



FACTORS RELATED TO PROVIDING TPT (TUBERCULOSIS PREVENTION THERAPY) IN THE UOBF WORK AREA OF PARENGAN HEALTH CENTER

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Article info	ABSTRACT
<p>Corresponding Author:</p> <p>Eka Ayu MBPS ekaayumbps@gmail.com Faculty of Public Health, University of Kadiri</p>	<p>Tuberculosis (TB) is a disease caused by <i>Mycobacterium tuberculosis</i>. TB can attack the lungs and can attack all parts of the body. TB is one of the top 10 causes of death and the main cause of one infectious agent. This study is an observational analytical study with a cross-sectional design. The results showed that the majority of respondents were female, highly educated (high school and above), were partners of TB patients, had a good level of knowledge, the distance from their residence to the Health Center was close, and they had received education from health workers. Variables related to the receipt of TB preventive therapy in TB household contacts were gender, education level, knowledge level, distance between residence and, and education about TPT from health workers. Variables that were not related were the age and kinship of respondents with TB patients. It can be concluded that out of 7 independent variables, there are 5 variables related to TPT.</p> <p>Keywords: <i>Tuberculosis, Household Close Contact, Tuberculosis Preventive Therapy</i></p>
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INTRODUCTION

Tuberculosis (TB) is an infectious disease that is the leading cause of death in the world, generally attacking the lungs in humans with *Mycobacterium tuberculosis* as the causative agent. TB is one of the top 10 causes of death and the main cause of one infectious agent. Geographically, Indonesia with a total of 8.4% of the global number of TB cases, is the third largest contributor to TB cases in the world after India (26%), and China (8.5%). 5 At the provincial level, East Java is ranked second in terms of the number of TB cases, after West Java. The increase in TB cases in East Java is also quite significant, from 53,289 cases in 2021 to 81,753 cases in 2022. Tuberculosis is a problem in Tuban Regency.

Various control activities have been carried out starting from active TB detection, building networks, TB socialization in the community; providing adequate facilities and infrastructure for TB diagnostics, to implementing TB surveillance. Contact investigations have also been intensified to examine people in risk groups so that cases can be found earlier and treated more quickly.

Household contacts of tuberculosis (TB) patients are the people at the highest risk of being infected with *Mycobacterium tuberculosis* and experiencing latent TB (ILTB) which can develop into active TB. Latent TB is an inactive form of TB disease that is not accompanied by symptoms. Management of ILTB is an important point in the TB control strategy. This is the basis for the TB Prevention Therapy (TPT) program for TB contacts.⁶ TPT is a series of treatments given to people with latent tuberculosis infection (LTBI).

The implementation of the TPT program in Tuban Regency is problematic. In addition to the low TPT achievement, there is also a very large gap in the achievement of TPT provision in several health centers. Based on the analysis of problems from strategic issues related to TB, problems related to the low achievement of the TPT program include not all health facilities implementing TPT; the commitment of officers to provide TPT is not optimal; and the acceptance of TPT from low targets, the community tends not to understand so that they reject TPT.

METHOD

This study is an observational analytical study with a cross-sectional design. The study population was household contacts of TB patients in the UOBF Parengan Health Center working area. The study was conducted at the Parengan Health Center in 2024. The Lemeshow formula was used to calculate the minimum sample and obtained a sample size of 178 samples selected using the purposive sampling technique. In addition to interviewing respondents directly, distance measurements using Google Maps were also carried out in data collection. The independent variables include age, gender, education level, kinship of respondents with TB patients, level of knowledge, distance between residence and health center, and education about TPT from health workers. While the dependent variable is the receipt of TB preventive therapy (TPT) in household contacts of TB in Tegal Regency. In analyzing the data, the frequency table was used in univariate analysis to determine the percentage and distribution of each variable, and the chi-square test was used in bivariate analysis to determine the relationship between independent and dependent variables.

