International Journal of Research and Review
Volume 11; Issue: 7; July 2024
Website: www.ijrrjournal.com
Original Research Article *E-ISSN: 2349-9788; P-ISSN: 2454-2237*

Factors Associated with the Recovery of Tuberculosis Patients at the Padang City Health Center

Fadilla Azmi[1], Rima Semiarty[2], Desmawati[3]

[1]Master of Public Health Study Program, Faculty of Medicine, Andalas University.
[2]Department of Public Health and Community Medicine, Faculty of Medicine, AndalasUniversity.
[3]Department of Nutritional Sciences, Faculty of Medicine, Andalas University.

Corresponding Author: Fadilla Azmi

DOI: https://doi.org/10.52403/ijrr.20240727

ABSTRACT

Tuberculosis is a disease whose control is one of the global commitments in the Sustainable Development Goals. The tuberculosis cure rate in Padang City is 50.5%, which is far from the national target (85%). This low cure rate is caused by several factors. This study aims to determine the factors associated with the recovery of TB patients at the Padang City Health Center. This study is a quantitative study, with a cross-sectional study design. The sample in this study were pulmonary TB patients at the Padang City Health Center, as many as 67 people selected by systematic random sampling. The results showed 53.7% of respondents had high education, 77.6% had high knowledge, 64.2% had low social status, 71.6% had affordable access, and 73.1% had good family support. There was a relationship between family support (p=0.002) and pulmonary TB cure. There was no relationship between education level (p=0.956), knowledge (p=0.774), social status (p=0.098), access to services (0.328) with pulmonary TB cure. Family support variable was the most influential variable on patient recovery (p=0.004). The results showed that patients who received family support had a chance to recover by 6 times compared to patients who did not receive family support after controlling for socioeconomic variables, attitudes, and treatment compliance. TB program holders need to improve socialization and education of patients and their families who play a role in supervising and providing support to patients.

Keywords: Recovery; Patient; Tuberculosis

INTRODUCTION

Infectious diseases are predicted to be a major health problem, so it is necessary to overcome this with effective and efficient preventive, control and elimination efforts. Infectious diseases are diseases that can infect fellow humans by causing biological agents, including: viruses, bacteria, fungi, and parasites (Kementerian Kesehatan, 2008). One of the diseases classified as infectious diseases is Tuberculosis (TB). This disease is caused by the bacterium Mycobacterium tuberculosis which can spread through droplets that have been infected with TB bacilli. TB disease is an international public health problem, including Indonesia, whose control is one of the global commitments in the Sustainable Development Goals (SDGs) (DKK Kota Padang, 2019). Indonesia is one of the countries with the highest number of tuberculosis patients. This encourages national tuberculosis control to continue

with intensification, acceleration, extensification and program innovation (Kementerian Kesehatan Republik Indonesia, 2021).

In early 2020, WHO declared Covid-19 a pandemic. The Covid-19 pandemic affects the incidence of TB. Most of the targets that have been set are not achieved. Based on WHO data, the number of TB cases caught in 2020 was 5.8 million cases, this has decreased from 2019 where 7.1 million cases were found (World Health Organization, 2020). The countries with the largest contribution to the reduction in new case finding are India, Indonesia and the Philippines. The reduction in TB case finding and TB treatment has resulted in an increase in TB mortality. In addition, the number of TB patients treated for drug-resistant TB decreased from 177,100 to 150,359 in 2020. Meanwhile, the number of TB preventive treatments in 2020 amounted to 3.6 million, down to 2.8 million. There was also a decrease in global spending on TB diagnostic, treatment, and prevention services from US$ 5.8 billion to US$ 5.3 billion (World Health Organization, 2021) .

Long before the outbreak of Covid-19, TB had become a long-standing health problem, so handling tuberculosis is no less important than handling Covid-19. Tuberculosis is important to be eliminated for various reasons, including tuberculosis is an infectious disease whose treatment is not easy and cheap. TB disease that is not treated thoroughly will cause drug resistance. In addition, TB can be transmitted easily, namely through the air, which has the potential to spread in the family environment, workplace, school, and other public places (Sulistiawati, 2022) .

The indicator used in the evaluation of TB treatment is the cure rate. The TB cure category is a situation where TB patients have shown improved health and have one of the indicators of TB disease cure. The indicators are patients who complete the full course of treatment and sputum re-examination is negative at the end of treatment (Kementrian Kesehatan RI, 2016).

