities. If you are infected, you should immediately prevent it from developing into illness or suffering from tuberculosis by providing OAT treatment. TB treatment guidelines from WHO state that for effective and therapeutic treatment it takes 6 months (with certain conditions) where there is no negligence allowed while undergoing the treatment. (Fitriani and Ayuningtyas, 2019). Tuberculosis as an infectious disease that can attack all age groups such as the elderly, adults and children. (Lestari, 2021).

By the time a person is diagnosed with TB, it takes a long time to undergo treatment. WHO has since 1995 recommended the implementation of the DOTS strategy. This DOTS strategy aims to prevent the transmission of tuberculosis germs and prevent the occurrence of Multi Drug Resistent-TB (MDR TB). If the transmission of tuberculosis germs can be prevented, the incidence of tuberculosis can be reduced. Tuberculosis is a chronic disease. Tuberculosis patients undergo a treatment program of at least 4 drugs / day in the early stages of treatment or intensive phase and 2 drugs / day in the next stage of treatment with a minimum duration of treatment of 6 months. Treatment with a short period of time allows for non-compliance in taking medication. Tuberculosis patients who do not undergo treatment or do not routinely take medication are at risk of failing treatment and resulting in a higher risk of transmission to others. Low drug adherence rates are one of the barriers to tuberculosis control. (Year, 2021)

Patients with pulmonary tuberculosis need to get full support from their families so as to support the recovery process. The role of the family for people with pulmonary tuberculosis is to remind them to take drugs on time, carry out routine checks and carry out healthy living behaviors. The role of the family is to directly participate in supervising patients with pulmonary tuberculosis to take drugs regularly until the end of treatment, motivating them to be willing to re-check sputum according to a specified schedule and representing patients taking drugs. Pulmonary tuberculosis clients' adherence to medical treatment as an ongoing treatment measure so as to support their recovery (Lestari, 2021). Lestari's research (2021) concluded that most respondents have a good family role, most respondents are adherent to taking good Tuberculosis (TB) drugs so that there is a strong relationship between family roles and adherence to taking medication for Tuberculosis (TB)

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clients at the Kedungkandang Health Center in Malang City. Based on an initial survey conducted by researchers at the Ofa Padang Mahondang Health Center on 3 pulmonary tuberculosis patients who controlled treatment, the role of family is important in adherence to taking medication.

METHODS

One form of statistics used to look for relationships and variables or more is done quantitatively. This type of research uses a correlation descriptive design aimed at determining the relationship between independent variables and dependent variables. This type of study aims to determine the relationship between family roles and medication adherence in tuberculosis patients at the Ofa Padang Mahondang Health Center.

This research design used a cross sectional design. This study uses variables, namely independent variables (independent variables) or x variables and one dependent variable (dependent variable) or Y variable). The independent variable in this study was Family Role Relationship while the dependent variable was Adherence to Taking Medication in Tuberculosis Patients at Ofa Padang Mahondang Health Center.

The reason the researchers chose the Ofa Padang Mahondang Health Center, Asahan District, North Sumatra as the place of research, is because through data from the initial survey there is a lack of family roles regarding adherence to taking tuberculosis drugs, and this location is close to researchers, in accordance with the ability of researchers in terms of science and cost. The study was conducted in September 2022.

The population in this study was 180 patients suffering from pulmonary tuberculosis who came to the Ofa Padang Mahondang Health Center in the last three months from June 2022 to August 2022. The samples in this study were pulmonary tuberculosis patients who came to the Ofa Padang Mahondang Health Center. The sampling technique used is accidental sampling where samples were taken on patients suffering from pulmonary tuberculosis who came for treatment for the last 2 weeks at the Ofa Padang Mahondang Health Center as many as 30 people.

