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# The Relationship Between Family Support and Depression Levels in Patients with Pulmonary Tuberculosis

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**ABSTRACT**

**Purpose:** Tuberculosis (TB) not only affects physical health but also impacts patients' psychological well-being, particularly in the form of depressive disorders. Family support is believed to play a crucial role in helping reduce these depressive levels. This study aims to analyze the relationship between the level of family support and the severity of depression in patients with pulmonary tuberculosis.

**Research Method:** This study employed a quantitative approach with a descriptive, correlational, cross-sectional design. A total of 30 pulmonary TB patients at Respira Lung Hospital participated in the survey through a total sampling approach. Data were collected using a family support questionnaire and the Beck Depression Inventory-II (BDI-II), then analyzed using the Chi-Square test with a significance level of 0.05.

**Results and Discussion:** The results indicate that patients with good family support were less likely to experience moderate or severe depression. Conversely, all patients with low-income family support experienced depression at various levels. The Chi-Square test showed a significant relationship between family support and depression levels (ρ = 0.000).

**Implications:** This study confirms that family support plays a crucial role in maintaining the mental health of patients with pulmonary tuberculosis. Family involvement should be integrated into nursing interventions to enhance treatment outcomes and improve the psychological well-being of patients.

**Keywords:** family support; depression; tuberculosis; lungs.

## Introduction

Tuberculosis (TB) remains a serious challenge in the global health system. According to data from the World Health Organization (WHO), TB is one of the ten leading causes of death worldwide and ranks second as the leading cause of death from infectious diseases after COVID-19 (WHO, 2022). The bacterium Mycobacterium tuberculosis causes TB and primarily affects the lungs. The disease spreads through the air when an infected person coughs, sneezes, or speaks (WHO, 2022). In 2020, approximately 1.5 million people died from TB globally, including patients co-infected with HIV (WHO, 2022). Indonesia is one of the countries with the highest TB burden in the world. According to the Global Tuberculosis Report (2023), Indonesia ranks second globally, with 1,060,000 new cases and 134,000

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deaths annually. This figure has increased compared to 2022, which recorded 969,000 new cases (Global Tuberculosis Report, 2022). In the Special Region of Yogyakarta (DIY) alone, there were 5,502 TB cases in 2022, still below the national target of 9,064 cases set by the Ministry of Health (DIY Health Department, 2023). TB not only affects physical health but also causes significant psychological stress for patients. Social stigma, side effects from long-term treatment, and uncertainty about recovery often lead to psychological disorders such as depression (Suratmini & Togatorop, 2023). This situation requires serious attention because depression can worsen clinical conditions, reduce treatment adherence, and disrupt patients' quality of life (Handajani *et al.,* 2022). Untreated depression can lead to sleep disorders, substance abuse, and even suicidal thoughts (Fahmawati, 2025). A study by Nanda *et al.,* (2023) in Jambi City found that 53.3% of TB patients experienced depression, with age, education, and economic status as essential determinants. One potential protective factor that can reduce depression levels in TB patients is family support. This support encompasses emotional, informational, instrumental, and recognition aspects that are necessary throughout the treatment process (Umam *et al.,* 2024). An initial study at Respira Lung Hospital revealed that out of 30 TB patients undergoing treatment from January to June 2024, four patients reported psychological symptoms such as prolonged sadness, loss of motivation, decreased appetite, and fatigue related to insufficient family support. This phenomenon underscores the importance of further exploring the relationship between family support and depression levels in TB patients.

