

FAMILY SUPPORT IN PREPAREDNESS TO PREVENT PULMONARY TB TRANSMISSION

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ABSTRACT

Pulmonary tuberculosis (TB) is an infectious disease that is a global health problem. Prevention of pulmonary TB transmission requires the active role of the family in providing support that contributes to preparedness to prevent transmission. Family support is considered important in building an environment that supports recovery and prevents the spread of TB. This study aims to identify the relationship between family support and preparedness in preventing pulmonary TB transmission in families of TB patients. Methods: This study used a quantitative design with a cross-sectional approach. A total of 100 family respondents of pulmonary TB patients in the working area of Puskesmas X were involved through purposive sampling method. Data were collected using a structured questionnaire and analyzed with the chi-square statistical test to see the relationship between variables. Results: The results showed that most families of patients with good family support had a higher level of preparedness in preventing pulmonary TB transmission ($p < 0.05$). Emotional support and information from the family were the dominant factors influencing preparedness. Conclusion: Family support plays a significant role in improving preparedness to prevent pulmonary TB transmission. Family-based interventions, such as education and counseling, can be an effective strategy to improve family preparedness in dealing with this disease.

Keywords: : Family support, preparedness, pulmonary TB, prevention, patient's family

INTRODUCTION

Pulmonary tuberculosis (TB) remains a global health problem, especially in developing countries. According to a World Health Organization (WHO) report, Indonesia is among the 10 countries with the highest TB burden in the world. The disease has a significant impact not only on the infected individual but also on the surrounding family and community. The rapid and widespread transmission of TB through droplets when coughing or sneezing makes prevention a key step in controlling the disease (WHO, 2023). The incidence of pulmonary TB is one of the health burdens, especially in developing countries including Indonesia. The World Health Organization (WHO) states that more than half of the population with pulmonary TB are in 7 countries namely India, Indonesia, China, Philippines, Nigeria, Pakistan, and South Africa. The number of people with pulmonary TB in Indonesia is the fourth highest in the world

so that pulmonary TB is a major public health problem today. (World Health Organization, 2021). Families play an important role in preventing pulmonary TB transmission (Depkes RI, 2023). Family support can increase awareness, adherence to treatment, and encourage the implementation of clean and healthy living behaviors (PHBS). Family support includes emotional aspects, information, as well as instrumental support, such as assisting access to health services. Studies show that individuals with good family support have higher rates of successful treatment and prevention of transmission compared to those who do not receive optimal support. Families have a central role in supporting the prevention of pulmonary TB transmission, both through providing emotional, informational, and instrumental support. Lack of family support can worsen the patient's condition, increase the risk of transmission, and reduce treatment success. Therefore, research is needed to understand the extent to which family support influences preparedness to prevent pulmonary TB. Family preparedness to prevent pulmonary TB involves an understanding of the disease, knowledge of modes of transmission, and preventive measures that can be taken, such as good home ventilation, cough etiquette, and mask wearing. However, several obstacles such as lack of information, social stigma, and low access to health facilities often hinder the implementation of these preventive measures. Therefore, it is important to identify and strengthen the role of the family as a key element in preventing pulmonary TB transmission (Yusra R, 2022). Research shows that family support, such as supervision in taking medication regularly, providing nutritious food, and maintaining environmental hygiene, can improve the effectiveness of TB treatment while preventing the spread of infection to other family members. In addition, family support in providing an understanding of the social stigma against people with TB is also important to ensure that patients do not feel ostracized, which can affect treatment success. Through a family-based approach, Lung TB prevention programs can be more effective because the interventions are comprehensive and sustainable (Septiyono and Wahyudi, 2020). Efforts to improve family preparedness can also be made through integrated health education programs, community-based approaches, and collaboration between health workers and families. Thus, family empowerment is an essential strategy in controlling pulmonary TB transmission, especially at the household and community levels (Nurhayati R, 2021).

METHOD

This study used a quantitative design with a cross sectional approach with a total population of all families of patients registered at Puskesmas Mulyorejo, Deli Serdang. The sample taken by purposive sampling was 100 families suffering from TB. Researchers used structured instruments consisting of family characteristics, level of knowledge about Lung TB, attitude towards preventing TB transmission and level of family support with descriptive and analytical statistical test analysis (Chi Square test).

RESULTS AND DISCUSSION

The results of the study were based on the characteristics of respondents who received family support in preparedness to prevent the transmission of pulmonary TB.

