



Predisposing and Enabling Factors Relationship with Successful Treatment of Pulmonary Tuberculosis (TB)

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Abstract

The increase in pulmonary TB cases is related to the success of treatment. Rough treatment will lead to multi-drug resistant TB (MDR TB). The purpose of this study was to analyze the relationship of Predisposing, and enabling factors with the successful treatment of pulmonary TB in the Cikukur Community Health Center, Lebak Regency. This study used a Case-control research design. The sampling technique was purposive sampling, and a sample size of 82 people. The independent variables were predisposing factors (age, gender, education level, employment status, motivation, knowledge and attitudes), enabling factors (medication adherence, drug side effects, and access to health facilities). The dependent variable was the success of TB treatment. Data analysis using Chi-Square test and multiple logistic regression. The results showed that a person with pulmonary TB with non-working status, adherence to treatment, and access to health facilities was 5.002 times easy to succeed in TB treatment. The factors most related to the success of treatment were occupational status, medication adherence and access to health facilities. It is suggested that health services need to increase the accessibility of TB patients in the fulfillment of treatment so that patients can improve their success in recovery in therapy. Also, sufferers take medication regularly and according to the recommendations for success of treatment

Keywords: Treatment Success; TB Patients; Predisposing Factors; Enabling Factors

INTRODUCTION

Based on the WHO Global Tuberculosis Report in 2017, worldwide reported 6.4 million new TB cases to WHO. This number has increased since 2013, where 5.7–5.8 million new cases was reported every year. (WHO, 2017) In 2017, in Indonesia, the number of tuberculosis cases was 425,089 cases, an increase compared to 2016 which was 360,565 cases. The highest number of cases reported was in provinces with large populations, namely West Java, East Java, and Central Java. Tuberculosis cases in the three provinces account for 43% of the total number of tuberculosis cases in Indonesia (Ministry of Health RI, 2018)

Data on tuberculosis in Indonesia can be obtained from facility data or through secondary data and obtained through direct public or primary data. The 2013 Riskesdas report showed that the prevalence of pulmonary TB diagnosed by health workers in Indonesia was 0.4%, not much different from 2007. The five provinces with the highest pulmonary TB in 2013 were West Java (0.7%), Papua and DKI Jakarta (0.6%), as well as Banten and West Papua (0.4%). With an incidence of 842,000 cases per year and notification of pulmonary TB cases of 442,172 cases, there are still around 47% who have not been notified, either

unreached, undetected, or unreported (Ministry of Health RI, 2018)

Banten Province has experienced an increase, wherein 2013 the prevalence of pulmonary TB was 0.4% to 0.8% 2018, which increased two times. The Case Notification Rate / CNR of new positive AFB cases in Banten Province in 2015 was 74.34 per 100,000 people, which means that the detection of positive BTA TB cases in 2015 has increased compared to 2016, namely 69.24 per 100,000 population. Based on the health profile and monthly reports in Lebak Regency, there has been an increase in pulmonary TB from year to year, including the coverage of positive smear TB pulmonary TB cases in 2015 by 57%, in 2016 by 73%, in 2017 of 76% and in 2018 amounting to 78%, this shows that in Lebak Regency TB cases are still high. Cikukur Health Center is one of the health centers with a high pulmonary TB sufferers in Lebak Regency. (Lebak district health office, 2018)

In 2017, the treatment success rate for all TB cases in Indonesia was 85.7%. The minimum success rate for treating all cases is 90.0%. (Data and Information Center, 2018) The success rate of positive smear TB treatment in Lebak Regency in 2019 was 88.89. This figure was lower than in 2015 which was 93%; in 2015, it was 93.70% and in 2016, it was 89.31%. (Lebak district health office, 2018, 2018) The cure rate of Cikukur Health Center in 2017 was 85.52 (1,089 cases) out of 1,286 BTA positive cases treated. The percentage of cure rates increased compared to 2016, namely 88.9% (667 cases) of 968 BTA positive who was treated.

