THE RELATIONSHIP OF THE ROLE OF DRUG SWALLOWING MONITORS (PMO) TO COMPLIANNCE WITH DRUG DRINKING IN PULMONARY TB PATIENTS IN THE KUTA BARO HEALTH CENTER, ACEH BESAR DISTRICT 2023

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Abstract

Tuberculosis (TB) is a chronic, infectious disease that remains a public health problem in the world, including Indonesia. The rate of compliance with taking medication for TB sufferers at the Kuta Baro Community Health Center, Aceh Besar Regency has not yet met the national target. Taking medication for TB sufferers can be done with several combinations of drugs which are intended to eradicate germs. WHO recommends a DOTS treatment strategy, namely that sufferers take medication by supervising drug swallowing monitors (PMO). The aim of this research is to determine the relationship between PMO (Drug Swallowing Monitor) with the presence of taking medication in Tuberculosis patients. The type of research used is analytical descriptive with a cross sectional approach. The results of 11 respondents who were active in the role of monitoring medication swallowing (PMO) and the majority of respondents adhered to taking medication, 9 (64%). Of the 5 who were not active, it was influenced by the role of the PMO.) From the results of the statistical test, P Value = 0.009 means P Value < 0.05, that there is a relationship between the role of supervisor in taking medication and compliance with taking pulmonary tuberculosis medication at the Kuta Baro Community Health Center, Aceh Besar Regency. From the results of the analysis, it was obtained that the OR value = 13,000, that an active PMO role has a 13 times chance of medication adherence compared to an inactive PMO role.

Keywords: *Pulmonary Tuberculosis, Role Of Monitoring Medication Swallowing, Compliance*

1. INTRODUCTION

Tuberculosis (TB) is an infectious disease that causes high morbidity and even death. TB is still a public health problem across the board, from the highest to the lowest levels. TB is a disease that infects the body, especially the lungs, with the Mycobacterium tuberculosis bacteria (WHO, 2017). According to the World Health Organisation (WHO) one third of the world's population is estimated to be infected with Mycobacerium tuberculosis. In 1992 the WHO designated tuberculosis as a global emergency. According to the WHO Global Tuberculosis (TB) Report 2015, there were an estimated 9.6 million new cases of TB in the world and 1.5 million people died from TB in 2014. Southeast Asia and the Western Pacific accounted for 58% of TB cases in 2014. The prevalence of TB in Indonesia and other developing countries is high.

Indonesia is currently the second country with the highest burden of pulmonary TB in the world. The estimated prevalence of Pulmonary TB in all cases is 660,000 from 2019 to 2020 (WHO, 2020) and the estimated incidence is 430,000 new cases per year.

The number of deaths due to Lung TB is estimated to be 61,000 from 2018 to 2020, an increase in the number of deaths per year. The rate of MDR-TB is estimated to be 2% of all pulmonary TB cases (lower than the regional estimate of 4%) and 20% of retreated pulmonary TB cases. Each year, there are an estimated 6,300 cases of MDR TB, namely in 2018 1,300 cases, in 2019 1,730, in 2020 2,900 cases, and in 2021 in February there were 370 cases. The proportion of Lung TB cases with negative BTA slightly increased from 56% in 2019 to 59% in 2020. (Kemenkes RI, 2020)

The Directly Observed Treatment Shortcourse (DOTS) strategy is the single most effective TB control strategy in Indonesia, with community health centres spearheading its implementation. The main focus of TB control with the DOTS strategy is the discovery and cure of TB patients, where one of the components is the presence of a drug swallowing supervisor (PMO) (Luthfa, 2018). A TB medicine swallowing supervisor (PMO) is a person who assists TB patients in providing direct supervision when the patient swallows medicine (Susiyanti, 2019). The task of a PMO is to supervise patients during treatment so that patients take medication regularly, motivate patients to want to take treatment regularly, remind patients to re-visit health facilities (check sputum and take medicine), and provide counselling to people closest to the patient about symptoms, prevention methods, how TB is transmitted, and advise family members who have symptoms such as TB patients to check themselves. (Riskesdas, 2018)

TB cases are caused by the patient's lack of compliance in taking TB drugs, if treatment is not carried out in accordance with the predetermined time, the Tuberculosis germs will become resistant to Anti-Tuberculosis Drugs (OAT) as a whole (Hidayat et al., 2017; Manan, 2018). The role of the drug swallowing supervisor (PMO) is needed at the beginning of the patient's treatment at the health service every day so that it can be monitored directly, which is useful for preventing drug failure, especially the drug Rifampicin (Naga, 2013). The success of treatment is supported by the role carried out by the PMO if the better the role of the PMO towards the patient, the more compliant the patient will be in undergoing treatment (Yoisangadji, 2016).