RESULT AND DISCUSSION

Finding

Table 1. TPT Acceptance in Household Contacts of TB Patients

Variables	TPT Acceptance in Household Contacts of TB Patients						p value
	Reject		Accept		Total		
	f	%	f	%	f	%	
Age							
≤50 year	77	49,7	78	50,3	155	100	0,082
> 50 year	12	52,2	11	47,8	23	100	
Gender							
Male	47	61	30	39	77	100	0,010
Female	42	41,6	59	58,4	101	100	
Education							
Low	39	60	26	40	65	100	0,043
High	50	44,3	63	55,7	113	100	
Kinship Relation							
Couple	32	46,3	37	53,6	69	100	0,054
Parent/Children	23	41,1	33	58,9	56	100	
Sibling	28	68,3	13	31,7	41	100	

Others	6	50	6	50	12	100	
Knowlegde							
Good	54	85,7	9	14,3		100	<0,001
Less	35	30,4	80	69,6	115	100	
Distance to Health Center							
Far	58	65,9	30	34,1	88	100	<0,001
Close	31	34,4	59	65,6	90	100	
Education by Health worker							
Not educated	31	72,1	12	27,9	43	100	0,001
Educated	58	43	77	57,0	135	100	

Based on Table 1, most of them are aged ≥ 35 years, female, have a high level of education, are partners of TB patients, have good knowledge, live close to the health center and have received TPT education from health workers. Respondents who refused TPT were mostly male, aged > 35 years, highly educated, were partners of the TB index, had poor knowledge, the distance from their home to the health center was far, and had been educated by health workers.

Discussion

1. Implementation of the TPT Program at UOBF Parengan Health Center

TB preventive therapy is one of the TB control programs at UOBF Parengan Health Center. TB preventive therapy (TPT) involves administering one or more anti-tuberculosis drugs such as isoniazid to individuals with latent infection with M. tuberculosis to prevent the development of active TB disease.

In its development, adhering to the 2020-2024 RPJMN, the provision of TPT was expanded to all household contacts of TB patients, both those under 5 years of age and older. TPT was administered by the Health Center. Before being given TPT, household contacts first underwent a tuberculin skin test or Mantoux test and TCM or sputum test to determine whether household contacts were infected with TB or not. Household contacts who were given TPT were those whose TST results were positive but whose TCM results were negative, in other words, these household contacts were latent TB sufferers (TB without symptoms). If TST is positive and TCM is positive, OAT will be given for TB treatment with a minimum duration of 6 months because the contract suffers from Active TB.

The duration of TPT drug consumption provided by the health center is 3 months, consuming as many as 3 tablets a week. TPT patients take the drug once a month from health workers at the Health Center. When taking it, monitoring is carried out regarding the condition of the body, as well as the side effects felt by the TPT patient.

The provision of TPT is closely related to contact investigation activities. Contact investigation is a manifestation of an active, intensive and massive patient discovery strategy based on family and community. Contact investigation (IK) is a tracking and investigation activity aimed at people who have contact with TB patients (index cases) to find suspected TB. Contact investigation is carried out by health workers by visiting the index house either directly by health workers or through the assistance of cadres. When this contact investigation is carried out, household contacts are also given knowledge about TB and TB prevention therapy. In addition, TPT socialization is also carried out during cadre meetings and provides information to patient escorts when seeking treatment.

According to information from TB programmers at the Health Center, TPT patients usually make repeat visits to the Health Center every 2 weeks if there are complaints of TPT side effects. The side effects felt by patients include palpitations, diarrhea, and discomfort in the stomach, most of which occur only once and resolve on their own. These side effects are still being observed by health workers as a form of evaluation of the implementation of the TPT program. Contacts who refused TPT expressed a lack of intention to receive TB preventive therapy because it was considered less beneficial, and some concerns about possible side effects. These findings reflect the need to develop a comprehensive information, education, and communication (IEC) package on LTBI as well as management validation to continue the TPT expansion plan.

2. Age is not related to TPT acceptance

Age is one of a person's internal factors that plays a major role in determining whether a health program is accepted. This study is like a study by Sharma, Nandini et al. and Suryavanshi et al. in 2021. While the results of this study are contrary to a study by Larisa Otero in 2020 where age was related to TPT acceptance. Respondents in this study only came from productive ages. The activities and busyness of the respondents tended to be the same. This study found the fact that respondents who rejected TPT were more over 50 years old (52.2%) compared to those under 50 years old. People over 50 years old tend to have reduced their activities. They prefer to stay at home to maintain their condition rather than taking TPT medication when they do not feel sick. In addition, the obligation to check every month made respondents feel reluctant to accept TPT.