Research consistently demonstrates a significant association between family support and various aspects of tuberculosis (TB) patient care. Family support is associated with reduced depressive symptoms in patients with pulmonary tuberculosis (Padaallah *et al.,* 2024) and improved treatment outcomes (Farida & Bachrun, 2021). Studies indicate that family support correlates with higher treatment adherence among TB patients (Maulidan *et al.,* 2021; Nasedum *et al.,* 2021). Active family involvement in the treatment process can help create a sense of security and increase patients' motivation to complete therapy. These findings suggest that strengthening family support systems can be an effective strategy in improving TB treatment success. The importance of family involvement in TB care is emphasized as it can improve patients' quality of life and support the healing process (Padaallah *et al.,* 2024). However, high levels of treatment non-adherence are still found in some areas, highlighting the need for family education and systematic interventions to support TB patients (Nasedum *et al.,* 2021). Furthermore, several studies have reaffirmed the significant association between family support and treatment adherence among patients with pulmonary TB (Asniati, 2023; Siallagan *et al.,* 2023). Patients with good family support are more likely to adhere to the prescribed treatment regimen, thereby reducing the risk of treatment failure and drug resistance. Family support also helps reduce emotional stress and depression in TB patients, reinforcing the role of families as an integral component in disease management. Healthcare professionals are encouraged to develop nursing interventions that involve family members in improving patient adherence and mental health (Suwanto *et al.,* 2024). Therefore, family support is an essential component of a sustainable and comprehensive TB care system.

Although several studies have confirmed the critical role of family support in improving treatment adherence and reducing depressive symptoms in TB patients, there is a striking gap in the implementation of these findings at the local health service level. Previous studies have primarily been conducted in the general population or at the national level, with limited exploration of specific conditions in regional referral hospitals such as RS Paru Respira. Additionally, most studies have focused on treatment adherence or clinical outcomes. Still, few have directly mapped the relationship between family support and psychological conditions, particularly depression, in detail at the facility level. As

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indicated by the initial report from RS Paru Respira, psychological complaints emerge as a real issue faced by TB patients who do not receive adequate family support. Thus, there is an empirical gap in documenting and specifically linking family support conditions with depression levels among TB patients at the regional hospital level. This gap also includes a lack of context-specific data and the absence of family-based intervention models specifically designed to address depression among TB patients in hospitals like RS Paru Respira.

This study aims to address this gap by explicitly examining the relationship between family support and depression levels among pulmonary tuberculosis patients at RS Paru Respira. The novelty of this study lies in its focus not only on treatment adherence but also on exploring the psychological aspects of TB patients, particularly depression, within the context of a regional referral hospital. This study employs a contextual approach based on empirical field data to identify the role of families in supporting the overall healing process of TB patients. Therefore, the primary objective of this study is to determine the relationship between family support and depression levels among patients with pulmonary tuberculosis at RS Paru Respira, with the hope that the study findings can serve as a foundation for developing family-based nursing interventions in more comprehensive TB care.

## Literature Review and Hypothesis Development

Family

The family is the smallest social unit in the structure of society, playing a central role in the formation of individuals and the broader social order. In general, a family consists of two or more people who are related by blood, marriage, or adoption, live in the same household, and perform social, cultural, and emotional functions together (Umam *et al.,* 2024). From a sociological perspective, the family is viewed not merely as a biological unit, but as a social group recognized both formally and informally, forming an emotional and psychological unity with interdependent roles and functions. Furthermore, Duvall and Logan (in Awaru, 2021) state that the family is not only aimed at producing offspring but also at maintaining and enhancing the physical, mental, emotional, and social well-being of each of its members. The family becomes the first and primary place where individuals learn values, norms, and social roles that shape their identity and life orientation. According to Friedman (in Awaru, 2021), the family is also a living and dynamic system, characterized by ongoing reciprocal interactions among family members. These interactions form a shared culture, where each member contributes to achieving collective goals, such as well-being and emotional security. Allen & Henderson (2022) add that the family should be viewed as a developmental system integrated into a broader social structure. Within this system, the family provides essential emotional and social support to its members, especially in the face of external pressures.

The role of the family in supporting individual development has been increasingly emphasized in various contemporary studies, highlighting the importance of the psychosocial dimension in well-being. As stated by Elsayed, (2024), the family is recognized as the primary institution in the socialization process of children from an early age, where values, norms, and social habits are first introduced. Through the internalization of these values, the family helps shape the personality and adaptive abilities of individuals in the future. The influence of the family is not limited to childhood but extends throughout one's lifetime. Interpersonal relationships within the family, when characterized by high quality, have positive consequences for the emotional well-being, behavior, and even physical health of family members (Dinisman *et al.,* 2017). Stable and supportive family relationships are known to enhance

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psychological resilience, reduce the risk of mental disorders, and strengthen healthy social bonds. In a modern context, the definition of family has become more inclusive, encompassing groups that may not always be bound by blood but share close interactions within a household and perform mutually supportive social roles. These changes reflect the increasingly complex and diverse dynamics of contemporary society. However, the basic functions of the family remain unchanged: providing protection, love, emotional support, and moral values education. Allen & Henderson (2022) emphasize that in a broader social context, the family also serves as a social resource that can prevent exclusion, enhance social integration, and strengthen community solidarity.

