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The Effect of Psychosocial Support on Healing Time in Leprosy Survivors

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Abstract

Introduction: Leprosy is a chronic infectious disease caused by *Mycobacterium leprae*. It can affect the skin, peripheral nerves, and other organs, potentially causing disability if not treated appropriately. In addition to physical impacts, leprosy survivors often experience psychological stress due to social stigma, which can impact healing time. **Objective:** The purpose of this study was to determine the effect of psychosocial support on healing time among leprosy survivors in the Makassar City Leprosy Village in 2025. **Method:** This study used a cross-sectional design and was conducted from February to March 2025 using a questionnaire. Total sampling was used to obtain 80 respondents. Univariate and bivariate analyses were performed using chi-square analysis. **Result and Discussion:** The results showed that 40 respondents (50.0%) had a healing time of ≥ 12 months. Psychosocial support that influences leprosy survivors includes emotional support (attention (p -value = 0.000), empathy (p -value = 0.000), consolation (p -value = 0.000), a place to vent (p -value = 0.000)), instrumental support (financial assistance (p -value = 0.000), resources (p -value = 0.000)), and social support (openness (p -value = 0.000), acceptance (p -value = 0.000), and security (p -value = 0.000)). **Conclusions:** This study concludes that psychosocial support (emotional, instrumental, and social) significantly influences the recovery time of leprosy survivors in the Makassar City Leprosy Village in 2025.

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Introduction

Leprosy is a chronic infectious disease caused by *Mycobacterium leprae*. It can be transmitted through droplets or direct contact with skin lesions containing active bacteria, although prolonged exposure is required. This disease attacks the skin, peripheral nerves, and other organs, potentially causing various impacts if not treated promptly. However, if the patient does not take their medication regularly after treatment, the bacteria in the body will multiply, leading to disability. Furthermore, this disease can cause various impacts, including physical, psychological, and social ones (Yusuf et al., 2018). Physical impacts include permanent skin abnormalities, nerve damage, and complications in the eyes and other parts of the body. Furthermore, leprosy sufferers often face psychological impacts such as anxiety, fear, and low self-esteem, especially regarding their status as survivors. From a social perspective, stigma and discrimination against leprosy survivors can exacerbate their situation, including isolation from the community even if they have been medically declared cured (Somar et al., 2020). In 2023, the WHO reported 182,815 new cases of leprosy in 184 countries. This number represents an increase of approximately 5% compared to 2022. In the past four years, the number of new cases recorded has increased from approximately 127,500 in 2020 to 140,500 in 2021, then to 174,000 in 2022, and then to nearly 183,000 in 2023. This represents an increase of approximately 43% since 2020. Approximately 72% of all new cases were found in Southeast Asia and Africa, indicating that leprosy remains a global public health problem, particularly in low- and middle-income countries (Organization, 2024).

Indonesia ranks third as the country with the highest number of leprosy cases, with 11,173 cases, after India (65,147 cases) and Brazil (17,979 cases) (WHO, 2020). In 2023, the Indonesian Ministry of Health reported that the number of leprosy cases in Indonesia increased to 14,376 in 2023, compared to 13,487 cases in 2022 and 7,146 cases in 2021. This high number of cases reflects that leprosy poses a significant challenge in terms of disease control and management of its various impacts. Several provinces in Indonesia, including South Sulawesi, are still categorized as leprosy endemic areas. Data from the South Sulawesi Health Office shows that over the past five years, the number of leprosy cases has tended to increase each year. In 2020, 615 cases were recorded, increasing to 694 cases in 2021, and then again to 744 cases in 2022. This increase continued, reaching 817 cases in 2023.

