

Educational Pocket Book on Medication Compliance and Tuberculosis Transmission Prevention in Patients at Simpang Lima Gumul Regional Hospital, Kediri

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Abstract. Tuberculosis (TB) remains a global health problem with a high number of cases and low patient adherence to treatment. Health education is needed to improve treatment adherence and prevent TB transmission. This study aims to analyze the implementation of a pocketbook education on treatment adherence and transmission prevention in TB patients at Simpang Lima Gumul Regional Hospital, Kediri. This study used a qualitative descriptive approach with a SWOT analysis method. The study population consisted of TB patients and health workers at Simpang Lima Gumul Regional Hospital, Kediri, with samples selected using a purposive sampling technique. The research instruments included interview guidelines, observation sheets, documentation, and pre- and post-tests. Data analysis was carried out through data reduction, data presentation, conclusion drawing, and SWOT analysis. The results showed that health education using a pocketbook media increased the level of patient understanding from 20%. The results showed that the level of patient knowledge and adherence was in the good category with an average of 77.5%. Approximately 75–80% of respondents showed an increase in understanding after being provided with education. The SWOT analysis showed that the SO strategy was the main approach through optimization of educational media, support for national programs, and family involvement. The conclusion of this study is that education through pocket books is effective in increasing patient knowledge regarding treatment compliance and preventing TB transmission, thus supporting the success of TB treatment and control in hospitals.

Keywords: Education Through Booklets, Medication Compliance, Patient Education, Tuberculosis Prevention, Tuberculosis Transmission

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INTRODUCTION

Tuberculosis (TB) remains a serious global health problem and a leading cause of death from infectious diseases. Caused by *Mycobacterium tuberculosis*, the disease is transmitted through droplets of saliva and has a significant impact on public health. A World Health Organization report indicates that by 2023, there will be approximately 10.8 million TB cases, with a death toll reaching 1.25 million worldwide. Indonesia is among the countries with the highest TB burden in the world, so TB control remains a national priority (Dheda et al., 2022; MacNeil et al., 2023; Farnia et al., 2025).

In Indonesia, the high number of TB cases is influenced by low health literacy, population density, and suboptimal treatment adherence (Santosa et al., 2025; Islam et al., 2024; Falefi et al., 2023; Afifa et al., 2025; Ruru et al., 2018; Aisyah et al., 2020; Nurafni et al., 2026). East Java is one

of the provinces with the highest number of TB cases, with 78,799 cases in 2022. At Simpang Lima Gumul Hospital in Kediri alone, 1,123 TB cases were recorded in 2025. This condition indicates that some patients are still non-compliant in taking anti-TB drugs and do not understand transmission prevention properly (Sari et al., 2022; Boru et al., 2017; Aziz et al., 2019; Syahadat et al., 2025).

Various studies have shown that health education plays a crucial role in improving TB patient adherence to treatment. Nugroho et al. (2022) stated that health counseling can improve adherence to over-the-counter (OTC) anti-TB medications, while Fitriani and Handayani (2023) found that educational media effectively increased patient knowledge about TB transmission prevention. Furthermore, interpersonal education can also increase patient motivation to complete treatment (Aung et al., 2021; Haverfield et al., 2020; Jotterand et al., 2016).

However, several studies have shown mixed results regarding the effectiveness of health education. Increased patient knowledge is not always followed by behavioral changes due to factors such as family support, economic conditions, and social stigma (Rahmawati et al., 2022; Tola et al., 2021; Iturralde et al., 2021; Mogre et al., 2019; Taylor et al., 2018; Javed et al., 2021). Furthermore, most studies focus solely on medication adherence without simultaneously examining infection prevention behaviors (Putra et al., 2023; McCauley et al. 2021; Amico et al., 2018; Rich et al., 2015).

Based on these conditions, there remains a gap in research related to health education that integrates treatment adherence and TB transmission prevention in hospitals. At Simpang Lima Gumul Hospital in Kediri, health education has been implemented, but it has not been optimally and sustainably implemented. As a result, patients are still found to be poorly compliant with treatment and do not fully understand transmission prevention measures.

