

PSYCHIATRIC CO-MORBIDITY IN PERSONS WITH HANSEN'S DISEASE

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ABSTRACT: OBJECTIVE: To estimate prevalence of psychiatric co-morbidity and its effect on quality of life in persons with Hansen's disease. **METHOD:** The study was conducted on around 80 persons above 18 year age with Hansen's disease in out-patient department dermatology and in leprosy home. Participants were diagnosed cases of Hansen's disease, selected randomly and were evaluated with socio demographic questionnaire, Duke's general health questionnaire, DSM-5 self rated level 1 cross cutting symptom measure – adult and WHO-QOL-BREF. The period of data collection was from October 2014 to March 2015. **RESULTS:** The assessment showed that prevalence of at least one psychiatric co morbidity was 83.75% (67/80 patients) and of these 67 patients 18(26.86%) have one diagnosis, 26(38.80%) have two diagnoses and 23(34.32%) have 3 or more psychiatric diagnoses. Among all depression was most prevalent (28.35%) mental disorder; followed by anxiety disorder (23.88%). Quality of life was significantly impaired in almost all persons with Hansen's disease. **CONCLUSION:** Persons with Hansen's disease have significantly high prevalence of mental disorders which have much impact on their quality of life which were under diagnosed and thus remained untreated.

KEYWORDS: Co-morbidity; Hansen's disease; Leprosy; Mental disorders.

INTRODUCTION: Leprosy, one of the most chronic tropical diseases, acts as a unique psychosocial stressor for the social stigma associated with it. Background leprosy is still prevalent in certain parts of the world, particularly India and South America. In order to reduce the associated stigma, it was renamed Hansen's disease, although the associated prejudice and social stigma are thought to remain obstacles to its eradication.^[1]

Society maintains negative feelings toward people with Hansen's disease. Problems of divorce, unemployment and displacement from area of residence are common in people affected with Hansen's disease.^[2]

Because of the fear of infecting family members, women sufferers keep themselves aloof and are constantly worried about divorce. The psychosocial issues that are commonly related to stigma are people's dignity, social status, employment opportunities, job security, family relationships, and friendships. People have left their families and even spouses and children, fearing the consequences of the fact that they had Hansen's disease.^[3] The social stigma connected to these patients makes this disease completely different from others.

LEPROSY AND MENTAL DISORDERS: Many studies have been conducted in India and abroad to find out the prevalence of co-morbid psychiatric disorders in patients with Hansen's disease. Varying results have been documented in the literature obtained from different geographical

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regions of the world. In an Indian study conducted by Kumar and Verghese in 1980, the prevalence of psychiatric morbidity in Hansen's disease affected population was higher (99/1000) in comparison to the general population (63/1000).^[4] Prince in 1983 identified that 70% of these patients felt psychological problems mainly due to the association between physical deformity caused by Hansen's disease and the accompanying disease associated stigma.^[5]

Verma and Gautam in 1994 conducted a study on 100 confirmed patients of Hansen's disease and found that 76% of them were having co-morbid psychiatric disorders.^[6] Chatterjee et al. reported a high frequency of psychiatric disorders (64.7%) in these patients.^[7]

Thus, the main focus of this research work was related to psychiatric evaluation of these patients and find out prevalence of co-morbid mental disorders which are affecting their quality of living.

MATERIALS AND METHODS:

Sample: We carried out this study from 1st October 2014 to March 2015, on 80 patients with Hansen's disease diagnosed after assessment by two Dermatologist from out-patients department dermatology Dr. PDMMC and leprosy home "Vidarbha Maharogi seva mandal kushtha Nivas Tapovan, Amravati". This study was cross sectional in design. The study subjects selected were all either receiving treatment or completed treatment for hansen's disease and no untreated patients were included in study. All study subjects were above 18 years age, were informed and taken written consent for study. Approval from ethical committee of hospital was granted.

Procedure and assessment tools:

1. Study design: Cross sectional study.

2. Inclusion criteria:

- 1) Persons who are diagnosed cases of Hansen's Disease.
- 2) Persons above age 18 years age who gave valid consent for study.

3. Exclusion criteria:

- 1) Persons who have past history of psychiatric illness.
- 2) Persons who use psychotropic medications.
- 3) Persons having current lepra reaction and cognitive deficit.
- 4) Persons who are having current medical and surgical illness.

