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FAMILY SOURCES OF STRENGTH FOR TUBERCULOSIS PREVENTIVE THERAPY (TPT) IMPLEMENTATION

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ABSTRACT

Introduction
Tuberculosis (TBC) is one of the five leading causes of disease burden, with over 90% of people infected with Micobacterium Tuberculosis (MTb) developing asymptomatic latent TBC. Various efforts have been made to prevent and control TB, one of which is the provision of tuberculosis preventive therapy (TPT). TPT is a treatment programme aimed at people in close contact with TB positive patients, with the aim of reducing the risk of TB transmission. However, the facts in the field show the low motivation of the community to carry out the programme. The purpose of this study was to determine the relationship between knowledge and attitudes about TPT with the provision of TPT to families in the kedondong health centre working area in 2024.

Method(s)
Correlation analytic research design with a cross sectional approach, involving 15 respondents and total sampling technique and statistical tests using fisher's Exact Test. The results showed that there was a relationship between knowledge (P-value = 0.011 with OR = 5,500) and attitude (pvalue = 0.002 with OR = 10,000) with the provision of TPT.

Result(s)
Knowledge is the main key to the formation of behaviour, with good knowledge will have implications for good behaviour as well, as well as attitudes. A positive attitude towards an object will affect how a person reacts.

Conclusion(s)
Therefore, health education must be a leading programme in service delivery, and involve families not only as objects but as subjects in the implementation of nursing care.

INTRODUCTION

Tuberculosis (TB) is an infectious disease caused by the bacterium Mycobacterium tuberculosis (MTb), transmitted through the infected respiratory tract. When coughing, sneezing, talking, even whistling, the patient will release droplets (containing MTb bacteria), droplets enter the alveolus through close contact, pass through the nasopharynx and bronchial tracheo then get trapped in the upper airway (oropharynx) and settle in the human body (Wijaya, 2021).

A person who is in contact and exposed to a person with tuberculosis is at 10 times the risk of infection, although it often does not cause typical signs and symptoms, because the person's immune system is not able to eliminate MTb bacteria from the body completely but is able to control MTb bacteria so that no symptoms of TB disease appear, this condition is called Latent Infection Tuberculosis (ILTB). Approximately 5-10% of people with ILTB will develop active TB within 5 years of first being infected (Ministry of Health, 2018), this condition can occur if the body's immunity is weakened (Alhawaris and Tabri 2020).

Various efforts have been made by the government to prevent and control TB, one of which is the provision of tuberculosis prevention therapy (TPT). If a person is diagnosed with TB, then household contacts, especially children, are considered as one unit of TB service beneficiaries. Those with active TB disease should start anti-tuberculosis treatment and others start TPT, this aims to prevent ILTB people who are at risk of TB by reaching them as soon as possible with TPT (Ministry of Health RI 2020).

The Global Tuberculosis Report (2019) reported that the coverage of TPT in children and HIV patients is at 10%, which is far from the estimated target of 40% (Wibowo 2023). Data from the Indonesian Ministry of Health shows that TPT coverage in Indonesia in 2022 was still low, below 0.5% in household contacts, increasing by 2.6% (35,000) in 2023, but this coverage is far from the expected target of 68% (Director General of P2P 2022).

The TPT programme in Lampung province has been implemented since 2016, with the main target of children aged less than five years who have close contact with active TB patients and HIV/AIDS patients, but until 2023, the achievements are still far from the desired target (Lampung Provincial Health Office, 2022). The case detection rate/CDR coverage in Pesawaran District reached 35.3%, which is far from the target of 70% (DHO Lampung, 2022). This means that there are still TB cases in the community that have not been detected, this is a risk of massive transmission so it is necessary to implement TPT. However, of all TB patients, only 15 families are willing to accept the TPT programme, where the implementation still needs to be evaluated because not all children want to take medicine for various reasons.

The Health Belief Model (HBM) in a theory explains that individual behaviour to fight or treat their disease and other healthy behaviours are influenced by four key variables, namely: perceived susceptibility, perceived severity, perceived benefits and perceived barriers, and cues to action. In addition to the factors already mentioned, there are also modifying factors or demographic factors, namely: age, gender, socioeconomics, knowledge.

Hariwijaya (2017) in a study explained that TB transmission is related to behavioural and environmental factors. In line with Pratama & Indarjo (2021), they informed that the provision of TPT by mothers to children was classified as good. Giving TPT regularly every day is effective in making all children avoid TB, even though the children are in close contact with people with BTA (+) TB. Mothers who have good knowledge about pulmonary TB and its prevention will have better and optimal prevention behaviour for their children to avoid pulmonary TB disease (Ernawati and Rahmawati 2016).

