

Participatory Training Model Development in Increasing of Competence Cadre Pulmonary Tuberculosis in Sumatera Utara

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Abstract: The high rates of morbidity and mortality of pulmonary TB patients can be caused by the low competency of health cadres. This competence is obtained through participatory training models. The aimed to determine the effect of participatory training models on tuberculosis cadre competence. The research used a pre-posttest without control group Quasi-experiment design. The sample consisted of 44 respondents. The instrument was a questionnaire form with a validity value of 0.89 and a test of Cronbach-alpha reliability 0.86. The results showed that differences before and after the intervention participatory training model, namely knowledge before and after intervention occurred 9% increase, attitudes before and after intervention increased 34%, actions before and after intervention increased 24.2%. This training model is expected to become a habit of cadres when mentoring in the community and integrated with empowerment programs for patients such as HORAS (Health belief model, Observation, Relaxation, Action, Supporting).

1 INTRODUCTION

Pulmonary tuberculosis (pulmonary TB) is a chronic disease that is a health problem in the world including Indonesia (Ministry of Health Indonesian, 2017). WHO states that pulmonary TB is now a global threat. An estimated 1.9 billion people or one-third of the world's population are infected with this disease. Every year there are about 9 million new patients with pulmonary TB with a death of 3 million people. It is estimated that 95% of pulmonary TB cases and 98% of deaths due to pulmonary TB in the world occur in developing countries. Likewise, the death of women due to pulmonary TB is more than deaths due to pregnancy, childbirth and postpartum. As many as 10.4 million people are estimated to suffer from pulmonary TB in 2015 with a total of 5.9 million male patients (56%), women as many as 3.5 million people (34%) and children as many as one million people (10%). Furthermore, the World Health Organization (WHO) noted in 2015 that 60% of all cases were contributed by six countries namely India followed by Indonesia, China, Nigeria, Pakistan and South Africa (Ministry of Health Indonesian, 2017).

In Indonesia, the coverage of tuberculosis cases between men and women was 298,128 cases in 2016, while in North Sumatra province the coverage of tuberculosis cases between men and women was 17,798 cases in 2016 which is the province with the most number 5 coverage Indonesia (Ariga & Reni, 2017).

About 75% of pulmonary TB patients are the most economically productive age group (15-50 years old). Meanwhile, it is estimated that an adult pulmonary TB patient will lose an average of 3 to 4 months of work time. This situation resulted in a loss of annual household income of around 20-30%. If he/she dies from pulmonary tuberculosis, then he/she will lose about 15 years of income. Besides being economically detrimental, pulmonary tuberculosis also has other socially stigmatizing adverse effects and it is even excluded by the community (Ariga & Reni, 2017).

Tuberculosis Eradication Program Data (P2 pulmonary TB) in Indonesia showed an increase in cases from year to year. Prevention and prevention efforts that have been attempted still have not succeeded in solving the existing problems, namely reducing morbidity and mortality. One of the problems encountered was the difficulty of finding

smear (+) pulmonary TB patients, irregularity in treatment and drop out of treatment. Cases of untreated pulmonary TB will continue to be a source of transmission³.

Family and community support have a major role in improving medication adherence, with supervision and encouragement of sufferers. The role of the Drugs Supervisor (PMO) can come from health workers, the community or the families of patients. An important understanding of knowledge about pulmonary TB for patients and families through cadre empowerment⁴. The people who can be involved in this activity are health cadre (Kementerian Kesehatan RI Pusat Data dan Informasi Kementerian Kesehatan RI, 2016).

Health cadres are people who are appointed by the community who can help the community, especially in health problems such as pulmonary tuberculosis, health cadres should have the competence so that in carrying out their duties in the community, especially the prevention of pulmonary TB⁶. This competency improvement can be done by participatory model training. Where this training provides the ability of knowledge, attitudes, and skills to cadres in carrying out their roles in the community, especially prevention and assistance in the treatment of pulmonary TB.