4. Duration of study: Six months.

Tools:

1. Socio demographic profile.
2. Dukes general health questionnaire.^[8]
3. DSM-5 self-rated level 1 cross cutting symptom measure – adult.^[9]
4. Adult DSM-5 self-rated level 2 cross cutting symptom measure.^[9]
5. WHO-Quality Of Life scale – BREF.^[10]

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Procedure: All subjects after screening and examination for inclusion and exclusion criteria were assessed for psychiatric co morbidity by applying socio-demographic profile and Dukes GHQ. Then study subjects were screened by applying DSM-5 self-rated level 1 cross cutting symptom measure – adult and then those screened positive were diagnosed as having psychiatric illness by applying Adult DSM-5 self-rated level 2 cross cutting symptom measure. Later World Health Organization Quality of Life Assessment BREF (WHOQOL-BREF) was used to assess impact of psychiatric illness on quality of life.

Statistical analysis was performed to determine the distributional characteristics of socio demographic variables, the subject's levels of psychological health and their quality of life. Data analyses were performed using the Statistical Package for Social Science (SPSS) version 13.0, with significance levels set at $P < 0.05$.

RESULTS:

Sample characteristics: Total subject studied were 80, among them 50 subjects were selected from leprosy home and 30 were selected from out-patient dermatology department. Out of these 80 subjects, 48 were male and 32 were female. Mean age was 54 year (22 to 70 years). 56 patients were having multibacillary (MB) leprosy and 24 diagnosed with paucibacillary (PB) leprosy. At the time of evaluation 50 subjects had completed MDT and 30 were receiving MDT. Among all study subjects majority were not working (52) and remaining 28 were working actively.

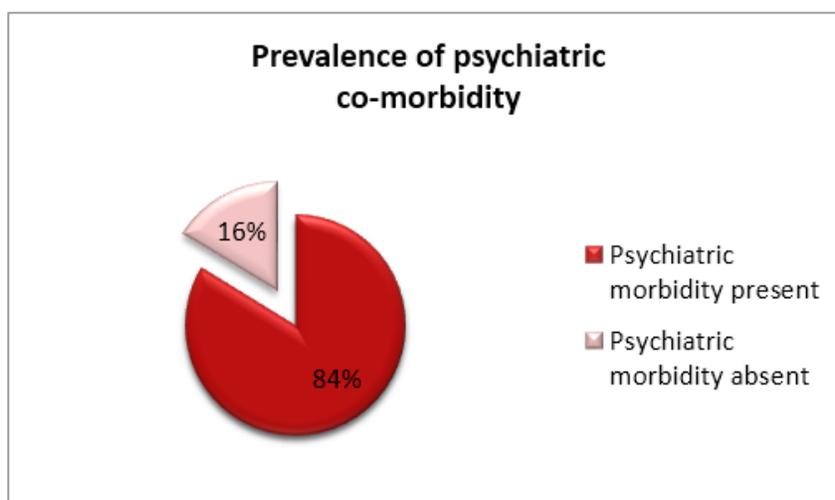
Psychiatric co-morbidity: Among the patients diagnosed as Hansen's disease, out of 80 patients 67 (83.75% %) patients had psychological co-morbidity found on Dukes general health questionnaire and DSM-5 self-rated level 1 and level 2 cross cutting symptom measure – adult.

Thus, as shown in Table 1, According to this study, the prevalence of anxiety we found is 83.75% % in patients suffering from Hansen's disease.

Table 1, Graph 1: Prevalence of psychiatric morbidity among persons with Hansen's disease.

Sl. No.		Total No. of patient	Percentage %
1	Psychiatric morbidity present	67	83.75%
2	Psychiatric morbidity absent	13	16.25%
Total		80	100%

Table 1



Graph 1

Table 2 shows number of psychiatric diagnoses present at time of evaluation in study subjects. The assessment showed that prevalence of at least one psychiatric co morbidity was 83.75% (67/80 patients) and of these 67 patients 18 (26.86%) have one diagnosis, 26 (38.80%) have two diagnoses and 23 (34.32%) have 3 or more psychiatric diagnoses.

