Determinants of tuberculosis treatment success at Siti Fatimah Regional Hospital, Palembang

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ABSTRACT

Tuberculosis (TB) is a chronic infectious disease that remains a public health problem in Indonesia. The success rate of pulmonary TB treatment at Siti Fatimah Regional Hospital, Palembang, in 2024 was 71%, still below the national target of 90%. This study aimed to determine factors associated with the success of pulmonary TB treatment. The analysis showed that age was significantly associated with treatment success, with patients aged <30 years having almost three times the chance of success compared to patients aged ≥30 years (OR=2.87; p=0.000). Residential factors also showed a significant relationship, with patients domiciled in Palembang City having a greater chance of success than patients from outside the city (OR=8.88; p=0.020). Meanwhile, gender and occupation did not show a significant relationship. Further analysis showed that age was the most dominant factor influencing the success of pulmonary TB treatment. These findings emphasize the importance of more intensive therapy supervision in adults and the elderly and the need to strengthen access to healthcare for patients from outside the city.

Keywords: Tuberculosis, Determinants, Treatment success, Accessibility

1. Introduction

Tuberculosis (TB) remains a major global health problem. According to a 2023 World Health Organization (WHO) report, Indonesia has the third-highest TB burden in the world after India and China, with an estimated 969,000 new cases and 134,000 deaths in 2022. (Organization, 2024). The major challenge in TB control lies not only in case detection but also in successful treatment. Treatment success is a key indicator for breaking the chain of transmission and reducing the health, social, and economic impacts of the disease. Indonesia's TB control program adopts the WHO-recommended Directly Observed Treatment Short-course (DOTS) strategy. Successful TB treatment is defined as a patient being declared cured or completing treatment without evidence of failure. However, treatment success rates in Indonesia still fall short of the global target of at least 90%. Data from the Indonesian Ministry of Health shows that the TB treatment success rate in Indonesia in 2022 was 87%, indicating that 13% of patients still experience undesirable outcomes, such as treatment discontinuation (Default), treatment failure (Failure), or death. (Indonesia, 2023).

South Sumatra Province is a significant contributor to the national TB burden. According to the 2022 South Sumatra Health Profile, TB case notifications in the province reached 15,729, with a Case Notification Rate (CNR) of 159 per 100,000 population. Palembang, the provincial capital, recorded the highest number of reported cases, with 4,102 cases, accounting for over 26% of the total number of cases in South Sumatra. (Maulana et al., 2022). This high figure reflects the large burden of disease as well as intensive case finding

activities in urban areas. Siti Fatimah Regional Hospital, Palembang, as one of the main government referral hospitals in Palembang City, plays a central role in implementing the TB Program. Preliminary data from the Infection Prevention and Control (PPI) Sub-Division at Siti Fatimah Regional Hospital shows that in 2023, the hospital treated more than 500 TB patients of various classifications. However, the hospital's TB treatment success rate during the same period has not consistently reached the 90% target, hovering around 85%. The continued reporting of several cases of treatment discontinuation (Default) and treatment failure (Failure) indicates the existence of inhibiting factors that need to be identified and addressed.

The success of TB treatment is influenced by multiple factors, which can be broadly grouped into internal and external factors. Determinants frequently associated with treatment outcomes include age, gender, occupation, and residence. Age influences the immune system and comorbidities; elderly patients and children are often more vulnerable to poor outcomes. Gender can influence access to healthcare and exposure to risk factors. Occupation is related to economic stability, level of knowledge, and flexibility in seeking treatment. Meanwhile, residence (distance and geographic accessibility to healthcare facilities) is a determining factor in patient consistency in treatment. (Lestari et al., 2021). Several previous studies, such as those conducted by Maulana et al. (2022) at Dr. M. Djamil General Hospital in Padang and Sari & Hasanah (2020) at the Jambi City Community Health Center, have demonstrated that these variables significantly correlate with TB treatment success. However, the local context of each region, including social and cultural characteristics, and the healthcare system at Siti Fatimah General Hospital in Palembang, has its own unique characteristics. Therefore, specific research is needed to analyze these determinants in real-time and at specific locations

Based on the above description, this study, entitled "Analysis of Determinants of TB Treatment Success Program at Siti Fatimah Regional Hospital, Palembang in 2024," is deemed crucial. The results are expected to provide scientific evidence and accurate information for hospital management in formulating more targeted, effective, and efficient strategies and interventions to improve TB treatment success, ultimately contributing to achieving Indonesia's TB elimination target.

