

# The Influence of the Family Empowerment Management of Family Ability to be Drugs Swallowing Controller (PMO) and Risk of Occurrence of Lost to Follow-up in the Area Gelumbang Health Care Muara Enim South Sumatera

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**Abstract:-** The case of person lost to follow-up increase every year. This is because the lack of family involvement as a drugs swallowing controller (PMO) in the family empowerment management process. The purpose of the research was to determine the influence of the family empowerment management on the ability of the family to become drugs swallowing controller (PMO) and the number of lost to follow-up. Research design of experimental pre and posttest quasi was used in this research. Method of data collection was total sampling with sample from program manager and cadre 20 peoples and family of 40 peoples. The results showed that there was a significant difference between knowledge and attitude before and after training of family empowerment management in program managers and pulmonary TB cadres. While the competence, there was no significant difference between before and after training. For families as PMO, there is a significant difference between knowledge, attitudes and competence as well as the risk of occurrence of lost to follow-up before and after counseling of family empowerment management as PMO. This research recommended that the health care unit can conduct training and refreshing cadre about the duty of a PMO regularly in its annual work plan and conduct periodic evaluation related to cadre ability and family involvement in the treatment process of pulmonary tuberculosis patients.

**Keywords:-** Empowerment Management, Family as Drug Swallowing Controller.

## I. INTRODUCTION

Pulmonary tuberculosis (Pulmonary TB) disease tends to increase in developing countries such as India, Indonesia and China. According to the report World Health Organization/ WHO (2016) there are 10.4 million cases of pulmonary tuberculosis in the world, India is the country with the most cases of 23%, while Indonesia and China ranks second at 10%. Most cases of pulmonary tuberculosis in Indonesia are in West Java province and South Sumatera Province ranks 16th largest after South Sulawesi Province (MOH, 2016). Although the province of South Sumatra ranked 16th, but when viewed the trend of cases of

pulmonary TB from year to year tend to increase from 131/100 thousand inhabitants in 2013 increased to 156/100 thousand inhabitants in 2014 and increased again to 176/100 thousand on 2015 (Ministry of Health, 2016). Increasing cases of pulmonary TB certainly have a negative impact on public health.

The number of drug drop outs (lost to follow-up) can be affected by various factors and tends to increase. According to Khamidah (2016) factors associated with the drop out treatment (lost to follow-up) in patients with pulmonary tuberculosis age, no PMO and visits to health care facilities. From the data obtained about the role of family as a PMO with medication adherence in patients with pulmonary TB in Health care unit Kedungwuni II Pekalongan District. The family role as PMO will improve the medication adherence of pulmonary tuberculosis patients, so the family is expected to participate in the supervision of taking the medicine (Kartikasari, Rejeki, and wuryanto, 2012). Data obtained from the Muara Enim district health office found that patients who experienced drop out treatment (*lost to follow-up*) tends to increase from 10 people in 2012 increased by 2 people in 2014 (Health Office Muara Enim, 2014). The causes of drug drop-outs may be affected by the lack of family involvement in the treatment process.

The family has not been optimally involved in the pulmonary TB patient treatment process. According to Heny (2015) family empowerment of pulmonary tuberculosis affect the ability to perform family health tasks in the prevention, treatment and treatment of pulmonary TB. A preliminary study with 20 families of pulmonary tuberculosis patients at Health care unit Gelumbang on family as a PMO on 10-12 July 2017 found that 14 peoples said that they have not been clarified about the cause and role of family in caring for family members suffering from pulmonary tuberculosis.

## II. METHODOLOGY

### ➤ *Type Of Research*

This research type is *quasi experimental pre and post test*. This study was conducted to determine the influence of management of the family empowerment in the ability of the family into the PMO include knowledge, attitudes, competencies program managers and cadres, knowledge, attitudes and competence in family duties as the PMO as well as the incidence of person lost to follow-up to involve program managers and cadres pulmonary TB trained to conduct counseling on the family of pulmonary tuberculosis patients in the working area of the Gelumbang Health care unit Muara Enim district of South Sumatra.

