

Evaluation of Drug Taking Supervisors in Pulmonary Tuberculosis Patients in the Work Area of the Mattirobulu Health Center, Pinrang Regency

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Abstract - Tuberculosis is a chronic infectious disease caused by the bacterium *Mycobacterium tuberculosis*. These bacteria are rod-shaped and acid-fast, so they are often known as Acid-Resistant Bacilli (BTA). This study aims to analyze the evaluation of Drug Taking Supervisors (PMO) in pulmonary tuberculosis patients in the work area of the Mattirobulu Public Health Center, Pinrang Regency. This research is a type of quantitative research with a survey method. The sample in this study was a total sample of 151 respondents. Data were analyzed using chi square and Multiple Logistics Regression. The results showed that the role of PMO ($p=0.000$), action ($p=0.000$) and support from health workers ($p=0.049$) were related to the success of treatment, while the knowledge variable ($p=0.663$) was not related to the success of pulmonary tuberculosis treatment. The results of multiple logistic regression tests simultaneously showed that the role of PMO ($\text{Exp.B}=0.014$) and Action ($\text{Exp.B}=0.149$) were variables associated with the success of pulmonary tuberculosis treatment. For health agencies, in this case health workers, to increase the role of health workers and PMO for patients with pulmonary tuberculosis, so that the pulmonary tuberculosis eradication program can be implemented in accordance with the target of the Sustainable Development Goals (SDGs).

Keywords: - Role of PMO, Knowledge, Action, Support of Health Workers, Treatment Success.

INTRODUCTION

Tuberculosis is a health problem in the world, and has become the highest disease of the top 10 diseases worldwide and is a disease that causes death. In health development which has been stated in the SDGS (Sustainable Development Goals) with a target by 2030 to end infectious diseases, one of which is Tuberculosis [1]. Tuberculosis is a chronic infectious disease caused by the bacterium *Mycobacterium tuberculosis*. This bacterium is rod-shaped and is acid-fast, so it is often known as Acid-Resistant Basil (BTA) [2]. Based on data from the 2018 Global Tuberculosis Report, Indonesia in 2017 there were 842,000 new tuberculosis cases (319 per 100,000 population) and (44 per 100,000 population) who died including those with HIV positive tuberculosis. The most cases of Pulmonary Tuberculosis in Sulawesi Province in 2019 were in South Sulawesi Province as many as 19,568 cases, Pinrang Regency was included in the top ten in the South Sulawesi area which had high Tuberculosis cases, namely 684 cases.

According to the South Sulawesi Health Profile, 2020 Pulmonary Tuberculosis Disease according to the Sustainable Development Goals (SDGs) of tuberculosis which is the target for reduction, various efforts have been made to control this disease, including through the DOTS program. The PMO (Drug Taking Supervisor) program is a form of supervision of patients in their adherence to taking tuberculosis drugs. Treatment success and early detection are indicators used to measure the effectiveness of tuberculosis control as well as indicators of the impact of incidence, prevalence, and mortality [3]

Success in the treatment of tuberculosis is one of the essential performance indicators in assessing the performance of tuberculosis control programs. This benchmark is not only to ensure the success of the tuberculosis program but also to compare the achievement of targets from each region [3]. A PMO has an important influence on the success of pulmonary tuberculosis treatment, because PMO can determine the patient's regularity in taking drugs, and can determine whether or not the patient recovers from his illness [4]. The success of DOTS in the treatment of pulmonary tuberculosis is influenced by various factors including the behavior/actions of the drug-taking supervisor against pulmonary tuberculosis and health workers [2].

Based on the description above, the researcher is interested in conducting research on the Evaluation of Drug Taking Supervisors (PMO) in Pulmonary Tuberculosis Patients in the Work Area of the Mattirobulu Health Center, Pinrang Regency in 2020

METHODS

This research was conducted at the Mattiobulu Public Health Center, Pinrang Regency, the study began in November – December 2021. This type of quantitative research uses an analytical survey research method with a Cross Sectional Study design. The population of this study were pulmonary tuberculosis patients who had been registered at the Mattiobulu Health Center who had been declared positive for pulmonary tuberculosis and had undergone treatment at the Mattiobulu Health Center for the last 3 months, namely 155 people. The sampling technique in this study was total sampling, so the sample in this study were pulmonary tuberculosis patients at the Mattiobulu Health Center, namely 151 people. This study uses a tool in the form of a questionnaire which is divided into seven parts of a questionnaire. The questionnaire in this study is a questionnaire for Tuberculosis Patients, which is about the role, knowledge, actions and support of health workers.

