

## Strengthening Tuberculosis Prevention Cadres at Al-Hidayah Islamic Boarding School, Kota Baru Jambi

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### ABSTRACT

Possible risk factors for tuberculosis include population factors (age, sex, nutritional status, family role, income level, education level), home environment factors (ventilation area, occupancy density, lighting intensity, floor type, house humidity, temperature and wall type), behavior (habit of opening windows every morning and smoking habit) and contact history. According to WHO, adolescents are residents in the age range of 10-19 years, according to the Indonesian Minister of Health Regulation Number 25 of 2014, adolescents are residents in the age range of 10-18 years and according to the Population and Family Planning Agency (BKKBN) the age range of adolescents is 10-24 years and unmarried. There is a risk of transmission to students at the Al-Hidayah Modern Islamic Boarding School located on Jl. Marsda Surya Dharma KM. 10 Kenali Asam Bawah Jambi City.

## **INTRODUCTION**

Based on the Health Law number 36 of 2014 concerning health, it is stated that Indonesia's National Development aims to develop Indonesian people as a whole and all Indonesian people in achieving a just and prosperous society. Meanwhile, development in the health sector aims to improve the quality of human life and the degree of public health in the aspects of prevention, healing and recovery of disease (Kemenkes RI, 2012). Tuberkulosis paru merupakan penyakit yang disebabkan oleh *Mycobacterium tuberculosis* dan menular langsung melalui droplet orang yang telah terinfeksi kuman atau basil tuberkulosis. Kuman tuberkulosis masuk ke dalam tubuh manusia melalui udara yang dihirup ke dalam paru, kemudian dapat menyebar ke bagian tubuh lain melalui peredaran darah, sistem saluran limfe, melalui saluran pernafasan (Notoatmojo, 2011).

World Health Organization (WHO). 2014, states that tuberculosis (TB) is still a major problem in most countries in the world and has not succeeded in controlling tuberculosis so that there is still a low rate of recovery of tuberculosis sufferers which has an impact on the high level of transmission. TB cases in the world are estimated at 9 million people sick with TB and 1.2 million deaths. India, Indonesia and China account for 23%, 10% and 10% of the world's TB patients, respectively. Tuberculosis kills nearly 1 million women every year. The 2006-2015 Stop TB Strategy program was achieved and the 2016-2030 global TB program is the End TB Strategy (WHO, 2015).

According to Minister of Health Regulation No. 67 Article 6 Year 2016 on tuberculosis control, the implementation of tuberculosis control is carried out through health promotion activities, surveillance of tuberculosis, control of risk factors, discovery and treatment of tuberculosis cases, provision of immunity and provision of preventive drugs. From these activities, the MDGs indicator for tuberculosis in Indonesia is currently only the target of reducing the incidence rate that has been achieved. Therefore, puskesmas as the health facility closest to the community is expected to improve the pulmonary tuberculosis prevention program with various efforts and in collaboration with various partnerships to find cases of tuberculosis and immediately treat them until they recover (Ministry of Health, 2016).

Based on data from the Ministry of Health in 2021, there are an estimated 824,000 people with TB, 443,235 TB cases notified, 54% of patients who received treatment (TC), 8,268 confirmed RR / MDR TB, 5,082 enrollment cases of TB.RR / MDR. TB cases in children amounted to 42,187 people, 8,344 people with HIV. The treatment success rate is 86% with a total of 15,186 deaths.

Fanny AA Putri (2017) in her research at the boarding school concluded that the variable that most influenced the practice of PHBS to prevent Lung Tuberculosis disease in students was knowledge ( $p=0.0001$ ) with an OR value of 13.713. Winda Parlin and Rasoel Hamidy, (2021). In his research at the Islamic Boarding School concluded that, the risk factors for TB transmission found in the most dominant santri rooms were occupancy density, poor room sanitation and inadequate ventilation. The room remains at risk because of the poor behavior of the students. Santri are accustomed to covering the ventilation with cloth and

hangers so that air and sunlight cannot enter the room. Indah Anggraini, Basaria Hutabarat. (2019). In her research at the boarding school concluded that gender, education, length of stay, knowledge, and attitude were significantly related to tuberculosis disease.

Based on the above research, possible factors that are at risk of tuberculosis disease include population factors (age, gender, nutritional status, family role, income level, education level), home environment factors (ventilation area, occupancy density, lighting intensity, floor type, house humidity, temperature and wall type), behavior (habit of opening windows every morning and smoking habits) and contact history. According to WHO, adolescents are residents in the age range of 10-19 years, according to the Indonesian Minister of Health Regulation Number 25 of 2014, adolescents are residents in the age range of 10-18 years and according to the Population and Family Planning Agency (BKKBN) the age range of adolescents is 10-24 years and not married.

