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The Relationship Between Family Support And The Quality Of Life Of Tuberculosis Patients In The Kembaran 1 Banyumas Community Health Center Area

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Abstract

Tuberculosis (TB) is a communicable disease that remains a major public health problem in Indonesia due to its high incidence, long treatment duration, and its impact on patients' physical, psychological, social, and environmental conditions, which can reduce quality of life. Family support is an important factor that plays a role in improving the quality of life of tuberculosis patients. This study aimed to determine the relationship between family support and the quality of life of tuberculosis patients in the working area of Kembaran 1 Public Health Center, Banyumas. This study employed a quantitative analytical method with a cross-sectional design. The sample consisted of 67 tuberculosis patients selected using proportionate stratified random sampling and simple random sampling techniques. The research instruments were the Perceived Social Support from Family (PSS-Fa) questionnaire to measure family support and the WHOQOL-BREF Indonesian version to assess patients' quality of life. Data were analyzed using appropriate statistical tests. The results showed that there was a significant relationship between family support and the quality of life of tuberculosis patients ($p < 0.05$). Better family support was associated with better quality of life among tuberculosis patients. Family support plays an important role in improving the quality of life of tuberculosis patients.

Keywords: Family Support, Quality of Life, Tuberculosis, PSS-Fa, WHOQOL-BREF.

INTRODUCTION

Tuberculosis (TB) is one of the world's deadliest infectious diseases and remains a global health challenge. According to the World Health Organization (WHO) Global Tuberculosis Report 2024, there were 10.8 million new TB cases recorded globally in 2023, with 1.25 million deaths. Indonesia ranks second in the world after India with an estimated 969,000 active TB cases, representing approximately 10% of the total global cases (WHO, 2024). These figures indicate that TB remains a serious problem requiring cross-sectoral attention. TB is caused by Mycobacterium tuberculosis, which primarily attacks the lungs but can also affect other organs such as the lymph nodes, bones, and brain. TB is a chronic disease that requires long-term treatment (6–12 months), making patient adherence to therapy a critical factor in successful recovery. However, the treatment adherence rate in Indonesia is still below the WHO target of around 86% compared to the target of 90% (Ministry of Health of the Republic of Indonesia, 2024). Non-compliance is often caused by drug side effects, boredom, lack of family support, and social stigma in the community.

TB not only impacts physical health but also reduces patients' overall quality of life, encompassing physical, psychological, social, and environmental aspects. TB patients often face fatigue, job loss, sleep disturbances, anxiety, and discrimination from their social environment. Therefore, TB interventions cannot focus solely on medical therapy but must also consider social aspects, including family support, which plays a crucial role in maintaining patient compliance and well-being (Nurjaman et al., 2023). These aspects are closely related to health conditions, disease severity, treatment duration, and the risk of morbidity and mortality, all of which influence disease progression in humans.

According to data from the Banyumas Regency Health Office in 2024, there were 357 active TB cases, with 212 cases recorded in the Kembaran 1 Community Health Center's work area. Although this number decreased from 413 cases in 2023, it still indicates a relatively high disease burden. Kembaran 1 Community Health Center encompasses several villages with diverse socioeconomic

conditions, with the majority of residents working as farmers and daily laborers, with a lower-middle-class education. This situation impacts access to health services and the ability of families to provide optimal support for TB patients.

The characteristics of TB patients in this region also show diversity. Most patients are in the productive age range (25–55 years), which should be the most socially and economically active age group. Males dominate the number of cases due to higher risk exposures, such as smoking and working in dusty environments (Ministry of Health of the Republic of Indonesia, 2023). Furthermore, many patients experience economic hardship, poor nutrition, and low educational levels, contributing to low awareness of the importance of completing treatment. These demographic factors affect patients' quality of life and the level of family support they receive.

According to Procidano and Heller (1983), family support includes emotional, informational, and practical assistance provided to sick family members. This support is crucial for maintaining patient motivation during treatment. In the context of TB, family support not only helps patients adhere to their medication but also provides a sense of acceptance and reduces psychological distress caused by stigma. Thus, the family becomes a crucial external factor in determining the success of therapy and the patient's quality of life.

