



Community Service Journal of Indonesia

Division of Research and Community Service
Kerta Cendekia Nursing Academy

<https://ejournal-kertacendekia.id/index.php/csji/index>

Community Service Journal of Indonesia 8 (1) (2026):

Doi: <https://doi.org/10.36720/csji.v8i1.851>

TUBERCULOSIS EDUCATION: INTRODUCTION, EFFECTIVE TREATMENT, AND SIDE EFFECTS AS AN EFFORT TO MAINTAIN INDIVIDUAL AND ORPHANAGE ENVIRONMENT HEALTH

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Received: January 5, 2026 ; Reviewed: June 11, 2026 ; Accepted: June 25, 2026

ABSTRACT

Indonesia still ranks second as the country with the most tuberculosis (TB) cases in the world. The increasing number of pulmonary TB patients in Indonesia is caused by unhealthy behaviors, such as families still using the same eating or drinking utensils, lack of lighting in the house, or patients spitting carelessly. One strategy is to find all TB cases and treat them until cured, to stop TB transmission. TB control efforts require the involvement of all sectors, including non-health. The behavior of caregivers in orphanages plays a very important role in reducing the risk of pulmonary TB transmission in children. On the other hand, orphanage residents, consisting of children and adolescents, often lack sufficient access or information about TB prevention and treatment. Based on this, this community service activity was conducted in the form of socialization about tuberculosis, including introduction, effective treatment, and side effects. The method used was counseling on TB disease, effective tuberculosis treatment, and how to avoid drug side effects. The number of participants was 16 people. The results showed a good increase in knowledge of 81.25%. Participants were very enthusiastic during the question and answer discussion session. Conclusion: The counseling activity successfully increased participants' knowledge and showed high enthusiasm, indicating that targeted education is very important in raising awareness about TB prevention and treatment.

Keywords: Anti-Tuberculosis Drugs (OAT); Knowledge; Side Effects; Treatment; Tuberculosis

INTRODUCTION

Indonesia still ranks second as the country with the most tuberculosis (TB) cases in the world. Based on the World Health Organization (WHO) in 2019, Tuberculosis (TB) is one of the infectious diseases that causes the highest mortality in the world. According to the Global TB Report 2024, Indonesia is the second country with the most tuberculosis cases, with 1,060,000 cases and a death rate reaching 134,000. The Head of the Surabaya Health Office stated that as of November 31, 2024, there were 10,741 TB cases (73.89%) found in Surabaya out of a target of 14,537 for 2024, including more than 1,300 cases in children aged 1-14 years.

The increasing number of pulmonary TB patients in Indonesia is caused by unhealthy behaviors. For example, families still using the same eating or drinking utensils, lack of lighting in the house, or patients spitting carelessly. Myths related to pulmonary TB transmission are also common, such as the belief that the cause is not direct contact with an infectious TB patient but is related to smoking, alcoholism, eating fried foods, sleeping on the floor, and sleeping late at night. Furthermore, there is a significant relationship between physical environmental factors (temperature, humidity, lighting, ventilation area, occupancy density) and health behaviors (knowledge, attitudes, and actions) with the incidence of pulmonary tuberculosis.

TB is a chronic, infectious, and deadly disease, with about 17 people per hour dying from TB. One strategy is to find

all TB cases and treat them until cured, so that TB transmission can be stopped. TB control efforts are a task for all parties, and the non-health sector must also be involved. The behavior of family or closest people, such as orphanage caregivers, in prevention plays a very important role in reducing the risk of pulmonary TB transmission in children. Orphanage residents, often children and adolescents, frequently lack sufficient access or information about TB, both in terms of prevention and treatment. Based on this, the proposing team conducted a community service activity in the form of socialization about tuberculosis, including introduction, effective treatment, and side effects.

OBJECTIVES

General Purpose

The general purpose of this community service activity is to equip the children and caregivers of the orphanage with the correct understanding of tuberculosis and its prevention and treatment methods.