### ➤ *Research Instruments*

In principle research is to make measurements, then there must be a measuring tool. The measuring instrument in research is usually called the research instrument. So the research instrument is a tool used to measure both natural and social phenomena observed. Specifically all these phenomena are called research variables (Sugiyono, 2013). Measurement Instrument A on the TOT training module for program holders and TB Cadres containing the knowledge that program holders and TB Cadres must have as well as extension counseling procedures in families of pulmonary TB patients. As reference source is taken from module which have been made by Kemenkes published (2017) which modified by researcher and consulted to pulmonary TB expert who served as Head of P2P in Health Office of South Sumatera Province. Measurement of B instrument on training module for family of pulmonary tuberculosis containing knowledge which must be known by family as PMO and program management guide and cadre in doing counseling to family as PMO. There is an attachment sheet of the family training module as a PMO serves as a family guide in caring for patients undergoing pulmonary tuberculosis treatment. As source taken from some literature of MOH RI (2008) about National Guideline for Tuberculosis and MOH (2004) on Fixed Dose Combination (OAT-FDC) Anti-Tuberculosis Treatment Guidelines for Tuberculosis Treatment in Health Service Unit modified by researchers and consulted with an expert on pulmonary tuberculosis who served as Head of P2P in South Sumatera Provincial Health Office. Measurement of C instrument on Demographic Characteristics of program holders and TB cadres consisting of 5 questions, each on age, gender, education, occupation. Measurement of instrument D on knowledge of program holders and TB cadres consists of 10 items of questions to find out how much knowledge the program holders and TB cadres are to train the family of TB patients as (drugs swallowing controller) PMOs. Measurement of instrument E on attitudes of program holders and TB cadres consists of 6 items of questions to find out the response of program holders and TB cadres during training. Measurement of instrument F on the competence of program holders and TB cadres consists of 7 items of questions to determine the ability of program holders and TB cadres to make decisions when training. Measurement of the G instrument on the demographic characteristics of the family as a PMO consisting of 5

questions, each about age, gender, education, occupation of respondents, family income. Measurement of H instrument on family knowledge as a PMO consists of 10 items of questions to find out how much family knowledge as a PMO. Measurement of instrument I on the attitude of the family as the PMO to the pulmonary tuberculosis patients consists of 8 items of question to know the family response as PMO. Measurement of J instrument on family competence in family duty as PMO consists of 8 items of question to know the ability of family in taking decision as PMO. Measurement of G instrument on the risk of patients with pulmonary drop drug (*lost to follow-up*) consists of 6 items of question to find out how much influence the family as PMO on the process of pulmonary TB patients taking medication regularly or irregularly even stop treatment.

### ➤ *Research Procedures*

Procedures in the implementation of this research have previously been conducted ethical test and approved by the Ethics Commission of the Faculty of Medicine Sriwijaya University. Principles of ethics based on ethical health guidelines issued by the National Commission on Health Research Ethics. Furthermore, also equipped with an sheet *Informed Consent* that contains an explanation of the purpose of the researcher about the overall implementation of the study to the participating respondents as research subjects.

### ➤ *Data Analysis*

At this stage the analysis of data that has been entered, so that the resulting information that can be used to answer research questions and test the hypothesis. Data analysis in this study include: Univariate analysis conducted by using frequency distribution analysis to see each of the variables independent: knowledge, family attitudes, competence in family duties, patient with risk of lost to follow-up, characteristics of program manager and pulmonary tuberculosis cadres (type sex, age, education, occupation), family characteristics / PMO (gender, age, education, occupation, income). The goal is to get an idea of the distribution of the frequency distribution of each variable. Bivariate analysis is an analysis conducted to determine the effect between two variables studied. To prove the research hypothesis, the authors used t test (t - test) to know the mean difference of two independent data groups and variables. The use of the t test is included in the parametric test so that it adheres to the assumptions of normally distributed data, the distribution of the homogeneous data and the samples taken at random. The use of independent t test is used in experimental design tests aimed at comparing the average values of the two treatments.