Kedondong health center is one of the health centers in Pesawaran district, the number of TB cases fluctuates. The results of observations on 5 mothers of toddlers who were in contact with people with TB, 4 of them did not give medicine to their children on the grounds of pity, felt there were no complaints why they had to take medicine, they stated that so far the child's condition was fine, there were no complaints and the child wanted to eat, the child was still active playing, only coughing and colds usually healed themselves. In connection with this phenomenon, it is necessary to identify what factors are associated with the acceptance of the TPT programmer.

METHODS

Type of quantitative research with correlation analytic design and cross sectional approach (Nursalam 2020). As independent variables: knowledge and attitudes about TPT, and the dependent variable: the provision of TPT. The

population was 15 so that all were used as samples with the sampling technique being total sampling.

Instruments in the form of questionnaires, as many as 12 questions to measure knowledge using a Guttman scale, 10 attitude questions using a Likert scale, and 10 questions on the behavior of giving TPT using a Guttmann scale. All questions have been tested for validity and reliability. The bivariate analysis used fisher's exact test square ($x2$) with the limit of the degree of significance (α) <0.05 which was processed using a computer system with the SPSS program. With the rules that apply to the fisher's exact test, namely, 1) If in the 2x2 table there is an Expected (e) value of less than 5, the Fisher Exact Test will be used, 2) If in the 2x2 table there is no expected (e) value of less than 5, Continuity Correction will be used, 3) In the 2x2 contingency table, the EC value cannot be less than 5.

The entire research process adheres to the ethical principles of research, by respecting the autonomy of respondents (respondent participation is voluntary) the research process does not cause harm and instead respondents get information related to the importance of TPT. Type of quantitative research with correlation analytic design and cross sectional approach (Nursalam 2020). As independent variables: knowledge and attitudes about TPT, and the dependent variable: the provision of TPT. The population was 15 so that all were used as samples with the sampling technique being total sampling.

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RESULTS

Characteristics of respondents

Table 1. Characteristics of respondents based on Gender, Education, and Occupation.

Characteristics	f	%
Gender		
Male	3	20
Female	12	80
Education		
Primary School	2	13.
Junior Secondary School	4	3
Senior High School	8	26.
University	1	7
		53.
		3
		6.7
Occupation		
Self-employed	1	6.7
Farmer	2	13.
Labourer	1	3
Housewife	11	6.7
		73.
		3
Total	**15**	**100**

Table 1 shows that more than most of the respondents were female (80%), high school education (53.3%), and some were housewives (73.3%), only 6.7% had tertiary education and 6.7% were laborers.

Table 2. Characteristics of respondents based on age

	Mean	Median	Modus	Min-mak
Age	41,73	41	38	23 – 58

The mean age of respondents was 41.73 years, median 42 years with mode 38 years, youngest age 23 years and oldest age 58 years, as shown in Table 2.

Research Results

a. Univariate Analysis

Table 3. Frequency distribution of respondents based on Knowledge, Attitude, and TPT administration

Variabel	f	%
Knowledge		
Good	7	46.7
Fair	2	13.3
Less	6	40.0
Attitude		
Positive	11	73.3
Negative	4	26.7
TPT Administration		
Good	9	60.0
Fair	6	40.0
Total	**15**	**100**

Table 3 shows that most respondents had good knowledge (46.7%), only 2 people (13.3%) with sufficient knowledge. While more than the majority of respondents had a positive attitude (73.3%) and only 4 people (26.7%) with a negative attitude. Then more than most respondents had good TPT administration behavior (66.7%) and only 5 (33.3%) with sufficient behavior.

b. Bivariate Analysis

1) Correlation between Knowledge and Provision of TPT

Table 4. Correlation between knowledge level and TPT administration at Kedondong Health Centre in 2024.

Knowledge	TPT administration					
	Enough		**Good**		**Total**	
	N	**%**	**n**	**%**	**n**	**%**
Less	4	100	0	0,0	4	100
Good	2	18,2	9	81,8	11	100
Total	**6**	**40**	**9**	**60**	**15**	**100**

P value 0,011
OR 5,500

Table.4 explains that respondents with poor knowledge all have adequate behavior, while respondents with good knowledge have 4 times more good behavior. The results of the Fisher's Exact Test obtained p value=0.11 (p<0.05) indicates that there is a significant relationship between knowledge and the provision of TPT, with an OR value of 5.500, meaning that respondents who have less knowledge are 5.5 times at risk for adequate behavior in providing TPT.

2) Correlation between attitude and TPT administration

Table 5. Correlation between attitude and TPT administration at Kedondong Health Centre in 2024

Attitude	TPT administration					
	Enough		**Good**		**Total**	
	n	**%**	**n**	**%**	**n**	**%**
Negative	5	100	0	0	5	100
Positive	1	10	9	60	10	100
Total	**6**	**40**	**9**	**60**	**15**	**100**

P value 0,002
QR 10,000

Table.5 explains that respondents with negative attitudes have the same proportion in providing TPT, while respondents with positive attitudes are 9 times more likely to provide TPT. The results of the Fisher's Exact test obtained p value = 0.002 (p <0.05), it can be concluded that there is a relationship between attitude and the provision of TPT, with an OR value = 10.000, meaning that respondents with negative attitudes are 10 times more likely to behave moderately.

