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Psychiatric Co-Morbidities in Patients with Leprosy-A Hospital-Based Study from South Odisha

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ABSTRACT

Leprosy is a chronic disease caused by mycobacterium leprae. The objective of this study was to estimate the prevalence & nature of psychiatric disorders in patients with leprosy attending a tertiary care hospital in south Odisha and evaluate its association with socio-demographic & clinical variables.

The study was conducted on 100 patients between the ages of 18-60 who had Hansen's disease in an out-patient setting and at the dermatology department of SLN Medical College and Hospital, Koraput. The study sample was tested for mental illness using specially prepared pro-forma and the ICD 10 Mental Illness Checklist.

Our study shows that the prevalence of mental illness among leprosy patients was 34%. Among all the mental disorders, depression was the most common followed by anxiety. Patients living in cities had significantly lower mental illness compared to semiurban and rural patients. Psychiatric disorders in patients with leprosy were more common in the older adult group (51-60 years. Mental disorders were higher in women compared to men. Mental illness was higher in patients with the lepromatous stage of leprosy.

We therefore conclude that patients with leprosy have significant comorbidities of the mind such as depressive disorders which are often followed by anxiety disorders. Psychiatric co-morbidity not only adds to patient's outcomes but also has a negative impact on prognosis and morbidity. Early detection and treatment of this disorder can be helpful.

Key words: Psychiatric comorbidities, Leprosy, Hansen's disease, Mental illness, Depression

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INTRODUCTION

Leprosy is a neglected tropical disease that is characterized by chronic granulomatous inflammation caused by Mycobacterium leprae which is transmitted by contact through the skin [1]. While across the world, the prevalence of leprosy has shown a secular declining trend, similar stabilization has also been seen in India where the national prevalence of leprosy has reduced from 57.6/10,000 in 1981 to 0.72/10,000 in 2009 [2,3]. However, according to the World Health Organization estimates, India still has the highest number of leprosy patients in the world followed by Brazil and Burma [4].

Historically, in India, leprosy was considered a curse from the Gods, with the extreme stigma associated with the disease. This stigma was not just physical, but also psycho-social and moral, resulting in social isolation [5,6]. In addition, physical limitations, sensory deprivations, decreased employment and anti-leprosy medications lead to a predisposition of these patients to psychiatric disorders [7].

Evidence from around the world suggests a higher prevalence of such mental health disorders, in particular depression, in leprosy patients as compared to the general population [6]. This prevalence of psychiatric co-morbidity is variable across settings ranging from 25% to over 70% in different studies [8–11]. However, not much has been studied about this correlation and

the patterns of psychiatric disorders in the Indian population. A few studies from India are available that report a co-prevalence between 10% to 76% [12–15]. However, we did not find any studies from the state of Odisha that reported such findings. Therefore, this study is planned to estimate the prevalence & nature of psychiatric disorders in patients with leprosy attending a tertiary care hospital from south Odisha and evaluate its association with socio-demographic & clinical variables.

METHODOLOGY

The present study was a hospital based cross-sectional survey conducted at the dermatology and psychiatry out-patient departments of SLN Medical College Hospital in Koraput between January to May 2022. We included a total of 100 participants in a serial manner with the following inclusion criteria: patients previously diagnosed as a case of Hansen's disease/Leprosy, aged between 18 and 60 years who were willing to give informed consent. We excluded patients with co-morbid dermatological diseases and those with chronic debilitating medical and surgical illness.

Data was collected from the patients using a semi-structured questionnaire by trained psychiatrists following the ICD-10 Checklist for Mental Disorders. A detailed physical and mental status examination was done for all patients. Data was entered into Excel sheets and statistical analyses was done in SPSS 22.0. Descriptive statistics were estimated and reported.

RESULTS

A total of 100 patients were recruited for our study. Among them 70% were males and the rest females. Most were from the age group of 31-40 years and 66% were married. The other socio-demographic characteristics are given below in Table 1.

In our study, 34% patients had psychiatric co- morbidity (Table 2). The most common psychiatric co-morbidity was Mood disorders followed by anxiety disorders and psychosis as shown in Table 2 below.

Paucibacillary leprosy was reported in 42% patients and remaining had multibacillary type. Lepra reaction positive was seen in 46% of the patients, with the rest negative. The most common onset age was 19-30 years (35%) followed by 31-40 years (19%) and 41-50 years (17%). The duration of illness was < 1 year in 45% cases and 1-5 years in 38%. The duration was 6-10 years in 17%. Only 35% of patients had completed medication course. Among those undergoing treatment, 44% were on three drug regimen and the rest were on 2 drug regimens. When compared to the subcategories of leprosy, age of onset, duration of illness, bacillary status, lepra reaction status and current medication regimen, we found no statistically significant difference between leprosy patients with and without psychiatric disorders.

DISCUSSION

In our study 34% of patients were diagnosed with any

Table 1: Socio demographic profile and psychiatric disorders in the study patients.