The annual TB treatment cure rate in Indonesia has not reached the set target. The TB treatment cure rate in Indonesia in 2019 was 73.2%, 170,179 cured TB patients out of 232,562 registered and treated bacteriologically confirmed TB cases (Kementerian Kesehatan RI, 2020b). In 2020, the cure rate decreased to 69.9% where there were 181,841 cured patients out of 261,113 registered and treated bacteriology- confirmed TB cases (Kementerian Kesehatan RI, 2021). This figure continues to decline in 2021, this is one of the impacts of the covid-19 pandemic which resulted in a decrease in the discovery of bacteriologically confirmed cases, 173,221 cases. The cure rate in 2021 only reached 39% (67,575 cases) (Kementrian Kesehatan RI, 2022).

Based on data from the Central Bureau of Statistics (BPS) of West Sumatra in 2019, TB is the disease with the second highest number of cases in Indonesia, which is 11,790 cases. The case finding rate or CDR (Case Detection Rate) of TB cases in West Sumatra is only 48.1%, this causes West Sumatra to be ranked 20th out of 34 provinces in Indonesia. Padang City is the area with the most TB cases in West Sumatra Province. These TB cases tend to increase, namely 2016 (1,557 cases), 2017 (2,029 cases), 2018 (2,358 cases), 2019 (2,617 cases), 2020 (1,640 cases), and 2021 (1,650). The decline in 2020 was due to the obstruction of the screening process due to the Covid-19 pandemic (Dinkes Provinsi Sumatera Barat, 2019).

The TB treatment cure rate in West Sumatra Province based on the Indonesian health profile in 2020 was 76.9%. The cure rate in West Sumatra Province has not yet reached the national target set at 85%. In addition, TB cases in West Sumatra Province have increased, where in 2019 the number of bacteriologically confirmed pulmonary tuberculosis cases registered and treated was 5,423 cases, and in 2020 it increased to 7262 TB cases. In 2020, the highest TB case in West Sumatra Province was occupied by Padang City with 1650 cases (23%),

followed by Pesisir Selatan Regency with 765 cases (11%), and Agam Regency with 576 cases (7%) (Dinkes Provinsi Sumatera Barat, 2019; Dinkes Kota Padang, 2021).

The highest incidence of confirmed bacterial cases in Padang City in 2021 was in the working areas of Puskesmas Andalas (61 cases), Puskesmas Padang Pasir (41 cases) and Puskesmas Lubuk Begalung (38 cases) (Dinas Kesehatan Kota Padang, 2021a). The cure rate for bacteriologically confirmed pulmonary tuberculosis in Padang City has only reached 50.5%, this is certainly still far from the national target (85%). Of the 23 Puskesmas in Padang City, 18 of them have not reached the predetermined target. The health centers with the lowest cure rates are Anak Air Health Center (13.8%), Seberang Padang Health Center (30.3%), and followed by Air Dingin Health Center (31.4%). The health center with the lowest treatment success rate is Air Dingin Health Center (83.3%), while treatment success at Anak Air Health Center (91.8) and Seberang Padang Health Center (90%). The health center with the highest recovery rate was Lubuk Begalung Health Center, where the recovery rate reached 97.4%. Meanwhile, one of the Puskesmas with a cure rate on target is Puskesmas Belimbing with a cure rate of 87.2% (Dinas Kesehatan Kota Padang, 2021b).

The success of TB control efforts is measured by the recovery of patients. This cure can not only reduce the number of sufferers, but also prevent transmission and successful achievement of the program. Lung TB cases that are not cured due to treatment dropout will result in high retreatment cases in the future, while failed cases can increase the problem of drug resistance. This drug resistance will have an effect on the spread of Lung TB disease, increasing morbidity and mortality from Lung TB (Fitri, Marlindawani dan Purba, 2018; Maisyarah dan Athosra, 2022). Therefore, to ensure recovery, drugs must be taken and the patient is closely monitored by family and friends around them and if possible, monitored by health workers to ensure patient compliance with taking medication (Kementerian Kesehatan RI, 2016, 2020b). The low cure rate indicates that there are still many people with pulmonary TB who have not recovered. This not only affects the transmission that will increasingly occur in the patient's family and people in the patient's environment, but it is feared that there will be multiple immunity to Anti- Tuberculosis Drugs (OAT), so that the recovery process will be more difficult (Kementerian Kesehatan Republik Indonesia, 2021). One of the determinants of the recovery process for pulmonary tuberculosis is adherence to taking medication. Adherence to taking medication has a major influence on the recovery process (Rusman dan Basri K, 2019).

The main support system that greatly influences the recovery of pulmonary patients is the family. Lung TB disease can be cured by taking medication regularly and correctly for 6 months continuously, eating good food with balanced nutrition and adequate rest. Low education affects the level of knowledge or insight it has. Knowledge and attitudes affect the recovery of patients with a diagnosis of pulmonary TB (Gerdunas-TB, 2007). The recovery of TB patients is also influenced by predisposing factors, reinforcing factors and enabling factors. The predisposing factors that influence treatment success include socioeconomics, knowledge, psychological stress, and availability to access services (Gerdunas-TB, 2007).