Therefore, this study aims to analyze the implementation of health education on medication adherence and transmission prevention among TB patients at Simpang Lima Gumul Hospital in Kediri. This research is crucial for supporting treatment success and reducing the risk of TB transmission. The uniqueness of this study lies in its educational approach, which simultaneously integrates medication adherence and transmission prevention within the context of hospital services.

METHODS

This study used a qualitative descriptive approach with a SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis method to analyze the implementation of health education on treatment adherence and TB transmission prevention at Simpang Lima Gumul Hospital, Kediri. The qualitative approach was used to understand conditions and problems in depth based on the experiences of informants. The SWOT analysis was used to identify internal and external factors in developing more effective health education strategies (Creswell, 2021; Miller et al., 2022). The research instruments included interview guidelines, observation sheets, and documentation. Interviews were conducted with TB patients and healthcare workers to obtain information on adherence to anti-TB treatment and the implementation of health education. Data analysis was conducted through data reduction, data presentation, and conclusion drawing, followed by a SWOT matrix analysis to determine program strategy (Sugiyono, 2022; Miles et al., 2021). The study population consisted of TB patients and healthcare workers at Simpang Lima Gumul Hospital in Kediri. The sample was selected using purposive sampling based on specific criteria, such as patients undergoing TB treatment and healthcare workers involved in patient education. This technique was used to obtain more in-depth data and align with the research objectives (Sudaryono, 2021; Ahmed et al., 2025). The research process began with problem identification through initial observation, followed by data collection through interviews, observation, and documentation. The data was then analyzed using a SWOT matrix to determine appropriate health education strategies. The final stage involved drawing conclusions and recommendations for health education programs to support TB control in hospitals (Emzir, 2022; Migliori et al., 2022).

RESULT AND DISCUSSION

Evaluation

Based on observations during the first week of residency in February 2026 at Simpang Lima Gumul (SLG) Regional Hospital in Kediri, a problem was identified that required further analysis: the suboptimal implementation of health promotion to improve treatment adherence and prevent transmission in tuberculosis (TB) patients. The health education provided was unstructured and did not fully involve patients and their families, potentially impacting treatment success and TB transmission control efforts. The distribution of patient knowledge and compliance levels after being given pocket book education can be seen in the following table:

Table 1. Distribution of Respondents Based on the Adequacy of the Intervention

Category	Amount	Presentation
Good	15	77%
Not Enough	2	8%
Enough	3	15%

Based on the table, the majority of respondents were in the good category (77.5%), which shows that education using printed pocket book media contributed to increasing patient understanding and compliance.

Analysis of Factors Causing Suboptimal Health Promotion in Increasing Treatment Compliance and Preventing Transmission in Tuberculosis (TB) Patients at Simpang Lima Gumul (SLG) Regional Hospital, Kediri, Using Fishbone Analysis.

Identification of problems in this residency report uses fishbone analysis, namely by determining the main problem as part of the head of the fish, then identifying various factors that may be the cause of the problem, which are described as fishbones. The main problem analyzed was the suboptimal implementation of health promotion in increasing treatment compliance and preventing transmission in TB patients.

The fishbone diagram analysis used in this report includes several components: people, materials, methods, money, and markets. Each component is analyzed to identify factors contributing to the TB health promotion problem. Next, based on the results of the fishbone analysis, alternative solutions are determined to address the existing problems using USG analysis (Urgency, Severity, Growth) to. Determine the priority of problems that most need to be addressed through health promotion interventions.

A study of suboptimal discharge planning in improving self-care for tuberculosis patients was categorized using the 5M approach, which includes people, methods, materials, money, and markets. The study results showed that each component of the 5M contributed to the problem. In the Man component, patient family involvement is still low, indicating that family participation in supporting patients' self-care after discharge remains limited.

In the Method component, several problems were identified, including the absence of a predetermined education schedule, the use of educational methods that are still predominantly one-way, and suboptimal evaluation of patient understanding. These conditions may limit the effectiveness of discharge planning because patients may not receive education consistently and healthcare professionals may have difficulty determining whether patients have adequately understood the information provided.

