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The Role of Drug Ingestion Supervisors (DRUG SWALLOWING SUPERVISOR) Againstsuccess of Treatment of Pulmonary Tuberculosis in Puskesmas Surabaya

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ABSTRACT

Background: Pulmonary Tuberculosis is one of the top ten causes of death worldwide. Case detection rate in East Java ranks eighth in Indonesia, namely 42.922 cases with treatment coverage of 44.7% of the treatment coverage target set at a minimum of 80%. Factors related to success include knowledge, attitudes, beliefs, work, etc. One of the supporting factors related to the success of treatment is the role of the drug swallowing supervisor.
Purpose: The purpose of this study was to determine the relationship between the role of drug swallowing supervisor in the treatment of patients with pulmonary tuberculosis.
Methods: The research design uses correlational, population analytic methods. Respondents used are 41 out of 46 pulmonary tuberculosis sufferers at health center in Surabaya using simple random sampling technique. The independent variable of the study is the role of drug swallowing supervisor and the dependent is the success of the treatment. The instrument use questionnaire and medical records.
Results: Data processed using chi square test analysis, value = *0.05*. The results showed that almost all of the 41 respondents (87.8%) had supportive drug swallowing supervisor, almost all (78%) the treatment was successful. Based on statistical tests obtained (p = 0.000) which proves that the role of drug swallowing supervisor has a relationship with the success of treatment in patients with pulmonary tuberculosis.
Conclusion: The greater the supporting role, the greater the success rate of pulmonary tuberculosis treatment. It is expected that drug swallowing supervisor can motivate, assist, remind, and participate in socialization activities for handling pulmonary tuberculosis patients.

Keywords: pulmonary tuberculosis, role of drug swallowing supervisor, treatment success

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BACKGROUND

Tuberculosis is one of the ten highest causes of death worldwide (WHO, 2021). pulmonary tuberculosis is still a public health problem as a whole from the highest level to the lowest. Effective pulmonary tuberculosis treatment is available but until now it remains a major world health problem. The ministry of health recommends that people with pulmonary tuberculosis take medication regularly with the aim of recovering and breaking the chain of transmission in the surrounding community (Ministry of Health, 2016).

One of the causes of treatment failure is the patient's non-adherence to treatment. Compliance in taking medication is very important to avoid Multi Drug Resistant or called (MDR) so that direct supervision is needed by the Drug Swallowing Supervisor (PMO) who is tasked with supervising and accompanying patients until treatment is complete to avoid drop out events that lead to failure such as resistance , relapse and even death. The recommended drug swallowing supervisor is someone who is known by the patient, approved by the patient and health workers. One of the people closest to the sufferer is the family. The family is the main support system that provides direct care to family members when they are healthy or sick. The role of the family as drug swallowing supervisor will further motivate sufferers to get well soon. Conversely, with less involvement of the family or no good role in drug swallowing supervisor, the risk of failure in treatment will also be higher (Hohedu et al., 2021). From the results of interviews with 10 patients in November 2022, it was found that there were 4 people who came with their families such as husbands, wives or children, and 6 people said that the patients came alone because they were busy or other things. One patient also said that he was taking medication alone because he did not want his family to know about his illness.

Factors related to the success of treatment are behavioral factors that are manifested in knowledge, attitudes, beliefs, work and so on. In addition, supporting factors are also related to the success of treatment, one of which is the role of drug swallowing supervisor. Results (Napitupulu, 2020) showed that the role of drug swallowing supervisor greatly influences the success of treatment of Pulmonary Tuberculosis patients, this is supported because of the role of DRUG SWALLOWING SUPERVISOR which supports (70%) successful treatment, while drug swallowing supervisor does not support (10%) remains successful and (20%) is unsuccessful. The drug swallowing supervisor plays a good role in motivating and encouraging patients to keep taking their medication regularly. The role of a good drug swallowing supervisor will guarantee that the patient for 6 months. Therefore, good cooperation is needed between drug swallowing supervisor and patients in complying with the procedures for taking medication and health control (Amining et al., 2021), considering that treatment therapy for pulmonary tuberculosis requires quite a long time, pulmonary tuberculosis patients will experience boredom so that the patient's inconsistency tends to result in the patient dropping out of treatment or dropping out (Ministry of Health, 2019).

OBJECTIVE

The purpose of this study was to determine the relationship between the role of drug swallowing supervisor in the treatment of patients with pulmonary tuberculosis.

METHODS

This research is a correlational type with a cross-sectional approach, where this type of research emphasizes the time of measurement/observation of independent and dependent variable data only once at a time. The population in this study were patients with pulmonary tuberculosis at the Health Center in Surabaya at 3 month, consisting of 46 respondents. This research uses probability sampling method with simple random

sampling technique. The sample size taken in this study was calculated using the Slovin formula for 41 respondents.