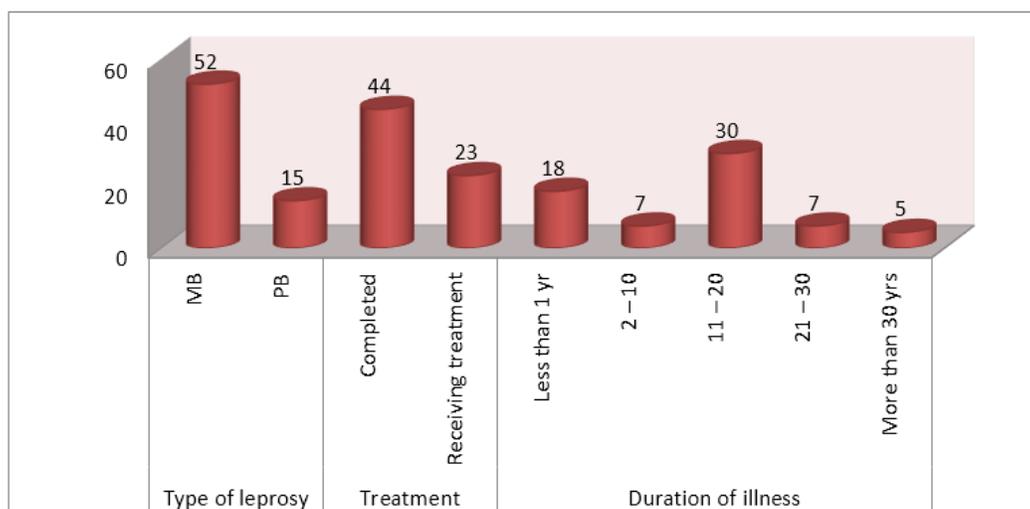
Sl. No.	No. of psychiatric diagnoses	No. of patients	Percentage %
1	At least one	67	83.75%
2	One	18	26.86 %
3	Two	26	38.80 %
4	Three and more	23	34.32 %

Table 2: Number of psychiatric diagnoses present at the time of evaluation in study subjects

Table 3 shows socio demographic character wise distribution was measured and we found that majority of persons were having psychiatric co-morbidity in age group between 51 to 60 years (95.45%); followed by 31 to 40 yrs (86.67%) and then 41 to 50 yrs (85%). Sex distributions showed that females have more (93.75%) psychiatric co-morbidity than males. Out of 28 the working subjects 20 (71.42%) have psychiatric morbidity which is much lower than non- working (90.38%) subjects. Religion wise distribution was not found significant. Illiterate subjects were having more 89.83% psychiatric morbidity than literate (66.67%).

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Graph 2: Socio demographic character wise distribution in relation to psychiatric co-morbidity.



Graph 2

Sl. No.	Variable	Sub variables	Total No. of persons	Psychiatric morbidity	
				Present N (%)	Absent N (%)
1	Age (in yrs)	18 – 30	12	9 (75%)	3
		31 – 40	15	13 (86.67%)	2
		41 – 50	20	17 (85%)	3
		51 – 60	22	21 (95.45%)	1
		More than 61	11	7 (63.63%)	3
2	Sex	Male	48	37 (77.08%)	3
		Female	32	30 (93.75%)	2
3	Religion	Hindu	70	65 (86.67%)	5
		Muslim	10	2 (20%)	8
		Other	0	0 ()	0
4	Education	Illiterate	59	53 (89.83%)	6
		Literate	21	14 (66.67%)	7
5	Occupation	Working	28	20 (71.42%)	8
		Nonworking	52	47 (90.38%)	5

Table 3: Socio demographic character wise distribution in relation to psychiatric co-morbidity

Table 4 shows distribution of psychiatric morbidity according to variables of leprosy. We found that MB leprosy had high prevalence of psychiatric disorders than PB leprosy patients. Also study subjects currently receiving treatment from hospital care as out-patient basis were having more psychiatric morbidity than who had completed treatment. We found duration of Hansen's illness also play role in development of psychiatric morbidity. Our study found more psychiatric morbidity was high in 21 to 30 years duration of illness followed by who have just diagnosed as Hansen's disease within one year.