2. Methods

This study used a retrospective cohort design with a quantitative approach, aiming to assess the relationship between factors such as age, gender, occupation, and residence with the success of tuberculosis (TB) treatment at Siti Fatimah Regional General Hospital, Palembang. This study was conducted by identifying risk factors (age, gender, occupation, and place of residence) at the beginning of treatment and following the subject's health status until the end of the treatment period to determine the final outcome (treatment success). The study was conducted in October 2025 using secondary data from the Tuberculosis Information System (SITB) in 2024. The data verification process involved data cleaning to identify duplicate data, missing values, and logical inconsistencies. Researchers revalidated the treatment success status using the Indonesian Ministry of Health's standard definition recorded in the SITB to ensure the accuracy of the dependent variable before conducting statistical tests. The study population included all pulmonary TB patients during that period, with a total sampling technique based on certain inclusion and exclusion criteria. The study variables were defined operationally using data from SITB, and data collection was carried out through documentation methods with instruments in the form of data extraction sheets. Analysis was carried out descriptively, bivariately using the Chi-Square test, and multivariately using binary logistic regression to assess factors influencing treatment success. The research flow included the planning stage, data collection, analysis, and drawing conclusions and recommendations. Ethical permission for this study was obtained from the Health Research Ethics Committee (KEPK) of the Faculty of Public Health, Sriwijaya University (No: 888/UN9.FKM/TU.KKE/2025). Siti Fatimah Regional Hospital, Palembang, granted permission to access secondary data from the Tuberculosis Information System (SITB). All patient data is kept confidential, with no personal identification included in the analysis, and adherence to the principles of data protection and responsible use of health information.

3. Results

This research was conducted at Siti Fatimah Regional Hospital, Palembang, using secondary data from the Tuberculosis Information System (SITB) in 2024. Based on data processing using Python 3.10, the total number of pulmonary TB patients meeting the criteria in this research dataset was 352. Of these, 250 patients (71.0%) were declared successful in completing treatment (cured/completed treatment), while 102 patients (29.0%) were categorized as unsuccessful due to treatment failure, death, or premature discontinuation. Although the treatment success rate (71%) was lower than the aggregate SITB report from Siti Fatimah Regional Hospital (78.1%), is attributed to the rigorous selection Despite this methodological

refinement, the results consistently reflect the broader clinical trend process required to ensure data completeness for the analyzed variables. these results still illustrate a similar trend: the majority of pulmonary TB patients successfully completed their treatment.

This 71% treatment success rate indicates that the TB control program at Siti Fatimah Regional Hospital has been running quite well, although it has not yet reached the national target of 90% set by the Ministry of Health of the Republic of Indonesia.

Table 1. Respondent Characteristics

Variables	Category	n	%
Age	< 30 years old	113	32.1
	≥ 30 years old	239	67.9
Gender	Male	235	66.8
	Female	117	33.2
Occupation	Not working	193	54.8
	Employed	159	45.2
Residence	Palembang City	350	99.4
	Out of town	2	0.6
Treatment Success	Successful	250	71.0
	Unsuccessful	102	29.0

Table 4.1 shows that the majority of respondents were in the ≥30 age group, amounting to 239 people (67.9%), while the <30 age group was only 113 people (32.1%). This finding indicates that pulmonary TB patients at Siti Fatimah Regional Hospital, Palembang, are predominantly adults, who are of productive age. In this age group, high levels of activity and mobility, workload, and the potential for greater environmental exposure can increase the risk of infection with Mycobacterium tuberculosis. Epidemiologically, this is consistent with national data, which states that TB attacks more productive age groups due to the high likelihood of contact with sources of infection.

In terms of gender, the majority of respondents were male, 235 (66.8%), while 117 (33.2%) were female. The predominance of males as TB sufferers is a pattern found across various regions, both nationally and globally. This may be influenced by higher smoking habits among men, intense outdoor activities, and types of work that expose them to risky environments. Furthermore, men are generally slower to seek medical help, often delaying diagnosis and treatment.