3. Gender is related to TPT acceptance

Based on Lawrent Green's Theory, gender is a predisposing factor that builds behavior, including behavior in decision-making.¹ The results of this study are similar to the results of a study by Suryavanshi et al in 2020 and are reinforced by the results of a study by Sharma, Nandini et al. in 2021, namely that a significant relationship was found between gender and TPT acceptance where women were more likely to participate in TPT acceptance than men. Gender has the greatest influence on the practice of preventing Pulmonary TB. From field conditions, men have more activities outside the home than women. Most male contacts who refused TPT were due to indifference regarding the benefits of TPT and lack of time to visit health facilities. Meanwhile, female contacts tend to get more information regarding TPT because they have more free time to visit health facilities when taking patients for treatment.

4. Education level is related to TPT acceptance

According to Lawrence Green's theory, education level is a facilitating factor that helps build behavior. Educational background and experience will shape health behavior. The study found that people with low levels of education are more likely to refuse. The results of this study are like a study by Suryavanshi, Nishi et al. in 2020. The low level of education of respondents makes it difficult for them to understand the importance of TB preventive therapy in preventing household contacts from actively contracting the disease. On the other hand, a higher level of education can make it easier for individuals to process information and then make decisions related to health. This study found the fact that many people with high knowledge still refuse TPT. In the field, this is because someone who is highly educated tends to have many considerations in choosing something. The side effects of TPT are one of the things considered by respondents. People with higher education tend to have activities with high flying hours,

this is also another consideration. Respondents prefer a healthy condition without symptoms when not receiving TPT compared to consuming TPT and having to feel the side effects that interfere with the respondent's activities.

5. Kinship with the index patient is not related to the receipt of TB preventive therapy.

Kinship is a person's relationship with other members of the family who have a bloodline. The kinship referred to in this study is the family relationship of household contacts with the index or TB patient. Each family member has the right and obligation, one of which is to accept or reject something. The results of this study are contrary to the results of a study by Otero, Larissa et al. in 2020 which stated that kinship of contacts with the TB index is related to the initiation of TPT in children.

6. Level of knowledge is related to the receipt of TB preventive therapy

Knowledge is related to decision making in the context of program acceptance. Without adequate knowledge, acceptance of something will not last long. The results of the study are like the results of a study by Suryavanshi, Nishi et al. in 2020 which revealed that the level of knowledge is related to the willingness of respondents to accept TPT. Knowledge is closely related to information where it is believed that someone who is highly educated will also have broader information. An individual's correct understanding of TB, how to prevent its transmission, and information related to TPT and its benefits play an important role in accepting TB preventive therapy as an effort to prevent the transmission of tuberculosis in TB household contacts.

7. Distance of respondent's house to health center is related to TB preventive therapy

The distance between residence and health facility is an important factor in community acceptance of a health program. This study found that respondents with a long distance from their residence to the health center were more likely to refuse TB preventive therapy. There have been no previous studies examining the relationship between distance of residence and acceptance of TPT. Research from Lwevola, Paul et al. in 2021 stated that respondents who had to travel a long distance from home to the clinic were related to the frequency of respondents visiting health facilities. TB patients are reluctant to seek treatment from a long distance because it requires higher costs. As a result, household contacts also do not receive education or TB examinations such as the Mantoux test which is one of the considerations for providing TPT.

8. Education from health workers is related to Acceptance of TPT

Education is carried out to help patients understand TB prevention efforts, including TB preventive therapy (TPT). Providing education and counseling regarding TPT is believed to increase acceptance of TPT in TB household contacts. The results of this study are like the study conducted by Ngugi et al. in 2020. A study found that most TB patients and contacts who had been educated by health workers stated that they were willing to receive TPT if prescribed. Household contacts and caregivers who understand the role of TPT in TB prevention, they easily make decisions and accept TPT when offered. In the field, when one of the household contacts gets information about TPT, he/she will spread the information to other family members so that other family members will also consider receiving TPT.

CONCLUSION

Respondents were mostly female, highly educated (high school and above), were partners of TB patients, had good knowledge, close distance from their residence to the health center, and had received education from health workers. Variables related to the acceptance of TB preventive therapy in TB household contacts were gender, education

level, knowledge level, distance from residence to, and education about TPT from health workers. Variables that were not related were the age and kinship of respondents with TB patients. It can be concluded that out of 7 independent variables, there are 5 variables related to TPT.

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