Depression

Depression is one of the most significant public health issues and ranks fourth as a cause of global disease burden, with projections indicating it will rise to the most common condition in the coming decade (WHO, 2023). The WHO reports that more than 280 million people worldwide experience depression, with a prevalence of approximately 5% of the adult population (WHO, 2023). This mental health disorder often co-occurs with anxiety and can vary in severity, ranging from mild and temporary to severe and long-lasting, even recurrent. Along with depression, the risk of suicide increases dramatically; the WHO estimates that there are more than 700,000 deaths from suicide each year, making it the fourth leading cause of death among people aged 15–29 (WHO, 2023). Additionally, a study from Frontiers in Psychiatry indicates that depression is a primary risk factor for suicidal behavior, suggesting that approximately 800,000 people die each year from suicide, with one death occurring every 40 seconds (Cai *et al.,* 2021). The Southeast Asian region, including Indonesia, has relatively high suicide rates, particularly among adolescents and young adults, who are also vulnerable to depression and comorbid anxiety disorders.

The comorbidity of depression and anxiety exacerbates the severity of symptoms and the risk of suicidal behavior, as explained through the Tripartite Model by Clark & Watson, (1991), which shows that high levels of negative affect and low positive affect can trigger suicidal thoughts and actions. This psychophysiological interaction highlights the complexity of depression, which is not merely emotional sadness but also involves physical symptoms such as sleep disturbances, loss of appetite, and fatigue (WHO, 2023). Studies on suicide risk networks among adolescents during the COVID-19 pandemic revealed a significant increase in the association between anxiety and depression symptoms and suicidal ideation (McLaughlin *et al.,* 2022), highlighting the need for integrated interventions for both conditions. Social stigma and limited access to mental health services are significant barriers for people with depression in developing countries, including Indonesia (WHO, 2023). The WHO also notes that over 75% of people in low- and middle-income countries do not receive adequate care (WHO, 2023). This is exacerbated by low mental health literacy and a shortage of mental health professionals. Risk factors for suicide, such as young age, male gender, and previous suicide attempts, further underscore the urgency of early screening and community-based prevention (Kern *et al.,* 2023). Therefore, mental health strategies must prioritize a combination of improving access to care, reducing stigma, and adopting a cross-sectoral approach to detect and support individuals experiencing depression and anxiety, particularly those at high risk of suicide.

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Tuberculosis

The family is the most fundamental social unit in the structure of society, comprising two or more people who are related by blood, marriage, or adoption, living in the same household, and interacting with each other while performing specific social functions and roles. According to Allen & Henderson (2022), the family is not only a place for biological growth but also the primary institution that shapes an individual's personality and social identity. Within the family, the processes of socialization, internalization of cultural values, and reinforcement of social norms occur continuously from an early age. The family's role as an agent of socialization is crucial in shaping the character, ethics, and emotional resilience of its members. Furthermore, Appiah *et al.,* (2023) note that the structure of the modern family has evolved, encompassing various forms, ranging from nuclear families to extended families and non-traditional families, which continue to perform basic functions collectively and effectively. Therefore, in the context of social dynamics and modern challenges, the family is a key actor in maintaining emotional stability and social integrity. Beyond its affective role, the family also has educational and protective functions, providing guidance, protection, and social control for each family member. A study by Litvinjenko *et al.,* (2023) revealed that families with open communication and healthy relationships among their members can create an environment that supports both physical and mental well-being. This shows that family involvement is not only significant in daily life but also a crucial element in social and health interventions, especially when family members face crises or suffer from chronic illnesses that require long-term and consistent support.

