

DRUGS SUPERVISOR ACTIVENESS CORRELATED WITH MOTIVATION AND TUBERCULOSIS MEDICATION ADHERENCE

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ABSTRACT

Introduction: Tuberculosis is a major problem in the world which is need a focus treatment, particularly to prevent the spread and development of drug-resistant cases. Tuberculosis drug supervisor plays an important role in realizing government's program "Indonesia without Tuberculosis in 2020". The purpose of this study was to provide information about the correlation of drug supervisor activeness with motivation and medication compliance. **Method:** This study was a cross sectional approach. The population was patients who underwent pulmonary TB treatment in Puskesmas (Public Health Center) Pare and Sidorejo. The respondent were 35 patient taken by purposive sampling. The independent variable was the activeness of the drug supervisor, while the dependent variable was motivation and Tuberculosis medication adherence. Collecting data used questionnaire and was analyzed using Chi Square statistical tests with significance at level <0.05 . **Result:** Statistical results showed significant correlations between the drug supervisor activeness with the patient's motivation ($p=0.000$) and adherence to ingest drugs Pulmonary Tuberculose ($p=0.001$); either between motivation and adherence to ingest drugs Pulmonary Tuberculose ($p=0.011$). **Discussion:** Drug supervisor has to actively motivate patient with tuberculosis in order to increase their medication adherence. Health care unit could enhance the drug supervisor activeness and patient's motivation in order to prevent the spread of tuberculosis.

Keywords: *pulmonary tuberculosis, drug supervisor activeness, motivation, and medication adherence*

INTRODUCTION

Tuberculosis is a major health problem in the tropical countries, particularly Indonesia. Tuberculosis (Tb) medication program implemented in the form of DOTS (Directly Observe Treatment Shortcourse) which requires the role of drug supervisor (in bahasa: PMO- Pengawas Menelan Obat) to ensure patient's medication compliance. Drug supervisor is a person who is well known to both patients and health care workers who will participate in supervising the patients in taking the drugs of Tuberculosis.

In 2013, pulmonary tuberculosis patients in Indonesia recorded 9 million people and 3.5% were MDR Tb. Indonesia ranked 8th out of 27 countries with the burden of MDR Tb patients were 6900 (WHO, 2013). Kediri had an increasing number of pulmonary TB patients as much as 4.55% during 2013-2014 and only 6.21% patients could completed the medication in 2014 (Kediri's Health Profile 2014).

The incidence of MDR-Tb is basically as a result of inadequate treatment. The cause of inadequate treatment is influenced by non-adherent patients in taking the drug, have no drug supervisor or inactiveness of the drug supervisor in carrying out its roles (Infodatin, 2015). This study aimed to determine the correlation of the drug supervisor with the motivation and adherence in taking the drug among patients with pulmonary tuberculosis.

Theory of behaviour of Lawrence Green that human behavior is influenced by three factors, (1) the predisposing factors that are internal factors that exist in individuals; (2) enabling factors that established in the physical environment, the availability of facilities or health facilities, such as health centers, medicines, and so on; and (3) reinforcing factor which are the family, teachers, health workers, community leaders, and decision makers. The successful of Tb's treatment requires the awareness of the patient that both of the treatment phases has to fully implemented, even they feel no symptoms of

Tb. In other words, if the intensive phase of treatment compliance is not followed by a continuation phase of compliance would result in patients experiencing treatment failure. The family as a drug supervisor also has a role to remind and motivate patients to take anti-tuberculosis drugs on schedule in any condition (Sumarman, 2011). Therefore, during the treatment period required good cooperation and continuously between a drug supervisor with the patient in completing the medication (Purwata, 2005).

MATERIALS AND METHODS

This was a descriptive correlation with cross sectional design. The samples were taken from all patients with pulmonary Tb in the working area of UPTD Puskesmas Sidorejo and Pare in Kediri as many as 35 people, consisting of 21 patients in intensive phase of medication and 14 patients in continuation phase of medication. This study was used purposive sampling. The independent variable was the activeness of drug supervisor based on Indonesian Guidelines of Treatment of Pulmonary Tuberculosis (2011). In other hand, the dependent variables in this study were the motivation and the medication adherence of pulmonary Tb patients. The data was conducted using questionnaires, (1) questionnaire of the activeness of drug supervisor that was containing of 12 statements, (2) the motivation in completing medication that was containing of 15 statements, and (3) questionnaire of the medication adherence that was adopted from the MMAS-8 (Medication Adherence Morisky Scale). Analysis of data were using statistical test of Chi Square with $\alpha \leq 0,05$.

RESULTS

Table 1 shows that the majority of respondents were female (60%), and were in the age range between 21-30 years (42.8%). In addition, respondent's recent education are mostly at high school (60%), most have suffered from pulmonary tuberculosis for <2

months (60%), and the drug supervisors were mostly their wives or children (65.6%).