Al-Hidayah Modern Islamic Boarding School is located on land owned by the Jambi Provincial Government covering an area of 16.5 ha which was built for educational facilities and agricultural land for student practice located on Jl. Marsda Surya Dharma KM. 10 Kenali Asam Bawah Jambi City. Various facilities are available at Al-Hidaya Islamic Boarding School including student dormitories. Based on the analysis of the situation that has been stated, various possible Partner Priority Problems are obtained, among others, the lack of understanding of students about Pulmonary Tuberculosis disease in Ponpes Al\_Hidayah Jambi, the absence of activities and strengthening of Pulmonary Tuberculosis prevention cadres in Ponpes Al-Hidayah Jambi.

## **IMPLEMENTATION AND METHODS**

### **Program Implementation**

In implementing this activity program using quantitative descriptive methods. To achieve the objectives of this community service activity, several approach methods are used:

1. Approaches were made by seeking policy support from the leadership of the local boarding school, the City Health Office and the health center as well as health clinic staff at the boarding school.
2. Conduct advocacy and coordination meetings with the leadership of the boarding school. City Health Office, Paal X Community Health Center, and health clinic staff.
3. The team made a work plan and schedule of activities that were agreed upon and adjusted to the conditions and situation at Al-Hidayah Islamic Boarding School.
4. Together conduct monitoring and evaluation of the activities that have been carried out.

### **Implementation of Community Service**

1. Conducting education, namely the lecture method used in the delivery of materials on understanding environmental risk factors regarding Pulmonary Tuberculosis with resource persons from the activity implementation team to provide solutions to students about physical environmental risk factors that cause Pulmonary Tuberculosis disease with the target of all new students at Ponpes Al-Hidayah Jambi. After being given, it is expected that students understand about physical environmental factors as a cause of Pulmonary Tuberculosis disease. The method used was discussion and question and answer. Media used Power point, sanitarian kit tools / instruments. After the education was given, Determination of Lung Tuberculosis Cadre Candidates through pretest test.
2. Together with the activity implementation team with students who were selected to become Lung Tuberculosis prevention cadres, the cadres carried out prevention activities by being able to explain Lung Tuberculosis prevention activities to other students using practical methods and field visits which were carried out once a month.
3. Strengthening Lung Tuberculosis disease control cadres is carried out with the target of Santri who are selected as Lung Tuberculosis disease prevention cadres with the aim that after being given education, practice, santri understand how to prevent Lung Tuberculosis disease prevention and are able to explain how to prevent the spread of Lung Tuberculosis disease and are able to coordinate and manage the physical environment of the dormitory.

### **Forms of Partner Participation**

The partners in the community service activities of the Community Partnership Program are 50 students at the Al-Hidayah Modern Boarding School in Jambi. After attending training on the prevention of pulmonary tuberculosis, the students become facilitators for other students to invite and socialize the prevention of pulmonary tuberculosis. As for what is done in this activity are:

1. The cadre gathers other students to take part in the prevention of pulmonary tuberculosis in the boarding school.
2. Prepare the meeting place and supporting equipment needed.
3. Provide information about the implementation of pulmonary tuberculosis prevention.
4. Prepare an evaluation together with the community service team.

The benchmark for the successful implementation of this activity is the increase in knowledge and understanding of the community about the prevention of pulmonary tuberculosis. Details are specified in :

1. Input Indicator
  - a. Stake holder support and commitment.
  - b. The availability of students who become cadres for the prevention of pulmonary tuberculosis disease
  - c. The existence of media and equipment.
2. Indikator proses
  - a. Joint planning of pulmonary tuberculosis prevention activities
  - b. Socializing the prevention of pulmonary tuberculosis disease with the approach of the boarding school leaders and what behaviors must be carried out by students in Ponpes.
  - c. Practicing prevention of pulmonary tuberculosis in the ponpes dormitory environment in daily life.
3. Indikator Output
  - a. Increased knowledge and understanding of students about the prevention of pulmonary tuberculosis.
  - b. Promotive and preventive, especially on several partner problems, including improving the prevention of pulmonary tuberculosis and environmental sanitation conditions, and increasing santri access to environmental health infrastructure

Target output: Al-Hidayah Islamic Boarding School, and Health Clinic Officers, and 50 students.

