



FAMILY SOCIAL SUPPORT AND PATIENTS MOTIVATION PREVENT PULMONARY TUBERCULOSIS TRANSMISSION

Ayu Putu Yunita Lestari^a ; Dwi Prima Hanis Kusumaningtiyas^{b*} ; I Ketut Andika Priastana^c

^{a,b,c} Universitas Triatma Mulya ; Jembrana 82218 ; Indonesia

Abstract

Tuberculosis (TB) is an infectious disease caused by *Mycobacterium tuberculosis* which usually attacks the lungs. The increasing number of TB patients will result in an increase in TB transmission in the community. The lack of prevention measures of TB transmission occurs because the patient has less motivation in preventing the transmission of disease. This study aims to determine the relationship of family social support with patient motivation in preventing transmission of pulmonary TB in Negara sub-district 2019. This study is quantitative study and used a cross-sectional design. The population in this study was pulmonary TB patients in the Negara sub-district with a total sample of 43 respondents. The research sample used a Simple Random Sampling technique. Analysis of the study using Spearman's Rho. Family social support the most lung TB people are in good category 37 (86%). The motivation of patients in preventing the transmission of the most lung TB in the category of good 40 (93%). The results of the research analysis state $P = 0.005$ ($P < 0.05$). There is a relationship between the social support of the family with the motivation of the patient in preventing the transmission of lung TB.

Keywords: *tuberculosis; family social support; motivation*

1. Introduction

Tuberculosis (TB) is an infectious disease caused by *Mycobacterium tuberculosis* which usually attacks the lungs, but can also attack other organs such as the bones, lymph nodes, central nervous system and heart (World Health Organization, 2018). TB transmission is generally transmitted from person to person and is transmitted through air contaminated with sputum by the patient when sneezing, talking, laughing, or singing (Highsmith, Starke, & Mandalakas, 2018). The amount of sputum that comes out during one cough can produce around 3,000 ml and contains 0 to 3,500 bacteria, while when sneezing can release as much as 4,500-1,000,000 *Mycobacterium tuberculosis* bacteria (Kementrian Kesehatan Republik Indonesia, 2016).

Many factors cause TB transmission, including the level of contact with an infectious

person, the number of bacteria in the sputum, the frequency of coughing of the patient, the amount of time spent with the patient and the density of the occupancy (Highsmith et al., 2018). The body's immune response after being infected with the *Mycobacterium tuberculosis* bacteria will occur after 6-14 weeks. The lesions generally heal completely but the bacteria can live in the lesions and one day they can reactivate depending on the human body's durability (Kementrian Kesehatan Republik Indonesia, 2016).

Data from the WHO Global Tuberculosis Report 2018 states that TB occurs in every part of the world, about a quarter of the world's population has latent TB, which means that people have been infected with the bacterium *Mycobacterium tuberculosis* but have not been sick and cannot transmit the disease. People infected with TB bacteria have a 5-15% lifetime risk of falling ill with TB disease. TB disease develops when a person's condition is influenced by several risk factors, such as being infected with the Human Immunodeficiency Virus (HIV),

*) Corresponding Author (Ayu Putu Yunita Lestari)
E-mail: kdwiprimahanis@yahoo.co.id

poor nutrition, smoking habits, having diabetes and consuming alcohol. The largest number of TB cases in 2017 occurred in the Southeast Asia and West Pacific region with 62% of cases, followed by Africa with 25% of cases. Eight countries that account for two thirds of TB cases worldwide include India (27%), China (9%), Indonesia (8%), the Philippines (6%), Pakistan (5%), Nigeria (4%), Bangladesh. (4%), and South Africa (3%) (World Health Organization, 2018).

The number of TB cases in 2016 in Indonesia was found to be 360,565 cases and in 2017 the number of TB cases had increased by 425,089 cases (Profil Kesehatan RI, 2018). The notification rate for all TB cases or the Case Notification Rate (CNR) in Indonesia has increased from 2014-2017, in 2014 it was 125 per 100,000 population, increasing to 162 per 100,000 population in 2017. The success rate of treatment of all TB cases in Indonesia in 2017 amounted to 85.7% while the target success rate for treatment is at least 90.0%, this indicates that the success of TB case treatment has not reached the target. This phenomenon needs great attention, because if it is not handled it will affect the transmission of TB disease (Profil Kesehatan RI, 2018).