To reduce the number of TB cases, a TB control strategy need adequate treatment. The TB treatment success is measured by the successful treatment rate, which is the number of all TB cases recovered and complete treatment. WHO (World

Health Organization) sets the standard success rate for treatment at 85%. In Indonesia, the success rate of medicine in 2017 has reached around 87.8% (Ministry of Health RI, 2017), But globally the treatment success rate is still 83%, which is still below the standard of success. (WHO, 2017)

In terms of handling and controlling pulmonary TB cases, the results have been seen, for example, the success of TB treatment in Europe and Turkey. In Europe high success rates were achieved in patients with M / XDR-TB when the drug type were matched to the second-line drug susceptibility outcome the drug was available for treatment indefinitely. In Turkey, the treatment success rate was 92.6% in bacteria confirmed PTB patients. Young age, drug resistance, previous treatment history, higher education level, and the absence of other diseases are positively related to the achievement of treatment success (Antczak et al., 2018; Sengul et al., 2015; Singer-Leshinsky, 2016)

The factors that influence the success of TB treatment are, the high prevalence of patients who are absent from treatment, refusal to take medicine, the high of males of productive age causes more widespread transmission, this is because many men go out to earn a living, besides The history of interrupted treatment where men had a lower regularity of treatment than women was a factor that influenced the success of TB treatment, drug resistance, previous treatment history, history of treatment failure, advanced age, patient economic factors, such as the cost of paying for treatment to be one of the factors barriers to completing treatment, especially if there are 2 people in 1 family suffering from TB disease, appropriate testing and supportive care, Effective side effect management also plays a role in the high success rate of treatment (Bastard et al., 2015; Pangaribuan

et al., 2020; Ramadhan et al., 2019; Young et al., 2012)

TB treatment success factors are adherence to taking medication according to the provisions and not neglecting or dropping out of treatment. This is inseparable from social support around sufferers. Support from family, close friends, and medication supervisors can improve medication adherence, reduce anxiety caused by illness, and reduce or eliminate the desire to stop treatment. Other factors related to the success of TB treatment are adherence level (OR = 4,333, 95% CI = 1,606-11,691), supervisor taking medication (PMO), patient motivation (p value = 0.000), family support (p value = 0.001). (Maulidya et al., 2017) The risk of non-adherence to taking medication was lower among patients whose treatment was given under direct supervision by a doctor or regular home visits by a health worker, with each OR (95% CI) 0.19 (0.10-0.36) and 0.23 (0.10-0.51). (Xu et al., 2009)

Judging from the aspect of Drug Drinking Supervisor (PMO), no PMO patient may not be compliant in taking medicine or if there is PMO but does not monitor it, it will affect the decrease in the Treatment Success Rate (TSR). Meanwhile, if viewed from the patient's aspect, if the patient is obedient and obeys everything related to his recovery, it will increase the Treatment Success Rate (TSR) of pulmonary TB. Meanwhile, age, education, income, type of treatment, and patient knowledge had nothing to do with pulmonary tuberculosis. So can concluded that regardless of the patient's age, high or low level of education, and patient income, as well as the type of treatment and patient knowledge if it was supported by adherence to taking medication and undergoing therapy, there will be a chance to recover. (Faizah, I.L., Raharjo, B.B., 2019) Based on this background, this study aims to determine the

factors (predisposing and enabling) related to the success of TB treatment in the Cikukur Community Health Center, Lebak Regency in 2020.

METHOD

This research is an analytic observational with a case-control design. Data conducted in the work area of the Cikukur Community Health Center, Lebak Banten Regency, which was implemented in 2020. The independent variables of this study were divided into predisposing factors (age, gender, education level, employment status, motivation, knowledge and attitudes) enabling factors (medication adherence, drug side effects and access to health facilities) and the dependent variable were the success of TB treatment.