**III. RESULTS**

Characteristics	<i>f</i>	%
Age		
• Adolescent (17-25 years)	9	45
• Adults early (26-35 years)	11	55
Education		
• Elementary-Junior High School	5	25
• Senior High School	9	45
• Bachelor degree	6	6
Work		
• Not Working	5	25
• Private Employees / Entrepreneurs	10	50
• Traders	5	25

Table 1:- Characteristics Frequency Distribution Program Manager and Cadre pulmonary TB in Health care unit Gelumbang (n = 20)

Table 1 shows that more than half of TB managers and cadres are adult early (55%), less than half of senior high school (45% ) and half worked as private / self-employed (50%).

Characteristics	<i>f</i>	%
Age		
1. Adolescent (17 -25 Years)	32	80
2. Adult (26 - 45 Years)	8	20
Gender		
1. Male	14	35
2. Female	26	65
Education		
1. Graduated from junior high school	22	55
2. Completed SMP	18	45
Work		
1. Not Working	7	17.5
2. Working	33	82.5
Income		
1. Under UMK (<Rp. 2,400 .000)	16	40
2. Above UMK(> Rp. 2,400,000)	24	60

Table 2:- Distribution of Frequency Characteristics of Families as PMOs In the Working Area of Gelumbang Community Health Center (n = 40)

Table 2 shows the majority of TB patients' family as PMO aged less than 35 years old and have a regular job and more than half were women, did not finish junior high school and earning over UMK.

Ability of Program Manager and Pulmonary TB cadres	Mean	<i>p value</i>	95% CI
Before	67,5		- 10.00
After	77.5		
Knowledge Difference	10.00	0,000	- 14,017; 5,210

Table 3:- Differences in knowledge of TB program managers and cadres before and after training (n = 20)

Table 3 shows significant differences between knowledge before and after family empowerment management training in program managers and pulmonary TB cadres.

Ability of Program Manager and Pulmonary TB cadre		Mean	p value	95% CI
Attitude	before	21.65	0.001	- 0.80
	after	22.45		- 1.245; - 0.355
	Difference	0.80		

Table 4:- Differences in attitude of TB program managers and cadres before and after training (n = 20)

Table 4 shows significant differences between pre- and post-training attitudes of family empowerment management in program managers and pulmonary TB cadres.

Program Manager Capability and Pulmonary TB cadres		Mean	P Value	95% CI
Competence	Before	26.3	1,000	0,000
	After	26.3		- 0.547; - 0,547
	Difference	0,000		

Table 5:- Differences in the competence of TB program managers and cadres before and after the training of family empowerment management (n = 20)

Table 5 shows that there is no significant difference between the competence before and after the training of family empowerment management on the program managers and the pulmonary TB cadres.

Ability Families As PMO pulmonary TB Patients		Mean	P value	95% CI
Knowledge	Before	66.00	0.000	- 13.500
	After	79.50		- 17.370; - 9,630
	Difference	13.5		

Table 6:- Differences in family knowledge before and after the family empowerment management counseling (n = 40)

Table 6 shows a significant difference between knowledge before and after counseling of family empowerment management as a PMO.

Family Ability as PMO Pulmonary TB patients		Mean	P value	95% CI
Attitude	Before	28,38	0,000	- 2,075
	After	30,45		- 2,481; - 1,669
	Differences	2,07		

Table 7:- Differences in family attitudes before and after counseling family empowerment management (n = 40)

Table 7 shows significant differences between the attitudes before and after the empowerment management counseling on family as PMO.

Family Ability as PMO Pulmonary TB patient		Mean	P value	95% CI
Competence	Before	28,33	0,000	- 2,150
	After	30,48		- 2,550; - 1,750
	Difference	2.15		

Table 8:- Differences in family competence before and after counseling family empowerment management (n = 40)

Table 8 shows significant differences between the competencies before and after extension of family empowerment management as a PMO.

