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The Role of Medication Observer And Compliance In Medication Of Pulmonary Tuberculosis Patient

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Abstract

Pulmonary tuberculosis is still a significant health problem in Indonesia; the high rate of pulmonary tuberculosis sufferers causes by the patient's non-compliance factor in taking the drug, allowing resistance and recurrence. Support for the role of medicine intake supervisors has a significant role in increasing compliance with medication for pulmonary tuberculosis patients. The purpose of this research was to determine the relationship between the role of medicine intake supervisors and medication compliance for pulmonary tuberculosis (TB) patients. This research used observational analytic with cross-sectional research design, was conducted in February-March 2019. The sampling method used consisted of 30 respondents using total sampling. WHO analysis used statistical tests with a significant level of α <0.05. The independent variable of this study was the role medicine intake supervisor and the dependent variable was medication compliance for pulmonary tuberculosis patients. Supervisor is that it has a proper role of 26 (86.7%) respondents and those who have fewer roles as many as 4 (13.3) respondents. Respondents who were obedient to taking medicine were 24 (80.0%) respondents, and those who did not obey took medicine as many as 6 (20.0%) respondents. The results of the Fisher Exact statistics show that there is a relationship between the role of medicine intake supervisors (OBSERVER) and medication compliance to patients with pulmonary tuberculosis in p-value = 0.001 (p-value <0.05). This study concludes that the better the role of supervisors taking medication (OBSERVER), the more obedient patients are in taking medication.

Keywords: Medication Observer; Compliance; Tuberculosis

INTRODUCTION

Tuberculosis (TB) is an infection caused by the bacterium Mycobacterium tuberculosis and sometimes by (M.bovis and Africanum). This organization referred to as acid-resistant bacillus whose transmission occurs through the air (airborne spreading) from "droplets" of infection. The source of infection is pulmonary tuberculosis patients who cough up their sputum, wherein sputum smear examination generally found positive smear (Department of Lung Diseases, Dr. Soetomo Hospital, 2010).

World Health Organization (WHO) shows an estimated 10.4 million new TB cases worldwide, 5.9 million (56%) of which are adult male patients, 3.5 million (34%) adult female, and 1.0 million (10%) children. India, Indonesia, China, Nigeria, Pakistan, and South Africa are among the six countries which account for 60% of new cases in the world TB case data. Until now, throughout the world, the rate of reduction in TB incidence is still only 1.5% (WHO, 2016).

In 2017 in Indonesia, there were 168,412 new cases of BTA +. The highest number of reported cases is still in West Java Province at 31,598 cases and the

lowest cases are in North Kalimantan Province with 492 cases, for Southeast Sulawesi Province in the 20th position with BTA + TB sufferers at 1,849 (Ministry of Health Republic of Indonesia, 2017).

Southeast Sulawesi Province in 2017, found 2,587 new cases of BTA positive (BTA +), the highest cases were in Kendari City with 545 cases, and the lowest was in Muna District with 9 cases (Southeast, 2017). The highest number of TB cases was in the Kemaraya Health Center (104 cases), and the lowest was the Jati Raya Health Center (5 cases) (Kendari Health Office, 2017).

From 2008 to 2017, there was a trend towards success rates for the treatment of all tuberculosis cases. In 2017 the success rate of treatment for all cases of tuberculosis was 85.7%, the cure rate for all cases that had to achieve was at least 85.0% while the success rate for all cases was at least 90.0%. Non-compliance of TB sufferers in taking drugs causes high rates of sufferers. High mortality rates and recurrence increases, and more fatal is the occurrence of germ resistance to several anti-tuberculosis drugs or multi-drug resistant (MDR-TB) so that pulmonary TB disease is complicated to cure. (Ministry of Health Republic of Indonesia, 2017).

The results of a survey conducted by Dewanty et al. (2015) at the Nguntoronadi I Public Health Center, with a non-compliance rate> 50%. Their children will be difficult to take medication because, during the intensive period of taking medication done every day, adolescents and adults also find it challenging to follow treatment programs. After all, they have high mobility, whereas parents tend to be lazy in undergoing long treatment (at least six months). Based on research Dewanty et al. (2015), there is a relationship between the role of supervisor with the compliance of pulmonary TB patient treatment (Dewanty, L.I., Haryanti, T., Kurniawan, 2016). Based on Prabowo's research (2014), there is a relationship between the role of supervisors taking medication (OBSERVER) to compliance with pulmonary TB patient visits (Prabowo, 2014).