One of the reinforcing factors that influence treatment success is family support. Meanwhile, supporting factors include the support of doctors and the support of medication supervisors (PMOs) (Putra dan Toonsiri, 2019). However, not only these factors, the success of tuberculosis treatment is also influenced by other factors, such as nutritional status, environment and comorbidities (Saputra dan Herlina, 2021). The results of Suvianto's research in 2018 at the Perumnas 1 Pontianak Community Health Center, the recovery status of

tuberculosis patients was also related to gender, education level, knowledge, and compliance with taking medication (Suvianto dan Hadiyanto, 2020).

Based on preliminary studies conducted on several tuberculosis patients who took treatment at the Lubuk Begalung Health Center, family support has an important meaning in efforts to achieve recovery. One form of family support is to take the patient for treatment at the health center. However, there were still families who were not willing to take the patient for treatment, with various reasons. The distance between the residence and the puskesmas is also one of the reasons why patients do not seek treatment. The large number of pulmonary TB cases in Padang City and the nonachievement of the tuberculosis cure target, made researchers interested in conducting research on factors associated with the recovery of tuberculosis patients at the Padang City Health Center.

MATERIALS & METHODS

This research is a quantitative study with a Cross-Sectional Study design. The instrument in this study used a questionnaire which was used to obtain information from respondents. The distribution of respondents for each puskesmas, namely Puskesmas Lubuk Begalung and Air Dingin as many as 24 people and Puskesmas Belimbing as many as 19 people so that the total sample of this study was 67 people.

RESULT

The characteristics of this study include gender, age, latest education, and occupation which can be seen in the following table:

Tabel 1. Frequency Distribution of Respondent Characteristics

Respondent Characteristics	Total	
	f	%
Gender		
Male	41	60,6
Female	26	39,4
Age Group		
Teenagers (12-25 Years)	12	17,4
Mature (26-45 Years)	28	41,8
Elderly (46-65 years old)	27	40,8
Age Group Category		
≤45 Years	40	59,2
>45 Years	27	40,8
Last Education		
Not in School	3	4,5
Not graduated from elementary school	5	8,8
Elementary school/equivalent	9	12,9
Junior High School/ Equivalent	14	20,9
High School/ Equivalent	33	48,8
Diploma 3/ graduate degree or above	3	4,2
Education Category		
High	36	52,9
Low	31	47,1
Employment status		
Civil Servant/ Military Personnel	4	5,9
Private Employee	4	6,3
Self-employed	16	23,3
Retired	0	0,0
Student	4	5,9
Farmers	7	10,5
Labor	10	14,6
IRT	16	24,8

More	6	8,7
Job Category		
Work	41	60,6
Not Working	26	39,4
Category Number of Families		
< 5 People	47	69,7
≥ 5 People	20	30,3
Total	67	100,0

Based on the table, most of the respondents were male (60.6%) with the largest age group being ≤45 years old (59.2%). For education, most respondents completed high school (48.8%) and if categorized as being at a high education level, namely completing high school and college (53%). For employment, most respondents worked as housewives (36.8%) and a small proportion worked as civil servants/ military personnel and students (5.9%).

A. Univariate Analysis

Socioeconomic Status

The socio-economic status of respondents is seen from their monthly income which is then categorized based on the Provincial Minimum Wage as can be seen in the following table:

Tabel 2. Socioeconomic Frequency Distribution of Pulmonary Tuberculosis Respondents at Padang City Health Center

Socioeconomic Status	Frequency (n)	Persentage (%)
High	24	35,8
Low	43	64,2
Total	**67**	**100**

From the table above, it can be seen that most of the respondents are in low economic status (64.2%) or below IDR 2,512,539 per month.

Family Support

Table 3 below shows the frequency distribution of answers to statements regarding family support. The family support score consists of 5 scales from very never to always (1-5), with an average score of 69.1 points and a standard deviation of 17.3. The lowest score was 17 points and the highest was 85 points. Furthermore, the family support score was made into 2 scales, where for answers often and always (4-5) became "1" and answers never, rarely and sometimes, became "0". The average attitude score using 2 scales is 13.2 points with a standard deviation of 5.2. The lowest score value is 0 points and the highest is 17 points.

Tabel 3. Frequency Distribution of Respondents' Family Support

Variables	Mean ± SD	Min - Max
Total Score (5 point)	69,1 ± 17,3	17 - 85
Total Score (2 point)	13,2 ± 5,2	0 - 17
Attitude Category	**Frequency (n)**	**Persentage (%)**
High	49	73,1
Low	18	26,9
Total	**67**	**100**

For the category of family support, it is divided into high and low. The results showed that most respondents had high family support (73.1%)

Akses Layanan

Table 4 below shows the frequency distribution of answers to statements regarding service access.