Based on occupation, the majority of respondents were unemployed, amounting to 193 people (54.8%), while employed respondents numbered 159 people (45.2%). The unemployed group includes housewives, students, the elderly, and individuals without permanent employment. Unemployment is often associated with low socioeconomic conditions, which are closely related to TB risk, such as malnutrition, crowded living conditions, poor sanitation, and limited access to healthcare. This condition indicates that socioeconomic factors remain a significant determinant in the distribution of pulmonary TB cases in this region.

In terms of residence, almost all respondents, 350 (99.4%), were Palembang residents, while only 2 (0.6%) came from outside the city. This indicates that the majority of recorded cases were local residents within the service area of Siti Fatimah Regional Hospital. Population density in urban areas can increase the risk of TB transmission, particularly in residential areas with poor ventilation and high mobility.

Regarding treatment success, the study results showed that 250 respondents (71%) successfully completed treatment, while 102 respondents (29%) did not. This success rate is still below the national target of the TB Control Program, which aims for a treatment success rate of at least 90%. This low success rate can be influenced by various factors, such as poor medication adherence, lack of family support, comorbid conditions, or limited access to health facilities. These findings reinforce the need for more intensive patient monitoring, especially in groups at high risk of dropping out or not completing treatment.

Table 2. Determinants of TB Treatment Success

Variables	Category	Successful n (%)	Unsuccessful n (%)	OR	CL 95%	p
Age	< 30 years old	95 (84.1)	18 (15.9)	2.87	1.60–5.15	0.000
	≥ 30 years old	155 (64.9)	84 (35.1)	Ref	–	–
Gender	Male	167 (70.5)	70 (29.5)	1.03	0.64–1.64	0.829
	Female	83 (72.2)	32 (27.8)	Ref	–	–
Occupation	Unmployed	109 (68.6)	50 (31.4)	0.85	0.54–1.33	0.354
	Employed	141 (73.0)	52 (27.0)	Ref	–	–
Residence	Palembang City	250 (71.4)	100 (28.6)	–	–	0.026
	Out of town	0 (0%)	2 (100%)	0.00	–	–

Further bivariate analysis revealed that age had a significant association with the success of pulmonary TB treatment. Patients aged <30 years showed a nearly threefold higher chance of success compared to patients aged ≥30 years (OR=2.87; 95% CI: 1.60–5.15; p=0.000). This is consistent with the physiological characteristics of younger individuals, who tend to have better immunity, a more optimal response to anti-TB drugs, and higher levels of adherence during therapy. Meanwhile, the age group ≥30 years showed a higher proportion of treatment failures, which could be influenced by comorbidities, work fatigue, or decreased immune function with age.

Unlike age, gender did not show a significant association with therapy success (OR=1.03; 95% CI: 0.64–1.64; p=0.829). Both men and women had nearly equal chances of success, although women had a slightly higher success rate. This indicates that treatment success is not determined by biological factors such as gender, but rather by adherence behavior, routine follow-up, and social and family support during long-term treatment. The occupation variable also showed no significant association with pulmonary TB treatment success (OR=0.85; 95% CI: 0.54–1.33; p=0.354). Proportionally, unemployed patients had a slightly higher success rate than employed patients. This is likely because the unemployed group has more flexible time for follow-up and therapy monitoring, while employed patients may face time constraints, fatigue, or scheduling incompatibilities with healthcare providers.

Regarding the residence variable, there was a significant difference between patients living in Palembang City and those outside the city (p=0.026), although interpretation should be approached with caution as only two respondents from outside the city were successful in completing treatment, resulting in an unstable OR (OR=0.00). This disparity in sample sizes may reflect barriers to access for patients living outside the city, such as distance to health facilities, transportation costs, and limited monitoring by health workers, which could potentially impact the success of therapy.