2 METHOD

The Research on the development of a participatory training model in improving cadre competency on pulmonary TB in North Sumatra uses a quantitative design with training methods consisting of three stages: the first stage is the planning stage, which includes identification of competencies, preparation of objectives, establishment of training strategies, preparation of training materials, apply the andragogy principle and participatory techniques, preparation of training planning. the second stage is the implementation, which includes explaining the concept and the third stage is the evaluation of activities, namely the evaluation of the training carried out.

The population and sample of this study were all integrated service center cadres in Sari Rejo Subdistrict, Medan Polonia Subdistrict who were still active and willing to take part in this study as many as 44 people. This research has been carried out for 6 months starting from July to September 2016. The reason for the study was to choose Sari Rejo Village, Medan Polonia Subdistrict as a place of research because this location is a densely

populated area with pulmonary tuberculosis residents, integrated service center and health cadres. The community is active in community activities and cooperates in the business of clean, healthy living behavior and one of the fields of nursing professional student practice in the USU nursing faculty community. This research instrument uses a demographic data questionnaire and questionnaire to develop a participatory training model in improving cadre competence about pulmonary TB that has been tested for validity to experts in the field of pulmonary TB obtained 0.89. The reliability test results obtained were 0.83.

Training is carried out 4 times a month for 3 consecutive months. The things that are done during the training can be described as follows:

- a. In July, training was conducted on the concept of pulmonary tuberculosis, such as testing, causes, signs and symptoms, prevention and mentoring of pulmonary patients.
- b. In the 2nd and 3rd month, all cadres simulate prevention efforts carried out on TB patients, namely preventing and mentoring pulmonary TB patients, identifying the risk of pulmonary TB, motivating the community to conduct treatment programs

Implementation stage during the training process

1. First Stage
Explain the scope of the extension material that is carried out. Describe the relevance and benefits of the material to the cadre
2. Second stage
 - a. Outlines the material about the concept of pulmonary TB
 - b. Do a simulation
3. Third Stage
Evaluate cadre competencies, including cognitive, affective and psychomotor

Basic skills that cadres must possess

1. Questioning skills
 - a. Express questions in a short and clear manner
 - b. Transfer of questions to all participants
 - c. Give the time to pause thinking before asking the answer to the cadre
2. Strengthening skills
 - a. Demonstrate verbal reinforcement like the word: Right, good, right or very good

- b. Demonstrate non-verbal reinforcement such as expression and body movements
- c. Strengthening: warmth and enthusiasm, avoiding negative responses
- 3. Explaining skills
 - a. Cadre explained using simple/general sentences about pulmonary TB
 - b. Cadres provide examples in providing counseling
 - c. Cadres use clear sentences
- 4. Skills for making variations
 - a. Cadres provide variations in tone of voice during counseling
 - b. The cadre gave expressions and gestures at the time of counseling
 - c. Cadres provide a point of contact during counseling
- 5. The skill of opening and closing lessons
 - a. Cadres attract audience attention
 - b. Cadre raises motivation
 - c. The cadre evaluates the material presented

3 DISCUSSION

Demographic data of respondents includes age, gender, occupation, and education. The results of the demographic data research obtained an early adult age of 29 respondents (66%), all respondents were female (100%), high school 30 respondents (%). Information can be seen in the table below (Table 1).

Table 1: Demographic characteristics.

Characteristic	Frequency (f)	Percent (%)
Age		
Early adult	29	66
Late adult	15	34
Genre		
Male	0	0
Female	44	100
Education		
Primary School	1	2,27
Secondary school	13	29,55
High School	30	68,18
Length of job experience		
<5 Years (New)	14	32
>5 Years (Old)	30	68

The results of research related to knowledge were obtained before the participatory model was conducted, the majority of patients' knowledge was in the category of 75%. After a participatory model, the majority of patients' knowledge was in the good category of 66%. Information can be seen in the graph below (Figure 1).