PMOs must also understand environmental factors, home sanitation is closely related to the presence of germs, and the process of emergence and transmission. Environmental management, especially in the setting of healthy home conditions including ventilation, occupancy area, with the number of family members. Humidity and temperature in a room, while behavioural factors for sufferers with bad behaviour spitting carelessly, covering the mouth when coughing or sneezing greatly affect recovery and how to prevent not to be infected with pulmonary TB germs starting from healthy living behaviour (nutritious and balanced food, adequate rest, regular exercise, avoid alcohol, stress, and avoid smoking). signs and diseases including modes of transmission, treatment and care. (Depkes RI, 2017)

The importance of the role of PMOs in the recovery of TB patients and the description of the problems above and the results of brief interviews with Tuberculosis program holders at the Kuta Baro Health Centre, there are patients who are not compliant in taking, so researchers are interested in conducting research on the analysis of the role of drug swallowing supervisors in the recovery of TB patients at Kuta Baro Health Centre.

2. RESEARCH METHODS

The research design used is Analytical Descriptive research design using a Cross Sectional approach. The population used in this study were patients who were undergoing treatment and had a drug swallowing supervisor (PMO) at the Kuta Baro Health Centre, Aceh Besar Regency. The number of samples in this study were 14 respondents. Sampling technique using total sampling. Statistical analysis was carried out with the SPSS 20 programme. The statistical test used was the chi squere test with a significance level of 95%. The p value is considered meaningful if <0.05.

3. RESULTS AND DISCUSSION

3.1. Research Results

3.1.1. Respondent Characteristics

Based on the results of the study obtained that of the 14 respondents at the Kuta Baro Health Centre, Aceh Besar Regency, and as for male respondents, 6 (42.8%) women 8 (57.2%) with the age of early adulthood, 3 (21.5%) late adulthood 11 (8.5%) and the majority of education (high school-higher education) is 8 (57.2%) and (elementary school-junior high school) is 6 (42.8%) and most do not work 9 (64.2%) while working 5 (5.8%).

Table 1. Frequency Distribution of Lung Tuberculosis Respondent Characteristics Based on Gender, Age, Education, Occupation, at Puskesmas Kuta Baro Aceh Besar Regency in 2023 (n=14)

Variable	Frequency	Percentage
Gender		
Male	6	42.8%
Female	8	57.2%
Total	**14**	**100.0%**
Age		
Early adulthood	3	21.5%
Late adulthood	11	78.5%
Total	**14**	**100.0%**
Education		
Elementary - Middle School	6	42.8%
High School - College	8	57.2%
Total	**14**	**100.0%**
Employment		
Not working	9	64.2%
Working	5	35.8%
Total	**14**	**100.0%**

Based on the frequency distribution of the role of the Drug Drinking Supervisor (PMO) at the Kuta Baro Health Center, Aceh Besar Regency in 2023 with a total sample of 14 people, it was found that the majority of PMOs played an active role as many as 11

people (78.5%). While the inactive ones amounted to 3 people (21.5%). This indicates that most of the PMOs at the Kuta Baro Health Center in Aceh Besar Regency in 2023 were active in supervising taking medication, with only a small proportion being inactive in their role.

Table 2. Frequency Distribution Based on the Role of Drug Drinking Supervisors (PMO) at Kuta Baro Health Center, Aceh Besar Regency in 2023 (n=14)

PMO	Frequency	%
Active	11	78.5%
Inactive	3	21.5%
Total	**14**	**100.0%**

Based on the frequency distribution of respondents related to drug compliance in pulmonary tuberculosis patients at Kuta Baro Health Center, Aceh Besar Regency in 2023 with a total sample of 14 people, it can be concluded that the majority of respondents, as many as 9 people (64.2%), showed a good level of compliance in taking medication. Meanwhile, as many as 5 people (35.8%) were classified as non-compliant.

Table 3. Frequency Distribution of Respondents Based on Adherence to Taking Medicine for Pulmonary Tuberculosis Patients at Kuta Baro Health Center, Aceh Besar Regency 2023 (n=14)

Adherence to taking medication	Frequency	%
Compliant	9	64.2%
Non-compliant	5	35.8%
Total	**14**	**100.0%**

3.2. Discussion

3.2.1. The role of medication supervisors (PMO)

Based on the results of the study that of the 14 respondents, the role of PMO in supervising taking medication in patients with active pulmonary tuberculosis was 11 (78.5%) According to the (Depkes RI, 2017), the supervisor of swallowing medicine or called the term PMO is an officer to ensure regularity of treatment so that patients recover quickly and successfully treat. Therefore, the Department of Health recommends that the requirements to become a PMO are known, and approved by the patient and by health workers, besides that it must be respected by the patient himself, then live near the patient and are willing to help voluntarily on the other hand, PMOs must understand the signs and diseases including how to transmit treatment and care..

The role of PMOs in supervision is very important because Pulmonary TB treatment is carried out for a minimum of six months, requiring the role of PMOs in monitoring the regularity of patients in taking medication. Previous research conducted by (Kemenkes, 2017) in his research at Puskesmas Ophir, West Pasaman district said that the most appropriate steps for successful treatment required compliance in taking medication and assistance from PMO, in his research also stated that the better the role of PMO, the more successful treatment increases and vice versa if the worse the role of PMO, the less successful treatment (Firdaus et al., 2012; Sitorus & Fatmawati, 2016;

Yuda & Utoyo, 2018). The role of PMOs at Kuta Baro Health Centre in supervising TB patients to swallow medicine is good. This can be seen from the results of research through in-depth interviews that all informants said they always supervise patients in swallowing medicine, this is also supported through informants' statements that they have been willing to supervise patients in swallowing medicine for six months and as PMOs they do not feel bored in supervising patients swallowing TB drugs.