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Sl. No.	Variable	Sub variable	Total No. of patient	Psychiatric morbidity present n (%)
1	Type of leprosy	MB	56	52 (92.85%)
		PB	24	15 (62.50%)
2	Treatment status	Completed	50	44 (80%)
		Receiving treatment	30	23 (76.66%)
3.	Duration of illness	Less than 1 yr	20	18 (90%)
		2 – 10	10	7 (70%)
		11 – 20	37	30 (81%)
		21 – 30	8	7 (87%)
		More than 30 yrs	5	5 (100%)
	Total		80	67

Table 4: Shows distribution of psychiatric morbidity according to variables of leprosy disease

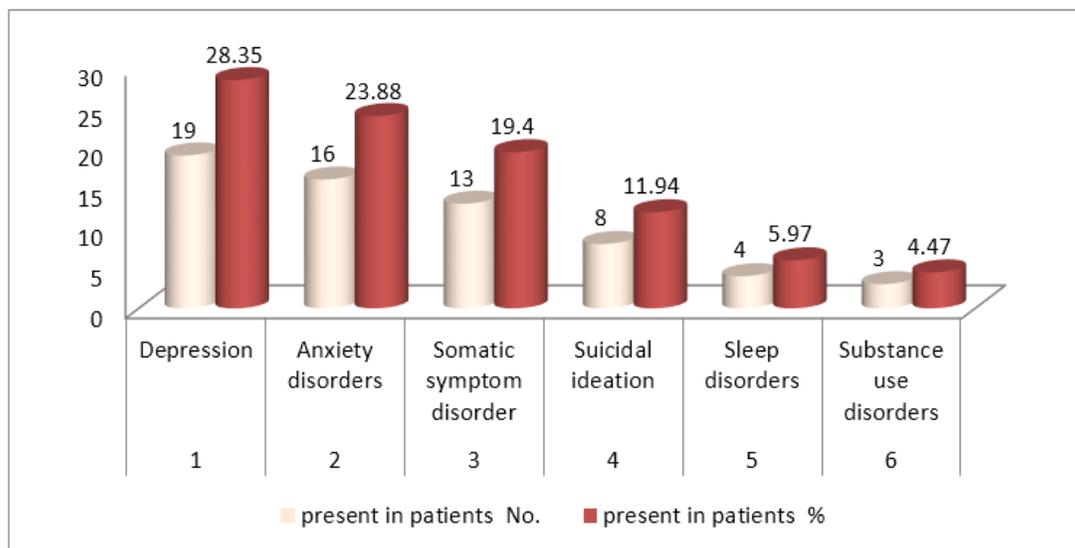
Table 5 shows distribution of various psychiatric co-morbidities as per DSM 5 self-rated cross cutting level 1 and level 2 scale. There was high prevalence of Depression followed by anxiety, followed by somatic symptom disorders, then sleep disorders. There was high prevalence of suicidal ideations in study subjects. There was much lower prevalence found for psychosis, mania, substance use disorders etc as per DSM-5 self-rated level 1 cross cutting symptom measure – adult.

Sl. No.	Psychiatric co-morbidity	Present in patients No.	Present in patients %
1	Depression	19	28.35
2	Mania	0	0
3	Anxiety disorders	16	23.88
4	Somatic symptom disorder	13	19.40
5	Suicidal ideation	8	11.94
6	Psychosis	0	0
7	Sleep disorders	4	5.97
8	Substance use disorders	3	4.47

Table 5: Distribution of psychiatric co-morbidities among persons with Hansen's disease

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Graph 3: Distribution of psychiatric co-morbidity among persons with Hansen’s disease.



Graph 3

Impact on Quality of life (as in table 6): We found that psychiatric morbidity was having great impact on all aspect of quality of life of Hansen’s disease patients as measured by WHO-QOL-BREF Scale. It was measured in six dimensions. This WHO-QOL-BREF scale denotes lower mean value as poor quality of life and higher the mean score as better QOL. We analyzed data statistically by applying ANNOVA test of significance.

There was significant association found in Q1- self perception, Q2- self perception about general health, Domain 1 - physical health, Domain 2 - psychological health, and Domain 3– social relationship, and the quality of life was average to normal in Domain 4 – environment variable scale. Also on further comparing with measures of leprosy we found study subjects who were receiving treatment and diagnosed within one year duration were having more impaired quality of life than longer duration and treatment completed subjects.