However, in 2024, the number of cases decreased to 776. Makassar City is one of the areas contributing to the number of leprosy cases in South Sulawesi Province. Data from the Makassar City Health Office shows that in 2020, there were 88 cases, which then decreased to 81 cases in 2021. However, they rose again to 111 cases in 2022, then decreased to 99 cases in 2023, and then increased significantly again to 136 cases in 2024. This change in the number of cases reflects the need for a more comprehensive and sustainable leprosy management strategy in the Makassar City area (*Dinas Kesehatan Sulawesi Selatan. Profil Kesehatan Provinsi Sulawesi Selatan Tahun 2022. Makassar : Dinas Kesehatan Sulawesi Selatan. 2023 - Google Search, 2025*). Leprosy can be divided into two types: multibacillary leprosy (MB) and paucibacillary leprosy (PB). Multibacillary leprosy has a higher bacterial count and is characterized by numerous lesions or patches on the skin (>5 lesions). Paucibacillary leprosy, on the other hand, has a lower bacterial count and is characterized by fewer lesions or patches on the skin (<5 lesions). In general, multibacillary leprosy is more dangerous than paucibacillary leprosy because the higher number of bacteria spread throughout the body, resulting in a higher rate of transmission (Menaldi et al., 2016).

Clinically, leprosy is characterized by skin lesions in the form of flat macules, raised papules, nodules, and peripheral nerve damage that causes loss of sensation or muscle weakness. Furthermore, these changes in appearance often reinforce stigma within the community. This stigma, which considers leprosy a contagious disease or a curse, leads to discrimination against sufferers and survivors, which can impact their overall well-being (Paebang et al., 2024). The social stigma faced by leprosy survivors often negatively impacts their psychological well-being, hindering the healing process. Many experience feelings of anxiety, depression, and isolation. Stigma in leprosy patients is also known to be associated with mental health issues, such as depression, anxiety, and anger. In this context, the role of psychosocial support is crucial in helping survivors overcome these challenges. This support, provided by family and the community, such as encouragement, empathy, and acceptance, contributes significantly to accelerating the physical and mental recovery process (Jatimi & Hidayat, 2022).

Psychosocial support consists of three components: emotional, instrumental, and social. Emotional support includes attention, empathy, comfort, and a place to vent. Instrumental support includes financial assistance and resources. Meanwhile, social support encompasses openness, acceptance, and security (Agusstyawan, 2020). Optimal psychosocial support from both family and community plays a crucial role in reducing the impact of stigma and improving the quality of life of people with leprosy. Family support plays a crucial role for people with leprosy, as it is the primary source of influence on their condition (Sastroamidjoyo & Anshari, 2023).

The leprosy ward in Makassar is one of the areas with a high number of leprosy cases, both those still undergoing treatment and those who have recovered, with approximately 400 cases annually. Although medical treatment is available, the psychosocial impact on survivors in this area remains an under-researched issue. How societal stigma and levels of social acceptance influence the recovery time and quality of life of survivors in this ward remains a key issue that needs to be explored.

Based on this background, this study was conducted to understand the effect of psychosocial support on recovery time for leprosy survivors in the Makassar City Leprosy ward. This study is expected to provide a comprehensive overview of the important role of psychosocial support in the healing process and serve as a basis for designing more effective interventions in the future. The aim of this study was to determine the effect of psychosocial support on healing time for leprosy survivors in the Makassar City Leprosy Village in 2025.

Method

This study used a quantitative research method with a cross-sectional analysis approach to examine the effect of psychosocial support on healing time for leprosy survivors in the Makassar City Leprosy Village in 2025. This research was conducted in the Leprosy Village of Makassar City, from February to March 2025. The population of this study was leprosy survivors in the Makassar City Leprosy Village in 2025. The sample was drawn from individuals who had been declared cured of treatment according to the established inclusion and exclusion criteria. The sampling technique used was a total sampling of 80 individuals, with the target population equal to the accessible population. The sampling method used was accidental sampling. The data collection method used was primary data collected through a questionnaire using Google Forms. Data analysis used SPSS software, which included univariate and bivariate analysis. The univariate analysis aimed to provide an overview of the characteristics of each variable,

while the bivariate analysis aimed to determine the relationship between psychosocial support and recovery time.

Result and Discussion

1. Result

This study used univariate analysis to determine the frequency of each variable and bivariate analysis to determine whether there is a relationship between the two variables.