Tabel 4. Frequency Distribution of Access to Health Services

Variable	**Mean ± SD**	**Min - Max**
Total Score (5 point)	63,6 ± 9,0	32 - 70
Total Score (2 point)	12,8 ± 2,2	4 - 14
Service Access Categories	**Frequency (n)**	**Percentage (%)**
Available	48	71,6
Not Available	19	28,4
Total	**67**	**100**

The health service access score consists of 5 scales, namely strongly disagree to strongly agree (1-5), with an average score of 63.6 points with a standard deviation of 9. The lowest score is 32 points and the highest is 70 points. Furthermore, this service access score was made into 2 scales, where for positive statements, the health service score value on the answers agree and strongly agree (4-5) became "1" and the answers strongly disagree, disagree and disagree (1-3) became "0". For negative statements, the opposite is made. The average attitude score using 2 scales was 12.8 points with a standard deviation of 2.2. The lowest score value is 4 points and the highest is 14 points. The access to services category was categorized into available and unavailable. From the results of the study, it can be seen that most respondents stated the availability of access to health services (71.6%) as shownin the table.

B. Bivariate Analysis

Relationship between Socioeconomic Status and Tuberculosis Cure

The relationship between socioeconomic status and treatment recovery in pulmonary tuberculosis patients at the Padang City Health Center can be seen in the following table:

Tabel 5. Relationship between Socioeconomic Status and the Recovery of Pulmonary Tuberculosis Patients at the Padang City Health Center

Socioeconomic Status	**Treatment Cure in Pulmonary TB Patients**						***p-value***
	Cured		**Not-cured**		**Total**		
	f	**%**	**f**	**%**	**f**	**%**	
High	15	62,5	9	37,5	24	100	0,098
Low	36	83,7	7	16,3	43	100	
Total	**51**	**76,1**	**16**	**23,9**	**67**	**100**	

Table 5 shows that the percentage of respondents with high socioeconomic status (62.5%) was greater to be cured than to be not cured (37.5%). The results of statistical tests showed that there was no relationship between socioeconomic status and recovery of respondents as Tuberculosis patients in the Working Area of the Padang City Health Center in 2022 (p>0.005).

Relationship between Family Support and Tuberculosis Cure

The relationship between the level of family support and the recovery of respondents as Tuberculosis patients in the Padang City Health Center Working Area in 2022 can be seen in the following table:

Tabel 6. Relationship between the Level of Family Support and the Recovery of Pulmonary Tuberculosis Patients at the Padang City Health Center

Family Support	**Treatment Cure in Pulmonary TB Patients**						***p-value***
	Cured		**Not-cured**		**Total**		
	f	**%**	**f**	**%**	**f**	**%**	
High	42	85,7	7	14,3	48	100	0,002
Low	9	50,0	9	50,0	18	100	
Total	**51**	**76,1**	**16**	**23,9**	**67**	**100**	

From the results of table 6, it can be seen that the percentage of respondents with a high level of family support (85.7%) is greater for recovery than for not recovering (14.3%). The statistical test results showed that there was a significant relationship between the level of family support and the recovery of respondents as Tuberculosis patients in the Working Area of the Padang City Health Center in 2022 (p = 0.002).

Relationship between Access to Services and Tuberculosis Cure

The relationship between the category of access to health services and the recovery of respondents as Tuberculosis patients in the Working Area of the Padang City Health Center in 2022 can be seen in the following table:

Tabel 7. Relationship between the Availability of Access to Services and the Recovery of Pulmonary Tuberculosis Patients at the Padang City Health Center

Akses Layanan	Treatment Cure in Pulmonary TB Patients						*p-value*
	Cured		Tidak Sembuh		Jumlah		
	f	%	f	%	f	%	
Affordable	35	72,9	13	27,1	48	100	0,328
Unreachable	16	84,2	3	15,8	19	100	
Total	**51**	**76,1**	**16**	**23,9**	**67**	**100**	

Table 7 shows that the percentage of respondents with access to affordable health services (72.9%) was greater for recovery than for not recovery (27.1%). The results of statistical tests showed that there was no relationship between the category of access to health services and the recovery of respondents as Tuberculosis patients in the Working Area of the Padang City Health Center in 2022 (p>0.005).