Various studies have shown a significant relationship between family support and the quality of life of TB patients. Research by Fahmawati et al. (2025) at Bangetayu Community Health Center showed that 98.2% of respondents with good family support had a fairly good quality of life (89.1%), with a significant relationship between the two variables. Research by Shidqi (2024) at Selabatu Community Health Center, using the PSS-Fa (Perceived Social Support from Family) and WHOQOL-BREF instruments, found a strong correlation between the level of family support and the quality of life of pulmonary TB patients. Similarly, Wirahsono, Ahmad, & Amir (2023) found that forms of emotional and instrumental support from family significantly influenced treatment adherence and the psychological well-being of TB patients. Furthermore, a study by Azalia et al. (2020) in Pidie Jaya Regency found that 61.8% of TB patients had a good quality of life, which was influenced by social factors, including family support and economic conditions. These findings reinforce the important role of the family in the recovery process of TB patients. However, most of these studies were conducted in urban areas or areas with relatively good access to health services.

Most previous studies have not linked family support variables to patient demographic characteristics (age, gender, duration of TB), which can influence perceived support and quality of life. Furthermore, few studies have simultaneously used the PSS-Fa and the Indonesian version of the WHOQOL-BREF (WHO, 2020) to comprehensively measure the relationship between the two variables. By understanding the role of family support in this context, the results of this study are expected to provide insights for policymakers and healthcare providers in designing more effective and contextualized interventions to improve the quality of life of tuberculosis patients. The main objective of this study was to analyze the relationship between family support and quality of life of tuberculosis patients in the Kembaran 1 Community Health Center in Banyumas. Theoretically, this study will add to the literature on social factors that influence the quality of life of tuberculosis patients. Practically, these findings can be used to develop family-based intervention programs aimed at improving treatment outcomes and the well-being of tuberculosis patients in rural communities.

RESEARCH METHODS

This study uses a quantitative approach because it aims to objectively measure and analyze the relationship between family support and quality of life in tuberculosis (TB) patients through numerical data. This approach allows researchers to observe patterns of relationships between variables using scientifically sound statistical techniques (Putri & Handayani, 2021). The type of research used is*descriptive correlational*. This research design is descriptive in nature.*cross-sectional*(cross-sectional), where data is collected only once at a specific point in time. This design is efficient for use

in epidemiological and nursing studies because it does not require a long time to observe changes, yet still provides a comprehensive picture of the relationships between variables (Fu et al., 2019; Siregar & Syahputra, 2022). This research was conducted at the Kembaran 1 Community Health Center, Banyumas Regency, Central Java, from November 4, 2025, to December 10, 2025.

The population in this study was all individuals who met the requirements as subjects relevant to the research focus, namely active pulmonary tuberculosis patients undergoing treatment in the Kembaran 1 Community Health Center area, Banyumas Regency. Based on data from the local Community Health Center, the total number of active TB patients recorded in 2024 was 201 people. This number became the basis of the study's target population. Based on the known population size, namely 212 active tuberculosis patients in the Kembaran 1 Community Health Center area of Banyumas, the researcher used the formula*Slovin*to determine the minimum sample size. With the error rate*(margin of error)*of 10% (0.10), In this study, the number of samples was calculated using the Slovin formula. Therefore, the minimum sample size used in this study was 67 respondents. This number is considered adequate to represent the population and maintain the validity and reliability of the research data, as it meets the minimum number requirements recommended in correlational studies (Creswell, 2018). Because the population size in each village varies, the sampling technique used in this study was Non-Probability Sampling with Proportionate Stratified Random Sampling and Simple Random Sampling.

The variables in this study are the independent variable and the dependent variable. The independent variable in this study is family support. The dependent variable in this study is the quality of life of TB patients. In this study, there are two main variables: family support as the independent variable (X), and the quality of life of tuberculosis patients as the dependent variable (Y). Each variable is explained through its conceptual definition, measurement indicators, and its operationalization in the research context. According to Ibnu Hadjar in Ahyar et al. (2020), a research instrument is a measuring tool used to obtain quantitative information about variations in variable characteristics objectively. The instrument used in this study is a questionnaire systematically compiled based on previously validated theories and instruments.