The instrument used a questionnaire to collect data on the role of the drug swallowing supervisor and the success of the treatment of pulmonary tuberculosis patients as well as polypulmonary medical record data at the Health Center in Surabaya. The data collection process was carried out by taking primary data (directly giving questionnaire sheets and being filled in by tuberculosis sufferers) and secondary data (checking the patient's medical colleagues' report data at the study site).

The variables in this study were two variables, namely the independent variable the role of drug swallowing supervisor and the dependent variable the success of pulmonary tuberculosis treatment. The statistical test used is the chi square test, with quantitative variable types. For significant results or their significance is determined $\alpha = 0.05$. If the statistical test shows $p \leq 0.05$, then H1 is accepted, meaning that there is a relationship between the role of the drug swallowing supervisor and the successful treatment of pulmonary tuberculosis patients. Before the study will be conducted, the respondent will receive a detail briefing and key information about the purpose of the study. Through informed consent, the respondent shall willingly decide to take part in the study. In order to guarantee anonymity, secrecy, and the avoidance of potential harm, all information will be held and handled with the utmost confidentiality by not disclosing the names and identity of the research participants and this research have an ethical clearance with the number is No. 0261/EC/KEPK/UNUSA/2023.

RESULTS

Table 1. Frequency Distribution of Respondents Based on Gender, Age and Work in Poli Tuberculosis at the Health Center in Surabaya in 2023

Characteristik		Frequency	Percentage (%)
Gender	Man	29	70,7
	Woman	12	29,3
Age	17-25 years	5	12,2
	26-35 years	2	4,9
	36-45 years	11	26,8
	46-55 years	9	22.0
	56-65 years	8	19.5
	> 65 years	6	14,6
Work	Private	48,8	20
	Else	17,1	7
	Doesn't Work	34,1	14

This table can be seen that most of the respondents (70.7%) are male. this means that the majority of pulmonary tuberculosis sufferers are male. Risk factors that cause pulmonary tuberculosis at that age include environmental factors, malnutrition, lifestyles such as smoking, and environmental sanitation (WHO, 2018). This causes a high incidence of pulmonary tuberculosis in the productive age group and can reduce a person's quality of life.

In table it can be seen that almost half of the respondents (26.8%) are aged 36-45 years. This shows that almost half of pulmonary tuberculosis sufferers are in their

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productive age. Almost all of the pulmonary tuberculosis patients (81.8%) had an age range of 36-45 years. This range is included in the productive age category, which normatively can be described as someone who is at the stage of productivity to work or produce something for himself or for others, both inside and outside the home (WHO, 2018). At this stage of productive age, a person usually has routine activities related to work and earns income to support himself and his family. According to data from the Indonesian Ministry of Health (2018), stated that 75% of cases of pulmonary tuberculosis patients in Indonesia were found on average in people of productive age, namely between 15- 50 years. As stated by Notoadmodjo (2014) that age is one of the many things that influence a person's health behavior, including attitudes, beliefs, values, perceptions, demographic factors such as socio-economic, age, gender, family support, transportation distance, time , health facilities and health workers. Thus, the age stage of pulmonary tuberculosis patients is a factor in the success of treatment. At the productive age stage, sufferers have the ability to persevere in fighting against pulmonary tuberculosis by participating in routine, regular, disciplined treatment programs and high enthusiasm for recovery.

This table shows that almost half (48.8%) of the respondents work in the private sector. Risk factors that cause pulmonary tuberculosis at that age include environmental factors, malnutrition, lifestyles such as smoking, and environmental sanitation (WHO, 2018). This causes a high incidence of pulmonary tuberculosis in the productive age group and can reduce a person's quality of life. Nearly half of tuberculosis sufferers (85%) work as private employees, no one dominates a particular job. the type of work determines the risk factors that must be faced by each individual (Erawatyningsih, 2017). some private employees have a place to work in a closed room, at high risk of exposure to tuberculosis germs which are likely to thrive in the work area, especially if the work space is closed, without adequate ventilation causing a lack of sunlight (humid temperatures). this condition triggers tuberculosis germs to thrive and survive for a long time. workers who have direct daily contact with many people in a closed environment have a greater risk of contracting tuberculosis. in addition, some patients do not comply with using masks and lack of rest time.

Table 2. Cross-tabulation of the Role of Drug Swallowing Supervisor and the Success of Treatment of Pulmonary TUBERCULOSIS Patients in Polyclinics Tuberculosis at the Health Center in Surabaya in 2023.