Beyond being a social entity, the family also functions as a complex and interdependent system, where changes in one member can affect the entire family dynamic. In family systems theory, each family member plays a unique role, and their interactions form patterns that influence individual behavior, decisions, and psychosocial well-being (Allen & Henderson, 2022). In this context, the quality of relationships between family members is a key determinant of the effectiveness of social support provided. When individuals face health challenges, such as chronic illness or mental disorders, emotional, practical, and psychological support from family members is highly significant in accelerating the recovery process. The quality of family relationships, particularly empathetic and open communication, has a positive impact on patients' psychological well-being and increases their motivation to undergo treatment. In the case of infectious diseases such as tuberculosis, the presence of a caring family can ensure regular medication intake, attendance at healthcare facilities, and maintain the patient's emotional stability. Research by Litvinjenko *et al.,* (2023) also demonstrates that family support enhances treatment adherence, reduces the risk of relapse, and fosters mental resilience. Furthermore, in community health care approaches, integrating families as active partners is essential to ensure that promotive and preventive efforts are carried out optimally.

## Research Method

This study uses a quantitative approach with a correlational descriptive design and a cross-sectional method. This design was chosen because it allows researchers to observe and analyze the relationship between two variables —namely, family support and depression levels in patients with pulmonary tuberculosis —at a single point in time. The study was conducted at the Respira Lung Hospital in Yogyakarta from March 21 to April 8, 2025. This design was deemed efficient and appropriate for describing the relationship between variables at a specific time without requiring long-term observation. The study population included all pulmonary tuberculosis patients undergoing outpatient

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treatment at Respira Pulmonary Hospital from March to April 2025, totaling 30 individuals. The sampling technique used was total sampling, where all members of the population were included as respondents. The inclusion criteria for this study include: (1) pulmonary tuberculosis outpatients at Respira Pulmonary Hospital; (2) patients who can read and write; (3) able to communicate verbally well; (4) aged ≥18 years; and (5) willing to participate in the study and sign the informed consent form. Exclusion criteria include: (1) patients who were uncooperative during data collection; (2) patients with extrapulmonary TB diagnosis; and (3) patients who were too weak or severely ill to complete the questionnaire independently.

Data were collected through the distribution of two types of questionnaires that had been tested for validity and reliability. The first instrument was used to measure the family support provided to patients, consisting of 20 statements referring to four main dimensions: instrumental support, informational support, appreciation, and emotional support. This instrument has been validated, with validity coefficients ranging from 0.413 to 0.774. Its reliability is indicated by a Cronbach's alpha value of 0.752, suggesting that the instrument is both valid and reliable (Tanauma, 2023). The second instrument used is the Beck Depression Inventory-II (BDI-II), which consists of 21 items to assess the level of depression. The BDI-II has been proven to have high validity and reliability. The correlation between the BDI-II and the Beck Anxiety Inventory (BAI) was recorded as $r = 0.52$ for the general population, $r = 0.48$ for patients with coronary heart disease, and $r = 0.67$ for patients with depression, all with significance at $p < 0.01$. Additionally, the BDI-II shows a strong correlation with the Hamilton Rating Scale for Depression (HAM-D), with a correlation coefficient of $r = 0.71$ ($p < 0.01$). Reliability testing yielded Cronbach's alpha values of 0.90 in the general population, 0.87 in patients with coronary heart disease, and 0.91 in the depression patient group, indicating perfect internal consistency (Gebrie, 2018). Before completing the instrument, each respondent was explained the study's objectives and asked to sign a participation consent form. The data collected were analyzed using SPSS version 26. To determine the relationship between family support and depression levels in pulmonary tuberculosis patients, the chi-squared test was used. This test was chosen because it is suitable for testing the relationship between two variables with categorical or ordinal scales. The significance level used was $\alpha = 0.05$. The results were interpreted based on the significance values obtained, considering the strength of the association between the variables analyzed. This study also received ethical approval from the Ethics Committee of Respira Lung Hospital, with letter number 04/KEPK/III/2025, ensuring that the entire research process was conducted by ethical principles and maintained the confidentiality and comfort of the participants.

## Results and Discussion

### *Analysis Result*

Most respondents were in the productive age group (19–59 years), totaling 16 people (53.3%). This indicates that the productive age group still has a relatively high risk of tuberculosis. Most respondents were male, totaling 21 people (70%). This suggests that men are more likely to contract TB than women, which may be linked to environmental exposure or lifestyle habits. The highest level of education was elementary school (30%). Lower levels of education may influence understanding of the disease and TB treatment, including the importance of family support. The majority of respondents worked as laborers (36.7%). Laborers are vulnerable to TB due to crowded and poorly ventilated work environments.