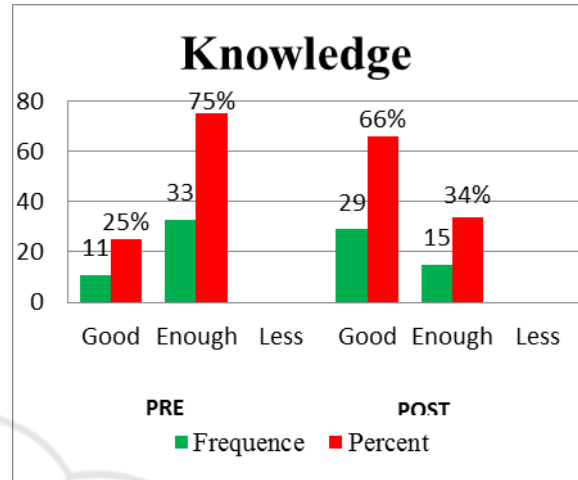


Figure 1: Patients Knowledge.

The respondents data includes age, gender, occupation, and education. The results of the demographic data research obtained an early adult age of 29 respondents (66%), all respondents were female (100%), high school 30 respondents (%). Information can be seen in the table below (Figure 2).

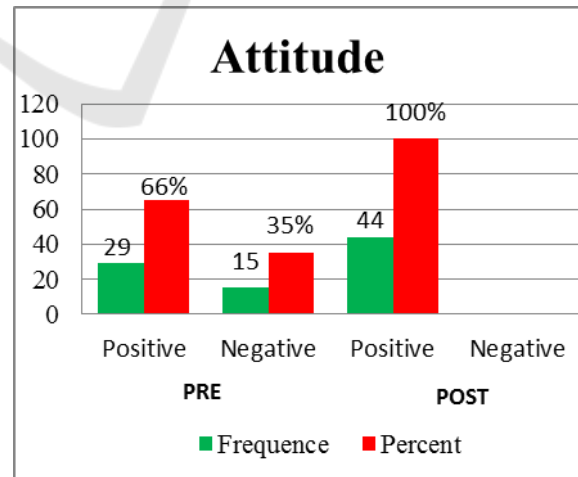


Figure 2: Patients Attitude.

The results of the research related to attitudes were obtained before the participatory model was carried out, the majority of patients' attitudes were in

the positive category of 66%. After a participatory model, the majority of patients' attitudes were in the 100% positive category. Information can be seen in the graph below (Figure 3).

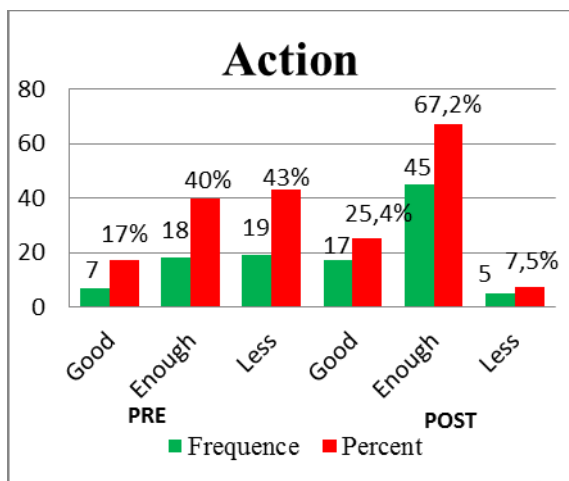


Figure 3: Patients Action.

The results of the study related to the action were obtained before the participatory model was used, the majority of the patients' actions were in the 43% less category. After a participatory model, the majority of patients' actions were in the good category of 67.2% (Ministry of Health Indonesian, 2017).

The results of the study obtained the knowledge of cadres before taking action in the category of enough as much as 75%. This is because the cadres have never received training, so the cadre has not assumed that the discovery of pulmonary TB suspects is their duty that must be carried out as well as possible for increasing cases. Pulmonary TB in the area. The focus of cadre activities so far is only on the implementation of Posyandu and is related to the health of infants and toddlers, so that the cadres assume that the task of finding suspected pulmonary TB is only side lined. This condition encourages cadres to be less enthusiastic in finding information about the mechanism of finding pulmonary TB suspects.