The results of the interviews with the health center officers, the number of pulmonary TB sufferers at the Kemaraya health center is increasing from year to year. Moreover, this is due to the non-compliance of patients in taking medication and the presence of household contact with sufferers, officers often warn or provide counseling to families or sufferers about treatment or ways of transmission disease, supervisor from health center is not available. However, usually, they appoint closest relatives to become supervisor such as husband or wife sufferers, children, and relatives, but this remains ineffective, officers often get patients or families rarely to come to the health center to schedule treatment or taking drugs for pulmonary. TB sufferers need to do research related to the relationship of drug swallowing companion with the compliance of pulmonary TB patients in the work area of the Kemaraya Health Center in Kendari City.

METHOD

This type of research is observational analytic with a cross-sectional design (Arikunto, 2010). This research conducted on first of January -28 February 2019, in the working area of the City of Health Center, Kemaraya, Kendari City. The study population was all lung TB patients who treated as many as 30 people. The sample in this study was taken from all pulmonary tuberculosis patients using total sampling, with a total sample of 30 respondents. Primary data were collected using a questionnaire by interviewing directly, observing, and seeing respondents who were undergoing treatment for pulmonary TB in the working area of the Kemaraya Health Center in Kendari City. The number of questions variable the role of supervisors taking medication and compliance taking medication as much as ten items each.

Secondary data found from the annual report of the patient at the time of treatment.

RESULT AND DISCUSSION

Table 1. Characteristics of the pulmonary TB patients

Characteristics	Amount (n)	Percentage (%)
Gender		
Male	16	53,3
Female	14	46,7
Age		
<17 years	1	3,3
17-25 years	7	23,3
26-35 years	4	13,3
36-45 years	6	20,0
46-55 years	8	26,7
56-65 years	2	6,7
>65 years	2	6,7
Education		
Elementary	3	10,0
Junior high school	6	20,0
High School	19	63,3
Bachelor	2	6,7
Occupation		
Entrepreneur	10	33,3
Government employee	2	6,7
Housewife	7	23,3
Student /college student	8	26,7
Driver	2	6,7
Labor	1	3,3
Total	30	100

Table 1 shows that the characteristics of respondents based on the age group were distributed almost at all ages, and the highest was at the age of 56-65 years as many as eight people (26.7%), the most sex was male as much as 53.3%. Characteristics of respondents based on education, dominated by high school graduates as much as 63.3% and the smallest were Bachelor as many as 2 (6.7%) people. Characteristics of respondents by occupation, the highest number were entrepreneurs as many as ten respondents (33.3%), and the least were laborers as much as one (3.3%) respondents.

Table 2. Distribution of patient compliance in treatment of TB

Compliance in treatment	n	%
Compliance	24	80,0
Non compliance	6	20,0

Table 2 shows the distribution of 30 respondents based on compliance in the TB treatment. There were 24 (80.0%) respondents compliant in taking drugs, and 6 (20.0%) respondents were not compliant in taking drugs.

Table 3. Distribution of the Role of Medication Observer in Pulmonary TB Patients

Role of OBSERVER	n	Percentage
Good	26	86,7
Less	4	13,3

Table 3 shows that, in general, the role of OBSERVER was proper, amounting to 26 (86.7%) OBSERVER compared to the position of OBSERVER, which was less with a total of 4 (13.3%) OBSERVER.