Data processing was carried out using the SPSS program and then presented in the form of a table accompanied by an explanation in the form of a narrative. The test used to see the relationship between variables was analyzed using bivariate data with the chi square test. Then to determine the most dominant influencing factor, multivariate analysis was performed using logistic regression test.

RESULTS AND DISCUSSION

Table 1
Distribution of Characteristics of Respondents of Pulmonary Tuberculosis Patients at the Mattiobulu Health Center, Pinrang Regency in 2021

	Respondents' Characteristics	Number (n)	Percentage (%)
a	Sex		
	Male	71	47
	Female	80	52
	Total	151	100
b	Age Group (year)		
	18-26	15	9.9
	27-33	28	18.5
	34-40	21	13.9
	41-47	28	18.5
	48-54	26	17.2
	55-61	22	14.6
	62-68	11	7.3
	Total	151	100
c	Last Education		
	Not graduated from Elementary School	16	10.6
	Elementary School	29	19.2
	Junior School	21	13.9
	High School	66	43.7
	Bachelor	19	12.6
	Total	151	100
d	Employment		
	Employed	63	41.7
	Unemployed	88	58.3
	Total	151	100

Source: Primary data, 2021

Based on table 1, it is known that of 151 respondents, 80 (53%) respondents were female. Characteristics of respondents seen in the 27-33 age group, namely 28 (18.5%) respondents and the 41-47 age group, namely 28 (18.5%) respondents. based on the latest education, the most respondents are high school education, namely 66 (43.7%). Characteristics of respondents based on the most occupations are not working as many as 88 (58.3%) respondents.

Table 2

Results of Bivariate Analysis Based on the Variables studied with Successful Treatment of Pulmonary Tuberculosis in the Working Area of the Mattirotulu Public Health Center, Pinrang Regency in 2021

Investigated Variable	Treatment Success				Total		Statistical Test (p-value)
	Succed		Less Succed				
	n	%	n	%	n	%	
PMO Role							
Take a role	96	82.8	20	17.2	116	100	0.000
Not really take role	2	5.7	33	94.3	35	100	
Knowledge							
Good	87	64	49	36	136	100	0.663
Less	11	73.3	4	26.7	15	100	
Action							
Good	86	77.5	25	22.5	111	100	0.000
Less	12	30	28	70	40	100	
Officer Support							
Supportive	90	68.2	42	31.8	132	100	0.049
Less Supportive	8	42.1	11	57.9	19	100	

Source: Primary data, 2021

Based on table 2 shows that the role of PMO (p=0.000), action (p=0.000) and support from health workers (p=0.049) were related to the success of treatment, while the knowledge variable (p=0.663) was not related to the success of pulmonary tuberculosis treatment.

Table 3

Regression Analysis of Independent Variables on the Success of Pulmonary Tuberculosis Treatment in the Work Area of the Mattiroulu Health Center, Pinrang Regency in 2021

Variable	B	S.E	Wald	Df	Sig.	Exp (B)
PMO Role	-4.254	0.797	28.488	1	0.000	0.014
PMO Role	-1.901	0.548	12.019	1	0.001	0.149
Officer Support	.208	0.796	0.123	1	0.725	1.323
Constant	3.820	0.995	14.741	1	0.000	45.592

Based on table 3, the p-value of the action variable = 0.001 with an or value of 0.149 and the p-value of the pmo role variable = 0.000 with an or value of 0.014, while the p-value of the officer support variable = 0.725 which indicates the support of officers is not an opportunity affect treatment success

1. The Relationship of the Role of Drug Administration Supervisors with Treatment Success

The results showed that there was a significant relationship between the role of PMO and the success of treatment. In this study, most of the respondents' responses were lacking, namely the question about sufferers often forgetting to take their medicine. Through family empowerment so that other household members can act as PMO, so that the patient's medication adherence level can be increased so that healing can be achieved, because the role of PMO with treatment success is very important, because patients undergoing long treatment may feel bored every day If you take medicine, it is feared that you will drop out of your medicine or forget to take your medicine because you are desperate that your disease will not heal.

