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# Education of TB Cadres About Health Promotion of The Lung TB Program Using Vidio and Digital Leaflet Media

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## ABSTRACT

**Background:** TB is the main cause of death by infectious agents and is one of the 10 causes of death from all diseases. Indonesia is currently in third place in contributing to tuberculosis cases in the world after India and China. Every year there are 582,000 new cases, of which 259,970 are BTA positive pulmonary tuberculosis. The number of TB patient discoveries in Indonesia in the last 5 years has fluctuated, recorded in 2017 at 446,732, in 2018 it increased to 570,289 and in 2019 it was 543,874, in 2020 there were 393,323 cases and in 2021 it decreased to 385,295 cases . with a *Case Detection Rate* (CDR) figure of 47%. Jambi Province's TB program achievement nationally is in the bottom 31st place, namely 26% (Jambi Health Office, 2022)
**Method:** This research is a type of quantitative research using a pre-experimental design method, type one group pretest-posttest design, which is a research activity that provides an initial test (pretest) before being given treatment, after being given treatment, then giving a final test (posttest). This research was carried out on 50 cadres in the working area of the Putri Ayu Community Health Center, Jambi City.
Result **:** The average knowledge score before training was 57.4 and after training it increased to 75.2 . The results of educational activities for cadres in the working area of the P Utri Ayu Community Health Center show a level of success with indications of a positive response from cadres by showing increased knowledge through pre and posttest methods during training . From the results of the pretest and posttest through the T-test measurement for paired samples, a significance value or p value of 0.000 ($p < 0.005$) was obtained.
**Conclusion:** there is a significant difference between the knowledge scores of health cadres before and after participating in the training

**Keywords:** Pulmonary Tuberculosis, education, cadres, digital video

## INTRODUCTION

TB is the main cause of death by infectious agents and is one of the 10 causes of death from all diseases . In 2017, TB caused around 1.3 million deaths in HIV-negative people and there were around 300,000 deaths due to TB in HIV-positive people. The predicted incidence of new TB is equivalent to 133 cases per 100,000 population so that in 2017 it is estimated that there will be 10 million new TB cases (Ministry of Health, 2014) .

Another problem in patient treatment is the increasing number of cases of patients who are resistant to anti-tuberculosis drugs (OAT). WHO estimates that there are 23,000 cases of Multi Drug Resistance ( MDR ) / Rifampicin Resistance ( RR ) in Indonesia. In 2017, it is estimated that there will be 8,600-15,000 MDR/RR cases out of 442,000 cases recorded in program data , but treatment coverage is still low at around 27.36 **%** (WHO, 2019) **.**

Indonesia is currently in third place in contributing to tuberculosis cases in the world after India and China. Every year there are 582,000 new cases, of which 259,970 are BTA positive pulmonary tuberculosis. Based on the results of the 2015 household health survey, it was stated that pulmonary tuberculosis was the third leading cause of death after respiratory tract diseases and heart or cardiovascular disease and number one for infectious diseases (WHO, 2019) .

The number of TB patient discoveries in Indonesia in the last 5 years has fluctuated, recorded in 2017 at 446,732, in 2018 it increased to 570,289 and in 2019 it was 543,874, in 2020 there were 393,323 cases and in 2021 it decreased to 385,295 cases . with a *Case Detection Rate* (CDR) figure of 47%. Jambi Province's TB program achievement nationally is in the bottom 31st place, namely 26% (Jambi Health Office, 2022)

The low number of discoveries is a problem because it indicates that the chain of transmission is still ongoing. Finding TB patients as early as possible is very important in TB programs in order to break the chain of transmission. However, what is happening now is that TB patients often receive treatment late, causing their illness to get worse. Apart from being a risk for the patient, this delay can infect other people around him. Research has revealed _ The average overall time to diagnosis of TB patients is 10 weeks (Pronyk et al. , 2001) this figure is similar to that in other countries such as Malawi or Nepal, where average treatment delays of 8 to 12 weeks have been reported (Salaniponi et al. al., 2000; Yamasaki-Nakagawa et al., 2001) . Recently, average delays of up to 26 weeks have been reported in Tanzania, although caution should be taken in comparing the mean value with the median due to the disproportionate impact of outliers (Wandwalo & Mørkve, 2000) . This also happened in Shandong Province in China, 49.8% of tuberculosis patients experienced treatment delays of 6 weeks (Zhao et al., 2013)

Delays in patients receiving treatment are influenced by demographic and clinical aspects, attitudes towards TB, patient stigma towards TB. Apart from that, TB patients are slow to seek treatment because they do not know it is TB disease. The results of a meta-analysis by (Nadjane et al., 2014) concluded that knowledge about TB is still a problem of vulnerability to TB programs.