Univariate Analysis

Table 1

Shows the distribution of respondents by age, gender, emotional state, and length of Recovery time

Category	Frequency	Percentage
Age		
16-24	5	6.3
25-33	3	3.8
34-42	5	6.3
43-51	13	16.3
52-60	24	30.0
> 60	30	37.5
Gender		
Female	38	47.5
Male	42	52.5
Emotional State		
Anxious	43	53.8
Depressed	15	18.8
Angry	2	2.5
Accepting	12	15.0
Isolated/Reclusive	8	10.0
Recovery Time		
< 6 month	10	12.5
6-12 month	30	37.5
≥ 12 month	40	50.0

Table 2

Distribution of Respondents Based on Family and Community Emotional Support

Emotional Support from Family and Community	Frequency	Percentage
A. Family Emotional Support		
1. Family Attention		
Strongly Disagree	7	8.8
Disagree	7	8.8
Neutral	2	2.5
Agree	42	52.5
Strongly Agree	22	27.5
2. Family Empathy		
Strongly Disagree	6	7.5
Disagree	9	11.3
Neutral	6	7.5
Agree	39	48.8
Strongly Agree	20	25.0
3. Family Comfort		
Strongly Disagree	6	7.5
Disagree	9	11.3
Neutral	8	10.0
Agree	36	45.0

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	Strongly Agree	21	26.3
4. A Place for Family to Complain			
	Strongly Disagree	6	7.5
	Disagree	9	11.3
	Neutral	8	10.0
	Agree	36	45.0
	Strongly Agree	21	26.3
B. Emotional Support from the Community			
1. Attention from the Community			
	Strongly Disagree	9	11.3
	Disagree	15	18.8
	Neutral	9	11.3
	Agree	39	48.8
	Strongly Agree	8	10.0
2. Empathy from Society			
	Strongly Disagree	8	10.0
	Disagree	19	23.8
	Neutral	10	12.5
	Agree	35	43.8
	Strongly Agree	8	10.0
3. Consolation from the Community			
	Strongly Disagree	8	10.0
	Disagree	19	23.8
	Neutral	11	13.8
	Agree	34	42.5
	Strongly Agree	8	10.0
4. A Place for Family to Complain			
	Strongly Disagree	8	10.0
	Disagree	22	27.5
	Neutral	8	10.0
	Agree	34	42.5
	Strongly Agree	8	10.0

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Bivariate Analysis

Table 3

Distribution of Respondents Based on Family and Community Emotional Support

Emotional Support from Family and Community	Recovery Time				Total		Fisher's Exact Test (2-sided)
	< 12 month		≥ 12 month				
	N	%	N	%	N	%	
A. Family Emotional Support							
1. Family Attention							
Disagree	1	1.25	13	16.25	14	17.5	0.000
Neutral	0	0.0	2	2.5	2	2.5	
Agree	39	48.75	25	31.25	64	80.0	
2. Family Empathy							
Disagree	1	1.25	14	17.5	15	18.75	0.000
Neutral	1	1.25	5	6.25	6	7.5	
Agree	38	47.5	21	26.25	59	73.75	
3. Family Comfort							
Disagree	1	1.25	14	17.5	15	18.75	0.000
Neutral	1	1.25	7	8.75	8	10.0	
Agree	38	47.5	19	23.75	57	71.25	
4. A Place for Family to Complain							
Disagree	1	1.25	13	16.25	14	17.5	0.000
Neutral	1	1.25	4	5.0	5	6.25	
Agree	38	47.5	23	28.75	61	76.25	
B. Emotional Support from the Community							
1. Attention from the Community							
Disagree	4	5.0	20	25.0	24	30.0	0.000
Neutral	11	1.25	8	10.0	9	11.25	
Agree	35	43.75	12	15.0	47	58.75	
2. Empathy from Society							
Disagree	6	7.5	21	26.25	27	33.75	0.000
Neutral	3	3.75	7	8.75	10	12.5	
Agree	31	38.75	12	15.0	43	53.75	
3. Consolation from the Community							
Disagree	5	6.25	22	27.5	27	33.75	0.000
Neutral	3	3.75	8	10.0	11	13.75	
Agree	32	40.0	10	12.5	42	52.5	
4. A Place for Family to Complain							
Disagree	5	6.25	25	31.25	30	37.5	0.000
Neutral	3	3.75	5	6.25	8	10.00	
Agree	32	40.0	10	12.5	42	52.5	