The family is very influential on the success of treatment in tuberculosis patients because there are more good PMOs than the patient's own family, because they have special authority to improve and ensure that patients take their medicine obediently and perform sputum examinations in accordance with the provisions. In addition to PMO, which comes from the patient's family, they provide moral and instrumental support such as funds and time in accompanying the patient during the treatment period. Study [5] with the results that respondents with the PMO role supported more those whose treatment was successful, namely as much as 81% compared to those whose treatment was not successful, namely 1.3% of respondents with the PMO role not supporting, with a good PMO role the success of treatment increased and vice versa if it got worse the role of PMO then the success of treatment is getting smaller, the role of PMO with treatment success has a strong relationship, where the better the PMO in carrying out its duties, the more success in the treatment of tuberculosis.

The success of tuberculosis treatment is a very important effort and is closely related to the patient's recovery process, the presence of a PMO is one of the factors that influence the success of treating tuberculosis patients in Indonesia, this is because during the patient's treatment period they feel bored in taking their medicine every day, so that with the presence of PMO by doing

its role well, namely monitoring patients so that they take medication regularly until they recover, there is a greater chance of successful treatment. The increasing number of failures in tuberculosis treatment is generally caused by the number of non-compliance during the treatment period, such as dropping out of treatment, causing cases or the discovery of tuberculosis patients who are AFB resistant or MDR-TB (Multi Drug Resistant), it is necessary to have a PMO in undergoing treatment, and can also support recovery of tuberculosis patients. The function of PMO can also prevent the spread of the bacteria that cause tuberculosis and prevent MDR-TB cases from spreading.

2. *The Relationship of PMO Knowledge with Successful Treatment of Pulmonary Tuberculosis*

The results showed that there was no significant relationship between respondents' knowledge and treatment success, but respondents had good knowledge. The cure for tuberculosis patients depends on the patient's medication adherence. One of the factors that influence compliance is knowledge about tuberculosis itself. The more the patient knows about the disease, the greater the patient's adherence to treatment. Knowledge of pulmonary tuberculosis and good treatment can improve tuberculosis treatment. Knowledge of respondents in this study is continuous with the level of education of a patient, high knowledge can affect attitudes and behavior of patients during the treatment period and vice versa. In this study, the patient's knowledge was high, this was because the patient had a high education, which on average had a high school education.

Research results by [6] that the lack of knowledge can cause the high incidence of pulmonary tuberculosis, knowledge is one of the factors that can affect the patient's regularity in taking the drug. High adherence to taking medication during the treatment stages has a positive impact by increasing the cure rate, decreasing the mortality rate and the percentage of tuberculosis recurrence, as well as minimizing the occurrence of multi-drug resistance or resistance from bacteria to certain anti-tuberculosis drugs so that tuberculosis will be easily cured with regular treatment. , compliance is one of the factors that increase the cure for tuberculosis. Research conducted by [7] in terms of the knowledge of respondents about pulmonary tuberculosis, most of them have good knowledge as much as 57.5% while at least 10% have sufficient knowledge, this is because knowledge of pulmonary tuberculosis sufferers is influenced by various factors, one of which is information from the communication media. Where patients get knowledge from counseling conducted by the health agency concerned.

There is no relationship between knowledge and the success of tuberculosis treatment, although the average respondent has good knowledge, this can be caused by the long period of time required to undergo the treatment period, so even though having high knowledge is not enough to support the success of tuberculosis treatment. This can also be caused because knowledge is not followed up into an action/behavior, so that high or low knowledge does not affect the success of tuberculosis treatment.

3. *The Relationship between Drug Controlling Actions and Treatment Success*

In this study, there was a significant relationship between PMO action and treatment success, on average PMO had a positive action, the action taken by PMO in this study was to remind patients and accompany patients to re-examine sputum to health services. Re-examination of sputum is very important to do, because the patient's recovery will be declared after a complete re-examination at least twice during the treatment period. Monitoring progress and results of treatment in adults is carried out by microscopic re-examination of sputum [2]. Research conducted by [8] stated that there was a significant relationship between PMO action and the success of tuberculosis treatment at Tobadak Health Center, where low PMO action in monitoring and caring for pulmonary tuberculosis patients had an effect on patient compliance in taking the drug. The increase in an action is influenced by the existence of continuous encouragement so that it can influence in taking a decision in action.