The questionnaire in this study used instruments that had been used in a previous study by Shidqi et al. (2024), namely Perceived Social Support–Family (PSS-Fa) to measure family support and the Indonesian version of the WHOQOL-BREF for quality of life. The results of the validity test showed that all items in both instruments were valid ($r > 0.361$), with a correlation range of 0.382–0.796 for the PSS-Fa and 0.409–0.850 for the WHOQOL-BREF. The reliability test using Cronbach's Alpha also showed excellent results, namely 0.81 for the PSS-Fa and 0.8756 for the WHOQOL-BREF. Thus, both questionnaires were declared feasible and reliable for use in this study.

This study used primary and secondary data. Primary data were obtained from the PSS-Fa and WHOQOL-BREF questionnaires, which generated numeric Likert-scale data for quantitative analysis. Secondary data came from Community Health Center (Puskesmas) documentation, such as the number of TB cases, patient profiles, and health programs. The combination of these two data sets aims to provide a more complete picture, both from respondents' perceptions and actual conditions in the field, thereby increasing the strength and relevance of the research results. The data collection technique used a quantitative approach with standardized questionnaires, namely the PSS-Fa (20 items, 4-point Likert scale) and WHOQOL-BREF (26 items, 5-point Likert scale). The collected primary data were in the form of numeric scores from TB patients at the Kembaran 1 Banyumas Community Health Center. The process included coordination with the community health center, respondent selection, obtaining informed consent, completing the questionnaire, and checking the data. Validity was guaranteed through the use of tested instruments, so that the data obtained were accurate and could be analyzed statistically.

This study used inferential statistical analysis with a quantitative approach to examine the relationship between family support and the quality of life of TB patients. Univariate analysis was used to describe the characteristics of respondents and each variable, while bivariate analysis used the

Spearman Rank correlation test with $\alpha = 0.05$ to determine the relationship between the two variables. Data processing was carried out through the stages of input, coding, validity and reliability testing (Cronbach's Alpha), and statistical analysis using software. Results were interpreted based on the correlation coefficient (r) and p-value. With this procedure, the data obtained is expected to be accurate, valid, and can support the research conclusions objectively.

RESULTS AND DISCUSSION

The results of the study "The Relationship between Family Support and the Quality of Life of Tuberculosis Patients in the Kembaran 1 Banyumas Community Health Center Area" which was conducted in November 2025 with a sample of 67 respondents showed the following results:

Table 1. Frequency Distribution of Respondent Characteristics of TB Patients in the Work Area of Kembaran 1 Health Center

No	Characteristics	Frequency f	Presentation %
1.	Age		
	Productive age	62	92.5
	Non-productive age	5	7.5
2.	Gender		
	Man	34	50.7
	Woman	33	49.3
3.	Long Suffering		
	<6 months	40	59.7
	≥6 months	27	40.3
Total		67	100

Based on Table 1 regarding the distribution of respondent characteristics, it shows that the majority of tuberculosis patients were of productive age, namely 62 respondents (92.5%), while respondents of non-productive age were 5 respondents (7.5%). Based on gender, the majority of respondents were male, namely 34 respondents (50.7%), while women were 33 respondents (49.3%). Furthermore, based on the duration of tuberculosis, the majority of respondents had suffered from TB for less than 6 months, namely 40 respondents (59.7%), while respondents who had suffered from TB for 6 months or more were 27 respondents (40.3%).

Table 2. Frequency Distribution of Family Support for TB Patients in the Working Area of Kembaran 1 Banyumas Health Center

Family Support	Frequency f	Presentation %
Tall	58	65.7
Currently	23	34.3
Low	0	0
Total	67	100

Based on Table 2 regarding the frequency distribution of family support for tuberculosis patients in the Kembaran 1 Community Health Center work area, it is known that of the 67 respondents, the majority of respondents had high family support, namely 44 respondents (65.7%). Furthermore, respondents with moderate family support numbered 23 respondents (34.3%), while there were no respondents with low family support (0%).