2. Discussion

Overview of the Healing Time for Leprosy Survivors

This study found that out of 80 leprosy survivors, 10 (12.5%) experienced a healing time of less than 6 months. 30 (37.5%) experienced a healing time of 6–12 months, and 40 (50.0%) experienced a healing time of more than 12 months. The differences in healing time experienced by each respondent indicate that the leprosy healing process is variable and influenced by various factors (Kasper et al., 2019). The different healing times for each individual are influenced by medical and psychosocial factors. Medical aspects such as the severity of the disease, the type of leprosy, and adherence to multidrug therapy

(MDT) play a role in determining the length of the healing process. Survivors with forms of leprosy with higher bacterial load tend to require longer healing times than those with forms with lower bacterial load (Organization, 2023). In addition to medical factors, psychosocial aspects also play a role in the healing process. Psychosocial support, including emotional (attention, empathy, comfort, a place to vent), instrumental (financial assistance, resources), and social (openness, acceptance, security) support from family and the surrounding community, can indirectly influence the healing process by improving treatment adherence and psychological stability. Kaplan and Sadock's Synopsis of Psychiatry states that optimal psychosocial support can reduce psychological stress, enhance mental well-being, and improve adaptation to chronic illness, which supports the physical healing process (Boland et al., 2021).

Continuous stress can weaken the immune system and hinder healing. Chronic stress triggers excessive release of the hormone cortisol, which can reduce the number and effectiveness of immune cells such as lymphocytes and macrophages, increasing the risk of opportunistic infections and slowing tissue regeneration (Segerstrom, 2012). Furthermore, stress also triggers uncontrolled inflammatory reactions, which inhibit wound healing and tissue repair. Therefore, optimal psychosocial support can act as a protective factor against mental and physical disorders, accelerate recovery, and reduce healing time (Fink, 2023).

The Relationship Between Emotional Support and Healing Time

This study found that out of 80 respondents, 39 (48.75%) agreed that receiving family attention leads to a healing time of <12 months, and 25 (31.25%) agreed that receiving family attention leads to a healing time of ≥ 12 months. Zero respondents (0.0%) were neutral about receiving family attention leading to a healing time of <12 months, and two (2.5%) were neutral about receiving family attention leading to a healing time of ≥ 12 months. One respondent (1.25%) disagreed that receiving family attention leads to a healing time of <12 months, and 13 (16.25%) disagreed that receiving family attention leads to a healing time of ≥ 12 months. This finding aligns with research by Andriani et al. in 2019, which showed that emotional family support in the form of attention can increase patient compliance with treatment because they feel supported, thus increasing their enthusiasm and accelerating the healing process ($p = 0.000$) (Andriani et al., 2019). A study by Mahanani and Whant in 2020 also revealed that emotional family support, including attention, has a significant relationship with an improved immune system in leprosy patients ($p = 0.036$). Family attention can reduce stress and increase emotional stability, which supports the immune system and accelerates recovery (Mahanani & Whant, 2020). Therefore, family attention is not only emotional support but also has a physiological impact on the healing process of leprosy survivors. Furthermore, this study also found that of the 80 respondents, 38 (47.5%) agreed that receiving family empathy leads to a healing time of <12 months, and 21 (26.25%) agreed that receiving family empathy leads to a healing time of ≥ 12 months. One (1.25%) respondent was neutral about receiving family empathy leading to a healing time of <12 months, and five (6.25%) respondents were neutral about receiving family empathy leading to a healing time of ≥ 12 months. One (1.25%) disagreed that receiving family empathy leads to a healing time of <12 months, and 14 (17.5%) disagreed that receiving family empathy leads to a healing time of ≥ 12 months.

