Research article

Relationship between family support with self-care adherence among tuberculosis patients

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Article Info	Abstract
	TB is the number one cause of mortality among infectious diseases and the 3rd cause of mortality after heart disease and acute respiratory diseases in Indonesia. The aim of this study was to find a relationship between family support and self-care adherence among tuberculosis patients. The study used quantitative with a cross-sectional method. The population in this study were 55 TB sufferers who were undergoing treatment in 2024 at the Tamansari Public Health Center. The sample for this study was all TB patients recorded in 2024, as many as 55 people, total sampling used in this study. This study was conducted at the Tamansari Public Health Center, Tasikmalaya City. The result showed that the Chi-Square statistical test obtained a p-value of 0.005 (<0.05), and there were significant differences between family support and self-care adherence among tuberculosis patients. In conclusion, there was a relationship between family support and self-care adherence in patients suffering from tuberculosis. Hope for the future study to optimize of family support among families with TB to prevent of TB resistance.

INTRODUCTION

Tuberculosis (TB) is currently still a public health problem with a high incidence rate in the world. TB is caused by Mycobacterium Tuberculosis. This germ most often attacks the lung organs with the source of transmission being positive BTA (acid-fast bacteria) TB patients. [1–3]

In all age groups in Indonesia, TB is the number one cause of mortality among infectious diseases and is the third cause of mortality after heart disease and acute respiratory diseases. [3,4] Because it will have a big impact on quality of life and the economy, eradication of tuberculosis is one of the national priorities for disease control programs in Indonesia. This condition resulted in the Indonesian government establishing a guideline for controlling TB as a legal entity. Minister of Health Regulation Number 67 of 2016 concerning Tuberculosis Management Guidelines. [5,6]

Data on TB cases according to the World Health Organization (WHO) on November

7 2023. Based on the data in this report, currently Indonesia has the 2nd highest number of TB cases in the world. Among them are India (27%), Indonesia (10%), China (7.1%), Philippines (7.0%), Pakistan (5.7%), Nigeria (4.5%), Bangladesh (3, 6%) and the Democratic Republic of the Congo (3.0%) per 7,900,000,000 population.[7] The incidence of TB in Indonesia has recorded an increase from 2021 to 969,000 with a total death of 144,000 people and in 2022 there were 1,060,000 cases recorded with a total death toll of 134,000 people. West Java Province is the province with the 2nd highest number of TB cases in Indonesia in 2021 amounting to 128,057 cases, in 2022 there are 148,070 cases and in 2023 there are 175,255 cases. This is because West Java Province is a very densely populated and humid area, which is very triggering for the development of TB cases.[7,8] Tasikmalaya City is one of the cities in West Java Province with a total of 3557 TB cases in 2023, 2837 cases in 2022, 1476 cases in 2021 and 1041 cases in 2020. The highest increase in TB cases in 2022 was 1361 cases with a percentage increase of 92.9%. Data from the Tasikmalaya City Health Service on December 21 2023 showed that TB sufferers who received health services, namely the Tamansari Health Center, were in the highest position in 2022, namely 73 people, this continues to increase and in 2023 there were 127 people. [9]

The problems found in TB sufferers are fear, shock and disbelief when they find out that they suffer from TB, shame and fear of dying. This situation results in a lack of patient ability to carry out self-care (Self-Care). A patient's continued inability to self-care will result in problems in preventing, recognizing and managing the disease they are suffering from. This is because families do not provide emotional support to TB sufferers, do not provide enough information regarding the disease they suffer from and do not help patients meet their needs during treatment.[10]

Efforts that can be made to overcome problems in TB patients are based on several studies conducted by Dewi et al., (2020) and Wahyuni et al., (2021) by increasing the role of patients and families as main supporters. Self-care is the term used to describe interventions that patients take as themselves. Self-Care focuses on an individual's ability to care for and maintain health and fulfill life's needs independently.