The same thing was found by Chatarina in her research on efforts to achieve positive BTA targets on Suspek TB Pulmonary in South Middle East District of NTT Province, which revealed that the performance of cadres who were not equipped with sufficient knowledge and only in a simple way to refer suspects to subdistrict community health centre is the target (Chatarina, 2007).

The results of the study showed that the attitude of cadres before the action was carried out in the

positive category was 66%. This is influenced by the length of time of the cadre. The majority of cadres have a working period of more than 5 years as much as 68%. Long working periods make cadres have sufficient experience in carrying out the interventions. Individuals who have long work problems can make individuals understand the attitude to be taken. Another opinion expressed by Andira that the longer the working period of a cadre, the more experience he has so that it can be used as a basis for acting / making decisions. On the contrary, novice cadres do not have much experience and are foreign and hesitant. This condition will hamper participation in an activity (Mirowsky & Ross, 2017).

The results of the research showed that the cadre's actions before being carried out in the less category were 43%. This is influenced by the majority of cadre knowledge is as much as 75%. Individuals who have sufficient knowledge will tend to be less focused on taking action. Related parties such as health centers have not involved cadres to do prevention, find and assist pulmonary TB patients in the cadre area. The cadre does not have much knowledge about taking action directly into the community to the importance of breaking the chain of transmission of TB through a screening action carried out as a cadre.

The results of the study obtained the knowledge of cadres after the action in the good category as much as 66%. Good knowledge in this study is influenced by the frequency of training. The more often training is carried out, it can increase cadre knowledge and skills. Training is part of education that involves the learning process to acquire and improve skills outside the education system that applies in a relatively short time with methods that prioritize practice rather than theory. Training is basically an effort to increase knowledge and skills and the ability of individuals to be able to carry out a task or work that is charged to him.

Another factor that influences good knowledge is the length of service. The length of the work period greatly affects the ability of participatory training, where the longer the cadre profession goes the better the performance. Andira suggested that work period is one indicator of the tendency in jobs where the longer a person works the higher the productivity because the more experienced and skilled at completing the task entrusted to him (Andira et al., 2012).

The results of the study showed that the attitude of cadres after doing the action in the positive category was 100%. A positive attitude in this study

can be caused by factors of knowledge and experience. Knowledge influences the attitude of cadres, good cadre knowledge influences cadre competence in conducting participatory training. As revealed by Eka's research, cadre knowledge has an effect on cadre skills on what material is to be conveyed. Cadre knowledge influences positive attitudes, then forms good behavior when cadres conduct counselling⁹. The more positive the attitude of cadres will be to improve the practice and behavior of cadres in conducting counselling which is their responsibility (Notoatmodjo, 2012).

In addition to the knowledge factors positive attitude of cadres because all cadres have realized that they have a function, motivate and strive so that residents in the environment are healthy and prevented from various diseases specifically pulmonary diseases. This is supported by the opinion of Djafar, the more positive the attitude of cadres will be to improve the practice and behavior of cadres in conducting counselling which is their responsibility (Djafar, 2014).

The results of the study showed that the cadre's actions after being carried out in the category of enough as much as 67.2%. Efforts to control TB disease as a whole are still not ideal, because there are some inappropriate actions carried out by cadres (Kritiawati & Diyan, 2014). In conducting referral TB suspects, the actions of cadres are still wrong, because in making referrals do not use forms. This is probably due to the cadre's ignorance of how to fill in TB patient forms and the possibility of TB patients who have been found coming to the subdistrict community health centre without being accompanied by cadres. However, the cadre's actions in finding and conducting counselling are good enough, this is because the cadre's knowledge of TB disease, especially in recognizing the symptoms of TB patients is good enough. So that TB cadres can recruit TB suspects and provide counselling to the public about TB at the integrated system service.

4 CONCLUSION

The development of participatory training is suitable for cadres in order to reduce morbidity and mortality of TB in the community with the implementation of this training model can be received by cadres. Development with participatory training approach is an innovative training model and effective in improving the competence of health workers about TB so it is necessary to be applied in other health

fields. This training model is expected to become a habit of cadres when mentoring in the community and integrated with empowerment programs for patients such as HORAS (Horas believed model, Observation, Relaxation, Action, Supporting).