This finding aligns with research by Sahiddin in 2021, which showed that emotional family support in the form of empathy can improve patient adherence to treatment and accelerate the healing process ($p = 0.025$). A 2022 study by Nasir et al. also revealed that empathetic interactions within the family create a supportive environment, increase motivation and self-confidence, and improve the mental health of leprosy sufferers, thereby reducing the impact of social stigma (Nasir et al., 2022). Furthermore, a 2025 study by Panjaitan and Hutagalung showed that leprosy sufferers who received positive family empathy were more compliant with treatment [28]. Therefore, family empathy not only serves as emotional support but also has clinical implications in accelerating the healing process for leprosy survivors (Nugraheni et al., 2023).

The Relationship Between Instrumental Support and Healing Duration

This study found that out of 80 respondents, 39 (48.75%) agreed that receiving financial assistance resulted in a recovery time of <12 months for families, and 20 (25.0%) agreed that receiving financial assistance resulted in a recovery time of ≥ 12 months for families. Zero (0.0%) respondents were neutral about receiving financial assistance resulted in a recovery time of <12 months for families, and seven (8.75%) respondents were neutral about receiving financial assistance resulted in a recovery time of ≥ 12 months for families. One (1.25%) disagreed that receiving financial assistance resulted in a recovery time of ≥ 12 months for families. 13 respondents (16.25%) disagreed that receiving financial assistance from their families meant they had a recovery time of ≥ 12 months. This finding aligns with research by Wulandari and Rivita in 2021, which showed that instrumental support in the form of financial assistance can improve patient adherence to treatment, thereby accelerating the healing process ($p = 0.003$) (Wulandari & Rivita, 2021). A 2023 study by Chavarria et al. also showed that instrumental support from family, including financial assistance, increased treatment adherence because medical expenses were met (Chavarría et al., 2023). Furthermore, a 2020 study by Sholehati et al. showed that patients who felt financially supported were more likely to demonstrate increased self-efficacy and optimism in completing treatment because their basic and medical needs were met ($p = 0.001$) (NADHILAH IMANIS, 2020). Therefore, family financial assistance not only serves as instrumental support but also provides psychological stability that supports comprehensive recovery in leprosy survivors.

The Relationship Between Social Support and Healing Time

This study found that out of 80 respondents, 38 (47.5%) agreed that open communication with family leads to a healing time of <12 months, and 21 (26.25%) agreed that open communication with family leads to a healing time of ≥ 12 months. One respondent (1.25%) was neutral, stating that open communication with family leads to a healing time of <12 months, and four (5.0%) were neutral, stating that open communication with family leads to a healing time of ≥ 12 months. One respondent (1.25%) disagreed that open communication with family leads to a healing time of <12 months, and 15 respondents (18.75%) disagreed that open communication with family leads to a healing time of ≥ 12 months. These findings align with research by Darlong and Govindharaj in 2020, which showed that family social support in the form of open communication plays a role in increasing motivation and adherence to treatment in leprosy patients (Darlong & Govindharaj, 2020). A 2020 study by Shields et al. also revealed that family social support, including openness with family, has an impact on the immune system of leprosy survivors. Individuals who are more open within their families

have lower stress levels and an improved balance of cortisol and serotonin hormones, thus strengthening the immune system and promoting tissue regeneration (Shields et al., 2020). Furthermore, research by Brown et al. in 2021 showed that openness with family can reduce the risk of social isolation and increase a sense of connectedness, which stimulates activation of the parasympathetic nervous system and plays a role in the relaxation and healing process in leprosy survivors (Brown et al., 2021). Therefore, family openness not only serves as social support but also plays a role in the psychological and biological recovery of leprosy survivors.

Conclusion

Based on the results of a study conducted on leprosy survivors in the Makassar City Leprosy Village, it can be concluded that: 1) 10 (12.5%) recovered within 6 months, 30 (37.5%) recovered within 6-12 months, and 40 (50%) recovered within >12 months; 2) There is an influence between emotional support in the form of attention, empathy, comfort, and a place to vent, both from family and community, on the length of recovery in leprosy survivors ($p = 0.000$); 3) There is an influence between instrumental support in the form of financial assistance and resources from both family and community on the length of recovery in leprosy survivors ($p = 0.000$); 4) There is an influence between social support in the form of openness, acceptance, and security from both family and community on the length of recovery in leprosy survivors ($p = 0.000$).

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