Psychiatric Co-morbidity in Patients of Hansen's Disease

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ABSTRACT

Introduction: Leprosy is a chronic granulomatous disease that is caused by mycobacterium leprae. Study objectives were to evaluate the frequency and nature of psychiatric co-morbidity in patients suffering from Hansen's disease.

Material and Methods: The study was conducted on 100 patients between the age of 18-60 years suffering from Hansen's disease in the out-patient and in patient department of dermatology of Rohilkhand Medical College and Hospital, Bareilly. Study sample was assessed for psychiatric co-morbidity using semi-structured self prepared pro-forma and ICD 10 Checklist for Mental Disorders.

Results: The assessment showed that prevalence of psychiatric co morbidity was 44%. Among all depression was most prevalent (30%) mental disorder; followed by anxiety disorder (10%).

Conclusion: Patients suffering from Hansen's disease have significantly high prevalence of mental disorders.

Keywords: Co-morbidity; Hansen's Disease; Psychiatric Disorders.

INTRODUCTION

In India, leprosy is known since ancient times as *'kushtaroga'* and attributed to punishment or curse from God[1]. India has the greatest number of cases with Leprosy followed by Brazil as second and Burma as the third[2]. According to Global Leprosy Update 2013 a total of 127000 new cases were detected during 2013-2014 in India[3].

Various studies from India and abroad had found higher prevalence of co-morbid psychiatric disorders in patients suffering from Hansen's disease. In a Turkish clinical population, Yazıcı et al.[4] found prevalence rates of psychiatric disorders of 25% for inpatients and 20% for outpatients with leprosy. Leekassa et al.[5] in a study in a specialized hospital of Ethiopia found that 52.4% of the study subjects with Hansen's disease were having psychiatric disorders. Kisivuli et al.[6] from Kenya showed that the prevalence of psychiatric morbidity was 53.29% among people with Hansen's disease. Erinfolami and Adeyemi[7] in Lagos, Nigeria reported a prevalent rate of psychiatric morbidity of subjects with leprosy to be 36.7% as against 16.7% in the general population. Recent studies from brazil[8] and Nigeria[9] reported 71.6% and 55% psychiatric co-morbidity respectively.

An Indian study conducted by Kumar and Verghese[10] in 1980 showed 10% psychiatric co-morbidity in Hansen's disease. Ramanathan et al[11] (55%) and chatterjee et al[12] (64.7%) both reported a high frequency of psychiatric disorders in leprosy patients in 1984 and 1989 respectively. Verma and Gautam (1994)[13] found that 76% of these patients were having co-morbid psychiatric disorders while Bhatia (2006)[14] reported Psychiatric disorder in 44.4%.

Most studies found Depressive Disorders to be the most common psychiatry co-morbidity followed by anxiety disorders[10,11,13]. One study by Bhatia[14] found Anxiety disorder the most common psychiatric disorder. Up to 70% patients were found to have depressive disorders in some studies while anxiety disorders present in up to 28% of leprosy patients. There is also evidence of Schizophrenia and other psychotic disorder in this population[15].

The main focus of this research is to find the frequency and nature of psychiatric co morbidity in patients suffering from Hansen's disease and to further gather supportive evidence especially in this geographical area.

MATERIAL AND METHODS

One hundred consecutive patients of Hansen's disease fulfilling inclusion and exclusion criteria. The investigation was conducted in tertiary care medical institute at Bareilly in Uttar Pradesh (India). It was a hospital based cross-sectional study. Informed consent from all the patients was taken and ethical approval from the Institutional Ethical Board was obtained. Study period was 1 year from November 2015 to October 2016.

Inclusion Criteria

1. OPD and IPD patients diagnosed as a case of Hansen's disease.
2. Patients between the ages of 18 and 60 years

Exclusion Criteria

1. Patients with co-morbid dermatological diseases.
2. Patient who are having chronic debilitating medical and surgical illness.

Tools for assessment

1. Semi-Structured Self Prepared Pro-forma
2. ICD-10 Checklist for Mental Disorders

Procedure

All subjects after fulfilling inclusion and exclusion criteria went through a thorough physical and mental status examination. They were assessed for psychiatric co morbidity by applying semi-Structured Self prepared Pro-forma and ICD-10 Checklist for Mental Disorders.

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STATISTICAL ANALYSIS

Statistical analysis was done using SPSS 22.0. Descriptive statistics like mean and percentages were used to evaluate the results.

RESULTS

Socio-demographic profile of the sample

Highest numbers (36%) of participants were of the age group 51 – 60 years followed by 26% in the age group 18-30yrs. Most of the patients were male (76%), married (66.6%) and Hindus (64%). 36% of the participants were Illiterate followed by 24% having higher school certificate. Only 18% of the participants were unemployed while others were either unskilled (42%) or skilled (40%) worker. Majority of the patients belong to middle socioeconomic class 46% followed by lower socioeconomic class 28%. Most of the

Psychiatric disorders		Number (n =44)
Mood disorder (30)	Mild depressive episode	4
	Moderate depressive episode	12
	Severe depressive episode without psychotic symptoms	9
	Severe depressive episode with psychotic symptoms	2
	Recurrent depressive disorder- Current episode moderate	1
	Recurrent depressive disorder- Current episode severe without psychotic symptoms	1
	Dysthymia	1
Anxiety disorder (10)	Generalized anxiety disorder	5
	Mixed and other anxiety disorder	2
	Panic disorder	2
	Obsessive Compulsive Disorder	1
Psychotic disorder (2)	Delusional disorder	1
	Schizophrenia	1
Other (2)	Somatoform disorders – Hypochondriacal disorder	1
	Adjustment disorders	1

