

The Strategy of Directly Observed Treatment Shortcourse (DOTS) Towards Compliance with Treatment of Tb Lung Patients in Tb Lung Mamuju District Hospital, Indonesia

Agus Erwin Ashari^a, Irma Muslimin^b, Anwar Mallongi^{c*}

^aDepartment of Environmental Health Poltekkes Kemenkes Mamuju, Jalan Poros Mamuju Kalukku Km16 Tadui, Mamuju, West Sulawesi

^bDepartement of Nursing Poltekkes Kemenkes Mamuju Jalan Poros Mamuju Kalukku Km16 Tadui, Mamuju, West Sulawesi

^cDepartement of Environmental Health, Public Health Faculty, Hasanuddin University, Makassar

*Corresponding author: Email address: anwar_envi@yahoo.com (A.mallongi)

ABSTRACT

Objective: The purpose of this study was to determine the relationship between the DOTS strategy, drug swallowing supervisors (PMO) and the procurement of anti-tuberculosis drugs (OAT) with compliance with treatment at Mamuju Regional Hospital.

Method: The research method used was descriptive-analytic with design *cross-sectional*, using statistical test *Spearman Correlation (Rho)* Total sample of 29 people. Primary data obtained from interviews using a questionnaire. The data is processed using the SPSS 16.00 computer program then presented in the frequency distribution table and its analysis.

Results: The results showed supervisors swallowed drugs with medication adherence due to positive and strong direction $p = 0.00$ ($p < 0.05$) and $r = 0.625$, while the procurement of anti-tuberculosis drugs (OAT) with medication adherence had no relationship with p values = 0.198 ($p > 0.05$) and $r = 0.246$.

Conclusion: There is a relationship between the drug swallow supervisor (PMO) with medication adherence and the direction of the relationship is positive and strong.

Keywords: DOTS strategy, pulmonary, tb lung

Correspondence:

Anwar Malongi^{c*}

^cDepartement of Environmental Health, Public Health Faculty, Hasanuddin University, Makassar

Email address: anwar_envi@yahoo.com (A.mallongi)

INTRODUCTION

Tuberculosis is an infectious disease that still remains an important health problem in various parts of the world, according to the WHO 2009 report there are an estimated 9 million new TB patients and 3 million deaths from TB worldwide. An estimated 95% of TB cases and 98% of deaths due to TB in the world occur in developing countries¹. The number of deaths due to TB exceeds 90,000 deaths per year, however in achieving the program, Indonesia has succeeded in achieving the global target of the Discovery Rate TB cases (CDR) were 73.1% of the global target of 70% and a cure rate of 91% of the target of 85%². The case-finding rate of the West Sulawesi Case Detection Rate (CDR) in 2010 was 47%. Majene Regency is a regency with the achievement of CDR of 85% and the lowest is North Mamuju Regency of 24%, which has not reached the MDG target of 70%^{3,4}.

To overcome the TB problem in Indonesia, the DOTS (Direct Obser) strategy Treatment Shortcourse) is a strategy recommended by WHO in the management of TB patients to ensure the patient swallows the drug, carried out directly by a supervisor taking medication (PMO). With the DOTS strategy, the cure rate for TB patients is > 85%. The drug is also given in the form of a fixed-dose combination because it is more beneficial and highly recommended by MOH RI, In Mamuju District in 2010 the prevalence of pulmonary TB was 102 per 100,000 population, while the number of smear pulmonary TB (+) treated as many as 148 people^{3,5}.

Mamuju Hospital is one of the government hospitals that has implemented DOTS, with the achievement of activities in 2010 the number of suspects examined by 660 people and

those with pulmonary TB (+) as many as 84 people and recovered 24 people, 2 people died, Default 26 people and moved 32 people were treated, while in 2011 the number of suspects examined was 612 people and those with pulmonary TB (+) as many as 76 people and 19 people were cured, 19 people defaulted, and 38 people were treated⁶.

Research conducted by Asnawi⁷, revealed that the Drug Swallowing Supervisor has an effect on medication compliance. Hutapea (2006) also found that there was a family influence on adherence to taking anti-tuberculosis medication, while Erawatyingsih, et al⁸, revealed that there was no significant effect of the Drug Swallowing Supervisor (PMO) on non-compliance with pulmonary TB patients. The purpose of this study was to analyze the implementation strategy of DOTS to improve compliance with treatment of pulmonary tuberculosis patients

MATERIALS AND METHODS

Research design

This study uses a descriptive-analytic research design with design *cross-sectional*. This research is intended to study the dynamics of the correlation between risk factors and effects, with a model of approach or observation at one time, carried out in August - September 2012 at Mamuju Regional Hospital, West Sulawesi Province

Method of collecting data

Data collection consists of primary data and secondary data. Primary data was collected by observation and in-depth interviews with all informants using an interview guide and

the tape recorder, while secondary data collected through literature.

Population and sample

The study population was all patients with pulmonary tuberculosis (+) recorded in the register at the TB polyclinic district hospital. Mamuju from January - July 2012 as many as 38 people. Samples were all patients with smear pulmonary TB (+) recorded in the register at the TB polyclinic district hospital Mamuju from February - August 2012, which met the inclusion criteria;

1. Pulmonary TB patients who come for treatment at the TB Polyclinic Mamuju Hospital and are willing to be respondents.
2. Lung TB patients in adult age Lung TB
3. patients who seek treatment are old cases
4. Patients present at the time of the study

RESULTS

Characteristics of Respondents

Most respondents in the 20-35 years age group were 13 people (44.8%) following the 36-55 age group as many as 7 people (24.1%). The highest education level of respondents was junior high / equivalent of 10 people (34.5%), then high

school/equivalent of 7 people (24.1%). In general, the respondents' occupations were 12 farmers (41.4%) and 8 entrepreneurs (27.6%). The respondent's religion is generally 26 Muslims (89.7%). Most of the respondents were 22 people (75.9%).