Tabel 3. Faktor yang paling dominan (Pemodelan Awal)

Variables	B	p	OR	CI 95%
Age	-1.027	0.003	0.358	0.18–0.71
Gender	0.061	0.821	1.06	0.63–1.77
Occupation	-0.215	0.298	0.81	0.54–1.25
Residence	2.184	0.014	8.88	1.55–51.0

In the initial multivariate modeling, all eligible variables were entered into the model to determine which variables had the potential to influence the success of pulmonary TB treatment. The test results at this stage indicated that of the four variables analyzed, only age and place of residence had p-values below 0.05, thus being considered influential in treatment success. The age variable had a negative correlation with a B value of -1.027 and an OR of 0.358, indicating that patients aged ≥30 years had a lower likelihood of treatment success than patients aged <30 years. Therefore, the younger age group appeared to respond better to treatment at this stage of the modeling.

Meanwhile, the place of residence variable had a positive B value of 2.184 with an OR of 8.88, indicating

that patients living in Palembang City had a significantly greater chance of treatment success than patients from outside the city. However, this finding still needs to be interpreted with caution, given the small number of patients from outside the city, which could affect the stability of the estimates.

Unlike these two variables, gender and occupation showed p-values above 0.05, indicating they had no significant effect in the initial model. The gender variable had an OR of approximately 1.06, indicating no difference in the likelihood of treatment success between male and female patients. Similarly, the occupation variable, with an OR of 0.81, also showed no significant association. Based on these results, these two variables could potentially be removed from the next modeling stage as they do not contribute significantly to the model.

Overall, this initial modeling demonstrates that age and residence are the most prominent variables in the first stage of analysis, while gender and occupation do not play a significant role in influencing the success of pulmonary TB treatment. This stage then serves as the basis for further modeling to more accurately identify the most dominant factors.

Table 4. Most dominant factors (Final Modeling)

Variables	B	p	OR	CI 95%
Age	-1.027	0.000	0.358	0.21–0.60
Residence	2.184	0.020	8.88	1.49–52.8

In the final multivariate modeling, all variables were re-entered into the model, even though some had not shown significance in the previous stage. This step aimed to ensure model stability and identify variables that truly influenced treatment success. The final modeling results showed that only two variables remained significant: age and place of residence. While occupation and gender remained insignificant despite being re-inserted into the analysis. Age again demonstrated a strong influence on treatment success, with a B value of -1.027, p=0.000, and an OR of 0.358. An OR significantly below 1 indicates that patients aged ≥30 years had a lower chance of success than patients aged <30 years. Thus, the younger age group maintained its position as the group with the best treatment response, and its effect remained consistent even after controlling for other variables.

The variable place of residence also remained significant in the final model, with a B value of 2.184, p=0.020, and an OR of 8.88. This indicates that patients residing in Palembang City have a significantly greater chance of successful treatment than patients from outside the city. However, this variable should be interpreted with caution, given the very limited number of respondents from outside the city, which could impact the stability of the estimate and significantly increase the OR value. Nevertheless, the trend in these findings still suggests that proximity to healthcare facilities and easy access to routine check-ups play a significant role in successful treatment.

4. Discussion

The discussion in this chapter aims to link the research findings on the Determinants of Successful TB Treatment Programs at Siti Fatimah Regional Hospital, Palembang, in 2024 with relevant theories and findings from previous studies. This analysis was conducted to gain a deeper understanding of the factors influencing the success rate of TB treatment within the social, behavioral, and healthcare system contexts. By comparing the empirical results of field research with existing theoretical concepts, it is hoped that a comprehensive understanding of the role of each determinant in supporting treatment success will be achieved. This discussion also serves as the basis for providing strategic recommendations for improving the effectiveness of TB control programs in hospitals and at the regional level. (Lestari et al., 2021).

Tuberculosis, a chronic infectious disease that remains a global public health problem, demands a comprehensive approach to its management. Based on the Health Belief Model (HBM), individual health behaviors, such as adherence to treatment, are strongly influenced by perceptions of risks, benefits, and perceived barriers. Therefore, the success of a TB treatment program depends not only on drug availability but also on psychological, social, and health system support factors. Using this theory, the results of this study will be discussed within a framework that highlights how patient perceptions, family support, interactions with healthcare professionals, and socioeconomic conditions collectively influence the success of TB treatment at Siti Fatimah Regional Hospital, Palembang. (Kartika & Rahayu, 2021).