One effort to increase public knowledge about healthy living is health promotion activities. Implementation of promotions for health programs needs to be supported by adequate media so that the results are maximum. According to (Citerawati, 2009) Good health promotion media is media that is able to provide information or health messages that are appropriate to the level of acceptance of the target, so that the target is willing and able to change behavior in accordance with the message conveyed.

Video can be an effective tool for health promotion. Apart from that, a participatory approach in designing health education materials can increase the effectiveness of these tools (Wieland et al., 2013) , this is also similar to research (Wilson et al., 2016) that shows understanding of TB. better after the patient watched the video and the effectiveness of the program also became better after the video about TB.

Research (Denkinger et al., 2013) suggests that cellphones are used for TB screening, combining cellphones with diagnostic tools. Monitoring medication adherence via landline telephone calls as a medication reminder aid is a successful intervention. Apart from that, a web-based application when the medicine box is opened and SMS reminders if it is not opened increases compliance with taking medication. The same thing was also expressed (Arjuna & Sukihananto, 2018) *Mobile health* is an innovative and attractive tool in fighting TB , especially in countries with the highest TB prevalence , including Indonesia. Discovery screening applications and compliance monitoring applications and visit reminders

have proven to be very effective in overcoming problems of geographic access and limited human resources .

National TB control continues to intensify, accelerate, extensify and innovate programs, under President Jokowi, access to quality TB services has been increased, one of which is the Movement to Find a Treatment to Cure TB Disease (TOSS-TB) where all community health centers become Independent Community Health Centers, then there is a strengthening of the network. services with the community, then establishing and strengthening a referral system (Ministry of Health, 2014).

This promotion and monitoring of medication-taking activities requires the participation of the community, such as TB cadres. A cadre is always in the community and can convey information about health to TB suspects or patients so that they understand and are aware of the symptoms of TB, access to health facilities, and the presence of competent health workers who are able to carry out examinations of these symptoms and complaints. Patient discovery is the first step in TB patient management activities. Finding and curing infectious TB patients will significantly reduce morbidity and mortality due to TB, TB transmission in the community and is also the most effective prevention activity for TB transmission in the community.

Based on the results of several studies that have been conducted regarding the empowerment of health cadres against TB disease. Research into the role of cadres in finding TB sufferers after cadre training has improved (Sumartini NP, 2014) . Apart from that (Fitriangga & Riono, 2020) Empowering former TB patients such as knowledge, motivation and TB communication skills can be used to increase coverage of suspected TB cases .

One of the global health promotion strategies is community empowerment . The main target of health promotion is community empowerment activities. Research (Rodiah, Lusiana, & Agustine, 2016) states that structured and comprehensive PKK cadre empowerment activities can support the realization of improving the level of public health in Jatinangor District through the dissemination of health information.

## METHODS

This research is included in the type of quantitative research using the pre-experimental design method, type one group pretest-posttest design, which is a research activity that provides an initial test (pretest) before being given treatment, after being given treatment, then giving a final test (posttest). This research was carried out on 50 cadres in the working area of the Putri Ayu Community Health Center, Jambi City.

## RESULTS AND DISCUSSION

The community service activity, education for TB cadres regarding health promotion for the TB program and screening of pulmonary TB patients, was carried out in the meeting hall of the Putri Ayu Community Health Center. The resource person for this activity was a lecturer at the Jambi Ministry of Health Polytechnic who was involved in the Community Service Team. Apart from that, the implementation of this activity was assisted by 2 level III students from the Jambi Ministry of Health Polytechnic, majoring in Medical Laboratory Technology.