Family support is important to support the patient's recovery. Family support consists of appreciation support, instrumental support, informational support and emotional support. One of the functions of the family is to provide health services to the family, therefore the family will provide care to family members who suffer from TB. A family that carries out its functions well shows that the family can adapt to the patient's illness and changes in roles. This is effective in reducing the risk of depression in patients.[12] On the other hand, family dysfunction can cause the home environment to become a cause of stress for TB patients. Positive reinforcement from partners and family can be considered as strong family support.[13]

There is a relationship between Family Support and Self-Care. Family's duties in carrying out activities to care for family members who experience health problems.[14,15] This research is in accordance with research by Noorratri et al., (2017) which shows that there is a relationship between the level of self-care, self-confidence and the level of social activity in TB patients. This shows that good self-care has an impact on achieving a person's personal goals.

Effective self-care treatment can affect TB sufferers' health and increase compliance with treatment. Good physical health includes lifestyle choices, monitoring symptoms to inform self-care decisions (Self-Care), managing stress and the

emotional effects of illness, and being able to interact effectively with health professionals to ensure that the patient's needs are expressed. [17,18]

METHODS

The type of study used quantitative with a cross sectional method. The population in this study were 55 TB sufferers who were undergoing treatment in 2024 at the Tamansari Community Health Center. The sample for this study was all TB patients undergoing temporary treatment recorded in 2024 as many as 55 people. This sampling technique uses a total sampling technique. This study was conducted at the Tamansari Health Center Working Area, Tasikmalaya City.

This research questionnaire adopted from the Hasanah's questionnaire. This questionnaire uses a Likert scale type statement that selects answers using 4 criteria, starting from the option always to never.[19] This family support questionnaire has several questions, namely 12 question items covering 4 domains of family support. These domains include the domains of informational support, instrumental support, appreciation support and emotional support. Each family support domain consists of 4 questions, the informational domain has 4 items (question number 1,2,3,4); instrumental domain 4 items (question numbers 5,6,7,8); and the emotional and appreciation domain consists of 4 items (questions 9,10,11,12). Scoring in this questionnaire uses four scales with a value of 0-3 (0: never, 1: sometimes, 2: often, and 3: always). The measurement results of family support are categorized into two categories (positive and negative).

A self-care adherence questionnaire adopted from previous study and the institute for functional medicine consist of nutritional, regular exercise, controlling emotions, and taking medication. This questionnaire used a Likert scale type statement that selected answer with 5 criteria, starting from the options never to always. This self-care questionnaire has 30 questions. Each self-care for TB patients consists of several questions, 5-item diet management (questions number 1, 2, 3, 4, 5); physical exercise (sport) 7 items (question numbers 6,7,8,9,10,11,12); taking medication 10 items (questions 13,14,15,16,17,18,19,20,21,22); controlling emotions 8 items (questions 23,24,25,26,27,28,29,30). Scoring in this questionnaire uses a five-point scale of 0-4 (0: never, 1: rarely, 2: sometimes, 3: often and 4 : always).

The results of the validity test for each questionnaire were valid. The reliability test on this questionnaire was carried out. The results of the reliability test for family support, showed a Cronbach's alpha of 0.950 and for Self-Care showed a Cronbach's alpha of 0.990.

RESULTS

Demographic Characteristics of Respondents

Based on table 1, it shows that the frequency distribution of respondent characteristics based on age of respondents at Tamansari Health Center, Tasikmalaya City, most of them were >32 years old, 24 people (43.6%). The respondent characteristics based on gender at the Tamansari Health Center, Tasikmalaya City, was mostly male, 32 people (58.2%). The frequency distribution of respondent characteristics based on education of respondents at the Tamansari Health Center, Tasikmalaya City, most of them had junior high school education, 25 people (45.5%). The majority of respondents' family support was positive, as many as 38 people (69.1%). The majority of respondents' Self-Care is good, 33 people (60.0%).