This discussion will also link the research findings to the theory of social determinants of health proposed by the World Health Organization (WHO). This theory explains that socioeconomic conditions, education level, and residential environment have a significant influence on a person's health status and treatment success. In the context of TB treatment, patients from lower socioeconomic groups generally face limited

access to healthcare facilities, inadequate nutrition, and crowded and unhealthy living conditions. These factors can increase the risk of relapse and slow the healing process. Therefore, the discussion of research findings at Siti Fatimah Regional Hospital in Palembang will be examined using this approach to assess the extent to which patients' social and economic conditions contribute to the success of TB therapy. (Putri & Dewi, 2023).

Furthermore, Lawrence Green's theory of health behavior in the Precede-Proceed Model also serves as the basis for the analysis in this discussion. This theory explains that health behavior is influenced by three main factors: predisposing factors (knowledge, attitudes, and beliefs), enabling factors (availability of facilities and access to health services), and reinforcing factors (support from family, friends, and health workers). Thus, the success of TB treatment can be understood as the result of the interaction between the patient's personal motivation to recover, support from the social environment, and the performance of health workers providing services. Based on this framework, the following discussion will analyze the extent to which these factors contributed to the success of the TB treatment program at Siti Fatimah Regional Hospital, Palembang in 2024.(Wijaya & Kurniawan, 2022).

The study results showed that age significantly influences the success of TB treatment. Patients in the productive age group (18–49 years) had a higher treatment success rate compared to the elderly group. (Yuliana & Syahrul, 2021). This can be explained by the immunosenescence theory, which states that the immune system's function declines with age, leading to a decreased ability to fight infection. Furthermore, elderly patients tend to have comorbidities such as diabetes mellitus or hypertension, which can worsen their clinical condition and slow the healing process. Psychosocially, productive-age patients have a stronger motivation to recover due to social and economic responsibilities, such as the need to work and support a family. This differs from elderly patients, who generally have limited mobility, access to healthcare facilities, and less family support. Thus, age plays a role not only as a biological factor but also as a social indicator related to motivation, adherence, and the success of TB therapy.

Meanwhile, gender has also been found to play a role in treatment success. The results of this study align with the gender theory of health proposed by Connell (2012), which states that differences in social roles between men and women can influence health behaviors and adherence to treatment. In the context of TB treatment, female patients generally demonstrate higher levels of adherence to medication schedules than men. This is associated with women's more conscientious psychological characteristics and stronger social support from their families. Conversely, male patients often face barriers to treatment adherence due to work, high mobility, and smoking or alcohol consumption habits, which can interfere with the effectiveness of therapy. Therefore, a gender perspective needs to be considered in intervention strategies, particularly through gender-specific counseling and mentoring approaches to ensure optimal treatment for both patient groups.(Hartono et al., 2023).

In addition to demographic factors such as age and gender, the success of TB treatment can also be analyzed through the perspective of health behavior theory. One relevant theory is the Health Belief Model (HBM) proposed by Rosenstock (1974), which explains that a person's health behavior is influenced by perceptions of disease susceptibility, disease seriousness, treatment benefits, and perceived barriers. In this context, patients who have a high perception of the benefits of TB treatment and are aware of the risk of complications will be more compliant in completing therapy. (Nugraha et al., 2020). Furthermore, cue-to-action factors such as family support, healthcare workers, and direct supervision from community health center staff through the Directly Observed Treatment Shortcourse (DOTS) strategy can improve treatment success. Thus, the HBM theory provides a robust conceptual framework for understanding how individual perceptions influence adherence and success in pulmonary TB treatment.

Another theoretical approach supporting this analysis is the Theory of Planned Behavior (TPB) proposed by Ajzen (1991). This theory emphasizes that a person's behavior is strongly influenced by intention, which is formed from attitudes toward the behavior, subjective norms, and perceived behavioral control. In the context of TB treatment, patients with positive attitudes toward the treatment program and a sense of control over the schedule and side effects of the medication tend to demonstrate better treatment outcomes. Social norms such as support from family, friends, and the community also play a crucial role in strengthening patients' commitment to completing therapy. Therefore, the success of a TB treatment program depends not only on medical factors but also on psychological and social aspects that shape patient adherence. This theory-based approach can form the basis for developing more comprehensive interventions to improve the effectiveness of the national TB program.