In the Material component, the educational materials have not been adapted to the patient's education level. This condition may make it difficult for patients to understand and apply the information provided, particularly when the materials contain medical terminology or instructions that are not appropriate for their level of health literacy.

In the Money component, funding priorities are more directed towards curative services. This condition may result in preventive and promotive activities, including discharge planning

and patient education, receiving less financial support compared with curative healthcare services.

In the Market component, several factors were identified, including varying levels of patient health literacy, the continued presence of stigma against tuberculosis (TB), and the risk that the home environment may become a place of transmission. In addition, low awareness of infection prevention remains a concern, potentially increasing the risk of TB transmission within families and the wider community (Etim et al., 2024; Martinez et al., 2019; Sulistyono et al., 2020; Abi et al., 2024).

Determining Priorities to Solve the Problem of Suboptimal Patient Discharge Planning for Self-Care in the Surgical Room of Otanaha Regional Hospital Using Ultrasonography Analysis (Urgency, Severity, Growth)

Based on the fishbone diagram that has been created regarding suboptimal health promotion in increasing compliance with taking medication and preventing transmission in Tuberculosis (TB) patients in At Simpang Lima Gumul Regional General Hospital (SLG) in Kediri, several factors causing the problem can be identified as follows: (1) Low level of knowledge of patients and families regarding TB disease and the importance of compliance in taking medication; (2) Lack of role And support family in the Monitoring TB patient treatment compliance; (3) The patient did not comply with the schedule and rules that had been set for taking TB medication; (4) Education for patients during treatment has not optimally emphasized preventing TB transmission; (5) There is still a stigma against TB in the patient's environment; (6) Patients and families do not fully understand cough etiquette and mask use; (7) Patients and their families are willing to participate in health education activities related to medication adherence and prevention of TB transmission; (8) There is support for a national TB control program that can support health promotion activities.

Based on the identification of the factors causing the problems that have been recorded in the problem of suboptimal health promotion in increasing medication adherence and preventing transmission of TB patients through fishbone analysis, the next step is to determine the priority of the problem using the USG method (Urgency, Seriousness, Growth). Based on the results of the USG analysis in the table above, it can be concluded that the problem that needs to be prioritized in its resolution is the low level of knowledge of patients and their families regarding compliance with taking medication and preventing the transmission of Tuberculosis (TB), because it has the highest level of urgency, seriousness, and potential for problem development compared to other factors.

Identification of Problem-Solving Strategies for Suboptimal Health Promotion in Improving Treatment Compliance and Preventing Tuberculosis (TB) Transmission in Patients at Simpang Lima Gumul (SLG) Regional Hospital, Kediri, Using SWOT Analysis (Strengths, Weaknesses, Opportunities, Threats)

Based on the identified priority issues, the intervention plan for this residency activity was analyzed using a SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis. A SWOT analysis is used to examine internal and external factors influencing health promotion efforts, thus enabling the formulation of targeted and effective problem-solving strategies. The following is a problem-solving analysis that can be conducted based on the results of the SWOT analysis.