The discovery of all TB cases in Bali Province in 2017 is still high, especially in Jembrana Regency, which is ranked third out of all districts in Bali Province (Dinas Kesehatan Provinsi Bali, 2018). According to the profile of the Jembrana District Health Office the number of TB cases in Jembrana Regency has increased from 2013-2018, in 2013 the number of TB suspects was 197 cases and positive TB was detected as many as 110 cases, while in 2017 the number of TB suspected cases was 1,451 people and positive TB. as many as 135 cases. The number of TB suspected cases in 2018 was 1,926 cases and the number of positive TB cases was 193 cases. The cure rate for pulmonary tuberculosis in Jembrana Regency in 2013-2018 has fluctuated, in 2013-2015 the cure rate has decreased then in 2016-2018 the cure rate has increased, this indicates that the level of health services to the community, especially in handling TB, can be improved (Dinkes Kabupaten Jembrana, 2018).

The increase in the number of TB patients will result in an increase in TB transmission in the community (Kementrian Kesehatan Republik Indonesia, 2016). Lack of prevention measures for TB transmission occurs because patients have less motivation to prevent disease transmission (Agustina & Wahjuni, 2017). Motivation is all verbal, physical or psychological things that

make someone do something to achieve a goal (Lestari, 2015). The situation that strengthens motivation depends on the size and the small amount of motivation, if TB patients want to recover and prevent transmission, the patient must have high motivation (Rachrnawati & Turniani, 2006). Another cause that can increase the incidence of disease transmission is that TB patients are less aware of the importance of the health of other family members (Noviyani, Fatimah, Nurhidayah, & Adistie, 2015). Families also do not provide motivation to sick family members in preventing TB transmission (Yosephina & Ina, 2016).

TB control strategies can be done by controlling risk factors that occur such as the implementation of prevention and control of TB infection (Kementrian Kesehatan Republik Indonesia, 2016). Prevention of TB transmission can be done by staying at home for the first few weeks of TB treatment, keeping windows and ventilation open so that sunlight can enter all rooms of the house, covering the mouth with a tissue or handkerchief when sneezing and coughing, not spitting carelessly, giving BCG immunization for infants aged 3-14 months, drying sleeping equipment, and items used by patients must be separated (Kemenkes RI, 2018).

Family is a source of motivation in providing verbal and non-verbal support that comes from outside the individual (Lestari, 2015). Social support plays a very important role in maintaining health, improving self-care and individual self-confidence (Baarsa & Wijniab, 2018). Support from family is the most important source of social support. Social support from family can also help to solve problems faced by patients so that patients can carry out routine treatment and have a desire to recover quickly (Terok, Bawotong, & Untu, 2012). Families can also motivate patients to adhere to treatment, provide adequate nutrition and create a healthy environment to prevent transmission of pulmonary TB (Rachmawati, Suryani, & Isabella, 2015).

The results of a preliminary study conducted at Puskesmas in Jembrana District showed that the Puskesmas that had the highest number of TB cases in 2018 were Puskesmas I Negara and Puskesmas II Negara. The total number of TB cases in Puskesmas I Negara was 25 people, and 20 of them were declared to have positive smear positive pulmonary TB. The total number of TB cases in Puskesmas II Negara was 35 people, and 25 of them were declared to have positive smear positive pulmonary TB. After

conducting unstructured interviews with health workers who hold TB programs at Puskesmas I Negara stated that there were cases where families of TB patients and neighbors around their houses took turns contracting TB disease every year, even though the provision of promotive and preventive health education was often carried out, however TB transmission prevention measures carried out by patients at home have not been implemented optimally. Interviews were conducted with ten people with pulmonary tuberculosis, nine of whom said they rarely used masks when going out of the house or when talking to other people and at the time of the interview the patients were also not seen wearing masks. The use of masks is one way to prevent TB disease transmission. Patients generally rarely use masks because they are still uncomfortable or uncomfortable (Lailatul, Rohmah, & Wicaksana, 2015).

Based on the background of the problems above, in this case research on family support with patient motivation to prevent transmission of pulmonary TB needs to be conducted research in the context of nursing.

2. Method

Research design

The research design used in this study was correlational analytic with cross sectional approach, to analyze the relationship between family social support and patient motivation in preventing transmission of pulmonary TB, carried out only once at a time without any follow-up or follow-up.

Sample

The population in this study were all pulmonary TB patients in Negara District, namely in the working area of Puskesmas I Negara and Puskesmas II Negara with an average number of 45 populations. This study used Probability Sampling with Simple Random Sampling technique with a sample size of 43 people. The inclusion criteria were smear positive pulmonary TB patients, patients who were willing to be respondents, patients who were able to communicate well, and patients who could read and write. The exclusion criteria

were patients who did not live with their families and could not be found at the time of the study, patients who died during the study.