Special Purpose

The specific purposes of this activity are:

1. To increase the knowledge of all orphanage residents regarding the introduction to Tuberculosis (TB) disease, effective treatment, and drug side effects.
2. To educate and train caregivers on how to detect TB disease early.
3. To equip caregivers with the knowledge and skills necessary to support the complete treatment of residents and manage potential drug side effects.

PLAN OF ACTION

Strategy Plan

The community service activity was divided into two main components:

1. Caregiver Education: This component was designed to train caregivers on:
 - a. Methods for early detection of Tuberculosis (TB).
 - b. Characteristics of TB disease.
 - c. How to handle residents infected with TB.
 - d. Assisting and supporting complete treatment completion.
 - e. Recognizing and managing potential Anti-Tuberculosis Drug (OAT) side effects.
2. General Counseling: This component provided counseling to all orphanage residents on TB disease, effective tuberculosis treatment, and how to prevent drug side effects. The resource person for the counseling was a lecturer from the Faculty of Medicine, UNUSA.

Implementation

The activity was a community service program focusing on early detection education for caregivers and a counseling program for all residents. The counseling focused on TB disease, effective tuberculosis treatment, and ways to avoid drug side effects. The activity was conducted offline in the meeting room, lasting approximately 1 hour. The resource person was a lecturer from the Faculty of Medicine, UNUSA.

A pre-test questionnaire was distributed before the counseling, and a post-test questionnaire was filled out after the session to measure knowledge improvement. The data from the pre-test and post-test values of the 16 student

participants were analyzed using Microsoft Excel and SPSS 21 statistical software. Knowledge scores were categorized into Good (76–100%), Sufficient (56–75%), and Poor (< 55%).

Setting

The activity was carried out at the Arrohyati Orphanage, which is under the auspices of the Arrohyati Foundation of Al Furqon Islamic Boarding School. The orphanage is an active social institution located on Jalan Kedurus IV Jambu, Surabaya. The distance from the Nahdlatul Ulama University of Surabaya Campus B to the Arrohyati Orphanage is 8.4 km.

Target

The target population of the orphanage consists of 15 foster children and 7 administrators/caretakers, totaling 22 individuals. The participants in the counseling/educational activity were 16 orphanage students/residents (santri).

RESULTS AND DISCUSSION

After the counseling, the orphanage residents showed a specific increase in knowledge. The evaluation results, based on the pre-test and post-test scores, were analyzed using the knowledge categories (Good, Sufficient, Poor).

Summary of Pre-test and Post-test Results (N=16):

Pre-test:

Good (76–100%)	: 1 respondent (6.25%)
Sufficient (56–75%)	: 5 respondents (31.25%)
Poor (< 55%)	: 10 respondents (62.5%)

Post-test:

Good (76–100%)	: 13 respondents
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(81.25%)
Sufficient (56–75%) : 3 respondents
(18.75%)
Poor (< 55%) : 0 respondents (0%)

The results show a clear increase in knowledge before and after the material presentation. To test for significance, the data was analyzed using the Shapiro-Wilk test, which indicated that both the pre-test (p-value = 0.002) and post-test (p-value = 0.000) data were not normally distributed ($p < 0.05$). Therefore, the non-parametric Wilcoxon Signed Ranks Test was used for further analysis.

The Wilcoxon test result showed a p-value of 0.000. Since the p-value is less than the significance level of 0.05, it indicates a significant influence and a positive difference between the variables before and after the intervention. This positive change is interpreted as an increase in the knowledge level of the orphanage residents regarding TB disease, effective treatment, and how to avoid drug side effects, compared to before the counseling.

CONCLUSION

The tuberculosis education program at Arrohyati Orphanage, Surabaya, proved effective in increasing the residents' knowledge about disease introduction, appropriate treatment, and understanding of drug side effects. The participants' high enthusiasm, active involvement in discussions, and the significant increase in pre-test and post-test results demonstrate the success of this activity in building health awareness.

For sustainability, it is recommended that health education, particularly concerning tuberculosis, be integrated as a routine program within the orphanage, supported by cooperation with local health service

facilities. This continuous effort will ensure that knowledge and vigilance against tuberculosis are maintained, thus better protecting the health of both individuals and the orphanage environment.

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