This study population and control population who visited the Cikukur Community Health Center, Lebak Banten Regency and were recorded in the TB 01 and 03 registers from January 2016 (from the start of treatment) to July 2020. The population in this study was all TB patients diagnosed in 2016-2020. Data collection using the questionnaire.

The case population was TB patients who recovered or had complete treatment; the control population was TB patients who did not recover or failed treatment, did not finish treatment / dropped out, and MDR-TB. Samples were taken as many as 82 patients with pulmonary tuberculosis who were divided into 41 patients in the case group and 41 patients in the control group with a ratio of 1: 1 using purposive sampling technique based on inclusion and exclusion criteria. The inclusion criteria were recorded as residents in the Cikukur Health Center work area or had lived for more than one year. The exclusion criteria were incomplete or missing medical records, moved or not found addresses, unwillingness to be interviewed, and death. The data were processed using bivariate

analysis using the Chi-Square test and multivariate using multiple logistic regression tests.

RESULT AND DISCUSSION

Conducted bivariate analysis to determine the relationship between predisposing factors (age, gender, education, employment status, motivation,

knowledge, and attitudes) with the dependent variable, namely the success of pulmonary TB treatment. Also, the bivariate analysis aims to determine the relationship between enabling factors (medication adherence, drug side effects, and access to health services) and the successful treatment of pulmonary TB patients.

Table 1 Bivariate Analysis of Predisposing Factors with Successful Treatment of Pulmonary TB

No	Predisposing Factors	Successful treatment of pulmonary TB		Total (%)	P Value	OR (95% CI)
		Case (%)	Control (%)			
1	Age (Years)					
	≤35 years old	20 (55,6)	16 (44,4)	36 (100)	0,644	0,665 (0,302 – 2,056)
>35 years old	21 (45,7)	25 (54,3)	46 (100)			
2	Gender					
	Male	20 (47,6)	22 (52,4)	42 (100)	0,245	0,655 (0,523-3,111)
Female	21 (52,5)	19 (47,5)	40 (100)			
3	Education					
	High	13 (43,3)	17 (56,7)	30 (100)	0,519	0,543 (0,170-2,435)
Low	28 (53,8)	24 (46,2)	52 (100)			
4.	Employment status					
	Work	14 (32,6)	29 (67,4)	43 (100)	0,009	5,003 (1,544-7,655)
Does Not Work	27 (69,2)	12 (30,8)	39 (100)			
5.	Motivation					
	Positive	23 (60,5)	15 (39,5)	38 (100)	0,012	3,705 (1,877-6,887)
Negative	18 (40,9)	26 (59,1)	44 (100)			
6	Knowledge					
	High	10 (25,6)	29 (74,4)	39 (100)	0,016	3,555 (1,222-8,555)
Low	31 (72,1)	12 (27,9)	43 (100)			
7	Attitude					
	Positive	25 (59,5)	17 (40,5)	42 (100)	0,032	2,824 (1,334-6,883)
Negative	16 (40,0)	24 (60,0)	40 (100)			

Table 1 shows the results of the bivariate predisposing factor analysis. There was no relationship between age variables and the success of pulmonary tuberculosis ($p = 0.644$). The majority of patients aged ≤ 35 years were successful in running the treatment, while those aged > 35 years did not succeed in receiving treatment. Bivariate analysis between sexes showed no significant relationship between gender variables and treatment success ($p = 0.245$). There was no meaningful relationship between education variables and pulmonary TB treatment ($p = 0.519$).

Predisposing factors that are significantly related are job status variables, motivation, knowledge and attitudes. Occupational status significantly correlated with the success of TB treatment ($p = 0.009$) and (OR = 5.003; 95% CL: (1.544-7.655)). The majority of TB patients who do not work are more successful in running treatment than those who work (69.2% and 32.6%). Concluded that patients with tuberculosis who did not work were 5,003 times more likely to succeed in treatment.