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Most respondents were married (63.3%), indicating the potential for family support during treatment. The most common treatment duration was 6 months (30%), in line with the standard long-term TB therapy. This indicates that most respondents are adhering to treatment procedures appropriately. Most respondents receive good family support (80%). Family support is a crucial factor in treatment adherence and the psychological well-being of individuals with TB. The majority of respondents did not experience or only experienced minimal depression (63.3%). However, there were cases of severe depression (6.7%), highlighting the need for psychological support for TB patients.

**Table 1. Characteristics of Research Respondents (N = 30)**

| Variable | Category | Frequency (*f*) | Percentage (%) |
|---|---|---|---|
| Age Group | 10–18 Years | 1 | 3,3 |
| | 19–59 Years | 16 | 53,3 |
| | ≥60 Years | 13 | 43,3 |
| Gender | Man | 21 | 70,0 |
| | Woman | 9 | 30,0 |
| Level of Education | Elementary School | 9 | 30,0 |
| | Junior High School | 8 | 26,7 |
| | High School | 7 | 23,3 |
| | Higher Education | 6 | 20,0 |
| Work | Laborer | 11 | 36,7 |
| | Ibu Rumah Tangga | 3 | 10,0 |
| | Student | 2 | 6,7 |
| | Retired | 3 | 10,0 |
| | Farmer | 4 | 13,3 |
| | Civil Servant | 1 | 3,3 |
| | Private | 2 | 6,7 |
| | Entrepreneur | 2 | 6,7 |
| | Not Working | 2 | 6,7 |
| Marital Status | Not Married | 7 | 23,3 |
| | Widower | 2 | 6,7 |
| | Widow | 2 | 6,7 |
| | Married | 19 | 63,3 |
| Duration of Treatment | 1 Month | 4 | 13,3 |
| | 2 Month | 4 | 13,3 |
| | 3 Month | 3 | 10,0 |
| | 4 Month | 4 | 13,3 |
| | 5 Month | 1 | 3,3 |
| | 6 Month | 9 | 30,0 |
| | 7 Month | 3 | 10,0 |
| | 8 Month | 1 | 3,3 |
| | 9 Month | 1 | 3,3 |
| Family Support | Good | 24 | 80,0 |
| | Bad | 6 | 20,0 |

**Source: Primary Data, 2025**

The majority of respondents did not experience or only experienced minimal depression (63.3%). However, there were still cases of severe depression (6.7%), indicating the need for psychological attention for TB patients.

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**Table 2. Frequency Distribution of Respondents Based on Depression Levels of Tuberculosis Patients**

| Category | Frequency (*f*) | Percentage (%) |
|---|---|---|
| None/Minimal Depression | 19 | 63,3 |
| Mild depression | 7 | 23,3 |
| Moderate Depression | 2 | 6,7 |
| Severe Depression | 2 | 6,7 |
| Total | 30 | 100 |

**Source: Primary Data, 2025**

**Table 3. Relationship between Family Support and Depression Levels in Tuberculosis Patients at Respira Lung Hospital**

| Family Support | None/Minimal Depression | Mild depression | Moderate Depression | Severe Depression | Total (n) | Percentage (%) |
|---|---|---|---|---|---|---|
| | (*f*) | % | (*f*) | % | (*f*) | % |
| Good | 19 | 63,3 | 5 | 16,7 | 0 | 0,0 |
| Bad | 0 | 0,0 | 2 | 6,7 | 2 | 6,7 |
| Jumlah | 19 | 63,3 | 7 | 23,4 | 2 | 6,7 |

**Source: Primary Data, 2025**

There is a significant relationship between family support and the level of depression in tuberculosis patients (p = 0.000). Respondents who received good family support tended not to experience depression, whereas all respondents with low-income family support experienced depression, ranging from mild to severe. This highlights the crucial role of the family in supporting the psychological well-being of patients during TB treatment.

