

Research Paper

Anxiety, Depression, and Stress: A Study of Leprosy Patients at Maharogi Sewa Samiti, Sita Ratan Hospital, Anandwan, Warora

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ABSTRACT

This study focused on the leprosy patients of Maharogi Sewa Samiti, Warora. This nonprofit organization is located in the Chandrapur district of Maharashtra, India. Established in 1949, it aims to help socially disadvantaged people enhance their livelihood capabilities through self-discovery and empower them to contribute to society. Leprosy cases come from across Maharashtra and neighbouring states. The sample included 82 patients (29 male, 53 female) aged between 14 and 80. The Anxiety, Depression, and Stress scale results show that around 49, 59, and 43 percent of patients are falling in the category of moderate to severe anxiety, depression, and stress, respectively. There was no significant difference between men and women in their level of experienced anxiety, depression, and stress. Depression levels seem to be significantly higher in patients aged more than 50 years compared to patients aged less than 50 years. Married patients have significantly less anxiety and stress than their single counterparts.

Keywords: *Leprosy patients, Anxiety, Depression, Stress*

Leprosy, or Hansen's Disease (HD), is a chronic condition caused by *Mycobacterium leprae* and *Mycobacterium lepromatosis*. If left untreated, leprosy can progress, resulting in permanent damage to the skin, nerves, limbs, and eyes (Kenneth et.al.2004). The Government of India launched the National Strategic Plan (NSP) & Roadmap for Leprosy (2023-27) on 30th January 2023, aiming to achieve zero transmission of leprosy by 2027, which is three years ahead of the Sustainable Development Goal (SDG) 3.3. The NSP and Roadmap contain implementation strategies, year-wise targets, public health approaches, and overall technical guidance for the program. The strategy and roadmap focus on raising awareness to eliminate stigma and discrimination, promoting early case detection, preventing disease transmission through prophylaxis (Leprosy Post Exposure Prophylaxis), and rolling out a web-based information portal (Nikusth 2.0) for reporting leprosy cases. A few districts within states/UTs have endemic leprosy. With various interventions introduced under NLEP in recent years, the number of newly detected leprosy cases has declined to 75,394 in 2021-22 from 1,25,785 in 2014-15, accounting for 53.6% of global new leprosy cases.

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As per the economic survey report of Maharashtra 2023-24, while in 2014-15 the leprosy prevalence rate stood at 0.95, and the downward trend continued for some years, it began to rise after the pandemic. As of 2023-24, the prevalence rate stands at 1.16 per 10,000 population. The National Leprosy Eradication Programme aims to eliminate leprosy (prevalence of less than one case per 10,000 population in all districts), strengthen disability prevention, medical rehabilitation of leprosy-affected, and reduce the level of stigma associated with leprosy (2023 PIB Delhi).

Many authors in India have reported the prevalence of mental illness. Soni et al, in a study on migrated leprosy patients, reported that 14% of the subjects had moderate to severe depression, and almost 1 in 5 patients who showed symptoms of depression had attempted suicide. Levy EL et al reported association between neuropathic pain and psychological morbidity, such as anxiety and depression, was detected in 15% of patients, and 41% of patients with neuropathic pain had psychological morbidity. Studies from other developing countries where leprosy is prevalent, like Brazil, Bangladesh, and Ethiopia, also reported the prevalence of psychiatric morbidity (Cunha de S. et.al.,2015; Tsutsumi A et.al., 2004; Damte A, et.al.,2013). These studies suggest a need for better mental health care for the leprosy-afflicted. Due to a lack of understanding and good data about the mental health needs of the leprosy afflicted, such issues have not been adequately addressed. The leading research question of this study is: What is the prevalence of Mental health issues in people living with leprosy? The objective of the study is to estimate the prevalence of common mental health problems, such as depression, anxiety, stress, and associated factors, among people affected by leprosy.

This study focused on the leprosy patients of Maharogi Sewa Samiti, Warora. This nonprofit organization is located in the Chandrapur district of Maharashtra, India. Established in 1949, it aims to help socially disadvantaged people enhance their livelihood capabilities through self-discovery and empower them to contribute to society. The internationally recognized human rights activist Baba Amte founded MSS, Warora, to improve the plight of marginalized individuals afflicted by leprosy and those with disabilities through treatment, training, and active involvement in self-managed communities.

METHOD

Sample

This cross-sectional study was conducted at Maharogi Sewa Samiti, Warora, a leprosy hospital in Maharashtra, from December to April 2025. This hospital is a not-for-profit, non-governmental organization working for marginalized individuals afflicted with leprosy, hearing and speech impairments, visual challenges, orthopaedic disabilities, and socially and economically disadvantaged rural and tribal populations. Patients are diagnosed, classified, and managed according to WHO guidelines. Cases come from across Maharashtra and neighbouring states. The sample included 82 patients (29 male, 53 female) aged between 14 and 80. Ethical approval was obtained from the institutional committee, and permission was granted. A pre-designed, semi-structured questionnaire was developed, which included patients' socio-demographic profiles and family details. To measure their anxiety, depression, and stress, the Hindi version of the Anxiety Depression Stress Scale (ADSS) was used.