This research has been conducted with the approval of the Hajj University of North Sumatra. After that, the researcher asked for permission at the research site at the Ofa Padang Mahondang Health Center and had determined the respondents studied with an allocation for 15-20 minutes to fill it to completion. Data collection, researchers are assisted by research assistants who have been registered as pulmonary tuberculosis program officers. After the respondent fills in, all data that has been collected and has been analyzed.

The instrument in this study is a questionnaire made by leading to logical validity, namely validity that points to departure from theoretical construction measured by a measuring device. The instruments in this study used questionnaires that were spread through questions on knowledge variables and statements on action variables, namely: To determine the family attitude felt by tuberculosis patients in reminding patients to take tuberculosis drugs regularly, 9 questions were compiled with a total score of 18, using the Guttman scale. For questions that have the correct answer get a value of 1, while for

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questions that have the wrong answer get a value of 0, so that the measurement of the assessment indicator is categorized into good with a value (7-9), enough with a value (4-6) and less with a value (0-3).

Adherence of tuberculosis patients in swallowing tuberculosis drugs regularly using questionnaires from Wigati (2021) with the Morisky Madication Adherence Scale (MMAS-8) questionnaire compiled by Morisky (1986) into Indonesian and modified according to the condition of the study subjects, namely tuberculosis patients as many as 8 closed questions with a total score of 8, using the Guttman scale. For questions that have the correct answer get a value of 1, while for questions that have the wrong answer get a value of 0, so that the measurement of the assessment indicator is categorized into high with a value (8), enough with a medium value (6-7) and low with a value (0-5).

Univariate analysis is used to get a picture of respondents' identities including: age and gender. Bivariate analysis is used to determine the relationship of each independent variable with the dependent variable. The statistical test in this study used the Peorson Product Moment formula to estimate or evaluate the frequency investigated as having a significant relationship or not, with a 95% confidence degree.

RESULTS AND DISCUSSION

Research Results

Based on the data that has been collected, a table is made containing data on the characteristics of research respondents as follows:

Table 1. Frequency Distribution of Family Role Relationship with Adherence to Taking Medication in Tuberculosis Patients at Puskesmas Ofa Padang, Mahondang, Asahan District, North Sumatra

Characteristic	Frequency	Percentage (%)
Age		
25-34 years	11	37
35-44 years	17	57
46-65 years old	2	6
Education		
SD	4	13
SMP	7	23
SMA	14	47
S1	5	17
Work		
Employee	5	17
Self-Employed	12	40
Not Working	11	37
Civil servants	2	6
Total	30	100 %

These respondents correspond to the number of samples, which is as many as 30 people. In terms of age, the majority aged 35-44 years as many as 17 people (57%). Based

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on education, the majority of high school is 14 people (47%). The majority of 12 people (40%) are self-employed. From the results of research on the Role of Family in Tuberculosis Patients at Puskesmas Ofa Padang, Mahondang, Asahan District, North Sumatra obtained from the answers of 30 respondents, it will be explained in table 2 distribution as follows:

Table 2. Frequency Distribution of Family Roles in Tuberculosis Patients at Puskesmas Ofa Padang, Mahondang, Asahan District, North Sumatra

Category	Frequency	Percentage (%)
Good	12	40
Enough	14	47
Less	4	13
Total	30	100

Based on the table above, it can be seen that the majority of respondents as many as 14 people (47%) have and as many as 12 people (40%) have sufficient roles, and have less family roles as many as 4 people (13%). From the results of research on Adherence to Taking Medication in Tuberculosis Patients at the Ofa Padang Mahondang Health Center, Asahan District, North Sumatra obtained from the answers of 30 respondents, it will be explained in table 3 distribution as follows:

Table 3. Frequency Distribution of Adherence to Taking Medication in Tuberculosis Patients at Puskesmas Ofa Padang, Mahondang, Asahan District, North Sumatra