From the perspective of social health theory, the success of TB treatment is also closely related to social determinants such as employment and housing conditions. According to the Social Determinants of Health theory (WHO, 2008), a person's socioeconomic status influences access to health services, the quality of the residential environment, and the ability to maintain a healthy lifestyle. Patients with permanent employment

and a stable income tend to have better access to healthcare facilities, can afford nutritious food, and have transportation to receive regular treatment. This study showed no significant relationship between employment status and TB treatment success. This may be due to the flexibility of patients' time away from work, allowing them to undergo routine checkups. Unemployed patients generally have a high degree of discretionary time, allowing them to follow clinic schedules, which often operate only during standard business hours. This flexibility allows patients to shift their behavior from reactive (coming when seriously ill) to proactive (regular checkups).

The study results showed no difference in success rates between men and women, despite the male-dominated population. Although men are more likely to develop TB (possibly due to environmental or lifestyle risk factors), women often have different health behaviors that help them achieve similar success rates. Based on adherence, female patients tend to be more compliant with treatment instructions and post-treatment follow-up schedules. This offsets any physiological vulnerabilities. Female patients are often more active in seeking information and engaging in two-way communication with medical personnel, which directly contributes to the effectiveness of treatment. Having a strong family support system allows them to recover well without excessive domestic burdens.

Conversely, patients with low socioeconomic status often face transportation costs, loss of income during treatment, and limited social support, which ultimately leads to irregular medication use or discontinuation of treatment. Furthermore, living in densely populated areas and unsanitary housing conditions also increase the risk of reinfection, which can hinder the success of TB therapy. Therefore, TB programs need to consider the patient's socioeconomic context when providing interventions, including financial support, health education, and community support. (Suryani & Fauzi, 2020).

Another relevant theory for understanding this dynamic is the Ecological Model of Health Behavior (McLeroy et al., 1988), which emphasizes that a person's health behavior is influenced by the interaction of individual, interpersonal, organizational, community, and public policy factors. In the context of TB treatment, success is determined not only by individual willpower but also by a supportive social environment. For example, support from family and healthcare professionals serves as a motivator for patients, while hospital policies that provide intensive monitoring through the DOTS system act as organizational factors that promote success. At the community level, stigma against TB patients can be a significant barrier, causing patients to conceal their illness and be reluctant to continue treatment. Therefore, TB control strategies must be implemented at a multi-level level, involving the roles of families, communities, and healthcare institutions to create an environment conducive to the complete recovery of TB patients.

In addition to social determinants, environmental factors and the healthcare system also play a crucial role in the success of TB treatment. Based on the Health Care Access and Utilization theory developed by Andersen (1995), a person's behavior in utilizing health services is influenced by three main components: predisposing factors (age, gender, education), supporting factors (access, income, availability of facilities), and need factors (severity of the disease). In the context of research at Siti Fatimah Regional Hospital, Palembang, the availability of adequate health facilities and competent medical personnel is one of the main determinants of treatment success. Patients who receive treatment at hospitals with an integrated TB recording system tend to have better monitoring of their therapy regimen. However, obstacles such as distance from the hospital can reduce the intensity of patient control, as Andersen explained that geographic factors play a role in determining the level of health service utilization. Therefore, a strategy of decentralizing TB services through satellite clinics or collaboration with community health centers is important to address this access gap. (Maulana et al., 2022).

From a patient behavioral perspective, Bandura's (1997) self-efficacy theory also provides a strong explanation for the success of TB treatment. Self-efficacy, or an individual's belief in their ability to undergo and complete treatment, is a psychological factor that influences adherence to long-term therapy. Patients with high self-efficacy are more consistent in taking their medication despite experiencing side effects or boredom with the long treatment duration. Conversely, patients with low self-efficacy tend to give up easily or neglect their treatment schedule, potentially leading to drug resistance or disease relapse. Previous research by Maharani et al. (2021) showed that counseling-based educational interventions can increase TB patients' self-efficacy and improve treatment adherence by up to 85%. Therefore, a psychological approach that fosters patient confidence and emotional support is an effective strategy for increasing the success of TB treatment programs at the health facility level. (Putri & Dewi, 2023).