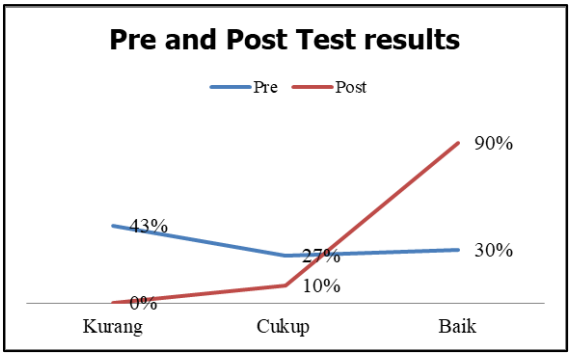
Participants were attended by representatives of posyandu cadres from five sub-districts, namely Legok, Solok Sipin, Sei Putri, Selamat and Murni sub-districts . The number of cadres who took part was 30 cadres. Cadres who take part in community service activities are Pos Yandu cadres. Cadre characteristics are seen from age The average

age of cadres is 46 years and the youngest age range is 31 years and the oldest is 5-7 year .

The series of educational events was carried out at an opening ceremony by the Head of the Community Health Center represented by the TB program holder . After the opening, cadres were given an explanation for filling out the pretest questionnaire. The instrument used is a knowledge questionnaire created based on the material that will be presented in educational activities. The purpose of the pretest is to determine the extent of cadres' knowledge about TB. Next, education was carried out by providing material through presentations by resource persons and using videos using each cadre's cellphone. The material provided is about the causes of TB disease, symptoms of TB disease, how TB disease is transmitted, risk factors for TB disease, early detection of TB disease, actions that must be taken when suspecting TB and prevention of TB disease . The cadres were very enthusiastic in participating in the counseling . Cadres asked many questions about TB. The enthusiasm of the cadres in participating in this education cannot be separated from the role of the Putri Ayu Community Health Center which provided enormous support in motivating the team and cadres to be able to carry out this activity.

After all the material has been presented and there is discussion between the resource persons and cadres. Posttest was carried out. The purpose of the pretest and posttest is to determine the understanding of the cadres. Increased knowledge can be seen from the differences in knowledge before and after being given material education. Therefore, the pre-test and post-test carried out provide an overview of the changes, whether they have increased or remained constant.

The results of the pretest and posttest for cadre education about tuberculosis in the working area of the Putri Ayu Community Health Center can be seen in the picture below:




**Graph 1.** Pre and Post Test Results

The graph above shows that in the pretest the majority of cadres had good knowledge ( 30 %) and a small portion had poor knowledge ( 43 %). From the pretest results, it is known that the average cadre does not understand the symptoms of TB disease, how to diagnose it and how TB disease is transmitted. However, most people already understand that the cause of disease is bacteria. The posttest results showed an increase in the percentage of e- cadres who had good and sufficient knowledge. In the posttest, there were no cadres who had insufficient knowledge. The results of data analysis show that cadre scores before education and after education have increased. The mean knowledge score before training was 57.4 and after training it increased to 75.2 . The results of outreach activities for cadres in the working area of the P Utri Ayu Community Health Center show a level of success with indications of a positive response from cadres by showing increased knowledge through pre and posttest methods during training . From the results of the pretest and posttest through T-test measurements for paired samples, a significance value or p value of 0.000 ($p < 0.005$) was obtained, meaning that there was a significant difference between the knowledge scores of health cadres before and after participating in the training.

Likewise regarding the use of applications on cellphones that contain videos and digital slides. At first the cadres were a little confused about using them, but after being taught they started to understand how to use them. This can be seen by them practicing

it several times and feeling satisfied when they can use it and feeling confident and willing to educate the public. After the educational activities have been completed, it is hoped that cadres will be able to screen for TB suspects in their respective areas.

## CONCLUSION

Activities for cadres about tuberculosis in the working area of the Putri Ayu Community Health Center have proven to be useful and can increase cadres' knowledge significantly. Using video media and digital Liefflate is felt to be more practical as a medium for promotion to the public in general and more specifically to TB patients.

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## CONFLICT OF INTEREST

The author affirms the absence of any conflict of interest.

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