DISCUSSION

Relationship between Socioeconomic Status and Healing

In this study, the patient's socioeconomic status was not associated with pulmonary TB recovery because based on the results of the study, germs did not only attack low-income people, but people with income above UMP were also attacked. Anti-tuberculosis drugs provided by the Padang City Health Center to TB patients are free drugs from the government. Thus, this disease is contagious regardless of the patient's socioeconomic status, it can be transmitted in the workplace, whether in an office, company or other workplace.

An interesting finding in this study is that patients with low socioeconomic status and nutritional status have a high recovery rate. This can be influenced by various factors, one of which is that those with low socioeconomic status get special attention from the Government by providing assistance in the form of money, as well as nutritional adequacy. In contrast, patients with higher incomes may be able to afford nutritious food and vitamins to support their recovery, but they may not have the willpower to do so. TB disease occurs in populations that are in poverty or have social inequality because it is related to income that can be used to fulfill the needs of one of them nutrition and proper shelter.

Family Support Relationship and Healing

From the results of this study, a small proportion of respondents still have low family support in tuberculosis treatment efforts. This is in line with Nasution's research (2020), that 20.8% of respondents had sufficient family support and 16.4% had low support (Nasution, Nurhayati dan Dwicahyu, 2020). Family support is encouragement, motivation, encouragement, and advice that comes from family members at home that builds a person's character. Family support can be obtained through verbal or nonverbal. Family support includes informational support, instrumental support, emotional support and assessment support needed by tuberculosis patients,

including nutritional support. Family support makes patients (1) feel loved, (2) cared for, (3) respected, and (4) part of the family. Family support can improve healing and recovery for patients. Forms of family support include instrumental support, informational support, emotional support, and appraisal support (Setiadi, 2008; Smeltzer & Bare, 2002 dalam Suprajitno dan Rahayu Ningsih, 2018). Family support is very important when someone is affected by an illness because family support can prevent the development of problems due to the pressures faced. Family support plays an important role in creating good interpersonal relationships both related to adherence to treatment. Patients with pulmonary TB experience stress during the treatment process, therefore patients with pulmonary TB need more support from the family in the form of social support, family competence, and adequate family resources (Sari, 2019; Nasution *et al.*, 2020).

Family emotional support is the presence of emotions, feelings in providing support to families such as giving praise, strengthening families who are experiencing problems such as illness or accidents. Emotional support includes expressions of empathy, care and concern from the person concerned to family members who experience health problems such as feedback and recognition from family members. Family emotional support serves as a place to restore feelings and help in mastering emotions. TB patients often need moral support from their families because TB patients experience a 6-month treatment routine accompanied by drug side effects (Nasution *et al.*, 2020).

Family support is essential in dealing with tuberculosis (TB), both in terms of treatment and recovery. Families can be a strong source of emotional support for TB patients. The presence of family support will increase self-confidence and motivation to face problems. The family plays a role in listening to the patient's complaints, providing words of encouragement, and showing that they care and are ready to help during the treatment process. TB treatment involves the use of antibiotics that must be taken regularly over a long period of time. Families can help the patient to remember and follow the prescribed medication schedule. They can also help ensure that the patient is taking the correct dosage of medication.

TB treatment requires significant costs, especially if the patient does not have insurance or access to affordable health facilities. Families can assist in sourcing the necessary funds or help the patient arrange health insurance if possible. Family support is also needed in helping the patient to maintain a healthy diet and a balanced lifestyle. They can support the patient in adopting life habits that support recovery, such as avoiding smoking and reducing stress. In addition to family support, support is also needed from medical personnel caring for these TB patients. Support from the medical team can include providing information about the treatment process.

The family approach is in line with the government's Healthy Indonesia Program with a Family Approach (PIS-PK), and TB prevention activities are further strengthened by the Germas (Healthy Living Community Movement). (Ministry of Health, 2016a). TB is included as the sixth health indicator, namely patients with Pulmonary TB receiving treatment according to standards. In this case, if in a family there is someone who suffers from a cough for more than 2 weeks or is known to have TB, then it is mandatory to seek treatment according to TB management standards. The supporting factor for this indicator is the availability of health services for patients with TB and pulmonary diseases at the health center or hospital. In a family, there must also be a drug swallowing supervisor or PMO who functions to remind TB patients to take their medicine regularly (Keputusan Presiden RI, 2017).

TB treatment does not only require the role of health workers, but family support and the role of PMOs are needed in an effort to increase adherence to taking drugs in TB

patients, so that TB patients achieve recovery in TB treatment. One of the efforts that can be made by officers is to increase the frequency of counseling in an effective way, so that the message to be conveyed can be received by the community. Counseling can be conducted routinely at the health center or at other meetings, such as majelis taklim, cross-sector meetings in the village, schools, and other meetings. In addition to counseling, to increase community understanding, leaflets can also be distributed about the importance of TB cure efforts, treatment adherence, family support and the role of PMO in efforts to successfully treat, cure and prevent TB transmission (Sitorus, Fatmawati dan Rahmaniah, 2017).