***Discussion***

The majority of respondents in this study were in the 19–59 age group, which is categorized as the productive age range. At this stage, individuals tend to engage in high levels of physical and social activity, whether in the context of work, education, or community interactions. This high mobility indirectly increases the likelihood of individuals being exposed to Mycobacterium tuberculosis, especially in crowded work or public environments that lack adequate sanitation standards. This condition is reinforced by the findings of Lele *et al.,* (2024), which explain that the productive age group has a higher risk of contracting TB due to more intense social contact, both directly and indirectly. This is also related to the high prevalence of TB in the community, making this group a potential target for bacterial transmission. On the other hand, the elderly population (aged 60 years and above) also accounts for a significant proportion of respondents. Although they have lower mobility compared to the productive age group, older people are highly vulnerable to TB due to various physiological factors. The natural decline in the immune system with aging, as well as the presence of comorbidities such as diabetes, hypertension, or heart disease, can worsen the body's resistance to TB infection. Hadriyati *et al.,* (2025) highlight that older people often face difficulties in maintaining treatment consistency due to cognitive decline, physical limitations in accessing healthcare services, or the absence of adequate caregivers.

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Based on gender, the study results indicate that the majority of respondents were male. This finding suggests a trend that men are more exposed to the risk of tuberculosis than women. This aligns with the findings of Lele *et al.,* (2024), who stated that TB prevalence is higher among men, as they are generally more active in public spaces and have higher mobility in both social and work-related activities. The high frequency of social interactions, especially in work environments or public facilities that do not meet hygiene and ventilation standards, makes men more susceptible to Mycobacterium tuberculosis transmission. Additionally, unhealthy lifestyles, such as smoking, which is more prevalent among men, also contribute to lung tissue damage and weaken the body's resistance to TB infection. Research by Happyanto *et al.,* (2024) further supports these findings, noting that the majority of pulmonary TB patients identified in the field are men. Workplace environments that fail to meet health standards are also one of the primary causes of high TB rates among men. Haddase & Zamli, (2024) highlight that crowded workplaces with poor ventilation and inadequate sanitation facilities increase the likelihood of TB transmission, especially among workers who spend long hours in enclosed spaces. This situation is commonly found in the informal sector or among manual laborers, who are predominantly male. Given the differences in risk between genders, gender-based health education is crucial. Such education should not only focus on medical aspects but also address behavioral changes that promote healthier lifestyles and increase awareness of workplace risks. Especially for informal workers, educational approaches need to be tailored to their work context and designed to be easily understood and implemented in daily life.

In terms of education, this study shows that most respondents are elementary school graduates. Low educational attainment has significant implications for individuals' ability to understand complex health information, including prevention, symptoms, and the importance of complete diagnosis and treatment of tuberculosis. Low education often results in limited knowledge about how TB spreads, how to avoid it, and why it is important to complete treatment. Haddase & Zamli (2024) revealed that individuals with limited educational backgrounds tend to have limited access to medical information and a lack of understanding of health protocols recommended by medical personnel. Additionally, limitations in reading, writing, and understanding written information pose significant barriers to the implementation of text-based health education. Dewi & Susilawati (2024) further note that low educational levels often correlate with low awareness of the risks associated with incomplete treatment. Patients with lower education are more likely to discontinue therapy prematurely because they feel better, no longer experience symptoms, or do not understand the risks of drug resistance and disease recurrence. Sinurat *et al.,* (2025) also emphasize that low educational levels influence patients' self-efficacy, which is their confidence in adhering to and completing treatment as prescribed. This lack of self-confidence can lead patients to be inconsistent or hesitant in following therapy, especially when facing side effects of medication or social pressure.

In terms of employment, research data shows that most respondents work as laborers. Laborers are part of the informal sector, often working in crowded environments with poor air circulation and inadequate personal protective equipment. These conditions make this group more vulnerable to exposure and transmission of Mycobacterium tuberculosis. An unhealthy work environment, combined with physically demanding work, can weaken the immune system, thereby increasing susceptibility to TB infection. Dewi & Susilawati, (2024) emphasize that informal sector workers, including laborers, often lack adequate access to health information, either due to educational limitations, insufficient health promotion facilities at the workplace, or the absence of health insurance provided by employers. Septiani *et al.,* (2025) also explain that this group tends to be slow in recognizing early TB symptoms,