Patient Risk of Pulmonary TB Discontinuing Medication	Mean	P value	95% CI
before	8,80		1,425
Risk of dropping drug	7,38	0,000	1.086; 1,764
Differences	- 1.42		

Table 9:- Differences in risk of person lost to follow-up before and after counseling of family empowerment management (n = 40)

Table 9 shows a significant difference between the risk of person lost to follow-up in pulmonary tuberculosis before and after counseling of family empowerment management as PMO

#### IV. DISCUSSION

The characteristics of tuberculosis program managers and cadres were obtained by more than half of adult TB managers and cadres (55 %), less than half of senior high school (45%) and half work as private / self-employed (50%). The results of this study are in line with several studies including research Dharmawan (2015) in Semarang where the average age of cadres aged 37 years are included in adulthood. According to research (Riauwi, Hasneli, 2013) in Bogor city less than half finished high school (32%). While the results of research based on job characteristics inversely proportional where most (60.9%) did not work or as housewives (Anisah, Kusumawati, & Kirwono, 2017).

Most of family of TB sufferer as PMO less than 35 years old, have permanent job and more than half of them are women, do not finish junior high and have income above UMK. This research has similarities with the research by Trirahayu, Dwidiyanti and Muin (2016) at Banyumas district health center. It was found that families who suffer from pulmonary tuberculosis were more than half female (58,8) and did not finish junior high school (58,8).

Knowledge of TB program managers and cadres before and after empowerment management training was found a significant difference which experienced an increase of 10 points. The knowledge analysis items are increasing most related to the tasks of the PMO, whereas the unchanged knowledge on pulmonary tuberculosis prevention topics, even on the topic of side effects of taking pulmonary TB drugs has decreased.

Improved knowledge of program managers and cadres on the tasks of the PMO plays a role in what tasks a family should do as a PMO. This relates to prevention topics that do not change where program managers and cadres can provide direction to the family as a PMO in order not easily affected by pulmonary TB disease. In contrast to the topic of side effects of taking pulmonary TB drugs that have decreased that should not decrease will be for families to know what will be done if family members who suffer from pulmonary tuberculosis changes after taking pulmonary TB drugs. From the results of research by Wijaya (2013), cadre program managers who have high knowledge of more than half (66.70%). Program managers and cadres must have a high knowledge of where to support in the activities of extension especially in the family as a PMO.

Attitudes to TB program managers and cadres before and after empowerment management training were found to have significant differences despite only an increase of 0.80 points. The attitude analysis items are increasing related to the topic of the role and function of a PMO, while the unchanging attitude related to the topic of program manager and cadre responsibilities to the PMO, even on the motivation topic to the PMO has decreased. According to research Fadlilah (2016) at Pragaan Public Health Center, Sumenep regency found that most have good attitude as many as 31 people (51,7%). The results of this study are also supported by the research conducted by Wijaya (2013) states there is a significant relationship between attitude with health cadre activity, where good attitude has the possibility to be active in tuberculosis case control 8 times bigger than less attitude.

Competencies that must be owned by TB program managers and cadres before and after the training of family empowerment management found a significant difference between the competence before and after the training of family empowerment management on program managers and pulmonary TB cadres. According to Rostinah, Widajanti, & Wulan (2015) the implementation of Posyandu cadre training at Health care unit Paruga Kota Bima has not been in accordance with the planning and training objectives. Competence is a thing that must be owned by a program manager and cadre to support all forms of activities to be implemented.

Family knowledge as a PMO before and after empowerment management training was found significant difference which experienced an increase of 13.5 points. The knowledge analysis items that have increased most are related to the topic of how the transmission of pulmonary tuberculosis disease, while the unchanging knowledge related to pulmonary tuberculosis prevention topics, even on the topic of sputum and spit management has decreased.

From the learning outcomes that have been done, one can evaluate how effective the learning that he has done. From the results of this evaluation can be assessed and used as a reference to improve new learning strategies more effectively again (Notoatmodjo, 2007). The level of knowledge of a person there are several levels ranging from the know to the evaluation of treatment process will be more optimal if the family knowledge as a PMO has reached the level of evaluation.