Research Ethics

Prior to conducting research, a permit is required from the university administration and administration at the research location. This study was approved by the health research ethics committee of the Jembrana College of Health Sciences (Ethical Approval no: 004-KEPK). Before starting the research, respondents will be given an explanation, until they get approval both verbally and in writing from the respondent.

Measurement

Data collection used a questionnaire measuring the Perceived Social Support-Family Scale (PSS-Fa) and the Patient Motivation questionnaire in Preventing Pulmonary TB Transmission. The Perceived Social Support-Family Scale (PSS-Fa) questionnaire is an Indonesian version of the questionnaire to measure family social support for respondents. The questionnaire on patient motivation in preventing TB transmission was made by the researcher based on a theoretical review and had been tested for validity and reliability.

Data collection

Collecting data in this study used two ways, namely by collecting primary data and secondary data. Primary data were obtained from questionnaires given to pulmonary TB patients to identify family social support and patient motivation in preventing pulmonary TB transmission, while secondary data were obtained from medical records at Puskesmas I Negara and Puskesmas II Negara.

Data analysis

The data analysis used in this research is univariate and bivariate analysis. The univariate analysis used was the frequency distribution and the bivariate analysis used was the Spearman's Rho test.

3. Result and Discussion

The frequency distribution of social support for families with pulmonary tuberculosis

The results of the research on the distribution of respondents with family social support were as many as 40 people (93%) with good categories and respondents with family social support with sufficient categories were 3 people (7%).

Table 1. Frequency Distribution Based on Social Support for Families of Pulmonary TB Patients

Family Social Support	f	%
Low	-	-
Enough	3	7
Good	40	93
Total	43	100

Most of the families of patients with pulmonary tuberculosis in Negara sub-district have good support. The results of the questions that have been given based on the four aspects of social support, namely emotional support, appreciation support, instrumental support and information support, show that on average the respondents' answers get good family social support. In accordance with the researcher's observations that most respondents live with their children, wives / husbands, plus other families who are still related by blood, so this shows that respondents get good support from families who live with them.

According to the theory of Tety Rachmawati (2006), family support is the assistance and care provided by the family, both in the form of emotional support (attention, affection, and empathy), appreciation support (respect and feedback), information support (advice, advice, and information), as well as in the form of instrumental support (manpower, funding and time assistance). Research conducted by Nurwulan (2017) states that patients will get good emotional support from families such as families who always pay attention to the

patient's condition during illness, and listen to complaints about their illness. The results of Muna & Soleha's (2014) study also state that all family members play a role in providing social support to TB patients, such as reminding them to stay in control, taking medication on time, and listening to complaints that are felt so that patients feel cared for and loved by their families and with the support they provide. patients are able to deal with their problems well.

Some pulmonary tuberculosis patients in the State sub-districts had sufficient family social support seen from the respondents' answers at the time of completing the questionnaire, on average the respondents answered with the choice of not knowing about the support provided by their families. According to research by Risti & Isnaeni (2017), it shows that the support provided by the family is in the sufficient category, this happens because of the lack of concern for family members and the limitations of the family to always spend time and pay attention to family members. According to Muhandiani (2015), families must always provide support for TB patients and if the family support provided to patients is lacking, treatment failure will occur.

Based on the facts and theories that have been explained, the researcher argues that the average family always accompanies the patient at the time of the research and provides emotional support such as giving attention and the family always helps patients to meet their needs. Some families provide less support to respondents, because the family does not participate in treatments such as helping to find information about pulmonary TB and less encouraging respondents.

Frequency distribution based on patient motivation in preventing transmission of pulmonary TB

The results of the research on the distribution of the frequency of respondents 'motivation with good categories were 37 people (86%) and the respondents' motivation with sufficient categories were 6 people (14%).

Table 2. Frequency Distribution Based on Patients' Motivation in Preventing Pulmonary TB Transmission

Motivation of Patients in Preventing Pulmonary TB Transmission	f	%
Low	-	-
Enough	6	14
Good	37	86
Total	43	100

The results of research on patient motivation in preventing pulmonary TB transmission in State District in 2019 were the most motivated with good categories. Based on the questions from the questionnaire given about two aspects of motivation, namely intrinsic motivation and extrinsic motivation, the respondent is able to answer and on average the answers from the respondents have good motivation in preventing transmission of pulmonary tuberculosis. This is because the question is in accordance with the patient's condition where the support provided by the family and the patient's self-awareness of the importance of maintaining family health are factors that affect the patient's motivation to be better.