The statistical test results of this study indicate that there is a significant relationship between family support and the recovery of pulmonary tuberculosis patients in Padang City. This is in line with the results of research by Khoirin (2018), which states that there is a significant relationship between family support and the recovery of tuberculosis patients at the Padang Tuesday Health Center, Palembang (Khoirin dan Rosita, 2018).

The statistical test results of this study indicate that there is a significant relationship between family support and the recovery of pulmonary tuberculosis patients in Padang City. This is in line with the results of research by Khoirin (2018), which states that there is a significant relationship between family support and the recovery of tuberculosis patients at the Padang Tuesday Health Center, Palembang. (Khoirin and Rosita, 2018).

Soleman's research (2021) also states that there is a significant relationship between family support and patient behavior (p=0.025), family support here includes reminders to take medicine regularly and encouragement to continue taking medicine until the specified time. Patients with pulmonary tuberculosis need family support, including showing concern and sympathy, and caring for them. Family support, which includes emotional attention, assistance, and affirmation, will ensure that patients with pulmonary tuberculosis do not feel alone when faced with difficult conditions (Soleman, Sukartini dan Qona'ah, 2021).

Family support is one aspect that plays an important role in the recovery of tuberculosis (TB) patients, where the nuclear family and extended family function as a support system for family members. Family support is important in ensuring that TB patients undergo regular treatment. TB patients usually have to take medication regularly for several months to years. Families can help remind patients to take their medication at the right time and ensure they undergo the entire treatment course.

In addition, families also play a role in creating a clean and healthy environment around the patient. This includes keeping the home clean, providing adequate nutrition, and encouraging good personal hygiene practices. This will help strengthen the patient's immune system and prevent the spread of infection. Emotional support is also needed as patients undergo a long course of treatment, which is emotionally challenging for patients. Families who provide emotional support can help reduce stress and increase the patient's motivation to keep fighting in the healing process. This emotional support can include listening, providing encouragement, and providing a thorough understanding of the patient's condition.

Families can also help understand TB better through education and providing accurate information. Families can seek out reliable sources of information and help patients in some cases. In addition, TB patients should make regular visits to health facilities for examination and treatment. Families can assist in organizing visits, driving patients to check-ups, and providing physical support when needed.

Family is an important factor in providing support for people with pulmonary TB disabilities. Family support will increase self-confidence and motivation to deal with

problems and increase life satisfaction. In this case, the family must be involved in educational programs so that the family can meet the needs of patients, know when the family should seek help and support adherence to treatment (Pradipta dkk., 2020 ; Nasution dkk., 2020).

Service Access Relationship and Healing

The results showed that there was no relationship between access to services and the recovery of tuberculosis patients. Most respondents stated that access to puskesmas was affordable, both in terms of distance, cost, time and availability of transportation. Although health services at puskesmas are free, access to puskesmas still requires money for transportation. In addition, access here is not only seen in terms of cost and distance from the domicile of residence, but also includes time availability, transportation used, treatment rules, work barriers, and environmental barriers. In this case, it can be seen that there are still obstacles to accessing services for TB recovery in terms of transportation, according to the statements of respondents who agreed that the road to the puskesmas is not passed by public transportation.

In line with Nur Ngafiyah's research (2015) which concluded that access to health service centers is easier if using supportive transportation. The distance between health service facilities and the community's residence is an obstacle for underprivileged people in Bumirejo Village due to the costs incurred to access transportation (Ngafiyah, 2015). The 3 Puskesmas studied are not passed by public transportation (angkot), so TB patients go to the Puskesmas using transportation, such as motorized tricycles and motorcycle taxis, which are certainly more expensive than public transportation.

Stigma and discrimination associated with TB still exist in the community. In the 2013-2014 TB Prevalence Survey, it was stated that stigma, which is shown by keeping families affected by TB a secret, is still high (11.7%). Many people still believe that TB is a curse. People with TB are less respected by their communities. Patients with drug-resistant TB revealed that the lack of capacity of service providers responsible for managing drug- resistant TB resulted in unpleasant experiences and added to the suffering caused by the disease. Some patients have to wait a long time to be diagnosed with TB because doctors lack the capacity to recognize symptoms and provide adequate treatment. (Kementerian Kesehatan RI, 2020a).