Table 1. Characteristics of respondents

Characteristics	f	%
Sex		
Male	14	40
Female	21	60
n	35	100
Age		
< 20 tahun		
21 tahun - 30 tahun	15	42,8
31 tahun - 40 tahun	14	40,0
>40 tahun	6	17,2
n	35	100
Education		
Elementary School	2	5,7
Junior High School	8	22,8
Senior High School	21	60
Higher Educations	4	11,5
n	35	100
Profession		
Farmer	5	14,2
Private Labor	11	31,5
Entrepreneur	6	17,3
Civil Servant	1	2,8
Others	12	34,2
n	35	100
Drug Supervisor		
Father	2	5,7
Mother		
Husband	4	12,6
Wife	10	28,5
Child	13	37,1
Brother or sister	4	11,4
Others	2	5,71
n	35	100,0
Duration of Illness (Tb)		
< 2 months	21	60
>2 months	14	40
n	35	100

Table 2. Cross tabulation and statistical result of the activeness of the drug supervisor with the motivation of pulmonary Tb patient

The activeness of the drug supervisor	Motivation				Sum (n)	
	High		Low		f	%
	f	%	f	%	f	%
Active	21	60,0	4	11,4	25	71,4
Inactive	1	2,9	9	25,7	10	28,6
n	22	62,9	13	37,1	35	100
Chi Square test	p = 0,000 ; $\alpha < 0,05$					

Table 2 shows that mostly respondents have an active drug supervisor (71,4%). In other hand, even though the patient has had an active drug supervisor, some of them still have low motivation in Tb medication (11,4%). In the other hand, there was one patient have an inactive drug supervisor but he had a high motivation in medication (2,9%). In addition, Chi Square test showed that value of $p = 0.000$ ($\alpha < 0.05$), which means there was a correlation between the activeness of the drug supervisor with the motivation of pulmonary Tb patient.

Table 3. Cross tabulation and statistical result of the activeness of the drug supervisor with the compliance of pulmonary Tb Patient

The activeness of the drug supervisor	Compliance						Sum (n)	
	High		Medium		Low		f	%
	f	%	f	%	f	%	f	%
Active	15	42,8	10	28,6	0	0,0	25	100
Inactive	0	0,0	7	20,0	3	8,6	10	100
n	15	42,8	17	48,6	3	8,6	35	100
Chi Square test	p = 0,001 ; $\alpha < 0,05$							

Table 3 shows that mostly Tb patients that had have an active drug supervisor also have a high compliance in the treatment at the same time (42,8%). In other hand, there were no Tb patients with an inactive drug supervisors had have a high compliance in the treatment. The result of Chi Square test showed that p value = 0.001 ($\alpha < 0.05$), which means there was a correlation between the activeness of the drug supervisor with the compliance of pulmonary Tb patients.

Table 4. Cross tabulation and statistical result of the motivation with the compliance of pulmonary Tb Patient

Motivation	Compliance						Sum (n)	
	High		Medium		Low		f	%
	f	%	f	%	f	%	f	%
High	12	34,3	10	28,6	0	0,0	22	100
Low	3	8,5	7	20	3	8,6	13	100
n	15	42,8	17	48,6	3	8,6	35	100
Chi Square test	p = 0,029 ; $\alpha < 0,05$							

Table 4 shows that the majority of respondents had a medium compliance. In the other hand, mostly respondents had a high motivation. Interestingly, there were some respondents had a low motivation, but they showed a high compliance in the treatment of Tb. The results of Chi Square test showed p value = 0.029 ($\alpha < 0.05$), which means there was a relationship between motivation with pulmonary Tb patient compliance.

DISCUSSION

The statistical test showed a significant correlation between the drug supervisor's activeness with the motivation of Tb patients in UPTD Puskesmas Pare and UPTD Puskesmas Sidorejo. This is in accordance with national guidance book Pulmonary TB control that includes about the tasks of the drug supervisor. One of them is giving a boost to the pulmonary TB patients (Ministry of Health, 2011). It is also consistent with the results of research conducted by Pare (2013) which states that the relationship the drug supervisor active role in increasing the motivation of pulmonary TB patients to recover, and the active role of the drug supervisor into the risk factors related to behavior treatment of pulmonary TB patients.