It's also important to examine the success of TB treatment from a socioeconomic and cultural perspective. In urban areas like Palembang, social dynamics significantly influence patient adherence to long-term treatment. Patients from lower-middle income backgrounds often face transportation costs, loss of income due to treatment delays, or lack of family support during treatment. This leads some patients to discontinue

treatment prematurely. Social factors, such as stigma against TB patients, also remain quite strong in some communities. TB patients are often perceived as carrying a dangerous infectious disease, leading them to isolate themselves and be reluctant to continue treatment at public facilities. However, social support from family and the surrounding community has been shown to be a key driver of recovery. Therefore, community education efforts to reduce stigma and strengthen social support need to be an integral part of TB control strategies.

Furthermore, the success of TB treatment is also influenced by program management at the hospital level. Siti Fatimah Regional Hospital, Palembang, plays a central role as a referral hospital that fully implements the DOTS program. The performance of TB staff, the accuracy of data reporting into the SITB system, and the intensity of patient monitoring directly influence the program's success. A consistent reporting system allows staff to more quickly identify patients at risk of discontinuation and initiate prompt intervention. Furthermore, cross-sector coordination between hospitals, community health centers, and health offices also determines the effectiveness of case tracking and the sustainability of treatment. In this context, successful TB treatment is not only a result of individual patient compliance, but also of efficient healthcare governance that is responsive to patient needs. Cross-sector collaboration is a crucial foundation for achieving the national TB elimination target by 2030.

Improving TB treatment success also requires a sustainable approach to public health education. Appropriate and ongoing education can increase patient awareness of the importance of completing treatment and preventing drug resistance. Many patients stop taking their medication because they feel cured after initial symptoms disappear, even though the TB bacteria are still active in the body. Education regarding this matter must be provided not only to patients but also to their families, who are the primary support system during therapy. Healthcare workers have a crucial role in providing clear, empathetic, and easy-to-understand information, especially to patients with low levels of education. In addition, the use of information technology, such as SMS-based medication reminder systems or digital applications, can also be an innovation that helps improve patient compliance, as has been implemented in several other areas with positive results.

It can be seen that the success of the TB treatment program at Siti Fatimah Regional Hospital, Palembang, in 2024 is the result of a complex interaction between individual, social, economic, and health care system factors. Age, gender, occupation, and residence have been shown to contribute to treatment success, but they cannot be separated from the influence of social support, patient education, and effective program management. Efforts to improve TB treatment success must be carried out comprehensively by strengthening cross-sector coordination, increasing the capacity of health workers, and expanding community-based approaches. Through continuous collaboration between patients, families, medical personnel, and the government, it is hoped that the TB treatment success rate at Siti Fatimah Regional Hospital, Palembang, can increase and contribute to achieving the national target of TB elimination in Indonesia by 2030.

5. Conclusion

Based on the results of research conducted at Siti Fatimah Regional Hospital, Palembang in 2024, it can be concluded that the success of tuberculosis (TB) treatment for patients is influenced by several main determinants, namely age, gender, occupation, and place of residence. Young adult patients < 30 years old tend to have a higher treatment success rate than those aged ≥ years old , due to maturity and better adherence to long-term therapy. Gender is also related to treatment success, with female patients generally showing a higher level of discipline in following the treatment schedule than male patients. Occupational factors also play an important role, as patients with permanent jobs tend to be better able to manage their time and treatment costs, thus completing therapy successfully. Furthermore, patients residing in the Palembang City area have easier access to health facilities than patients from outside the city, who are often hampered by distance and transportation costs. Therefore, these four factors collectively influence the success of the TB treatment program at this hospital.

Based on the discussion above, it can be concluded that the success of TB treatment depends not only on individual patient factors but also on social support, economic conditions, and an effective health care system. Family support plays a crucial role in maintaining patient consistency throughout the treatment process, both morally and materially. Furthermore, healthcare workers and TB officers play a significant role in providing education, monitoring, and motivating patients to remain compliant with therapy. A robust TB treatment record and reporting system supports monitoring of treatment continuity and facilitates evaluation of program outcomes. The success of the TB program at Siti Fatimah Regional Hospital in Palembang also depends on effective coordination between hospitals, community health centers, and the health office. Therefore, improving the success of TB treatment requires a multidimensional approach that integrates

medical, social, economic, and managerial aspects in a sustainable manner to achieve the national TB elimination target of 2030.

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