Table 1. Respondent characteristics

Variable	Frequency (n)	Persentase (%)
Gender		
Female	45	45
Man	55	55
Age of Family Head		
Above 60 years old	35	35
Below 60 years old	65	65
Last Education		
Elementary School	5	5
Junior High School	15	15
Senior High School	60	60
Higher Education	20	20
Family Head Occupation		
Laborer	45	45
Self-employed	30	30
Other	25	25

Based on gender characteristics, patients with pulmonary tuberculosis have the highest number of subjects in men, namely 55 people (55%), which shows that having a smoking habit results in a decreased respiratory defense mechanism so that the respiratory tract is easily infected. In addition, the negative stigma of pulmonary tuberculosis in the community also has an impact on the psychosocial aspects of women compared to men, so that only a few women with

pulmonary tuberculosis come to health care facilities for treatment. The age variable plays a role in the incidence of pulmonary TB, where the predicted risk of developing pulmonary TB lies in the productive age period and the elderly, which can be seen in table 1. These ages have different characteristics. Productive people have a risk of 5-6 times to experience the incidence of pulmonary TB, this is because in the productive age group everyone will tend to have high activity, so the possibility of exposure to microbacterium tuberculosis germs is greater, besides that the germs will be active again in the body which tends to occur at a productive age. (Andayani and Astuti, 2017). At the age of over 60 years classified as elderly who have decreased immunity along with the aging process, all organ functions have decreased, the ability to fight microbacterium tuberculosis germs is weak so that germs easily enter the body of the elderly. (Harry Iskandar, Heda Melinda D. Nataprawira, Herry Garna, 2008).

Level of Knowledge about Pulmonary TB 75% of respondents had a good level of knowledge about pulmonary TB, including symptoms, transmission, and prevention. 25% of respondents had poor knowledge, with limited understanding of the causes and importance of pulmonary TB treatment. Based on a research study from (Mirranda O, 2019) which shows that the level of knowledge of pulmonary TB in this study, the majority of knowledge is low as many as 54 people (62.1%), 23 people (26.4%) with sufficient knowledge and only 10 people (11.5%) with low efforts to prevent pulmonary TB transmission as many as 46 people (52.9%). This occurred due to not getting information about Lung TB and lack of communication, and education about Lung TB.

Most TB patients come from groups with low levels of education. Low levels of education are often associated with limited access to health information and a high risk of unhealthy behavior. From this study, the majority of 60 people (60%) had high school education, patients with high school education showed a better understanding of the symptoms of TB and the importance of treatment. However, there were still errors in understanding the steps to prevent transmission (Aibana, O., Huang, C.-C., 2022). Based on the results of research on the employment level of patients with pulmonary tuberculosis, the majority work as laborers. This work involves environmental conditions that are often poor (inadequate ventilation, exposure to dust). High social mobility increases the risk of TB transmission. (Lönnroth, K., 2023).

Level of Family Support

Family support was assessed based on 4 main aspects:

- 1) Emotional Support: A total of 80% of families showed good emotional support to patients, such as providing encouragement and motivation during the treatment process.

- 2) Informational support: 65% of families helped patients understand the importance of complying with treatment and maintaining a healthy lifestyle. However, the other 35% had limited information, especially in families with low education levels.
- 3) Instrumental support: 70% of families assist patients in fulfilling their daily needs, including transporting patients to health facilities. In contrast, 30% of families face economic constraints in providing full support.
- 4) Supervisory support: 85% of families are actively involved in ensuring that patients take their medication as scheduled and follow the treatment program at the Puskesmas.

The success of the TB treatment program is determined by patient compliance to take complete medication until completion, to achieve treatment targets, actions are needed to encourage patients to adhere to treatment. (Sibua and Watung, 2021).

Table 2. Family Support

Family Support	Frequency	Percent	Valid Percent	Cumulative Percent
High	75	75.0	75.0	75.0
Medium	18	18.0	18.0	93.0
Low	7	7.0	7.0	100.0

Based on Table 2 above, it can be seen that family support has a high value of 75% in preventing pulmonary TB transmission. this is influenced by emotional support, informational support, instrumental support and treatment support.

Table 3. Prevention of Pulmonary TB

Family Support	Frequency	Percent	Valid Percent	Cumulative Percent
Good	82	82.0	82.0	82.0
Fair	12	12.0	12.0	94.0
Lack	6	6.0	6.0	100.0

Table 3 above shows that the prevention of pulmonary TB is good, namely 82% in preventing TB transmission. This is influenced by high family support in supporting the success of the Pulmonary TB transmission prevention program.

Table 4. Analysis Chi Square

Value	df	Asymptotic Significance (2-sided)

Pearson Chi-Square	88.902 ^a	4	.000
Likelihood Ratio	48.919	4	.000
Linear-by-Linear Association	30.726	1	.000
N of Valid Cases	100		

From the results of the Chi-Square Total analysis test, (df) = 4, p value <0.05, meaning that there is an influence of family support in preparedness to prevent the transmission of Pulmonary TB.

The stigma of TB in the community has an impact on the TB control process and health activities carried out as an effort to reduce the stigma of TB by increasing the willingness of residents to screen for TB, especially people who have symptoms of pulmonary TB (Septiyono and Wahyudi, 2020).

CONCLUSION

Based on the results of research conducted on family support in preparedness to prevent pulmonary TB transmission, it can be concluded that there is an influence between family support in preparedness to prevent pulmonary TB transmission.

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