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Tools:

Anxiety, Depression, and Stress Scale by Megha Singh and Pallavi Bhatnagar's Hindi version of the test was used. It has demonstrated good validity and reliability in assessing these conditions. The scale consists of a 48-item questionnaire designed to measure the three constructs. Studies have shown that the ADSS exhibits strong internal consistency, with Cronbach's alpha values indicating good reliability across the anxiety, depression, and stress scales. It is a self-report measure where individuals rate how much each statement applies to them on a scale of 0 to 3, with 0 representing "not at all" and 3 representing "very much." The scores for the items within each subscale (anxiety, depression, and stress) are summed to create a total score for each subscale. Higher scores on each subscale indicate higher levels of anxiety, depression, and/or stress.

RESULTS

The study is an attempt to understand the mental state of patients suffering from leprosy. The Anxiety, Depression, and Stress scale results show that around 49, 59, and 43 percent of patients are falling in the category of moderate to severe anxiety, depression, and stress. No significant difference was found between men and women, as both seemed to suffer similar types of problems, like a lower level of education, a lower socio-economic status, and those with any level of disability due to leprosy; all these factors contribute to the high level of anxiety, depression, and stress.

Table 1 presents the variables measured, their gender-wise distribution, and the corresponding frequencies and percentages.

Variable	Status and range	Gender (frequency and percentage)		
		Male N=29	Female N=53	Total N=82
No Anxiety	Normal 0-3	11 (37.93)	11 (20.75)	22 (26.82)
	Mild 3-5	02 (6.89)	09 (16.98)	11 (13.41)
Anxious	Moderate 5-9	06 (20.68)	17 (32.07)	23 (28.04)
	Severe 9 & more	10 (34.48)	16 (30.18)	26 (31.17)
No Depression	Normal 0-2	10 (34.48)	10 (18.86)	20 (24.39)
	Mild 2-4	03 (10.34)	10 (18.86)	13 (15.95)
Depressed	Moderate 4-9	08 (27.58)	15 (28.30)	23 (28.04)
	Severe 9 & more	08 (27.58)	18 (33.96)	26 (31.70)
No stress	Normal 0-4	13 (44.82)	19 (35.84)	32 (39.02)
	Mild 4-6	07 (27-13)	09 (16.98)	16 (19.51)
Stressed	Moderate 6-9	04 (13.79)	17 (32.07)	21 (25.60)
	Severe 9 & more	07 (24.13)	08 (15.09)	15 (18.29)

Table 2 denotes the ages of these patients and their levels of anxiety. Although there is no significant difference, and any observed difference could be due to chance, it appears that as patients age, the number of non-anxious patients decreases, while the number of moderately to severely anxious patients increases. Table 3 indicates a chi-square significance at the 0.10 level, suggesting that the level of depression experienced significantly increases with age. Table 4 indicates that there is no significant difference in the stress experienced by patients aged less than 50 or more. Regardless of age, it remains in the category of moderately to severely high for at least 40% of the patients.

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Table 2 depicts the age range and the level of anxiety of the patients

Age Range	Not Anxious	Anxious	Total N=82	χ^2
≤ 50 years	16(40)	24(60)	40	1.21
>50 years	12(28.5)	30(71.42)	42	

Table 3 depicts the age range and the level of depression of the patients

Age Range	Not depressed	Depressed	Total N=82	χ^2
≤ 50 years	20(50)	20(50)	40	3.09*
>50 years	13(30.9)	29(69.04)	42	

* $p < 0.10$

Table 4 depicts the age range and the level of stress of the patients

Age Range	Not stressed	Stressed	Total N=82	χ^2
≤ 50 years	23(46)	17(42.5)	40	0.03
>50 years	25(59.5)	17(40.47)	42	

The other variable of consideration was the marital status of the patients and their anxiety, depression, and stress. According to Table 5, the chi-squared value for anxiety and stress is significant at 0.10, indicating that 90 out of 100 married patients experience less anxiety and stress compared to their single counterparts.

Table 5 indicates the marital status of the patients and their level of anxiety, depression, and stress, with the chi-square value

Variable	Marital status	Normal	Mild	Moderate	Severe	Total	χ^2
Anxiety	Married	14	1	8	15	38	7.36*
	Single	8	6	12	18	44	
Depression	Married	13	5	5	15	38	4.64
	Single	7	8	11	18	44	
Stress	Married	19	3	4	12	38	7.24*
	Single	13	13	4	14	44	

* $p < 0.10$

CONCLUSION

The data collected had 53 female and 29 male patients. There was no significant difference found between the male and female patients on their anxiety, depression, and stress scores, but the category in which most of the scores fall is worrying, i.e., about 40%, and more patients fall in the range of moderate to severe for anxiety, depression, and stress. It was observed that patients falling in the age range of 50 years and more showed more depression as compared to patients falling in the age range of 50 years and less. While comparing married and single, it was found that married patients were significantly ($p < 0.10$) less anxious and stressed as compared to their single counterparts. Some coping mechanisms can be taught to the patients so their apprehension about the future can be lessened more constructively. The place where this study was done, i.e., Maharogi Sewa Samiti, Warora is already has a lot of activities of rehabilitation for these patients, which is why maybe there is no difference in the gender, and contrary to many studies, in this study women are more in

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number almost double even though all the patients belong to the socio-economically marginalised.

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Conflict of Interest

The author(s) declared no conflict of interest.

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