DISCUSSIONS

1. Correlation between Knowledge Level and TPT Administration

The results of statistical tests using Fisher's Exact Test on the knowledge variable obtained a p value = 0.011 (p <0.05), this indicates that there is a significant relationship between knowledge and the behavior of providing TPT, with an OR value of 5.500, meaning that respondents with good knowledge are 5.5 times more at risk of behaving well in providing TPT. The results of this study are in line with the HBM theory, that one of the factors for a person to prevent disease is the level of knowledge.

Knowledge describes how well someone understands an object. That knowledge is obtained after a person senses a certain object (e.g. the result of seeing by the eyes, hearing by the ears, touching by the skin, feeling with the sense of taste, and smelling by the ears), meaning that there is an interaction that builds between the individual and the senses he has, so that this interaction produces knowledge.

Knowledge can be obtained in many ways, both formally and non-formally. In social life, humans always interact with each other, without realizing that this interaction will produce changes, both positive and negative. It is positive if the change has an impact on improving aspects of life, for example in terms of health.

The increase in TB cases is a phenomenon that almost everyone knows, but not everyone wants to be a TB patient, so sometimes people prefer to keep their sick status a secret rather than be underestimated. Because in reality TB is still a stigma in the community.

In accordance with its purpose, the TPT programmer is given to people who come into contact with TB sufferers, so people will suspect that they are infected with TB. This means that when someone gets TPT, they will certainly be stigmatized, as a result the community does not want to know or pretends not to know, and even rejects the programmer. So any information provided tends to be ignored. The impact that occurs is that the community is very minimal with information about TPT.

The TPT programme is implemented with the aim of preventing TB transmission in families in contact with TB patients where the target is mainly for children under five who live in the same house as TB patients. However, this programme will not be implemented properly if the community does not understand the objectives. Research by Astuti (2018) on TB prevention, involving 43 respondents, informs that the knowledge of respondents has an influence on efforts to prevent TB disease.

A study at the Grogol health centre in Sukoharjo district, involving 32 preschool children, informed that the level of parental knowledge about TB prevention had a correlation with the incidence of TB (p value = 0.014) (Agustin et al., 2013). In contrast to Nugroho et al, (2010) explained that the level of knowledge has no relationship in the application of TPT.

However, knowledge can predict an individual's perceived threat, which will later become their own motivation to perform healthy behaviors. The meaning is that the knowledge a person has does not automatically make someone able to behave well or not, this is because knowledge is a predisposing factor, which is used as a consideration whether when someone takes an action or does not take it, it will have an impact or not. When in a situation where a person is based on what he knows, then the person feels not at risk or on the contrary becomes the most at risk person, then the results of that consideration will determine what behavior will be displayed. That knowledge is the basis for a person to behave and behave, a person's healthy behavior or not can be influenced by how the person's knowledge of an object (Notoadmodjo, 2013). A good level of knowledge will be directly correlated to the attitudes and behaviors displayed.

Furthermore, the results of this study explain that out of 15 respondents 11 of them have good knowledge about TPT, of which 88.3% of them have good TPT provision behavior. This means that a good level of knowledge will have an impact on the behavior displayed, namely respondents willing and able to implement the TPT program. Lestari (2020) in a study on preschool children in the work area of the Gogol health center, the results of the study explained that the knowledge possessed by parents about TB prevention affects the mother's ability to make efforts to prevent transmission so that children are not infected.

Knowledge is a very important domain for the formation of a person's attitude and action, with good knowledge, will create good behavior (Notoadmodjo, 2012). A good understanding of an object will change a person's views, perceptions, and rational in responding to information/programmers. When understanding is obtained thoroughly and has a positive value, there is a tendency for someone to easily accept information and implement it in daily life, and vice versa.

Therefore, the importance of health promotion programmes as an integral part of the implementation of health programmes implemented by health centres as a strategy to improve the knowledge, attitudes and abilities of families in the prevention and control of TB. The community must be active in seeking/updating the right and correct information. Health facilities are one of the places where the community can access information through various means and media; mass counselling, provision of media (leaflets, posters), etc..

2. The correlation between attitude and the provision of tuberculosis preventive therapy (TPT)

The results of the Fisher's Exact Test on the attitude variable obtained p value = 0.002 (p <0.05), so it can be concluded that there is a significant relationship between attitude and the provision of TPT. With an OR value = 10,000, it means that respondents with a positive attitude have a 10 times chance of behaving well in providing TPT. The results of this study are in line with the HBM theory, that a person's behavior in preventing a disease is influenced by the attitudes and behavior of the individual himself.