3.2.2. Medication Adherence of Pulmonary Tuberculosis Patients

Based on the results of the study that of the 14 respondents there were 9 (64.2%) respondents' compliance with taking medication for pulmonary tuberculosis patients at Puskesmas Kuta Baro, Aceh Besar Regency.

According to the theory of (Ivan, 2013) patient compliance in taking medication is an important factor in the success of a treatment. Long pulmonary TB treatment often makes patients bored and causes patient non-compliance in taking medication. The problem of patient compliance with TB disease is influenced by many factors, namely drug factors, health system factors, environmental factors, socio-economic factors, and patient factors. Family support and the patient's knowledge of TB disease, anti-tuberculosis drugs, and belief in the efficacy of their drugs will influence the patient's decision to complete their therapy or not.

With good PMO performance, patients are more motivated to undergo treatment regularly. Furthermore, according to the informant, with the presence of a PMO, the patient can be motivated and supported by the PMO to recover quickly and routinely carry out treatment. Because with the treatment that the patient undergoes for 6 months and the drugs that must be taken are also many, it does not rule out the possibility of the patient to DO (drop out) stop treatment. (Ngasu & Kura, 2019) in his research stated that the tendency of patients to get bored and drop out of medicine during treatment because it has taken a long time is one of the factors of non-compliance itself. Therefore, in Tuberculosis disease, the role of the family as a Supervisor of Taking Medicine (PMO) is needed, because the role of the family is needed in paying attention and monitoring the regularity of treatment, especially in Tuberculosis patients. The role of a good family is to provide motivation or support that is powerful in encouraging patients to take regular treatment, so that families must play an active role.

3.2.3. The Relationship between the Role of Drug Drinking Supervisors (PMOs) with Adherence to Taking Medicine for Pulmonary Tuberculosis Patients at the Kuta Baro Health Center, Aceh Besar District

Based on the results of the study of 11 active drug swallowing supervisor (PMO) roles. 9 (64.2%) were compliant with taking Tuberculosis medication and 5 (35.8%) were not compliant. While from 3 (21.5) the role of drug swallowing supervisors (PMO) who are not active. From the results of statistical tests P Value = 0.009 means P Value <0.05, that there is a relationship between the role of supervisors taking medication with adherence to taking pulmonary tuberculosis drugs at Puskesmas Kuta Baro Aceh Besar Regency From the results of the analysis obtained OR value = 13,000, that the role of an

active PMO has a chance of 13 times adherence to taking medication compared to the role of PMOs who are not active.

(Sutarto et al., 2019) stated that drug compliance is very important to avoid MDR so that direct supervision by drug swallowing supervisors (PMO) is needed. The important role in adherence to taking medication is inseparable from the factors of health workers, family, and society in supporting Pulmonary TB patients to take medication properly. In addition, the role of the PMO also plays an important role in the regularity of taking Pulmonary TB medication, the continuation of patient treatment requires a PMO. PMOs can come from family and non-family, but PMOs who come from families have emotional ties and greater responsibility to provide support and guidance to patients than non-family ones. This is done so that the patient is guaranteed recovery and prevented from drug immunity or resisitence. PMO selection must be adjusted to the patient's living conditions.

It can be concluded that in order to be compliant in taking medication, the role of drug swallowing supervisors is very influential on compliance with taking medication because the role of Drug Swallowing Supervisors is thought to have a high influence on compliance with taking pulmonary TB, because PMOs determine whether or not the recommended drugs are taken by patients with pulmonary TB, thus determining whether or not patients with pulmonary TB are compliant in taking pulmonary Tuberculosis drugs.

4. CONCLUSION

Based on the results of the study, it can be concluded that the role of Drug Drinking Supervisor (PMO) in Pulmonary Tuberculosis patients at Puskesmas Kuta Baro, Aceh Besar Regency that some have an inactive role in supervising taking medication. Adherence to taking medication in Pulmonary Tuberculosis patients at Puskesmas Kuta Baro Aceh Besar Regency mostly had good compliance in taking pulmonary Tuberculosis drugs. There is a relationship between the role of the Drug Drinking Supervisor (PMO) and compliance with taking Pulmonary Tuberculosis (TB) medication at Puskesmas Kuta Baro. Therefore, it is expected that the Kuta Baro Health Centre, especially the TB programme holders, will increase their efforts in providing knowledge about Tuberculosis to the Field Medical Officers (PMOs) so that they can perform their duties better. In addition, it is expected that PMOs at Puskesmas Kuta Baro actively seek information about Tuberculosis to strengthen their role as PMOs and improve their understanding of the condition.

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