Table 4. Relationship of the Role of Medication Observer with Patient Compliance in the treatment of Pulmonary Tuberculosis

The Role of OBSERVER	Taking Medication				Amount		ρ_{Value}
	Compliance		Non-compliance				
	n	%	n	%	n	%	
Good	24	92,3	2	7,7	26	100	
Less	0	0	4	100	4	100	0,001
Total	24	80	6	20	30	100	

Table 4 shows the number of respondents who had a significant OBSERVER role and patient compliance in taking medication as many as 24 respondents (92.3%). At the same time, respondents who had a vital role and noncompliance of patients were taking medicine as much as two respondents (7.7%). The number of respondents who have less OBSERVER role and patient objection in taking drugs is four respondents (100%), while the number of respondents who have less OBSERVER role and patient compliance taking drugs is 0 respondents (0%). The results obtained from the Fisher Exact test are p-value = 0.001 (p-value <0.05). It means there is a relationship between the supervisor taking medication (OBSERVER) with patient compliance.

The role of Medication Observer

The role of the Medication Observer (OBSERVER) is the implementation of supervision carried out by the family in terms of patient compliance in the treatment of pulmonary tuberculosis.

Based on the univariate analysis in the role of the Medication Observer in pulmonary tuberculosis patients in the working area of the Kemaraya Health Center, Kendari City, it found that 26 (86.7%) observer people had a proper role and 4 (13.3%) observer had a less critical role. For observer, who has a less role, this can see in the respondent's answer <50% of the questions asked. The 4 observers had previously received counseling about TB from the Health Center staff, but they were not aware enough to carry out their role as observers. Based on the Characteristics, the four observers with fewer parts can still be students and become observers for their parents. With so many activities as a student makes less attention to his parents in taking medication and cannot monitor the patient at any time. One observer was found working as an entrepreneur and became a observer

for his child. Everyday activities are always outside the house and certainly cannot run its role as a OBSERVER properly. Another observer is a housewife and is a observer for her husband. Lack of awareness to remind respondents to take medication making observer cannot run their role properly.

The presence of observer can increase patient compliance in taking the medication until the patient is declared cured. One component of DOTS is a combination of short-term OAT treatment with direct supervision. The observer should come from health workers, such as village midwives, nurses, workers, sanitarians, immunization workers, and others. If there are no health workers available, observers can come from health cadres, teachers, PPTI members, women organizations, or other community leaders or family members. observer, who played a proper role in this study, most had family relationships and lived at home with pulmonary TB sufferers. Family ties tend to give more attention to patients in reminding patients to take medication, visit health facilities, and accompany patients in the treatment of pulmonary TB.

Patient Compliance in Pulmonary TB treatment

Based on medication adherence, out of 30 respondents, there were 24 (80.0%) patients compliant in taking medication, and 6 (20.0%) patients were not compliant in taking medication. The majority of patients who are in the Kemaraya Community Health Center adhere to the medication of Pulmonary TB. This is inseparable from the role and support of observer. 5 out of 6 respondents who are not compliant to take medicine are male and, one person is female. Men have a lot of work outside the home, so they pay less attention to healing. In the respondent's occupational characteristics, out of the five non-compliant people who are busy outside the home, there are entrepreneurs, students and construction workers and one respondent works as a housewife, this can be due to the awareness to take medicine. One respondent also felt saturated because of the long duration of TB treatment, so they were reluctant to seek treatment, which affected the patient's compliance in taking the medication. Another respondent also said that he did not want to seek treatment because several years ago, he had already been treated and felt bored if he had to take medication every day.

Adherence to treatment is essential to avoid MDR and failure in treatment programs. Patient noncompliance with treatment will facilitate the transmission of the disease. The primary key to the success of TB treatment is the belief that TB sufferers take all the drugs according to the stipulations and do not neglect or drop out of surgery. This is inseparable from social support around sufferers. The support of family, close friends, and OBSERVER can increase patient compliance in treatment, reduce anxiety caused by illness, and reduce or eliminate the temptation to disobedience. (Brunner & Suddart, 2002) state that poor adherence or incomplete therapy are factors that contribute to individual resistance.

Relationship the role of OBSERVER with patient compliance in the treatment of pulmonary TB

This study shows a relationship between the role of the Medication Observer with patient compliance in taking pulmonary tuberculosis medication with the Fisher Exact test value with a p-value of 0.001 this means (p-value <0.05). The results of this analysis are in accordance with

research conducted by David Satria Maulana (2016),

In this research has the conclusion that there is a relationship between the role of drug administrators with adherence to taking medication for pulmonary tuberculosis patients in the working area of Andalas Public Health Center in Padang, with a Chi-square test value of 0,000 (<0.05) (Maulana, 2016).