Table 3. Frequency Distribution of Quality of Life of TB Patients in the Working Area of Kembaran 1 Banyumas Health Center

Quality of Life	Frequency f	Presentation %
Tall	58	86.6
Currently	9	13.4
Low	0	0
Total	67	100

Based on Table 3, the frequency distribution of quality of life of tuberculosis patients in the Kembaran 1 Community Health Center work area shows that of the 67 respondents, the majority had a high quality of life, namely 58 respondents (86.6%). Meanwhile, respondents with a moderate quality of life numbered 9 respondents (13.4%), and there were no respondents with a low quality of life (0%).

Table 4. Distribution of the Relationship between Family Support and the Quality of Life of Tuberculosis Patients in the Kembaran 1 Banyumas Community Health Center Area

Family Support	Quality of Life						Amount		P value
	Low		Currently		Tall				
	f	%	f	%	f	%	f	%	
Low	0	0	0	0	0	0	0	0	
Currently	0	0	9	13.4	35	52.2	44	65.7	0.019
Tall	0	0	0	0	23	34.3	23	34.3	
Total	58	86.6	9	13.4	0	0	67	100	

Based on Table 4. regarding the cross-tabulation between family support and the quality of life of tuberculosis patients in the work area of Kembaran 1 Health Center, it is known that of the 67 respondents, respondents with high family support all had a high quality of life, namely 23 respondents (34.3%). In respondents with moderate family support, the majority had a high quality of life, namely 35 respondents (52.2%), while respondents with moderate quality of life were 9 respondents (13.4%). There were no respondents with low quality of life in all family support categories. The highest quality of life was found in those with moderate family support (52.2%). The results of the statistical test showed a p-value of 0.019 ($p < 0.05$), which means that there is a significant relationship between family support and the quality of life of tuberculosis patients in the work area of Kembaran 1 Health Center.

Discussion

Characteristics

The results showed that the majority of tuberculosis patient respondents were of productive age, namely 62 respondents (92.5%), while only 5 respondents (7.5%) were of non-productive age. This finding indicates that tuberculosis cases in the Kembaran 1 Community Health Center work area are more common among individuals of a socially and economically active age. The productive age group is characterized by high mobility, extensive social interactions, and dense work activities. These conditions increase the risk of exposure to Mycobacterium tuberculosis, especially in high-density work environments and communities. This is in line with the Global Tuberculosis Report, which states that TB most commonly affects the productive age group due to high social contact and activities outside the home (World Health Organization, 2021).

In addition to increasing the risk of transmission, TB in productive age also significantly impacts patients' quality of life. Patients at this age face not only physical health problems but also psychological, social, and economic pressures due to limited activity, loss of income, and loss of family roles. In these circumstances, family support is crucial in helping patients maintain their quality

of life. Research conducted by Dheda et al. (2022) states that productive-age TB patients have a greater risk of declining quality of life if they lack a supportive family environment. Family support can help patients cope with stress, improve treatment adherence, and maintain psychological stability during long-term TB therapy. This finding reinforces the research finding that, despite the majority of respondents being of productive age, their quality of life remains high due to strong family support.

Based on the research results, the distribution of respondents by gender showed that 34 respondents were male (50.7%) and 33 respondents were female (49.3%). This proportion indicates that the incidence of tuberculosis is almost evenly distributed between men and women. Epidemiologically, tuberculosis is often reported to be more common in men than women. This is associated with behavioral factors such as smoking, alcohol consumption, and exposure to risky work environments. However, several recent studies have shown that this difference is narrowing, especially in areas with equitable access to health services (Horton et al., 2021).

In the context of quality of life, gender can influence how patients respond to the disease and the support they receive from their families. Women tend to be more open in expressing emotional complaints and receiving psychological support, while men often endure psychological burdens due to the demands of their role as breadwinners. This can influence each patient's perception of quality of life. Research by Sharma et al. (2023) showed that family support significantly influences the quality of life of TB patients in both men and women, although the dominant forms of support differed. Emotional support plays a greater role in female patients, while instrumental support such as financial assistance and medication reminders has a greater impact on male patients. The results of this study align with the findings of this thesis that high family support contributes to a good quality of life regardless of gender.