Implementation of the DOTS Strategy

Based on the categorization of answers, as many as 24 people (82.8%) have a good drug swallowing Supervisor (PMO), and only 3 people (10.3%) and less than 2 people (6.9%). all respondents said that the availability of Anti Tuberculosis Medication (OAT) was good as many as 29 people (100.0%). as many as 19 people (65.5%) were included in the level of compliance with good treatment, then 8 people (27.6%) were categorized as sufficient and less than 2 people (6.9%).

Bivariate Analysis

In the following tables, the relationship between the variables studied will be examined, namely the Supervision of Drug Swallowing (PMO), Procurement of Anti-Tuberculosis Medication (OAT) and Compliance with treatment at Mamuju Regional Hospital.

Table 1. Relationship of Drug Swallowing Supervisors (PMO) with Medication Compliance with Tuberculosis Patients in Mamuju Regional Hospital in 2012

PMO	Compliance of medical treatment						Number of		p
	Poor		Enough		Good		n	%	
	n	%	n	%	n	%			
Less	1	50.0	1	12.5	0	0	2	6.9	0.00
Enough	0	0.0	0	0.0	3	15.8	3	10.3	
Good	1	50.0	7	87.5	16	84.2	24	82.8	
Total	2	100.0	8	100.0	19	100.0	29	100.0	

Statistical test results with *Spearman's correlation (rho)* obtained a value of 0.00 ($p < 0.05$) which means that H_0 is rejected. The interpretation is that there is a relationship between the Drugs Supervisor (PMO) and medication

compliance. While the correlation value of 0.625 shows that the direction of the positive correlation with the strength of a strong correlation.

Relations Procurement Anti Tuberculosis (OAT) in Compliance with medication

Table 2. Relationship Procurement Anti Tuberculosis (OAT) With Compliance treatment Tuberculosis Patient in Hospital Mamuju

OAT	Compliance with medication						Number		p
	Poor		Fair		Good		n	n%	
	n	n%	n	n%	n	n%			
Less	0	0.0	0	0.0	0	0.0	0	0.0	0.198
Enough	0	0.0	0	0.0	0	0.0	0	0.0	
Good	2	100.0	8	100.0	19	100.0	29	100.0	
Total	2	100.0	8	100.0	19	100.0	29	100.0	

The statistical test results with *Spearman's correlation (rho)* obtained a value of 0.198 ($p > 0.05$) which means that H_0 is accepted. The interpretation is that there is no relationship between the availability of anti-tuberculosis drugs (OAT) with medication adherence.

DISCUSSION

Supervision of Drug Swallowing (PMO)

One of the DOTS strategies is the treatment of short-term OAT alloys with direct supervision. To ensure the regularity of treatment, supervisors need to swallow medicines. The results showed that the respondents had a good drug swallow

supervisor (PMO), namely 24 people (82.8%), which were quite as many as 3 people (10.3%) and less than 2 people (6.9%). Respondents who have a good drug swallow supervisor (PMO) and good medication compliance are 16 people (84.2%), while respondents who have a good Drug Swallow Supervisor (PMO) and enough medication adherence are as many as 7 people (87.5%). Respondents who have sufficient Drug Swallowing Oversight (PMO) and good treatment compliance are 3 people (15.8%). The results of statistical tests show that drug administrators (PMO) have a relationship with medication adherence, where the direction of the relationship is positive and strong.

This study is in accordance with the results of research conducted by Sari⁹ getting the results that PMO support is related to compliance with tuberculosis patients to take OAT medicine, while Setyowati (2004) found that the quality of service provided by PMO Significant relationship with medication adherence, Zuliana¹⁰ also revealed that the Drug Swallowing Supervisor has an effect on medication adherence. Hutapea¹¹ also found that family influence on adherence to taking anti-tuberculosis drugs, while the results of research conducted by Erawatyningasih, et al⁸ revealed that the role of PMO in the treatment of patients had no significant effect, because every TB patient had had PMO and the role of PMO has been maximized in the supervision of treatment. In addition, environmental factors such exposure to toxic chemical substances and polluted food give contribution to initiate the TB disease¹²⁻¹⁷.

Availability of Anti-Tuberculosis (OAT)

Anti-Tuberculosis (OAT) drugs are a very very essential drug that must be guaranteed nationally. The procurement of anti-tuberculosis drugs (OAT) is the responsibility of the government, both central and regional. The results showed that all respondents said the availability of anti-tuberculosis (OAT) drugs was good, however the results of statistical tests showed that there was no relationship between the availability of anti-tuberculosis (OAT) drugs and medication adherence, due to anti-tuberculosis (OAT) drugs available at the Puskesmas and Hospital as well as free of charge. This is a commitment of the central and regional governments in implementing the DOTS strategy and establishing anti-tuberculosis drugs (OAT) as very essential medicines (SSE) that must be guaranteed nationally.

CONCLUSION

There is a relationship between the drug swallow supervisor (PMO) with medication adherence and the direction of the relationship is positive and strong. However, no relationship between the procurement of anti-tuberculosis drugs (OAT) with medication adherence.

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