Table 1
Respondent Characteristics at the Tamansari
Health Center Working Area, Tasikmalaya City

Indicators	f	(%)
Age		
<18 Years old	7	12.7
19-25 Years old	15	27.3
26-32 Years old	9	16.4
>32 Years old	24	43.6
Gender		
Male	32	58.2
Female	23	41.8
Education		
None	7	12.7
Elementary School	10	18.2
Junior High School	25	45.5
Senior High School	11	20.0
University	2	3.6
Family Support		
Positive	38	69.1
Negative	17	30.9
Self-Care		
Good	33	60.0
Poor	22	40.0
Total	55	100.0

Relationship between family support and self-care

Based on table 2, it shows that of the 55 respondents who have positive family support and have good self-care, 28 people (73.3%) and respondents who have positive family support and have poor self-care are 10 people (26.3%) while There were 5 respondents who had negative family support and good self-care (29.4%) and 12 respondents who had negative family support and poor self-care (70.6%).

The results of statistical tests using Chi-Square obtain a significant degree of p value = 0.005 and an Odd Ratio of 6,720. In conclusion there is a significant relationship between family support and self-care and patients who have positive family support have 6,720 times better self-care compared to patients who have family support negative.

Table 2
The Relationship between Family Support and Self-Care of Tuberculosis at the Tamansari Health Center
Working Area, Tasikmalaya City

Family Support	Self-Care						P Value	OR
	Good		Poor		Total			
	f	%	f	%	f	%		
Positive	28	73.3	10	26.3	38	100	0.005	6.720
Negative	5	29.4	12	70.6	17	100		
Total	19	34.5	36	65.5	55	100		

DISCUSSION

The age characteristics of respondents in the study showed that the largest percentage of TB sufferers were in the productive age group, namely 15-64 years.

This is consistent with research findings which indicate that the majority of pulmonary tuberculosis patients are between the ages of 15 and 55 (productive age) .[20] This is due to the fact that individuals at this age work long hours and burn through energy, which reduces rest periods and lowers the body's endurance .[21] Moreover, getting older or elderly population is natural aging process with a

decline in immune system. Age imply a crucial factor influencing an individual's quality of life. [22-24]

The gender of the respondents in the study showed that the largest percentage of TB sufferers were men. This is in accordance with research by Sukmawati, (2017) which states that physiologically lung volume and capacity are different in men and women, women have a capacity that is 20 - 25% smaller than men, men are more likely than women to be exposed to tuberculosis because to their higher mobility, in addition to the fact that smoking and drinking alcohol can facilitate infection. [26]

The education of respondents in the study showed that the largest percentage of TB sufferers was at junior high school level. The research results of Kusumawati et al., (2019) show that the level of public education can influence respondents' decision making, such as complying with taking medication, complying with carrying out things that can prevent TB transmission and so on. The more education people have, the better their understanding of the disease process, availability of diagnosis, treatment options, and the risk of delays in seeking medical care. [28] People at this level of education usually have a higher opportunity to access health-related information easily from various media and through their formal education. [29]

Family support is a very important factor for TB sufferers because it includes support that can provide attention and support the success of treatment for TB sufferers. The highest level of family support in this study lies in the domain of instrumental support or facilities and emotional support or appreciation. These two domains are very important because they contain psychological elements that can increase the patient's drive to recover. This is because in this domain it shows the care and attention given to sufferers by the family. This domain includes time and health facilities related to treatment (cost and transportation), the active role of family and beliefs.

Based on the research results, it shows that the majority of respondents' family support are positive. The results of this research are consistent with research conducted by Nasution and Zulkarnain, (2020) on 45 respondents with pulmonary tuberculosis sufferers at the Padang Bulan Health Center, Medan. The results showed that respondents who had positive family support could be shown by a percentage (72.6%) of positive family support for Pulmonary Tuberculosis patients at the Padang Bulan Community Health Center.