Motivation has a significant relationship with the success of treatment for patients with

pulmonary tuberculosis ($p = 0.012$) and ($OR = 3.705$; (1,877-6,887)). Respondents who had positive motivation had a 4.025 times greater chance of being successful in TB treatment than respondents who the negative motivation.

Knowledge of TB sufferers has a significant relationship with patient treatment success ($p = 0.016$). High knowledge has a 3.555 times greater chance of being successful in TB treatment than

respondents with low knowledge ($OR = 3.555$ CL; (1.222-8.555)).

There is a relationship between attitude and successful treatment of TB patients ($p = 0.032$). Respondents with positive attitudes had a 3.555 times greater chance of being successful in TB treatment than respondents who had negative attitudes ($OR = 3.555$ CL; (1.222-8.555)).

Table 2 Analysis of Bivariate Enabling Factors with Successful Treatment of Pulmonary TB

No	Enabling Factors	Successful treatment of pulmonary TB		Total (%)	P Value	OR (95% CI)
		Case (%)	Control (%)			
1	Medication adherence					
	Obey	33 (62,3)	20 (37,7)	53 (100)	0,011	7,125 (5,123-16,734)
	Not Obey	8 (27,6)	21 (72,4)	29 (100)		
2	Drug side effects					
	Yes	22 (53,7)	19 (46,3)	41 (100)	0,677	1,453 (0,509-3,546)
	No	19 (46,3)	22 (53,7)	41 (100)		
3	Access to health facilities					
	Easy	30 (71,4)	12 (28,6)	42 (100)	0,025	5,766 (1,236-16,543)
	difficult	11 (27,5)	29 (72,5)	40 (100)		

Based on table 2 above, can see it that the variables that are significantly related to the success of TB treatment are adherence to taking medication and access to health facilities. The analysis result showed no meaningful relationship between drug side effects and the success of pulmonary TB treatment ($p = 0.677$). The proportion of patients who succeeded in therapy and had no side effects was not much different from those who had side effects (53.7%; 46.3%)

There was a significant relationship between the variable treatment adherence with the success of taking medication ($p = 0.011$) and ($OR = 7.125$

95% CI (5.123-16.734)). Respondents who were adherent in the treatment had a 7.125 times greater chance of succeeding in TB treatment than compared with respondents who are not adherent in treatment.

There was a significant relationship between the variable access to health facilities with the success of taking medication ($p = 0.025$) and ($OR = 5.766$ 95% CI: (1,236-16,543). Respondents who were adherent in treatment had a 7,125 times greater chance of succeeding in TB treatment. Compared with respondents who were not adherent in treatment.

Table 4 Multivariate Analysis Results

Variabel	B	S.E.	P value	OR	95 CI%	
					Lower	Upper
Employment status	5,282	1,172	0,012	16,068	7,041	42,174
Medication adherence	2,583	0,778	0,018	8,457	2,548	82,047
Access to health facilities	1,962	0,841	0,025	5,817	1,209	25,533
Constant	-11,834	3,202	0,002	0,000		

At the bivariate stage, 7 candidate variables entered into the multivariate test that met the requirements, namely gender, employment status, motivation, knowledge, attitude, medication compliance, and access to health services (p value > 0.25). The next step is to perform multivariate logistic regression analysis by gradually removing the variables based on the largest p value until the final modeling is obtained (p value < 0.05)

Multivariate analysis found that the final model was that the independent variables that were significantly related to the success of TB treatment in the Cikukur Community Health Center work area, Lebak Regency in 2020 were employment status, medication adherence, and access to health facilities. So, with unemployment status, adhere to treatment and have easy access to health facilities 5,002 times to succeed in TB treatment. Based on the final model, to determine the success of TB treatment obtained from multivariate analysis in this study shows that someone who is sick with tuberculosis with non-working status, adheres to treatment and access to health facilities is easy 5,002 times to succeed in TB treatment.