WHO-QOL-BREF	Patients with psychiatric morbidity		
	Mean	Std. Deviation	P value
Q1	2.90	1.11	0.02
Q2	2.24	1.22	0.01
D1	17.39	3.09	0.05
D2	15.25	2.38	0.03
D3	8.13	1.16	0.009
D4	18.8	2.12	0.6

Table 6: Impact of psychiatric co-morbidity on quality of life of persons with Hansen’s disease

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DISCUSSION: This study was cross sectional in design. It was undertaken to systematically examine and evaluate prevalence of psychiatric co-morbidity in patients of Hansen's disease. We especially included patients who were visiting out-patient department of dermatology and persons from leprosy home.

Overall the results from this study suggest that psychiatric co-morbidity manifest itself prominently in patients with Hansen's disease. We found rates of psychiatric co-morbidity in our study subjects, similar to what clinical and epidemiological studies had suggested.

The prevalence of psychiatric co-morbidity in leprosy patients differs widely across the range of existing studies. Kumar and Verghese^[11] found that 10% of leprosy patients suffered some psychiatric disorder, with depression being the most common. Olivier^[12] noted that 46% suffered from an affective disorder. Soykan, Kundakc and Erdem^[13] found that 65% of hospitalised patients with leprosy were clinically depressed. In the present study, 83.75% of the study subjects were having psychiatric disorders. Depression was the most common (28.35%) psychiatric diagnosis followed by anxiety (23.88%). Reddy et al.^[14] showed that the predominant psychiatric diagnosis found among leprosy cases was dysthymia and depression. Ramanathan et al. and Chatterjee et al. have reported high frequency of psychiatric illness among leprosy patients (55% and 64.76% respectively).^[7,15] Verma and Gautam^[6] in a study examined the confirmed leprosy patients with psychiatric co-morbidity and showed that psychiatric illness was common among those with deformities (89.7%) compared to those without deformities (46.9%).

Our study findings are in keeping with those reported from Verma and Gautam, Jaipur.^[6] In the study conducted at Jaipur, a significant difference for psychiatric morbidity was found with regard to occupation, family income, and education. Our study shows a significant difference in psychiatric morbidity with regard to age and duration of leprosy illness of study subjects while no significant difference in psychiatric morbidity was found as far as sex and religion.

Bhatia et al., Behere and Shale reported that anxiety disorders were the most common disorders found in patients with leprosy^[16,17,18] In contrast to these observations, we found that depressive disorders were present in a large number among inmates of leprosy homes. Whereas we found anxiety symptoms were more prevalent in newly within one year diagnosed patients with Hansen's disease. Turkan in a study on the degree of depression in 38 leprosy patients revealed that 70% had depression of moderate to severe degree.^[19] Problems of divorce, unemployment and displacement from area of residence are common in people affected with Hansen's disease.^[2,20] Stigma attached to these patients has more impact on educated women belonging to a higher socioeconomic group and in joint families.^[3]

Regarding QOL, patients with high levels of psychological distress had low scores in all domains of the WHOQOL-BREF. The most affected domain was the physical domain, probably because pain might affect specific items of this domain, such as dependence on medicinal substances and medical aids; pain and discomfort; sleep and rest; and work capacity. We found study subjects who were receiving treatment and diagnosed within one year duration were having more impairment in quality of life than longer duration and treatment completed subjects.

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LIMITATIONS: This study has inherent limitations such as the small sample size and the absence of a control group. As sample size was small, the results we found cannot be generalized. Considering these limitations, it was not possible to establish any cause-and-effect relationship. Accepting these limitations, this study highlights the importance of psychological evaluation in leprosy patients with Hansen's disease in order to reduce negative impacts on their QOL.

CONCLUSION: Our results suggest that most patients (83.75%) with leprosy have psychological morbidity. It was observed that the psychiatric disorders largely go unrecognized by health-care professionals and service providers of these patients. So there is a growing need to treat these psychiatric disorders. Psychiatric intervention in these patients would be of much help to them. Psychiatric care should be practiced as a part of comprehensive health-care of the inmates of leprosy homes.

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