Category	Frequency	Percentage (%)
Tall	11	37
Keep	15	50
Low	4	13
Total	30	100

Based on the table above, it can be seen that the majority of adherence to taking medication has a moderate category of 15 people (50%) and as many as 11 people (37%) in the high category and as many as 4 people (13%) in the low category. From the results of research on the relationship between family roles and medication adherence in tuberculosis patients at the Ofa Padang Mahondang Health Center, Asahan District, North Sumatra, obtained from the answers of 30 respondents, will be explained in table 4 distribution as follows:

Table 4. Frequency Distribution of Family Role Relationship with Adherence to Taking Medication in Tuberculosis Patients at Puskesmas Ofa Padang, Mahondang, Asahan District, North Sumatra

Role	Compliance						%	P Value
	Tall		Keep		Low			
	F	%	F	%	F	%		
Good	3	10	7	23,4	0	0		0,002
Enough	8	26,6	7	23,4	1	3,3	100	
Less	0	0	1	3,3	3	10		
Total			30					

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Based on the results of correlation analysis data analysis, there is a positive r value of 0.002 with a pearson correlation of 0.541 where there is a positive relationship between the two variables. From the significance test of the correlation coefficient p value (0.002 < 0.05), Ho was rejected, meaning that there is a relationship between family roles and medication adherence in tuberculosis patients at the Ofa Padang Mahondang Health Center, Asahan District, North Sumatra.

Discussion

Discussion of the Characteristics of Family Role Relationship with Adherence to Taking Medication in Tuberculosis Patients at Puskesmas Ofa Padang, Mahondang, Asahan District, North Sumatra.

Based on the results of research on the Relationship of Family Roles with Adherence to Taking Medication in Tuberculosis Patients at the Ofa Padang Mahondang Health Center, Asahan District, North Sumatra, 30 samples were obtained. In terms of age, the majority aged 35-44 years as many as 17 people (57%). Based on education, the majority of high school is 23 people (77%). Education influences a person to participate in development and generally the higher a person's level of education becomes the more receptive it becomes to improve medication adherence. The majority of 14 people (47%) are self-employed. The work environment can make a person gain experience and knowledge both directly and indirectly. (Darsini, 2019).

Discussion of the Role of Family in Tuberculosis Patients at Puskesmas Ofa Padang, Mahondang, Asahan District, North Sumatra.

The results of a study discussing the Role of Family in Tuberculosis Patients at the Ofa Padang Mahondang Health Center, Asahan District, North Sumatra, it is known that the majority of respondents as many as 14 people (47%) have enough and as many as 12 people (40%) have good roles, and have less family roles as many as 4 people (13%).

The results of Lestari's research (2021) showed that most of the respondents who had good family roles were 26 respondents, namely (76.4%). Salensehe (2020) research shows that the most family role categories are in the good category with 25 respondents (54.3%). Research Year (2021) said that of the 81 respondents conducted by the study, 74 (91.4%) respondents of Pulmonary TB patients received family roles as PMOs with good categories. Supported by the results of the study that this study also has a good family role in supporting tuberculosis patients to comply with taking medication. This is because the role of the family has an important role in increasing adherence to taking medication. This is also supported by patient education, the majority of which are high school. Education influences a person to participate in development and generally the higher a person's level of education the easier it will be to receive information in improving medication adherence through the knowledge he gains. Knowledge is the most important thing for patients and families in receiving information.

Discussion of Adherence to Taking Medication in Tuberculosis Patients at Puskesmas Ofa Padang, Mahondang, Asahan District, North Sumatra

Based on the results of the study, the majority of adherence to taking medication has a medium category of 15 people (50%) and as many as 11 people (37%) in the high