1. Predisposing Factor

Based on predisposing factors, there was no relationship between age and the success of TB treatment. The results of this study are in line with other studies which state that there is no relationship between age and the success of TB treatment. (Pangaribuan et al., 2020) However, it can be seen that the proportion of patients who succeed in treatment is more at ≤ 35 years of age. Age is able to influence the maturity level of a person in acting, but it does not rule out that all actions taken are also based on other factors such as personal considerations. sufferer. Age factor is not the only factor that influences the success of treatment for pulmonary TB patients, so that

regardless of age the patient still has a chance to recover if it is supported by other factors such as reinforcing and enabling factors (Sengul et al., 2015)

The results showed that there was no relationship between sex and the success of TB treatment. The success of healing a person does not depend on gender. A medical staff does not provide a difference in treatment for women and men. The research results also prove that the proportion of men and women who are successful and not successful is not much different. Therefore, both men and women have an equal chance of succeeding in TB treatment. (Farida, 2020)

There was no significant relationship between education and TB treatment success. Having a high education does not guarantee that someone with TB will routinely seek treatment until they achieve treatment success. Not necessarily someone who has a high enough education, then that person has a better view, especially about health because a good view of health is not only based on educational factors. The results of this study are in line with the results of the Puspitasari study where there is no relationship between education level and the success of pulmonary TB treatment (Puspitasari, Ambar Mudigdo, 2017)

However, another study states that the low level of patient education will result in less adherence to treatment because low education can affect the absorption of information so that it can also affect the level of understanding of the disease, pulmonary TB treatment, and the dangers caused by not taking medication regularly. (Ruditya, 2015)

The results of the analysis showed no relationship between work status and TB treatment success. It was concluded that TB patients who did not work were 5,003 times more likely to succeed in treatment. This is in line with Jalal's (2017)

study which states that there is a relationship between work and the success of pulmonary TB treatment. Patients who do not work are allowed to have more free time so that they are more regular in taking medication. However, work certainly does not guarantee that someone will have a better view of health or take advantage of health services. In addition, working people may have barriers to treatment. Common reasons such as forgetting to take medicine are also common. (Jalal et al., 2017)

There is a relationship between respondents' motivation and the success of TB treatment. This means that respondents who have positive motivation have a tendency to be 4.025 times more likely to succeed in TB treatment compared to respondents who have negative motivation. The results of this study are in line with research conducted by (Ramadhan et al., 2019) which states that motivation is related to the success of intensive treatment for pulmonary TB patients with a large risk for successful treatment of 6.667 times greater for respondents with good motivation. According to the theory of Kurt Lewin (1970) in Notoatmodjo (2010), human behavior is a state of balance between the driving forces and the restraining forces. By having positive motivation regarding TB treatment, it will encourage sufferers to undergo TB treatment until they recover. (Maulidya et al., 2017)

There is a relationship between respondents' knowledge and the success of TB treatment. This means that respondents who have high knowledge have a 3.555 times greater chance of being successful in TB treatment than respondents who have low knowledge. The results of this study are in line with research conducted by Jalal (2017) which states that motivation is related to the success of intensive treatment for pulmonary TB patients with a large risk for successful treatment of 6.667 times greater for respondents with good

motivation. (Tengku Mardhiah Tengku Jalal, Sarimah Abdullah, Farhanah Abd Wahab, Sharina Dir, 2017) According to the theory of Kurt Lewin (1970) in Notoatmodjo (2010), human behavior is a state of balance between the driving forces and the restraining forces. By having positive motivation about TB treatment, it will encourage sufferers to undergo TB treatment until they recover. Knowledge has a considerable influence on inner order treatment. High education and knowledge of TB sufferers will more easily receive information related to the treatment of TB sufferers and are easier and more willing to receive referrals for regular treatment according to dosage and time (Dzeyie Kevisetuo A., Saura Basua, Tanzin Diki, Anuj K. Bhatnagar, L.S. Chauhan, 2019; Farida, 2020)

In this study the increasing knowledge about the benefits of treatment, TB symptoms, how to take medication, and the dangers of not completing treatment properly as recommended by the doctor will further increase the patient's chances of succeeding in treatment because it increases patient motivation.