## **RESULTS AND DISCUSSION**

Education and increased knowledge on the prevention of Pulmonary Tuberculosis (TB) is essential to reduce infection rates and improve public health. Some key aspects of pulmonary TB prevention education are the causes, symptoms, and modes of transmission of TB, which is caused by the bacterium *Mycobacterium tuberculosis* and usually affects the lungs. TB symptoms include informing students about symptoms such as prolonged cough, weight loss, fever, and night sweats. Through effective education and increased knowledge about Pulmonary TB, it is hoped that the santri community in ponpes can be more vigilant and take preventive measures, thereby reducing the spread of this disease and improving overall quality of life. Preparation and meeting with the leaders and managers of Al-Hidayah Islamic boarding school in Jambi, in planning for meeting activities with students.



**Figure.1 Coordination of Preparation for the Implementation of Strengthening Pulmonary Tuberculosis Prevention Cadres**

Educational activities in the form of understanding of pulmonary tuberculosis disease is the knowledge of students about the understanding of pulmonary tuberculosis disease and the factors that cause the incidence of pulmonary tuberculosis disease and how to prevent the spread of pulmonary tuberculosis disease, educational activities are carried out to all new students at the Al\_Hidayah Islamic Boarding School in Jambi



**Figure.2 Edukasi Kepada Santri Tentang Pencegah Tuberculosis Paru**

Based on the results of Understanding Pulmonary Tuberculosis Disease, that the knowledge of students on the understanding of pulmonary tuberculosis disease and the factors that cause the incidence of pulmonary tuberculosis disease and how to prevent the spread of pulmonary tuberculosis disease as much as 84% good understanding. Knowledge is the result of knowing that occurs after a person senses a certain object. The sensing process occurs through the human five senses, namely the senses of sight, hearing, smell, taste and touch. Knowledge or cognitive domain is a very important domain in shaping a person's actions. Knowledge that is included in the cognitive domain has six levels, namely knowing, understanding, application, analysis, synthesis, and evaluation.

### **Pulmonary Tuberculosis Prevention Activity Training**

Pulmonary Tuberculosis Prevention activities are the skills of students in explaining the causes of Pulmonary Tuberculosis disease, how to prevent the spread of Pulmonary Tuberculosis disease and coordinate and manage the physical environment of the dormitory. The activities are in the form of the ability / skills of students to explain Lung TB disease, the ability / skills of students to explain the prevention of Lung TB disease and the skills / skills of students to communicate with other students.



**Figure.3 Santri's Ability to Explain the Prevention of Pulmonary Tuberculosis**

**Knowledge Base:** A good student has a strong understanding of the material being taught, both in terms of theory and practice. This includes an understanding of texts, as well as important concepts in science. **Concept Linkage:** The student is able to connect the various concepts taught, thus providing a more comprehensive explanation.

### **Communication Skills or Speaking Skills**

Santris need to have good speaking skills, including the use of clear language that is easily understood by the audience by using concrete examples or relevant analogies to explain complex concepts, making them easier to understand.

Students' skills are trained to use various teaching methods, such as lectures, discussions, and Q&A, to explain the material effectively. The ability to interact and answer questions from the audience is also important, helping to clarify understanding and create an active discussion atmosphere. Good santri listening skills are able to listen carefully to questions or responses from others, so as to provide explanations that are relevant and according to the needs of the audience as well as empathetic and responsive to understand the needs of the audience and adjust explanations based on the feedback received.

With these abilities, santri are not only able to explain the material well, but also act as agents of change in the community, spreading knowledge and positive values to others.

Based on the results of skills in preventing pulmonary TB, 72% of students have good skills. It is very important and very necessary in the delivery of information. Important basic skills that must be owned and fundamental, to help activities run well are:

- a. Quickly absorbing new lessons, even if you have graduated from school or college, this does not necessarily make someone stop learning. After that phase of life, one demands to quickly learn new things. The passion and enthusiasm to learn will shape one's character to be more flexible and open-minded to new things.
- b. Adaptability is certainly important to hone, especially since the arrival of the pandemic era like today. In these critical times, your ability to absorb new things, respond to crises, and develop innovative ideas is sharpened. Good adaptability allows your work productivity to be uninterrupted even in the midst of different work situations
- c. Persuasive is a form of communication that aims to influence and convince others. Where, your persuasive communication can be considered successful if it is able to influence the expectations and beliefs of others. In teams, persuasive communication is needed to be able to convince others with the ideas put forward.
- d. Good presentation and communication skills, i.e. the ability to be able to persuasively present new ideas, actively discuss work progress, establish good communication with teams, clients, and other stakeholders, to skillfully handle problems can be an attraction.
- e. Teamwork Skills i.e. In work, it is not only required to be a good individual, but also part of a good team. They understand the value of input provided by all team members, enjoy brainstorming sessions, and thrive on helping others because they realize it will only help the team deliver the best results.