Attitude is described as a person's readiness to react to objects in a particular environment as an appreciation of the object (Notoatmodjo, 2012).The stimulus stimulates the individual to respond either positively or negatively, which will eventually be manifested in real behavior or action. A person who has a positive attitude towards an object is termed a favorable attitude, while a person with a negative attitude towards an object is termed an unfavorable attitude.

Attitude is a person's tendency to act, think, perceive, and feel an object, idea, situation, and value. This means that attitude is the basic capital for a person to determine the behavior that will be displayed (Berkowitz, 1972 in Azwar, 2013).

In this study, attitude is translated into a situation of how respondents respond psychologically to the TPT programmer; the response is shown by answers to attitude questions with alternative answers using a Likert scale, which are then concluded as positive attitudes and negative attitudes. The results showed that more than most respondents had a positive attitude and they carried out the TPT programmer.

TPT is a treatment programmer given to someone who is infected with MTb germs and is at risk of becoming ill with TB, (referred to as treatment of latent Tuberculosis infection or TB preventive therapy) (Ministry of Health RI 2020). Treatment with a long period of time certainly has a physical and psychological impact, namely a low level of non-compliance; meaning that people do not want to take TPT, do not want to take medicine, indicating that their behavior is not good. Why is it not good, one of which is due to negative attitudes about the TPT programmer.

Positive attitudes in this study were evident from the dynamics of the questionnaire responses, where respondents supported the provision of TPT, and agreed that this programmer could reduce TB transmission rates. Negative attitudes can be seen in the answers, where respondents rejected and did not support the provision of TPT, were reluctant to have their condition checked if they felt a cough for more than 2 weeks, and preferred to buy medicine at the stall.

Hamidi's (2019) research at BP4 Salatiga City informed that there was a relationship between mothers' attitudes about preventing pulmonary tuberculosis and the incidence of children's pulmonary tuberculosis (0-14 years), although with a contingency coefficient (CC) value of 0.343, the meaning is that the relationship between the two is weak. In line with Wahyuni (2008) in a study involving 40 respondents at the bendosari health centre, informs that there is a strong relationship between respondents' attitudes and knowledge of preventing tuberculosis disease (p value=0.000). (Astuti (2018) in a study entitled the relationship between the level of knowledge and attitudes with efforts to prevent pulmonary tuberculosis informed that positive attitudes correlated with prevention efforts.

This study further explains a finding, that there are respondents with positive attitudes, but the behavior of providing TPT is in the moderate category, in theory it is true that a positive attitude will have implications for good behavior, but attitude is not the only factor that determines behavior. Behavior will be difficult to change when there is a perception, value or belief in the family that has been rooted and passed down so that it becomes a decree even though it is not written, for example, a belief that TB is a disease due to a curse from previous ancestors, and will not be cured, so it does not need to be treated. Or there is rejection from the social system in the community (negative stigma towards TB) so that families tend to cover up and choose not to conduct examinations and decide not to seek treatment. When the embedded values and beliefs are stronger than the attitudes, the behaviors shown are negative, preferring not to provide TPT.

Knowledge and attitude are factors that predispose to the formation of behavior (Notoatmodjo, 2012). Therefore, in order to live in accordance with healthy norms, it is necessary to increase knowledge of an object and form a positive attitude by update information in a smart way, not allergic to the findings of the treatment programmer and learn to see anything from a positive point of view. And health workers, especially in puksesmas, can further

improve and move the health promotion programmer from the entrance to the patient's home. And things that should not be ignored that; family involvement in a person's sick healthy range greatly affects health status, so that health workers in implementing health services must involve the family as a whole.

CONCLUSIONS

TPT is one of the programmers aimed at someone who is in close contact with a TB positive patient, in this case the family of the house contact. A good level of knowledge and a positive attitude towards the TPT programmer greatly affect the ability and commitment of the family in providing TPT. So that the family can be a source of strength in preventing and controlling TB. Thus, researchers need to provide suggestions for future program improvements so that TB disease transmission rates can be reduced.

1. Families

Improve understanding of the TPT programmer by building good communication with health workers and health cadres actively and reporting the development of toddlers while undergoing TPT so that solutions are given from puskesmas officers and cadres if there are obstacles.

2. Puskesmas Kedondong

Increase socialization and education activities related to TPT to the community, especially families in household contact with TB patients through counseling with electronic media and dissemination of information in the form of posters, and provide assistance and support to families while providing TPT to toddlers.

3. Further researchers

Further research is recommended to add variables and a larger population so as to produce more accurate results. Data analysis used for future research is not only univariate and bivariate analysis, but multivariate analysis can also be done.

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