There is a relationship between the respondent's attitude and the success of TB treatment. This means that respondents who have a positive attitude have a tendency to have a 3.555 times greater chance of succeeding in TB treatment compared to respondents who have a negative attitude. The results of this study are in line with research conducted by Farida (2020) that motivation is related to the success of intensive treatment for pulmonary TB patients with a large risk for success in well-motivated respondents. According to the theory of Kurt Lewin (1970) in Notoatmodjo (2010), human behavior is a state of balance between the driving forces and the restraining forces. By having positive motivation about TB treatment, it will encourage sufferers to

undergo TB treatment until they recover. (Ida Diana Sari, Rofingatul Mubasyiroh, 2016)

2. Enabling Factors

Based on enabling factors, there is a relationship between treatment adherence and TB treatment success. This means that respondents who were adherent in treatment had a 7,125 times greater chance of being successful in TB treatment than respondents who were not adherent in treatment. This study is in line with the research of Kurniawan et al (2015) that there is a significant relationship between the level of adherence and the results of microscopic sputum examination after treatment. Compliance can be defined as the cognitive / intellectual behavior of the sufferer who obeys all the advice and instructions recommended by medical personnel. People who do not adhere to treatment should be avoided because it is a major cause of treatment failure and results in resistance, thus requiring longer and more expensive treatment. (Puspitasari, Ambar Mudigdo, 2017) Medicines must be taken regularly in accordance with the recommended use of drugs to avoid worse effects such as drug resistance to death (Dzeyie Kevisetuo A., Saura Basua, Tanzin Diki, Anuj K. Bhatnagar, L.S. Chauhan, 2019)

The analysis showed that there was no relationship between drug side effects and the success of TB treatment. Management of the incidence of drug side effects needs to be handled properly by health workers. The results of the study on the drug side effect variable showed that 51.4% of respondents who succeeded in TB treatment did not feel the side effects of the drug. For those who experience drug side effects, these side effects vary and depend on the type of drug. Based on the results of the study, the side effects felt by respondents were dominated by nausea. While other side effects that are felt are dizziness, itching,

joint pain and others such as weakness and drowsiness. In addition, it is not certain that someone who experiences drug side effects has a bad view of the success of the treatment. If you feel the side effects of tuberculosis treatment, you should consult your doctor so that it can be treated properly and prevent yourself from treatment failure. (Dzeyie Kevisetuo A., Saura Basua, Tanzin Diki, Anuj K. Bhatnagar, L.S. Chauhan, 2019; Peter Seah Keng Tok, Su May Liew, 2020)

There is a significant relationship between access to health facilities and the success of TB treatment. respondents who have easy access to health facilities have a 5.766 times higher chance of succeeding in TB treatment compared to respondents who are difficult. The results of this study are in line with the results of Rahmawati's (2015) study. that is, one of the factors that influence the success of treatment is the difficulty of access to health service facilities, the behavior of looking for health service facilities. states that the use of health services is influenced by the affordability of the location related to the distance, time and cost. The majority of tuberculosis has a distance from the house to health facilities as far as ≥ 5 km (30.3%), the length of time to go to health facilities is < 30 minutes (57.6%) and means of transportation to health facilities (51.5%). successful TB treatment is dominated by easy answers in access to health facilities (87.9%) It can be concluded that, although the ease of access is based on distance, travel time and means of transportation, the consideration of one's personal perceptions also affects the classification of easy or difficult access to health facilities. (Desi Rahmawati, 2015; Farida, 2020; Puspitasari, Ambar Mudigdo, 2017)

The stigma attached to TB can cause people to distance themselves from patients suffering from the disease. stigmatizing attitudes and behavior of

community members towards the disease and its sufferers can cause individuals with TB to hide their diagnosis from others and not be adherent to taking medication. (Xu et al., 2009) (Hoa et al., 2004) (Hu et al., 2008) Other enabling factors that may be related to this research, but which were not studied, are family socio-economy, ownership of health insurance and social stigma. The social economy of the community in the working area of this health centre is still below standard and the community's perception that people with TB disease have a negative stigma.