Family attitudes as a PMO before and after the empowerment management training obtained a significant difference where it has increased by 2.07 points. The attitude analysis items that have the most increase in the topic of mentoring at the time of taking the drug, while the

attitude that does not change related to the topic reminds the time to take medication, even on the topic, help the pulmonary TB patients seek information decreased. According to research from Umayana & Cahyati (2015), the attitude in the form of family support is instrumental in encouraging a person's interest or awareness to follow posbindu activities ( $p$  value = 0.001) and research results (Pratama, 2013) good attitude of 53.8%, and the number of respondents who good attitude increased to 65.5%.

Family competence as the PMO before and after the empowerment management training was found significant difference which experienced an increase of 2.15 points. Competency analysis items that have increased most are related to the topic of assistance of family members who have pulmonary TB for re-examination at 2, 5 and 6 months, whereas unchanging attitudes related to the topic of adequate rest for family members suffering from pulmonary tuberculosis on the topic of providing nutritious foods decreased. This result is supported by research Kausar, Herawati, & Pertiwiwati, (2015) about family competence as PMO that is making the right health decision which get more than half (60%) make the right decision.

The competence of a PMO can affect the treatment process of pulmonary tuberculosis patients. According to Kartikasari, Rejeki & Wuryanto (2012), family competence as a PMO in the treatment of home-based pulmonary tuberculosis patients is to oversee sick family members to swallow medication regularly in accordance with the advice of health workers, know the symptoms or side effects of drugs and refer sufferers if necessary, provide nutritious food, give breaks to sick family members at least 8 hours a day, invite family members who suffer regular exercise pulmonary TB in fresh air, counsel patients for sputum checks in 2nd month, 5 and 6, modify the environment that can support the recovery of pulmonary tuberculosis patients.

The risk of pulmonary tuberculosis patients to decide treatment before and after the empowerment management training was found to be a significant difference where it decreased by 1.42 points. The pulmonary TB patient's risk analysis item for deciding the most declining treatment relates to the topic of taking medication regularly to the health care unit, while the risk of pulmonary tuberculosis patients to decide on non-change treatment related to the topic of taking the drug regularly, even on the topic of complaining if any effect side after taking the drug decreased. This is supported by research of Khamidah (2016) at Health care unit Harapan Raya. There is a significant correlation between PMO with drop out treatment for pulmonary tuberculosis patients and pulmonary tuberculosis patients who do not have PMO as much as 3,778 times risk of drop out treatment compared with patients who have PMO .

## V. CONCLUSION

Based on the results of the research that has been done, the result shows that the characteristics of program managers and cadres can be related to the programmers and

cadres mindset. In education can affect the knowledge of cadres in knowing about pulmonary TB disease. As for the work can affect the implementation process of duties as a cadre. Family characteristics as PMO shows that most families of TB sufferers as PMOs are less than 35 years old and have permanent jobs and more than half are women, do not finish junior high and have income above MSEs. There is a significant difference between knowledge, attitude before and after training of family empowerment management on program managers and pulmonary TB cadres. There was no significant difference between the competencies before and after the training of family empowerment management on the program managers and the pulmonary TB cadres. There is a significant difference between knowledge, attitudes, competence and the risk of dropping out of drugs before and after counseling of family empowerment management as PMO

## VI. SUGGESTIONS

Health care unit can conduct training and *refreshing* cadre of a PMO task periodically in its annual work plan, knowledge, attitudes and competence of cadres especially in fostering families as PMOs, providing rewards for diligent and accountable cadres in performing their duties as cadres, involving families as PMOs in meetings on pulmonary tuberculosis treatment to improve PMO skills.

## VII. RELEVANCE OF THE STUDY

The results of this study are useful for the Health care unit, especially the management of family empowerment of the family's ability to become PMO and the risk of person lost to follow-up

## CONTRIBUTION OF AUTHOR

Refi Saputra, Yulastri Arif, Sri Yulia, all three contributed in problem determination, data analysis, and check the article.

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