The results of this study showed that from 2 (7.7%) of 30 respondents, observer had a significant role, and patients who were not compliant to take medication. Two respondents are not obedient to take medicine, where one of the observer is a health worker who has a useful role, but he is not compliant to take this medicine because of a lack of awareness from sufferers. Patients feel bored in taking drugs because of TB treatment that takes too long, and then for one respondent, the observer is the child of the respondent who has a proper role. Still, the respondent is not compliant to take this medicine because the respondent does not have the spirit to recover and says he does not want anymore taking drugs for too long.

Besides the above factors, another factor is age. In the age characteristics of the respondents, the majority of respondents were in the age category 46-55 years as many as 8 (26.7%) people. It can see that patients who do not comply with medication and have an excellent observer role are in this age range and the number of respondents in the age category 36-45 years with a total of 6 (20.0%) people. This is in line with Laily's study (2015), which reports that aging is closely related to the incidence of pulmonary TB for groups over 45 years (Laily, DW., Rombot, DV., Lampus, 2015).

Gender as many as 16 people (53.3%) people, while women as many as 14 (46.7%)

people. Men have heavy workloads and unhealthy lifestyles, such as smoking and alcohol. According to Nurnisa (2012), women pay more attention to their health than men. Therefore women rarely suffer from pulmonary TB (Nurnisaa, 2012).

In the occupational category, most respondents were professional types as many as 10 (33.3%) people who did not have a high level of activity, and the second most were IRTs who spent most of their time at home. Hence, they had lots of free time, and there was no resistance to taking medicine. This research is by Zubaidah's study (2014), which states that the type of work does not significantly influence the taking of OAT (Zubaidah, T., Setyaningrum, 2015).

In the Education category, in this study, the majority of respondents were at the high school level of 19 (33.3%) people. Based on research by Dewi Hapsari Wulandari (2015), the value of p = 0.906 means that there is no significant relationship between education and medication adherence (Wulandari, 2015). This research is not in line with the opinion of Notoatmodjo (2010), which states that the level of education affects one's knowledge (Notoatmodjo, 2010).

The number of observer respondents with less and non-compliant roles in taking drugs was four respondents (100%). This study consistent with research conducted that the better the part of the observer, the level of respondent compliance in taking the drug will also be better. This research line with research by Nurvita Putri Paramani (2013) with the results of the Chi-square test = 0.001 (<0.05), it means means there is a significant relationship between the support of Medication Observer with compliance to drug treatment for pulmonary tuberculosis patients in Limboto Health Center, Gorontalo Regency (Paramani, 2013).

Another factor that can affect adherence in taking medication is the patient's belief that he has recovered or feels healthy. When patients feel healthy or no longer feel significant symptoms, patients tend to stop treatment. The results of the study (Asriati et al, 2019) obtained an Odds Ratio of 5,250 or OR> 1 with a Lower limit (LL) value = 2,174 and Upper Limit = 12,672 not through a value of 1 with a 95% confidence level and supported by a p-value = 0,000 (p <0.05). Interpretation of the results of data analysis between feeling healthy and treatment noncompliance is feeling cured at risk 5.492 times greater for the occurrence of treatment noncompliance than not feeling cured.

For the success of TB treatment, health workers should improve their services to the community by continuing follow-up not only to TB patients but also to observers. Increase the participation of the population in collaboration with observer for the success of treatment by helping patients to discover early, encourage and encourage patients to get tested as soon as possible and undergo surgery until completion. In further research, it hopes that this research can be developed more broadly with larger sample size and different types of research.

CONCLUSION

Based on the results of this study, there is a relationship between Medication Observer (observer) with patient compliance in taking pulmonary tuberculosis (TB) medication. For health workers are expected to provide adequate counseling and explanation for TB and observer sufferers about pulmonary TB disease and increasing the utilization of the functions and duties of a observer for every patient suffering from pulmonary TB. Also, health center staff can follow up with patients who are not compliant to take

medication and observer who are not good at running their role because this can cause MDR for patients who are not obedient to take medication.

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