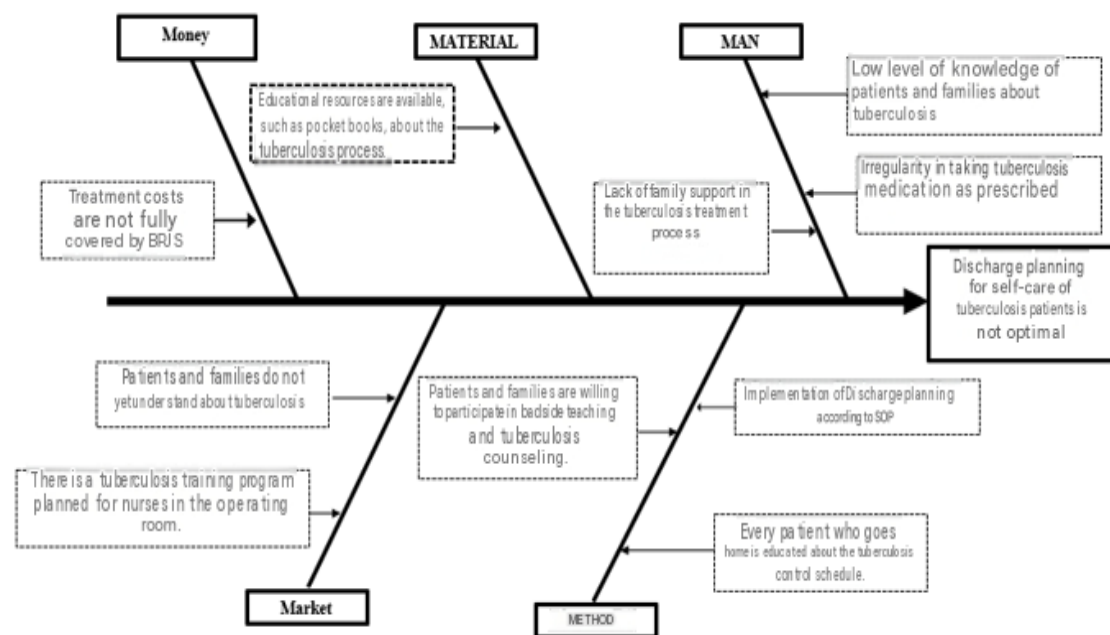


Figure 1. Discharge Planning

Based on the results of the SWOT analysis assessment and weighting, the strength value is 39 and the opportunity value is 33, which indicates that the TB health promotion intervention strategy is more directed at utilizing strengths and opportunities (SO strategy) to increase treatment adherence and prevent transmission in TB patients.

After scoring and weighting each dimension of the Aggressive Strategy (SO) quadrant, weaknesses are addressed by enhancing existing opportunities and chances. Based on the SWOT analysis assessment to prioritize problem-solving strategies, the intervention plan for this residency activity is to implement bedside teaching and health education on medication adherence and TB transmission prevention using educational media such as pocket books. With this intervention, it is hoped that health promotion efforts can run optimally, thereby increasing the success of TB treatment and controlling TB transmission at Simpang Lima Gumul (SLG) Regional Hospital in Kediri.

Improvement Analyst

There was an increase in the level of knowledge of respondents after being given health promotion regarding compliance with taking medication and preventing the transmission of Tuberculosis (TB).

The number of respondents who understood increased from 4 people (20%) at that time. *Pre-test* to 16 people (77.5%) at the time of the post-test. Thus, there was an increase of:

$$78\% - 20\% = 58.5$$

This means that there was an increase in understanding of % after the health promotion intervention was carried out.

CONCLUSION

The results of the study showed that health education using a pocket book media on adherence to treatment and prevention of Tuberculosis (TB) transmission at Simpang Lima Gumul Regional General Hospital, Kediri, was able to significantly improve patient understanding. Based on the results of the pre-test and post-test, the level of patient understanding increased from 20% to 77% after being given a health promotion intervention. The SWOT analysis also showed that an aggressive strategy (Strengths-Opportunities) was the most appropriate approach in strengthening the TB education program through utilizing national program support,

educational media, and the involvement of health workers and patients' families. These findings confirm that health education carried out in a structured and sustainable manner can support increased adherence in taking Anti-Tuberculosis Drugs (OAT) and strengthen TB transmission prevention behavior in patients and families.

SUGGESTIONS

However, this study still has limitations, including the relatively limited number of respondents and the study was conducted in only one hospital, so the results cannot be widely generalized. Furthermore, this study focused more on improving patient knowledge and did not evaluate long-term behavioral changes. Therefore, further research is recommended using a larger sample size, involving multiple health facilities, and measuring the effectiveness of education on treatment adherence and transmission prevention over a longer period. Practically, the results of this study can serve as a basis for hospitals in developing health promotion programs based on educational media such as pocketbooks, brochures, and bedside teaching to improve treatment success and support sustainable TB elimination programs.

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