Socio demographic variables		Total leprosy patients (n=100)	Psychiatric disorders			
			Present (n=34)		Absent (n=66)	
			n	%	n	%
Age	18-30	12	7	58.3	5	41.7
	31-40	36	10	27.8	26	72.2
	41-50	31	11	35.5	20	64.5
	51-60	21	8	38.1	13	61.9
Gender	Male	70	14	20	56	80
	Female*	30	20	66.7	10	33.3
Marital Status	Unmarried	34	11	32.4	23	67.6
	Married	66	23	34.8	43	65.2
Educational Status	Post graduate	3	0	0	3	100
	Graduate	11	3	27.3	8	72.7
	Intermediate	12	6	50	6	50
	High School	22	10	45.5	12	54.5
	Primary school	19	6	31.6	13	68.4
	Illiterate	33	9	27.3	24	72.7
Domicile	Urban*	16	3	18.8	13	81.3
	Semi urban	46	19	41.3	27	58.7
	Rural	38	12	31.6	26	68.4
Occupation	Skilled worker	37	14	37.8	23	62.2
	Unskilled worker	55	14	25.5	41	74.5
	Unemployed*	8	6	75	2	25
Socio economic Status	Lower	46	12	26.1	34	73.9
	Middle*	25	15	60	10	40
	Upper	29	7	24.1	22	75.9

*Statistically Significant at p<0.05

Table 2: Psychiatric co-morbidity in patients with leprosy.

	Psychiatric disorders	Number (n =44)	%
Mood disorder (22)	Mild depressive episode	1	2.9
	Moderate depressive episode	6	17.6
	Severe depressive episode without psychotic symptoms	7	20.6
	Severe depressive episode with psychotic symptoms	2	5.9
	Recurrent depressive disorder- Current episode moderate	2	5.9
	Recurrent depressive disorder- Current episode severe without psychotic symptoms	2	5.9
	Dysthymia	2	5.9
Anxiety disorder (6)	Generalized anxiety disorder	3	8.8
	Mixed and other anxiety disorder	1	2.9
	Panic disorder	1	2.9
	Obsessive Compulsive Disorder	1	2.9
Psychotic disorder (3)	Delusional disorder	2	5.9
	Schizophrenia	1	2.9
Other (3)	Somatoform disorders – Hypochondriacal disorder	2	5.9
	Adjustment disorders	1	2.9

form of mental illness. Other studies have reported the prevalence of mental illness in leprosy patients, both across the world and from India. An international study reported a prevalence range of 20% to 72% [8–11,16] Other Indian studies also reported a wide range (between 10% to 78%) of mental illness in these individuals [12,13,17]. The high prevalence of mental disorders among leprosy patients may be attributed to the primary skin disease, along with the associated social stigma or undesirable changes in lifestyle and living conditions, divorce, high unemployment rates and evictions [11]. Studies from the USA have also linked a biological explanation and said that mental illness is caused by irritating systemic lesions caused by toxins and viral attacks in the central nervous system [18]. Among patients with psychiatric co-morbidity, depressive disorders were the most common. Various studies other studies have found depression in around 30% -70% of patients with leprosy [1,13,14,19,20]. In the present study, the second most common diagnosis of leprosy was anxiety disorders. Anxiety Disorder was present in 10% -20% of patients in other settings [8,14,21]. One study found that dementia is the most common disease found in 28% of patients. Other studies have also reported the presence of dementia in these patients [22].

The results of the present study show that patients living in cities had significantly lower mental illness compared to semiurban and rural patients. Better awareness, better access to health care and therefore better adherence to medication and better living conditions possibly could be the reasons for the significant reduction in mental illness in urban areas. Psychiatric disorders in patients with leprosy were more common in the older adult group (51-60 years) but no statistically significant difference between those with mental disorders and those without was seen in respect to the age groups. These findings are consistent with those of previous studies [23]. The current study reveals that mental disorders were higher in women compared to men. This finding is in line with a study conducted in Italy by Picardi et al. who found a higher risk of developing dementia in women [24]. The current study revealed that mental disorders were more common in single individuals compared with other groups, but the differences were not statistically significant. Poor social and psychological support can be the cause of higher prevalence of mental illness in single patients. Current research suggests that there are many psychological disorders in people with less education, but the difference is not statistically significant. The results of the present study are consistent with those of previous studies [19,25]. The reasons may be that the majority of the population has a low level of education and poor education leads to poverty.

Current research finds that mental illness was higher in patients with the lepromatous stage of leprosy. However, the stages of leprosy have little to do with psychiatric co morbidity. The results of the current study are consistent with previous studies [19]. The reasons for the increased frequency of psychiatric co morbidity may be due to fatigue, increased disability, duration of treatment, dapsone-like medications that may cause dementia [19]. Current research finds that patients with multibacillary status have more mental illnesses. However, the bacillary status is not closely related to psychiatric co morbidity. Previous studies have also reported similar findings [19,25]. The reason for this increase in frequency may be high disability and increased physical problems related to multibacillary status that may increase a patient's stress levels and reduce his or her social functioning. These patients may not complete the full course of treatment because of their misunderstanding of the illness, which results in them not responding well to further treatment.

The current study has some limitations. Subjects were tested only once. The sample size is relatively low and therefore no generalizations could be made to the larger population.

CONCLUSION

We conclude that patients with leprosy have significant comorbidities of the mind such as depressive disorders

which are often followed by anxiety disorders. Psychiatric co-morbidity not only adds to patient's outcomes but also has a negative impact on prognosis and morbidity. Early detection and treatment of this disorder can be helpful. Therefore, complete treatment of Hansen's disease should include psychological testing and treatment if necessary.

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