CONCLUSION

Based on the results of the research and discussion that refers to the research objectives, it can be concluded that: There were 23.9% of patients who did not recover in the treatment of pulmonary tuberculosis at the Padang City Health Center. Most respondents had low social status and good family support. There was no significant relationship between socioeconomic status and access to services with TB cure at the Padang City Health Center. There is a significant relationship between reinforcing factors of family support with TB recovery at the Padang City Health Center. In addition to education for TB patients, program holders should also provide education and socialization to families who accompany patients in carrying out pulmonary TB treatment. Family support is needed in recovery efforts. Families should always accompany patients in taking medicine or delivering sputum to the Puskesmas, so that not only patients get knowledge about pulmonary TB because at the time of taking medicine the TB program holder can conduct counseling to patients and Drug Drinking Supervisors (PMO). It is necessary to increase the active role of the family in supervising and providing support to patients in order to complete treatment until it is completed and declared cured.

Declaration by Authors

Ethical Approval: In this study, before being interviewed, respondents were asked to give informed consent.

Acknowledgement: My deepest gratitude goes to Andalas University for the support given during this research process. Thank you to the Health Center for giving permission and facilities to carry out this research. My thanks also go to my supervisor, who has provided invaluable guidance, advice and encouragement during the conduct of research and the writing of this manuscript. Special thanks also go to all those who have helped in the implementation of this research, both directly and indirectly.

Source of Funding: None.

Conflict of Interest: The authors declare no conflict of interest.

REFERENCES

1. Dinas Kesehatan Kota Padang (2021a) *Laporan Evaluasi Pengobatan TB 2018-2021*.
2. Dinas Kesehatan Kota Padang (2021b) *Profil Kesehatan Tahun 2020*. Padang.
3. Dinkes Kota Padang (2021) *Laporan Tahunan Tahun 2020*. Padang: Dinas Kesehatan Kota Padang.
4. Dinkes Provinsi Sumatera Barat (2019) "Profil Kesehatan Dinas Kesehatan Provinsi Sumatera Barat Tahun 2018." Dinas Kesehatan Provinsi Sumatera Barat.
5. DKK Kota Padang (2019) "Laporan tahunan tahun 2019 edisi 2020." Dinas Kesehatan Kota Padang.
6. Fitri, L. D., Marlindawani, J. dan Purba, A. (2018) "Kepatuhan Minum Obat pada Pasien Tuberkulosis Paru," 07(01), hal. 33–42.
7. Gerdunas-TB (2007) *Pedoman Nasional Penanggulangan Tuberkulosis*. Departemen Kesehatan RI.
8. Kementerian Kesehatan (2008) *Keputusan Menteri Kesehatan Republik Indonesia No 129/Menkes/SK/II/2008 Tentang Standar Pelayanan Minimum Rumah Sakit*. Jakarta.
9. Kementerian Kesehatan Republik Indonesia (2021) *Keputusan Menteri Kesehatan Republik Indonesia tentang pedoman pelayanan kesehatan melalui telemedicine pada masa Covid-19, Menkes/4829/2021*.
10. Kementerian Kesehatan RI (2016) *Peraturan Menteri Kesehatan Republik Indonesia Nomor 67 Tahun 2016 Tentang Penanggulangan Tuberkulosis, Kemenkes RI*.
11. Kementerian Kesehatan RI (2020a) "Strategi Komunikasi TOSS TBC," hal. 68. Tersedia pada: https://tbindonesia.or.id/pustaka/pedoman/umum/pedoman-strategi-komunikasi-toss-tbc-2022/.
12. Kementerian Kesehatan RI (2020b) "Strategi Nasional Penanggulangan Tuberkulosis di Indonesia 2020-2024," *Pertemuan Konsolidasi Nasional Penyusunan STRANAS TB*, hal. 135.
13. Kementerian Kesehatan RI (2021) *Profil Kesehatan Indonesia 2020, Kementrian Kesehatan Republik Indonesia*. Tersedia pada: https://pusdatin.kemkes.go.id/resources/download/pusdatin/profil-kesehatan-indonesia/Profil-Kesehatan-Indonesia-Tahun-2020.pdf.
14. Kementrian Kesehatan RI (2016) *Peraturan Menteri Kesehatan Republik Indonesia Nomor 67 Tahun 2016: Pedoman Penanggulangan Tuberkulosis.*
15. Keputusan Presiden RI (2017) *Intruksi Presiden Republik Indonesia Nomor 1 Tahun 2017 tentang Gerakan Masyarakat Hidup Sehat*.
16. Khoirin dan Rosita, M. (2018) "STIKES 'Aisyiyah Palembang , Program Studi DIII Keperawatan 1,2," 2, hal. 186–193.
17. Maisyarah dan Athosra (2022) "Evaluasi Pelaksanaan Penanggulangan Penyakit Tb Paru di Kota Bukittinggi," *Jurnal Endurance*, 7(2), hal. 378–388. doi: 10.22216/jen.v7i2.1057.
18. Nasution, S. Z. *et al.* (2020) "Family Support Perceived among Pulmonary Tuberculosis (TB) Patients in Medan, Indonesia," (3), hal. 188–195. doi: 10.5220/0008788701880195.
19. Nasution, Z., Nurhayati, I. dan Dwicahyu, A. I. (2020) "Faktor Determinan Yang Berhubungan Dengan Kejadian Anemia Pada Remaja Putri Di Smp Lubukpakam," *Jurnal Ilmiah PANNMED (Pharmacist, Analyst, Nurse, Nutrition, Midwivery, Environment, Dentist)*, 15(1), hal. 140–145. doi: 10.36911/pannmed.v15i1.666.
20. Ngafiyah, N. (2015) *Akses Masyakarat Miskin Terhadap Pelayanan Kesehatan Program BPJS Kesehatan di Kelurahan Bumirejo Kabupaten Kebumen, Politik dan Kewarganegaraan Universitas Negeri*