Someone who has high family support will be more optimistic in overcoming health problems, their life will be better in terms of their ability to meet physical and psychological needs. The research results show that all family members can provide positive support to sufferers both morally and materially. The results of this research are in line with research conducted by Saragih et al., (2024) that good family support is very important to support the success of treatment for TB sufferers. Moreover, research conducted by Nasution, & Zulkarnain, (2020) which states that family support is a very important family coping strategy, because family support is support that is seen by family members as something that the family can obtain to overcome their problems. Through family support, a person feels comfort, attention, appreciation and can accept their condition. Lack of family support in providing information, advice and motivation about the importance of taking medication, lack of time spent accompanying sufferers when carrying out health checks and taking medication from the Health Service. Apart from that, family support is very important to encourage TB sufferers psychologically while undergoing treatment. This will create a good social relationship between the sufferer and their family. [32]

In conclusion that family support is the person closest and most understanding. When one of the family members is sick, it is likely that the other members will provide positive support for the sufferer to recover. A group's empathy for members of another group is significantly greater than its empathy for other people. This results in empathy as a form of family encouragement to provide full support for sufferers, especially pulmonary tuberculosis which requires treatment and care over a long period of time.

Self-Care of TB patient

According to the study's findings, the majority of participants practice good self-

care, which includes managing stress, keeping an eye on symptoms to guide treatment decisions, eating well, and communicating clearly and effectively with medical staff to guarantee that patients' requirements are understood and met. Good self-care is influenced by a number of factors, including supportive families. Self-care is action taken voluntarily by people to improve their health and live a safe life. [33]

Self-care behavior will be formed if there is motivation, efficacy, communication, attitude, family support and support from health workers. Self care can improve the quality of life. So it is very important for TB sufferers and their families to have good self-care because good self-care for TB sufferers and their families can help reduce the risk of transmission to other family members.[1] This is support by other research which states that self-care is good with a risk reduction of 5 (8.4%), this is because the respondents' knowledge of self-care is good, but their attitudes respondents to reduce the risk of transmission is less. Respondents did not take actions that could reduce the risk of transmission. Good self-care not only requires good knowledge but can take decisions and take action to change .[34] Individuals who are actively involved in self-care have the ability to act, namely the ability to act independently to control factors that influence their personal function and development. This action requires knowledge, decision making and action to change. [1]

Self-care is the duty each person has to take part in both the actions required to treat health issues and the healthy lifestyle behaviour required for human development and function. In addition, self-care is one of the nursing interventions that promotes the independence of patients and families caring for TB patients, as well as supporting education. [17]

The research results showed that the lowest score (score 110 out of a maximum score of 165) was found in part 2 question number 6 regarding physical exercise and activity, namely that the sufferer did not exercise enough because TB sufferers were physically unable to exercise and just stayed at home. The question with the highest score (score 235 out of a maximum score of 220) is in part 4 question number 27 about taking medication, namely that sufferers never get bored of taking medication and never think about stopping before the specified time. This is because sufferers want to immediately complete treatment and recover from the disease.

Family Support and Self-Care in TB Patients

The research results showed that the majority of respondents had positive support and had good self-care. Family support really supports the success of a person's treatment by reminding sick family members to take medicine on time, giving adequate attention to sick family members and encouraging them to remain diligent in seeking treatment. Apart from family support, pulmonary TB patients must also have good self-care in order to complete pulmonary TB treatment well .[35]

Data from the Chi-Square statistical test obtained a p-value of 0.005 (<0.05), which means there is a relationship between family support and self-care in TB patients at the Tamansari Health Center working area, Tasikmalaya City. These results are support by Muhtar, (2013) shows that there is a relationship between family support and self-care, after intervention family has improvement of knowledge and activity to prevent of TB disease. Self-care will be formed from family support, that is, a person's actions regarding health problems will basically be influenced by a person's knowledge of the problem, in this case the higher the level of knowledge a TB patient has, the higher the client's compliance with treatment. The lower the knowledge, the more disobedient TB clients are to taking anti-tuberculosis medication. [17]

CONCLUSION

There is a relationship between family support and self-care adherence among TB patients.

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CONFLICTS OF INTEREST

Neither of the authors has any conflicts of interest that would bias the findings presented here.

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