According to the theory of Lestari (2015), factors that can influence motivation are divided into two, namely, internal factors such as personality, intelligence, physical characteristics, habits, awareness, interests, talents, will, spirit, and enthusiasm and external factors come from environment such as physical environment, social support, organizational pressure and regulation. According to research by Aditama & Aris (2013), most respondents have good motivation and factors that influence this are due to family support and health workers who always motivate TB patients who seek treatment at UPT Puskesmas Mantup Lamongan.

According to Karim (2017), a person's motivation does not only come from family support but from the inner strength of the individual who is able to control and direct a person to healing actions from an illness he or she is suffering from. The results of research conducted by research Risti & Isnaeni (2017) state that self-motivation can be influenced by

many factors such as motivation comes from within each individual and a person with high motivation will try to realize and achieve his desires.

The results of the facts and theories that have been explained, the researchers argue that good motivation for pulmonary tuberculosis patients in the District of Negara arises because of concern from families and advice from health workers to always prevent disease transmission, take medication regularly, control regularly and always maintain cleanliness self or environment. Influences in patients such as awareness of the importance of maintaining family health are also factors that affect patient motivation to be better

Bivariate Analysis

The Spearman's Rho statistical test with a sample size of 43 people (N = 43) obtained the results of the correlation coefficient (r) of 0.417, where $r_{count} > r_{table}$ (0.3008) and $p\text{-value} = 0.005$ ($p < 0.05$). So that H_0 is rejected and H_a is accepted, this shows that there is a relationship between family social support and patient motivation in preventing transmission of pulmonary TB.

Based on the results of the research analysis, it was stated that there was a relationship between family social support and patient motivation in preventing transmission of pulmonary TB in Negara District. According to the theory described by Lestari (2015), sources of motivation come from outside the individual such as verbal and non-verbal support and praise given by family, close friends or social intimacy. Johnson's nursing theory proposes a model of human behavior systems where the structural components of this behavioral system describe an individual who is motivated to achieve specific goals based on the individual's tendency to act in a certain way in order to produce a patterned behavior or action (Alligood, 2017).

The results of Santoso (2017) research state that social support will affect patient motivation in overcoming problems, especially health problems, the higher the social support provided, the higher one's motivation. According to Irnawati, Siagian, & Ottay (2016), support from families can be in the form of encouragement to recover, informing about illnesses, escorting sick

families for treatment, bearing costs for treatment and families must also provide advice to solve health problems faced by members. family and family support is an important factor in increasing motivation.

The results of research conducted by Priastana (2018) stated that social support can affect the motivation of someone who is suffering from a disease, so that social support can increase a person's motivation to recover. According to Manurung (2017) a family who always accompanies an individual in a state of illness will be able to increase the individual's motivation in overcoming his health problems, this happens because the closer the ties of family relationships such as husband / wife, children and siblings will increase the individual's spirit. This is also supported by Vatankhaha and Tanbakoei (2014), which revealed that social support from parents, peers, and teachers significantly affects individual motivation.

The results of this study are not in accordance with the research conducted by Karim (2017), which states that there is no relationship between family support and motivation. This happens because of internal factors that greatly influence a person's motivation, not only from family support but the strength that comes from within the individual himself which awakens, moves, runs, controls himself and leads to healing actions and is free from a disease he has suffered.

Researchers conclude that support from family plays an important role in solving health problems in the family. The support provided by the family can foster self-confidence and motivation for pulmonary TB patients to be better. Family social support is one of the factors from outside the patient that can increase motivation. Family social support provided, such as always listening to patients' complaints, reminding them of taking medication and routine control, causes patients to feel comfortable and feel cared for by their families so that patients can increase their motivation in preventing pulmonary TB transmission.

4. Conclusion and Suggestion

The conclusions obtained are based on the results of the research conducted as follows: Family social support provided to pulmonary TB patients in State District in 2019 was mostly in the good category, the motivation of patients in preventing pulmonary TB transmission in the District of Negara in 2019 was mostly in the good category, there is a relationship between family social support and patient motivation in preventing transmission of pulmonary TB in Negara sub-district in 2019.

In order to increase patient motivation in preventing transmission of pulmonary TB disease, family members are advised to pay more attention to patients by providing moral and material assistance. Families can provide emotional support, reward support, instrumental support and informational support.

Emotional support can be provided such as listening to patients' complaints, not avoiding patients because of their illness, reminding control patients, taking medication on time, and always reminding them to prevent disease transmission. Appreciative support such as encouraging pulmonary tuberculosis patients not to give up on treatment, giving praise because the patient is diligently taking medication. Instrumental support that can be provided, such as taking the patient for treatment to medical services, and helping with the cost of treatment. Information support is provided such as knowledge information about how to prevent transmission of pulmonary TB is good.

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