PMO role	Treatment success				Total	
	Succeed		Not successful			
	N	**%**	**N**	**%**	**N**	**%**
Support	32	88.9	4	11,1	36	100
Does not support	0	0.0	5	100	5	100
Total	32	78.0	9	22.0	41	100
p =	*0.000*					

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In this table can be seen that almost all respondents (88.9%) supported by drug swallowing supervisor experienced successful treatment, only 11.1% were unsuccessful, meaning tuberculosis treatment failed. Meanwhile, patients with pulmonary tuberculosis who do not receive support from the drug swallowing supervisor experience treatment failure.

The results of the chi square statistical test proved significantly with a p value = 0.000 that there was a relationship between the role of the drug swallowing supervisor and the successful treatment of pulmonary tuberculosis patients at the Health Center in Surabaya. drug swallowing supervisor, the smaller the chances of successful treatment.

DISCUSSION

However, data found that 11.1% of patients with pulmonary tuberculosis had failed treatment despite the supportive role of the drug swallowing supervisor. this can happen because there are factors that can affect the regularity of treatment, possibly from the patient's own motivational factors and the side effects of drugs that are considered to be sufficient to interfere with appetite and work activities. the length of time for the treatment program as well as the side effects of oat itself can make patients feel bored so that they can potentially be absent from treatment. the results of the interview found that pulmonary tuberculosis patients said that if they relapsed because they did not take proper treatment based on the allotted time because they felt good after taking several drugs in a short period of time, besides that, discontinuing treatment is also a problem of unsuccessful pulmonary tuberculosis treatment. besides that, it is also not realized that if you do not take the drug according to the specified time, it will continue to mdr (multi drug resistant) pulmonary tuberculosis and can even cause death. health workers must control periodically so that all drug swallowing supervisor apart from health workers to further enhance good monitoring efforts.

There were 12.2% of respondents who had unsupportive drug swallowing supervisor, resulting in unsuccessful treatment. pulmonary tuberculosis patients also complained and said that apart from the fact that most patients complained about drug side effects, there was a feeling of boredom with the length of treatment and the number of drugs that had to be taken, from the drug swallowing supervisor factor they sometimes forgot to remind and did not take the medicine. which ultimately resulted in taking the drug so that it was carried out by the patient himself and it was too late, thus disrupting the schedule for taking oat. the drug swallowing supervisor also lacked practice during the patient treatment process, including the drug swallowing supervisor's lack of information on drug side effects and the lack of spiritual encouragement to support the recovery of pulmonary tuberculosis patients.

Thus, it is realized that the role of the drug swallowing supervisor is not only to monitor patients taking medication, but also to do everything related to tuberculosis, such as encouraging patients to want to undergo treatment until it is complete, reminding patients to have their sputum checked according to a predetermined schedule and providing information related to tuberculosis to patients and families so that if they experience symptoms that refer to pulmonary tuberculosis immediately go to the health service unit (Agustin, 2018).

Napitupulu et al., (2020) in his research stated that the role of drug swallowing supervisor is very necessary to assist patients in completing treatment because if not assisted it will have a bad impact on both themselves and other family members. likewise, putri said that the role of drug swallowing supervisor is very important in the success of

patient treatment, and is very much needed as a support for the successful treatment of Pulmonary Tuberculosis (Putri et al., 2020).

In this study, the success of treatment was also due to the fact that most of the drug swallowing supervisor were not members of the respondent's family but members of health workers and neighbors. it seems that patients are more compliant if the drug swallowing supervisor is not a family member and also low family knowledge is the reason why the family cannot be used as drug swallowing supervisor. providing and increasing knowledge about treatment programs and their success as well as supporting factors must be carried out intensively and continuously in line with government programs, so that the hopes of pulmonary tuberculosis patients to recover and not experience recurrence in the future can be realized. the condition of the surrounding environment can be conducive with the participation of drug swallowing supervisor and pulmonary tuberculosis sufferers so that it can break the chain of transmission and cut the vicious cycle that continues to occur in pulmonary tuberculosis pocket areas. Thus, optimal public health can be a conducive condition to continue to carry out a completely healthy and prosperous life cycle.

CONCLUSION

Thus it can be concluded that the better the role of PMO, the success of treatment will increase and conversely if the role of PMO is worse, the chances of successful treatment of pulmonary TB will be smaller. Therefore, the role of the PMO in accompanying pulmonary TB sufferers to undergo treatment can prevent death or subsequent adverse effects, prevent TB recurrence and most importantly in public health is to reduce the risk of TB transmission and prevent the occurrence and transmission of drug resistant TB.

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May Allah SWT reward you for all the deeds and deeds that have been given. Articles require input and suggestions for perfection and feasibility. Hopefully it can be used as material for consideration in providing funds for the next publication process so that it is beneficial for the community and especially sufferers and PMO Pulmonary TB.

CONFLICTS OF INTEREST

There is not conflict of interest in this study

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