The results showed that the majority of respondents had suffered from TB for less than 6 months (40 respondents, 59.7%), while 27 respondents (40.3%) had suffered from TB for 6 months or more. The duration of TB is an important factor affecting the patient's physical and psychological condition. TB treatment requires a relatively long time and high consistency in medication adherence. In the early phase of treatment, patients often experience drug side effects, physical fatigue, and psychological stress due to the TB diagnosis. If not balanced with adequate family support, this condition can reduce the patient's quality of life.

Research by Gupta et al. (2021) found that TB patients in the early stages of treatment desperately need family support to maintain motivation and adherence to therapy. Good family support has been shown to reduce anxiety, increase self-confidence, and improve patients' perceptions of their quality of life. The results of this study indicate that although some respondents were in the early stages of treatment, the majority had a high quality of life. This indicates that strong family support can mitigate the negative impact of TB on patients' quality of life, both physically and psychologically.

Support for the Families of Tuberculosis Patients in the Kembaran 1 Community Health Center Area

The results showed that 44 respondents (65.7%) had high family support and 23 respondents (34.3%) had moderate family support. There were no respondents with low family support. These findings indicate that, in general, families of TB patients in the Kembaran 1 Community Health Center work area have played an active role in supporting their family members suffering from TB. Family support is part of social support that includes emotional, informational, instrumental, and appreciation support. Emotional support in the form of attention, empathy, and family acceptance can improve the psychological well-being of patients. Instrumental support such as financial assistance, medication reminders, and assistance to health facilities is very helpful for patients undergoing TB treatment.

Research by Wahyuni and Utami (2022) showed that high levels of family support were significantly associated with improved quality of life in TB patients, particularly in the psychological and social domains. Another study by Ahmad et al. (2024) also found that family support played a role in improving medication adherence and reducing the risk of discontinuation in TB patients. These

findings reinforce research findings that family support is a crucial factor in maintaining and improving the quality of life in TB patients.

Quality of Life of Tuberculosis Patients in the Kembaran 1 Community Health Center Area

The results showed that 58 respondents (86.6%) had a high quality of life and 9 respondents (13.4%) had a moderate quality of life. There were no respondents with a low quality of life. Quality of life in this study was measured using the WHOQOL-BREF instrument which covers physical, psychological, social relationships, and environmental domains. The high quality of life in the majority of respondents indicates that TB patients in the Kembaran 1 Community Health Center work area are able to adapt to their disease conditions. This is inseparable from the role of family support, access to health services, and assistance from health workers during treatment. Research by Nasution et al. (2023) showed that TB patients with good family support had higher quality of life scores than patients with low family support. Family support has been shown to contribute to improving the psychological and social domains of patients' quality of life.

The Relationship Between Family Support and the Quality of Life of Tuberculosis Patients in the Kembaran 1 Community Health Center Area

The results of the bivariate analysis using the Spearman-rank test showed a p-value of 0.019 ($p < 0.05$), which means that there is a significant relationship between family support and the quality of life of tuberculosis patients in the work area of the Kembaran 1 Community Health Center. These results indicate that family support is an important factor contributing to the quality of life of TB patients during treatment. Descriptively, the cross-tabulation results show that all respondents with high family support have a high quality of life, while in the group with moderate family support, there are still respondents with moderate quality of life. There were no respondents with low family support or low quality of life. This pattern indicates that the quality of life of TB patients tends to increase along with the increase in family support received.

Family support plays a key role as a source of social support for TB patients, particularly as tuberculosis is a chronic disease that requires long-term treatment, high adherence, and strong psychological preparedness. TB patients often experience various physical problems such as fatigue, weight loss, and medication side effects, which can impact the patient's psychological and social well-being. In these circumstances, the family serves as the closest support system, providing emotional support in the form of attention, empathy, and acceptance; instrumental support such as financial assistance and treatment assistance; informational support in the form of medication schedule reminders; and reward support that boosts patient confidence. This support helps TB patients maintain treatment motivation and build a positive perception of their lives, ultimately improving their quality of life.