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category and as many as 4 people (13%) in the low category. Research Year (2021) that of the 81 respondents conducted by the study, 61 (75.3%) respondents were obedient to taking Anti-Tuberculosis Drugs. Ngasu's research (2019) found that the majority of respondents were obedient to taking medication as many as 20 respondents (58.8). In line with Fitriani's research (2019) that the compliance of Pulmonary TB patients in the Serpong 1 Health Center Area is mostly good as much as 72.8%. Adherence to taking tuberculosis medication regularly in this study was mostly good. This is because the majority of respondents aged 35-44 years as many as 17 people (57%). According to Darsini (2019) that age affects a person's comprehension and mindset. In line with Fitriani's research (2019) said that various factors cause non-adherence to taking medication for patients with Pulmonary TB, it can be concluded that the human factor, in this case people with pulmonary TB as the main cause of non-adherence to taking medication. According to the research assumption that the majority of resopnden age is in the adult category, where that age is an age that is able to have a good mindset, so respondents are obedient to taking medicine. In addition, compliance is influenced by the human factor itself, namely tuberculosis respondents who already have a mature age in thinking. Respondents' knowledge is also influenced by age, where the more experience in respondents' knowledge so that adherence in taking medication is also good.

Discussion of the Relationship between Family Roles and Adherence to Taking Medication in Tuberculosis Patients at Puskesmas Ofa Padang, Mahondang, Asahan District, North Sumatra

Based on the results of correlation analysis data analysis, there is a positive r value of 0.002 with a pearson correlation of 0.541 where there is a positive relationship between the two variables. From the significance test of the correlation coefficient p value ($0.002 < 0.05$), Ho was rejected, meaning that there is a relationship between family roles and medication adherence in tuberculosis patients at the Ofa Padang Mahondang Health Center, Asahan District, North Sumatra.

According to Salensehe research (2019) that the results of the Chi-Square test obtained a probability value of 0.012, meaning that there is a relationship between family roles and medication adherence in tuberculosis patients at Liun Kendage Tahuna Regional General Hospital, Sangihe Islands Regency. Supported by the results of the study showed that there was a relationship between the role of family and adherence to taking Anti-Tuberculosis Drugs, which was shown by the results of statistical testing of the p-value value of 0.038.

According to the researcher's assumption that there is a relationship between the role of family and adherence to taking medication in tuberculosis patients at the Ofa Padang Mahondang Health Center, Asahan District, North Sumatra, because of the role of the family that reminds them to be obedient to taking medicine. Obedience is an attitude that will appear in someone that is a reaction to something that is in the rules that must be followed. The formation of attitudes is influenced by three factors, namely social influences such as norms and culture, individual personality characteristics, and information that has been received by individuals. (Fitri, 2018). According to the researcher, respondents'

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compliance is also influenced by respondents' attitudes in undergoing tuberculosis treatment, respondents try to follow the rules of both the environment, culture and information received. In this study, the majority of respondents' education is high school, where higher education will affect a person's knowledge better. The knowledge of respondents will affect adherence in taking medication. In addition, the role of family also affects respondents' compliance in taking tuberculosis drugs. Families have a good role in supporting respondents' compliance. Supported by Fitriani's research (2019), the relationship between the role of the family as a supervisor of taking medication with the level of compliance of Pulmonary TB patients to the treatment program in the Serpong 1 Tangsel health center area (p = 0.001). Therefore, the role of the family is very important in providing information to remain obedient to taking medication so that respondents complete treatment well.

Research Limitations

This study had limitations in obtaining the number of samples. It is hoped that further research can be developed by increasing the number of samples that are more than the study.

CONCLUSION

The results of research on the Role of Family in Tuberculosis Patients at Puskesmas Ofa Padang, Mahondang, Asahan District, North Sumatra, it is known that the majority of respondents as many as 14 people (47%) have enough. The results of the study were the majority of adherence to taking medication in the medium category as many as 15 people (50%). Based on the results of correlation analysis data analysis, there is a positive r value of 0.002 with a pearson correlation of 0.541 where there is a positive relationship between the two variables. From the significance test of the correlation coefficient p value (0.002 < 0.05), Ho was rejected, meaning that there is a relationship between family roles and medication adherence in tuberculosis patients at the Ofa Padang Mahondang Health Center, Asahan District, North Sumatra.

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