## **Monitoring Activities**

Surveillance activities are the process of monitoring behavior towards risk factors that can allow as a medium for the spread of Pulmonary Tuberculosis disease with the aim of ensuring that an activity, program, or system runs according to predetermined plans and standards. This activity is important in various fields, including management, education, health, and government. Here are some important aspects of monitoring activities:

### **Purpose of Supervision**

- a. **Ensuring Compliance**  
Ensure that all activities comply with applicable regulations, policies, and procedures.
- b. **Improving Quality**  
Identifying and correcting deficiencies in processes or products, so that the quality of results can be improved..
- c. **Decision Making**  
Provides the information needed to make better decisions in planning and implementing activities..

### **Types of Supervision**

- a. **Internal Monitoring**  
Conducted by members within the organization or institution itself to ensure compliance with internal procedures.
- b. **External Oversight:**  
Performed by outside parties, such as auditors or inspection agencies, to evaluate performance and compliance.
- c. **Preventive Supervision**  
Conducted before activities begin to prevent errors or irregularities from occurring.
- d. **Reactive Monitoring:** Conducted after the occurrence of an event or error to evaluate and provide solutions.

### **Supervision Process**

- a. **Planning**  
Determining the aspects to be supervised, the criteria, and the supervision methods to be used.
- b. **Implementation**  
Conduct the supervision as planned, including data collection, observations and interviews.
- c. **Evaluation**  
Analyze the data obtained to assess performance and compliance with standards.
- d. **Reporting**  
Preparing a report describing the results of the supervision, including recommendations for improvement where necessary.

### **Supervision Tools and Methods**

- a. Direct Observation  
Observing activities directly to evaluate implementation.
- b. Interview:  
Speaking with relevant parties to obtain additional information.
- c. Surveys and Questionnaires  
Collecting data from a larger group to get a more comprehensive picture.
- d. Audits  
Conducting a systematic examination of financial statements, procedures, and policies.

### **The Role of Supervision in Organizations**

- a. Increase Transparency  
Helps in creating a transparent environment, where all activities can be monitored and evaluated.
- b. Promotes Accountability  
Enforces individual or team responsibility for their performance.
- c. Minimizes Risks  
Identify potential problems early to reduce the risk of loss or failure.

Effective supervision activities are very important to maintain the integrity and efficiency of an organization, and ensure that the goals and mission of the organization are achieved properly. The results of activities in the form of behavior towards risk factors that can allow the spread of Pulmonary Tuberculosis disease, namely as many as 82% of students have behaved well such as opening windows every morning, regular exercise, washing hands with soap, not smoking and alcohol, consumption of nutritious food, but there are still some santri who regularly dry such as mattresses and pillows.

### **CONCLUSIONS AND RECOMMENDATIONS**

1. The implementation of understanding activities about Lung Tuberculosis disease with a good achievement of 84% shows that the education program held has succeeded in increasing participants' knowledge about this disease. With an 84% achievement, it can be interpreted that the majority of participants have understood the material presented well. This is important to increase public awareness about this infectious disease and minimize the stigma that often accompanies it. This success can also be the basis for planning similar activities in the future, with the hope of reaching a wider scope and increasing understanding further.
2. The implementation of Pulmonary Tuberculosis prevention activities with a 72% good achievement shows that efforts to increase public awareness and knowledge about the prevention of this disease have been successful, although there is still room for improvement. The activities included counseling, training, and information campaigns focused on preventive measures, such as the importance of regular health checks, wearing masks, maintaining hygiene, and boosting immunity. The 72% achievement indicates that the majority of participants have a good understanding of

prevention measures, but there are still some who may need further information or more effective approaches. This is an opportunity to evaluate the strategies used and find ways to reach people who do not fully understand the importance of preventing Pulmonary Tuberculosis.

The implementation of monitoring activities with an achievement of 82% good indicates that the efforts of monitoring and evaluation for a specific program or initiative have been effective. These monitoring activities cover various aspects, such as the implementation of policies, health programs, or disease prevention, including Pulmonary Tuberculosis. The achievement of 82% signifies that most of the indicators set for monitoring have been met. This reflects a high level of awareness and compliance among the participants or students involved. This success also demonstrates that the monitoring system applied is effective in detecting and addressing potential issues that may arise.

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