Pulmonary TB is a curable disease for a long time, it takes a long time and continuous, boredom took the drug despite signs symptoms gradually disappeared already occurs frequently in patients with pulmonary tuberculosis, for the liveliness the drug supervisor is important to give encouragement to patients with pulmonary tuberculosis. A total of 21 drug supervisors active is able to provide a good motivation, but as much as 4 drug supervisors either not capable of describing the motivation both TB patients and 1 drug supervisor inactive but patients have a good motivation contained in respondent number 23 were female, educated past high school, in the range of 20-30 years of age with TB more than two months, and which became

the the drug supervisor is the father, this is because according to L. Green motivation is not only affected by the drug supervisor, but also influenced by teachers, peers, health workers, and public figure. A total of 6 people the drug supervisor also as the wife of the respondents were able to give a good motivation to the respondents, it is also supported by Herryanto (2004) which describes the factors that support women the drug supervisor is in terms of attention and the opportunity to accompany the patient. But the need to watch out the possibility of a decline in motivation of the drug supervisor in performing their duties, because the biggest obstacle faced by the drug supervisor is the people who are bored/tired of taking medication.

The analysis shows that there is significant correlation between the activity of the drug supervisor with pulmonary TB patient compliance in UPTD Puskesmas Pare and UPTD Puskesmas Sidorejo. The results of this analysis is supported by the results of research and Krisnawati Sumarman (2013) who found that the role of the drug supervisor unfavorable risk for 3 times to cause non-adherent patients sputum check back on the final phase of treatment compared with patients who have an active role of the drug supervisor. Similarly discovered by Abdurahim (2006) that there is a relationship between the activity of the drug supervisor with treatment compliance patients with pulmonary TB, but this does not rule out the possibility of a failure of pulmonary TB patients with liveliness the drug supervisor, this is due to factors affecting patient adherence Pulmonary TB not only on the activity the drug supervisor alone, but of patient factors and environmental factors. TB disease is strongly associated with the patient's behavior and environmental factors. Environmental factors such as housing conditions (ventilation, sanitation) is very influential on the existence of germs, and the process of arising and transmission.

Pulmonary TB treatment requires a long period of time between 6-9 months, it is that makes people have less desire to heal because of despair and, as well as the high risk of failure to comply MDR Tb in sputum examined and swallow the medicine. To ensure compliance swallowing the drug, then the need for the drug supervisor's role in overseeing any patient taking the medication. Accompanied by the drug supervisor in any activities examined sputum or swallowing the drug is expected Pulmonary TB cure rate can reach 100%.

The analysis showed that a significant relationship between motivation and compliance of pulmonary TB patients in UPTD Puskesmas Pare and Puskesmas UPTD Sidorejo. This is according to research conducted by Prasetya (2009), motivation is the key to success, the higher the motivation of the more obedient, in this case the medication adherence in following the DOTS program. Therefore in an effort to anticipate non-compliance with treatment in patients with pulmonary tuberculosis is necessary to deliver information as accurately as possible, by holding health education carried out by each health service. According to Spencer that good manners are supported from a high motivation, without motivation people can not do anything and will not move. Motivation is the driving force, in the presence of human motivation will move faster activities, it is important and perceived as a necessity. Motivation is the key to success, the higher the motivation of the more submissive in this case is to take medication compliance in the program. A total of 12 respondents who have a good motivation also have good adherence levels anyway, but 3 respondents have good adherence levels, this suggests that the motivation to give a lot of influence on the level of compliance with medication ingestion of pulmonary TB patients, but there are still many factors that influence the behavior compliance, in accordance with the theory of L. Green behavior not only by motivation, but

also knowledge, attitudes, beliefs, values / norms, health facilities, health regulations, teachers, community leaders, etc.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

1. The majority of patients with pulmonary TB in UPTD Puskesmas Pare and Sidorejo have active drug supervisors.
2. The majority of patients with pulmonary TB in UPTD Puskesmas Pare and Sidorejo have a good motivation.
3. The majority of patients with pulmonary TB in UPTD Puskesmas Pare and Sidorejo have a low level of compliance.
4. There was a significant correlation between the activeness of the drug supervisor with the motivation of pulmonary TB patients in UPTD Puskesmas Sidorejo and Pare Kediri.
5. There was significant correlation between the activeness of the drug supervisor to compliance with medication ingestion of pulmonary TB patients in UPTD Puskesmas Pare and Sidorejo Kediri.
6. There was a significant association between compliance with motivation of pulmonary TB patients in Kediri.

Recommendations

1. Nurse should increase the activeness of the drug supervisor by providing guidance on the role of the drug supervisor in the DOTS program in order to achieve 100% free of TB.
2. Increase the motivation to recover, because given the TB disease is not cured only by 1 or 2x treatment, but need treatment completely.
3. Improving compliance in Pulmonary TB treatment because it is not just one kind of drug but a variety of combinations of drugs used to cure it.
4. Do more research to measure other variables in full accordance with the theory of Lawrence Green.

5. Further research by using a questionnaire from the other perspective of the drug supervisor.
6. Conduct further research on medication adherence and the activeness of the drug supervisor with the observatory method, so that the results more objectively.

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