In accordance with the criteria set by WHO that PMO is someone who is expected to have the ability to take action to supervise patients in taking their drugs regularly, provide motivation, and provide counseling and support during treatment so that they continue to take their drugs regularly, all of these activities are related to independence. drug taking supervisor (PMO) in carrying out the role of supervising and caring for pulmonary tuberculosis patients.

4. *The Relationship between Health Care Workers' Support and Successful Treatment of Pulmonary Tuberculosis*

In this study, the support of tuberculosis health workers at the puskesmas was assessed, among others, the attitude of the officers in providing health services to patients with pulmonary tuberculosis, providing information about the importance of regular sputum examination and treatment so that it was complete, providing information about the rules for taking medication correctly and the symptoms of the disease. side effects that may be experienced by patients, the willingness of officers to listen to various complaints from patients and be able to provide solutions, and also the role of officers to provide health education to the entire patient's family. All of these actions are health services carried out by tuberculosis health workers in an effort to support the pulmonary tuberculosis prevention program. Based on the results of this study, it shows that there is a significant relationship between the support of health workers and the success of treatment at the Mattirobulu Health Center, when conducting research respondents get information about the stages of taking pulmonary tuberculosis drugs, health workers also play a role in reminding patients to take drugs and check for tuberculosis. lungs. At the time of taking the medicine, the health worker explained the stages of taking pulmonary tuberculosis medicine and the health worker also reminded him to take the next medicine, and provided motivation for the patient to comply with taking medicine in order to recover from tuberculosis. Pulmonary tuberculosis health workers at the Mattirobulu Health Center during the treatment period of their sufferers make visits to the patient's home at least 2 times during the treatment period to see the condition or progress of the patient.

Study conducted by [9] which states that there is a relationship between health workers and treatment of pulmonary tuberculosis, this is because the role of PMO is very important in improving the maximum quality of health services to the community, so it is

very helpful in improving the healing process in tuberculosis patients, especially regularity in taking tuberculosis drugs, with the results of the study Health workers who support and succeed in their treatment are 56.2% and those who are less are 40%. To support the success of treatment for pulmonary tuberculosis patients, the participation of health workers is very large, one of which is providing information about pulmonary tuberculosis, motivating pulmonary tuberculosis patients to be patient in undergoing the treatment process for a long period of time, and also motivating pulmonary tuberculosis patients not to desperate to carry out routine checks [10].

The role of health workers in serving pulmonary TB patients is expected to be able to build good relationships with patients. The performance element of health workers has an influence on the quality of health services, including health services for pulmonary tuberculosis patients which will directly or indirectly affect the regularity of patient treatment which in the end also determines the outcome of treatment. The mutually supportive relationship between health services and patients with pulmonary TB and the patient's belief in health services are important factors for patients to complete their treatment [11].

The role of health workers in PMO includes the formation of PMOs, training and supervision of PMOs, as well as increasing patient and PMO knowledge. The selection of PMO from the closest person is done to ensure that the patient actually swallows the drug according to the dosage and rules. The role of health workers in PMO is starting at the early stages of selecting PMOs where it is recommended that PMOs come from the patient's family, cadres, village counselors or health workers from the puskesmas, besides that health workers also provide direction to PMOs regarding the work system they must do.

CONCLUSION

The results showed that the role of PMO, the actions and support of health workers were related to the success of treatment, while the knowledge variable was not related to the success of pulmonary tuberculosis treatment. The results of multiple logistic regression tests simultaneously showed that the role of PMO (Exp.B=0.014) and Action (Exp.B=0.149) were variables associated with the success of pulmonary tuberculosis treatment. For health agencies, in this case health workers, to increase the role of health workers and PMO for patients with pulmonary tuberculosis, so that the pulmonary tuberculosis eradication program can be implemented in accordance with the target of the Sustainable Development Goals (SDGs)

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