3. Multivariate Analysis

The results of the multivariate analysis showed that employment status was statistically related to the success of TB treatment. Respondents whose employment status is not working are 16,068 times more likely to be successful in TB treatment than respondents who have permanent jobs. Motivation is based on knowledge and a strong desire to create an urge to do something. With the status of not working, respondents have enough free time to rest and encourage TB sufferers to undergo treatment on time until they recover properly. In addition, if TB sufferers are at home, it is easier for supervisors to take medication or their families to monitor TB treatment to supervise patients to take medicines on time. Free time and family support while at home are needed in TB treatment because TB treatment takes a long time.

Adherence to taking medication is greatly influenced by good support from the family. TB sufferers need family support in taking medication regularly as the key to successful treatment. The family is expected to be the closest person to sufferers who are ready to provide support in all things (Rahmawati, 2015) Family is also one of the main factors a sufferer wants to recover from treatment. The sense of security, comfort that

results from family support gives a sense of confidence that long enough treatment will not be an obstacle to not getting better from treatment. Support that can be provided by the family can include affection, attention, accompanying while taking medicine, reminding them to take medication, listening to complaints regarding tuberculosis treatment, accompanying sufferers when they have to go to health facilities, etc. There are many forms of giving positive support in attitudes and behaviors. With the positive support from the family, a patient becomes enthusiastic about undergoing tuberculosis treatment. (Saleh, 2018) Adherence to treatment is important for preventing MDR and treatment failure. Patients who do not adhere to treatment will facilitate transmission of the disease to other vulnerable people. (Septiyani Putri, La Ode Alifariki & Mubarak, 2020)

The results of the multivariate analysis showed that treatment adherence was statistically related to the success of TB treatment. Respondents who were adherent to TB treatment were 8.457 times more likely to succeed in TB treatment than respondents who did not adhere to TB treatment. By obeying all the advice and instructions recommended by health workers, it will increase the success of TB patient treatment from the risk of treatment failure to prevent patients from developing drug resistance can be avoided. non-adherence to treatment is common although various interventions are aimed at improving treatment completion. Lacking a comprehensive and holistic understanding of barriers and facilitators, treatment adherence is currently a major obstacle to treatment success. (Munro et al., 2007) (Khan et al., 2005)

The results of the multivariate analysis showed that drug side effects were statistically related to the success of TB treatment. Respondents who had easy access to health facilities were 5.817

times more likely to succeed in TB treatment than respondents who had access to difficult health facilities. The use of health services is based on necessity. Health-seeking behavior influences treatment success. Easy access to the nearest health facilities leads to optimal health service utilization. Health-seeking behavior influences treatment success. This is based on the ease of access to health facilities. Easy access to health facilities is based on house distance, travel time, means of transportation and perceptions. Access to health services that is easily accessible can increase its benefits. (Puspitasari, Ambar Mudigdo, 2017; Ramadhan et al., 2019)

CONCLUSION

The factors most related to treatment success were employment status, medication adherence, and access to health facilities. Therefore, it is crucial for people who are undergoing tuberculosis treatment to participate in tuberculosis treatment seminars or counseling to learn more about tuberculosis and know the dangers of dropping out of treatment. It is also recommended for TB sufferers to reduce work so that they are more focused on doing therapy. It is necessary to improve patient medication adherence supported by family, and environment Health services need to increase accessibility for TB sufferers in the fulfillment of treatment so that patients can increase their recovery in treatment. Also, take medication regularly and according to the recommendations for use to always comply with the treatment of tuberculosis.

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