The results of this study align with social support theory, which states that support from those closest to you can function as a stress buffer, protecting individuals from the negative impacts of stress caused by chronic illness (House et al., 1981). In the context of TB, family support helps patients adapt to changing health conditions, reduces anxiety, and increases feelings of security and belonging. Quality of life in this study was measured using the WHOQOL-BREF instrument, which covers four main domains: physical health, psychological health, social relationships, and the environment. Family support has a strong relationship with all of these domains.

In the physical domain, family support helps patients maintain regular treatment and meet nutritional needs, thus improving their physical condition. In the psychological domain, emotional family support helps patients cope with stress, anxiety, and fear of the disease. In the social relationship domain, family acceptance prevents social isolation and stigma, while in the environmental domain, family support contributes to patients' sense of security and comfort in their daily lives. The WHOQOL Group (1998) states that quality of life is an individual's perception of their position in life, which is greatly influenced by social relationships and environmental support. Therefore, family support is an important determinant in shaping the quality of life of TB patients.

The results of this study are consistent with previous studies showing a significant relationship between family support and the quality of life of TB patients. Research by Wahyuni and Utami (2022) in Indonesia found that TB patients with high family support had a better quality of life than those with low family support, particularly in the psychological and social domains. Another study by Nasution et al. (2023) also showed that family support was significantly associated with the quality of life of TB patients, with emotional and instrumental support being the most influential components. This study confirms the crucial role of families in helping TB patients cope with the physical and psychological stress during treatment.

Furthermore, research by Ahmad et al. (2024) reported that family support is not only associated with quality of life but also contributes to increased medication adherence in TB patients. Good medication adherence indirectly impacts quality of life by accelerating the improvement of patients' health conditions. International research by Sharma et al. (2023) also showed similar results, indicating that TB patients with strong family support tend to report a higher quality of life than those with less support. This study emphasizes that family support is a universal factor influencing the quality of life of TB patients, regardless of cultural differences and healthcare systems.

The differences in results compared to several studies that did not find a significant relationship are generally due to variations in respondent characteristics, sample size, measurement instruments, and social context. In this study, the majority of respondents had high levels of family support, allowing the relationship between family support and quality of life to be more clearly and statistically significant. Theoretically, these results strengthen the theory of family social support as a determinant of quality of life in patients with chronic diseases. These findings also support the use of the PSS-Fa instrument as a relevant measurement tool for assessing family support in TB patients. Practically, these results indicate that interventions to improve the quality of life of TB patients should not only focus on medical aspects but also need to actively involve the family. Health workers, especially nurses and TB officers, are expected to provide education and counseling to families so they can provide optimal support during the TB patient treatment process.

CONCLUSION

This study shows that the majority of pulmonary tuberculosis patients are of productive age (92.5%), which impacts their socio-economic activities. The gender distribution is relatively balanced, with 50.7% male and 49.3% female, indicating no significant gender differences. The majority of respondents (40.3%) have been undergoing treatment for less than 6 months, thus requiring intensive family support. Family support was predominantly high, with no respondents in the low category, indicating the positive role of families in providing attention, motivation, and treatment assistance. This correlates with the quality of life of patients, which was mostly high, followed by moderate, with no respondents in the low category. Patients were able to maintain their physical, psychological, social, and environmental conditions during therapy.

The Spearman Rank statistical test yielded a p-value of 0.019 (<0.05), proving a significant relationship between family support and the quality of life of TB patients. High levels of support improve treatment adherence, mental health, and social interaction, so stronger support improves quality of life. Recommendations include improving services at the Kembaran 1 Community Health Center through education, counseling, and family support. Health workers must be holistic, integrating medical-psychosocial aspects. Families are asked to provide optimal support. These results are relevant for health education and further research with broader designs, larger samples, and additional variables for greater comprehensiveness.

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