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such as chronic cough, weight loss, and prolonged fatigue. This lack of awareness often leads to delays in seeking medical help, resulting in TB diagnosis and treatment being conducted when the disease is already in a more advanced stage. Additionally, workers typically rely on daily income to meet their basic needs, making it difficult for them to allocate time for regular medical treatment at healthcare facilities. When faced with the choice between working to meet daily needs or seeking healthcare services, many workers opt to work. Marsanda *et al.,* (2025) emphasize that time constraints and economic pressures such as these are key factors contributing to low adherence to TB therapy among workers. This situation calls for more inclusive policies and approaches in TB services, including workplace health promotion programs, flexible treatment services, and social and economic support for patients from the informal sector. Without a strategy that is tailored to the context of workers' lives, TB control efforts will struggle to achieve optimal results.

The majority of respondents in this study were married, which, in the context of chronic diseases like tuberculosis (TB), can have significant psychosocial impacts. Marital status is generally associated with the presence of an internal support system from a spouse, whether in the form of emotional, physical, or practical support during the treatment process. This support can help patients cope with the psychological and physical challenges that arise during treatment. Irwan (2021) states that support from a spouse plays a role in increasing the self-efficacy of TB patients, which is the belief in one's ability to undergo and complete treatment as recommended. Patients who feel cared for and accompanied tend to have higher motivation to adhere to the treatment regimen. This finding is also supported by Nirmalasari *et al.,* (2024), who noted that the success of TB treatment is highly dependent on the role of the immediate family, including the spouse. The family plays a crucial role in creating a supportive environment for the healing process, both emotionally and in meeting the patient's practical needs. However, it cannot be ignored that family dynamics also have the potential to act as barriers, particularly in contexts of economic or interpersonal conflict. Annashr & Laksmini (2023) emphasize that financial pressure, communication issues, or dual burdens within the household can pose unique challenges that impact patients' adherence to treatment.

Based on the duration of treatment, the majority of respondents in this study reported undergoing therapy for six months, which is the standard treatment duration for tuberculosis (TB) according to national and international guidelines. This achievement reflects a relatively high level of adherence, as not all TB patients can maintain treatment consistency over a prolonged period. Adherence for six months indicates patients' awareness and commitment to the importance of completing all phases of treatment, which is crucial for preventing drug resistance and disease recurrence. However, while this is a positive indicator quantitatively, from a qualitative perspective, the prolonged treatment process often leads to boredom and psychological stress, especially if patients do not receive adequate social support from family, the surrounding community, or healthcare workers. Fiamanda & Widyaningsih, (2024) explain that long-term treatment can lead to increased mental burden, such as stress, anxiety, and depression. These conditions can disrupt the overall healing process by affecting patients' motivation and attitude toward continuing therapy. Simaremare & Girsang (2021) add that during the final phase of treatment, patients' motivation often declines. Patients feel physically and mentally exhausted, especially when clinical results are not yet significant or when side effects of the medication begin to be felt. In this context, the role of healthcare workers, particularly medication adherence monitors (MAMs), becomes crucial. Komariah *et al.,* (2023) emphasize that MAMs not only ensure patients take their medication regularly but also serve as motivators, monitors of psychological well-being, and liaisons between patients and healthcare facilities.

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Most respondents in this study received good family support during their tuberculosis (TB) treatment. Family support is one of the key elements in determining the success of therapy, especially since TB treatment requires a long time, consistent adherence, and mental preparedness from the patient. Family support is not limited to physical assistance, such as taking patients to healthcare facilities or reminding them to take their medication, but also includes emotional support, such as providing encouragement, moral support, and ensuring that patients feel cared for and not alone during the healing process. Patients who receive good family support tend to have a higher quality of life and more optimal recovery rates compared to those who do not receive similar support. Family support has also been proven to have a significant impact on patients' psychological conditions. Saputra, (2022) explains that feeling accepted, loved, and cared for by family can reduce anxiety, depression, and feelings of hopelessness that often accompany TB patients. Moreover, TB treatment, which can last for months, has the potential to cause boredom and mental stress, making the presence of family members in accompanying patients crucial for maintaining emotional stability. However, this study also revealed that approximately one-fifth of respondents did not receive optimal family support. This condition is concerning as it can worsen patients' mental health and reduce treatment adherence, as highlighted by Dhianisa, (2024). Patients who feel unsupported or even experience social rejection from their families are at risk of discontinuing therapy prematurely, which could ultimately lead to drug resistance or disease recurrence.