Semarang. Semarang: Universitas Negeri Semarang.
21. Pradipta, I. S. *et al.* (2020) "Interventions to improve medication adherence in tuberculosis patients: a systematic review of randomized controlled studies," *npj Primary Care Respiratory Medicine*, 30(1). doi: 10.1038/s41533-020-0179-x.
22. Putra, K. W. R. dan Toonsiri, C. (2019) "Factors Related To The Successfull Treatment Of Tuberculosis," *Belitung Nursing Journal*, 5(4).
23. Rusman, R. dan Basri K, S. (2019) "Faktor yang Mempengaruhi Penderita TB Paru Terhadap Kepatuhan Minum Obat Anti Tuberkulosis di Puskesmas Jatisawit Indramayu," *Afiasi : Jurnal Kesehatan Masyarakat*, 4(1), hal. 33–40. doi: 10.31943/afiasi.v4i1.10.
24. Saputra, M. R. dan Herlina, N. (2021) "Hubungan Antara Status Sosial Ekonomi dengan Kejadian Tuberkulosis Paru di Puskesmas , Studi Literature Review," *Borneo Student Research*, 2(3), hal. 1772–1780.
25. Sari, D. (2019) "Faktor-Faktor yang Berhubungan dengan Pemberian Dukungan Keluarga Penderita TB Paru," *Jurnal Endurance*, 4(2), hal. 235. doi: 10.22216/jen.v4i2.3476.
26. Sitorus, B., Fatmawati dan Rahmaniah, S. E. (2017) "Peran Pengawas Menelan Obat (PMO) Terhadap Pengobatan Penderita Tuberkulosa Diwilayah Kerja Unit Pengobatan Penyakit Paru-Paru (UP4) Pontianak," *Jurnal Ilmiah Ilmu Sosial Dan Ilmu Politik Universitas Tanjungpura*, 3, hal. 1–21.
27. Soleman, R. P. H., Sukartini, T. dan Qona'ah, A. (2021) "Patient Adherence to Tuberculosis Treatment: A Relation between Family Support and Patient Behavior," *Critical Medical and Surgical Nursing Journal*, 10(2), hal. 42. doi: 10.20473/cmsnj.v10i2.26491.
28. Sulistiawati, D. (2022) *Stop Tuberkulosis, Direktorat Jenderal Pelayanan Kesehatan, Kementerian Kesehatan*. Tersedia pada: https://yankes.kemkes.go.id/view_artikel/1767/stop-tuberkulosis.
29. Suprajitno, S. dan Rahayu Ningsih, N. (2018) "Family Support for The Fulfillment of Nutrition of Tuberculosis Patients," *Jurnal Ners dan Kebidanan (Journal of Ners and Midwifery)*, 5(3), hal. 178–181. doi: 10.26699/jnk.v5i3.art.p178-181.
30. Suvianto, C. A. dan Hadiyanto (2020) "Analysis of Factors Associated with the Healing Status of Pulmonary Tuberculosis Patients at Puskesmas Perumnas 1 Pontianak in 2018," *Sriwijaya Journal of Medicine*, 3(3), hal. 32–41. doi: 10.32539/sjm.v3i3.93.
31. World Health Organization (2020) *Coronavirus disease (COVID-19) pandemic*. Tersedia pada: https://www.who.int/ (Diakses: 23 November 2020).
32. World Health Organization (2021) *Global Tuberculosis Reports 2020*. doi: 10.1016/S0140-6736(00)58733-9.

How to cite this article: Fadilla Azmi, Rima Semiarty, Desmawati. factors associated with the recovery of tuberculosis patients at the Padang City Health Center. *International Journal of Research and Review*. 2024; 11(7): 237-248. DOI: *10.52403/ijrr.20240727*

******