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REFERENCES

- Andira, R., Abdullah, A., & Sidik. (2012). *Fakultas Kesehatan Masyarakat*. UNIVERSITAS HASANUDDIN.
- Ariga, & Reni, A. (2017). Parents' behavior in giving drug in children with tuberculosis in polyclinic children RSUD. Dr. Pirngadi Medan. *Asian Journal of Pharmaceutical and Clinical Research*, 11(13), 239.
- Chatarina, U. (2007). *Administrasi Kebijakan Kesehatan*. Universitas Hasanuddin.
- Djafar, M. (2014). *Jurnal Ilmiah WIDYA*. PS GIZI STIKES BINAWAN.
- Kementerian Kesehatan RI Pusat Data dan Informasi Kementerian Kesehatan RI. (2016). *Temukan Obati Sampai Sembuh*. http://www.depkes.go.id/download.php?file=download/pusdatin/infodatin/infodatin_tb.pdf
- Kritiawati, Y. C., & Diyan, P. (2014). *Publikasi Ilmiah*. Ministry of Health Indonesian. (2017). *Data and Information; Health Profile Of Indonesia 2016*. [http://www.depkes.go.id/resources/download/pusdatin/lain-lain/Data dan Informasi Kesehatan Profil Kesehatan Indonesia 2016 - smaller size - web.pdf](http://www.depkes.go.id/resources/download/pusdatin/lain-lain/Data%20dan%20Informasi%20Kesehatan%20Profil%20Kesehatan%20Indonesia%202016%20-%20smaller%20size%20-%20web.pdf)
- Mirowsky, J., & Ross, C. (2017). *Education, Social Status and Health*.
- Notoatmodjo, S. (2012). *Promosi Kesehatan dan Perilaku Kesehatan*. Rineka Cipta.
- World Health Organization. (2015). *Global Tuberculosis Report WHO Library Cataloguing in Publication Data*.
- Andira, RA., Abdullah AZ., Sidik., 2012. Fakultas Kesehatan Masyarakat. UNIVERSITAS HASANUDDIN.
- Ariga, Reni A. Parents' behavior in giving drug in children with tuberculosis in polyclinic children RSUD. Dr. Pirngadi Medan. *Asian Journal of Pharmaceutical and Clinical Research*11(13):239
- Chatarina UW.. *Jurnal Administrasi Kebijakan Kesehatan*. 2007. UNIVERSITAS HASANUDDIN
- Djafar, M., 2014. *Jurnal Ilmiah WIDYA*. PS GIZI STIKES BINAWAN.

- Kementerian Kesehatan RI Pusat Data dan Informasi
Kementerian Kesehatan RI., 2016. Temukan Obati Sampai Sembuh.
http://www.depkes.go.id/download.php?file=download/pusdatin/infodatin/infodatin_tb.pdf. [accessed 02 June 2018]
- Kusuma, AR., 2015. Program Studi Kesehatan Masyarakat Fakultas Ilmu Kesehatan. UNIVERSITAS MUHAMMADIYAH SURAKARTA.
- Ministry of Health Indonesian., 2017. Data and Information; Health Profile Of Indonesia 2016. <http://www.depkes.go.id/resources/download/pusdatin/lain-lain/Data%20dan%20Informasi%20Kesehatan%20Profil%20Kesehatan%20Indonesia%202016%20-%20%20smaller%20size%20-%20web.pdf> [accessed 02 June 2018]
- Mirowsky J, Ross C.,. Education, Social Status and Health (United State of America, Routledge). 2017
- Notoatmodjo, S.,. Promosi Kesehatan dan Perilaku Kesehatan. 2012. Rineka Cipta. Jakarta.
- World Health Organization (WHO). Global Tuberculosis Report 2015 WHO Library Cataloguing in Publication Data. 2015.
- YC., Kritiawati, Diyan P., 2014. Publikasi Ilmiah. Program Studi Pendidikan Ners Fakultas Keperawatan. UNIVERSITAS AIRLANGGA.