The majority of respondents in this study were found not to have depression or only showed minimal depressive symptoms. This finding indicates that most TB patients can adapt psychologically during the relatively long treatment process. This good psychological adaptation is likely influenced by the presence of social support from family, friends, healthcare workers, and the surrounding community. Handajani *et al.,* (2022) state that strong social support plays a crucial role in maintaining the mental stability of TB patients, especially in coping with the physical and emotional stress caused by chronic illness. When patients feel emotionally supported, they are more likely to remain motivated to complete their treatment and have a greater sense of hope for recovery. However, it cannot be ignored that some patients still experience mild to severe depressive symptoms. This indicates that not all patients have the same ability to adapt to the psychological pressures caused by treatment. Simaremare & Girsang (2021) noted that psychological disorders in TB patients can be triggered by various factors, such as side effects of drugs that interfere with physical comfort, as well as social stigma that causes feelings of exclusion or shame. This stigma can originate from the surrounding environment, even from family members, who view TB as a dangerous infectious disease that must be avoided. This condition can exacerbate feelings of loneliness, lower self-esteem, and hinder the healing process.

Statistical analysis in this study revealed a significant association between family support and depression levels among pulmonary tuberculosis patients. Specifically, all patients who received good family support did not exhibit moderate or severe depressive symptoms. This finding suggests that the presence of family as the primary support system plays a significant role in maintaining psychological stability among patients during treatment. These findings are consistent with those of Jannah *et al.,* (2022) who reported that family support helps patients manage emotional stress, strengthen mental resilience, and maintain motivation to complete therapy. The active involvement of family members in the treatment process provides patients with a sense of safety, valuedness, and not being alone, which is particularly crucial when facing the burden of a chronic illness. Furthermore, Fahmawati *et al.,* (2025) emphasize that family support not only influences psychological aspects but also directly plays a role in increasing patients' motivation to recover, improving their quality of life, and reducing the emotional

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burden that arises during the therapy process. This support can take the form of monitoring medication adherence, assisting with transportation to healthcare facilities, and providing verbal encouragement or motivation. Conversely, patients who do not receive adequate family support are more likely to experience depressive symptoms, ranging from mild to severe. This finding is supported by the research of Feriska *et al.,* (2024), who stated that low social support increases vulnerability to psychological disorders. Nanda *et al.,* (2023) also noted that feelings of being ignored or unnoticed by the social environment exacerbate the mental stress experienced by TB patients.

## Conclusion

This study aims to explore the relationship between family support and depression levels in pulmonary tuberculosis patients at the Respira Yogyakarta Lung Hospital. Based on an analysis of 30 respondents, it was found that most patients received good family support and only experienced minimal depressive symptoms. Statistical analysis revealed a significant association between the quality of family support and patients' psychological condition. This study offers insights into the significance of family presence and involvement in enhancing the mental resilience of TB patients during treatment.

Scientifically, this study contributes to the enrichment of research on the biopsychosocial approach in the care of tuberculosis patients, particularly regarding the role of family support in patients' mental health. These findings also have high practical value for healthcare services, as they indicate that tuberculosis control efforts should focus not only on medical aspects but also on strengthening the social support system, particularly the immediate family. In practice, the results of this study can be used as a basis for developing family-based nursing interventions, including the active involvement of family members in therapy monitoring and psychosocial counseling. For policymakers, these results support the need to integrate family support programs into more comprehensive TB control policies.

The study was conducted in a single healthcare institution with a limited sample size, so the results cannot be generalized to a broader population. Additionally, the cross-sectional study design does not allow for the assessment of causal relationships between family support and depression levels over time. Therefore, further research with a larger geographical scope and sample size, as well as the use of longitudinal or mixed methods, is recommended to gain a deeper and more comprehensive understanding. Future studies should also explore further the most effective forms of family support interventions in reducing the risk of depression and improving treatment adherence among pulmonary TB patients.

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