Table-1: Psychiatric co-morbidity

Socio demographic variables		Total leprosy patients (n=100)	With psychiatric disorders (n=44)	without psychiatric disorders (n=56)	Statistical analysis
Age	18-30	26	10 (38.4%)	16	(p=0.204)
	31-40	18	12 (66.6%)	6	
	41-50	20	8 (40%)	12	
	51-60	36	14 (38.8%)	22	
Gender	Male	76	30 (39.4%)	46	(p=0.104)
	Female	24	14 (58.3%)	10	
Marital Status	Unmarried	34	16 (47%)	18	p=0.657).
	Married	66	28 (42.2%)	38	
Religion	Hindu	64	30 (46.8%)	34	(p=0.272).
	Muslim	26	12 (46.1%)	14	
	Christian	10	2 (20%)	8	
Educational Status	Post graduate	2	0 (0%)	2	(p=0.150).
	Graduate	12	6 (50%)	6	
	Intermediate	10	4 (40%)	6	
	High School	24	14 (58.3%)	10	
	Primary school	16	3 (18.7%)	13	
	Illiterate	36	17 (47.2%)	19	
Domicile	Urban	16	2 (12.5%)	14	(p=0.019)
	Semi urban	36	17 (47.2%)	19	
	Rural	48	25 (52%)	23	
Occupation	Skilled worker	40	14 (35%)	26	(p=0.552).
	Unskilled worker	42	20 (47.6%)	22	
	Unemployed	18	10 (55.5%)	8	
Socio economic Status	Lower	26	16 (61.5%)	10	(p=0.0913).
	Middle	46	20 (43.4%)	26	
	Upper	28	9 (32.1%)	19	

Table-2: Socio demographic profile and psychiatric co-morbidity

		Total leprosy Patients (n=100)	With psychiatric disorders (n=44)	without psychiatric disorders (n=56)	Statistical analysis
Sub categories	Tuberculoid	12	3	9	(p=0.125)
	Borderline Tuberculoid	33	12	21	
	Borderline Borderline	12	6	6	
	Borderline Lepromatous	10	3	7	
	Lepromatous	33	20	13	
Bacillary status	Paucibacillary	52	20	32	(p=0.245)
	Multibacillary	48	24	24	
Lepra reaction	Positive	56	20	36	(p=0.059)
	Negative	44	24	20	
Age of onset	0-18	15	4	11	(p=0.164)
	19-30	34	16	18	
	31-40	18	12	6	
	41-50	16	6	10	
	51-60	17	6	11	
Duration of illness	Less than 1year	40	15	25	p=0.381)
	1-5years	38	20	18	
	6-10years	5	1	4	
	More than 10 years	17	8	9	
Current medication regimen	3 drug regimen	34	15	19	(p=0.981)
	2 drug regimen	19	9	10	
	Completed course and Currently off medications	45	19	26	
	Discontinued course and Currently off medications	2	1	1	

Table-3: Association between clinical profile and psychiatric co-morbidity

patients belong to either rural (48%) or semi-urban (36%) background.

Clinical profile of the sample

Paucibacillary leprosy was found in 52% patients and rest 48% had multibacillary leprosy. Lepra reaction was positive in 56% of the patients while 44% were lepra reaction negative. The most common age of onset was 19-30 years (34%) followed by 31-40 years (18%), 51- 60 years (17%), 41-50 years (16%), and 0-18 years (15%). The duration of illness was less than 1 year in 40%, 1-5 years in 38% followed by >10 years in 17% and 6-10 years in 5%. Total 45% of participants had completed medication course and were currently off medications, 34% were on 3 drug regimen, 19% were on 2 drug regimen and 2% had discontinued the course and were currently off medications.

Psychiatric co-morbidity

Out of 100 patients, 44% patients had psychiatric co-morbidity (table 1). Mood disorders were most common psychiatric co-morbidity and were present in 30% of the patients of Hansen's disease, followed by Anxiety disorders (10%). Psychotic disorders were present in 2% of the patients.

Psychiatric co morbidity and Socio demographic variables

There was no statistically significant difference between leprosy patients with psychiatric disorders and leprosy patients without psychiatric disorders with regard to age, gender, marital status, educational status, occupation, socio-economic status (table 2).

There was statistically significant difference between leprosy patients with psychiatric disorders and leprosy patients without psychiatric disorders with regard to domicile (p=0.019< 0.05). Patients belonging to urban background had significantly lower psychiatric co-morbidity as compared to patients with semi-urban and rural background (table 2).

Psychiatric co-morbidity and Clinical Variables

There was no statistically significant difference between leprosy patients with psychiatric disorders and leprosy patients without psychiatric disorders with regard to subcategories of leprosy, bacillary status, lepra reaction, age of onset of leprosy, duration of illness, current medication regimen (table 3).

DISCUSSION

Psychiatric co-morbidity

In present study 44% of the patients were found to have psychiatric co-morbidity. Increased prevalence of psychiatric disorders in leprosy patients has been documented in various international and Indian studies. International studies reported prevalence ranging from 20% to 72%.[4,5,6,7,8,16] Indian studies also reported a wide range (10% to 78%) of psychiatric co-morbidity in this population.[10,11,12,13,14,17,18] Such wide difference can be attributed to population studied, instrument used and methodology followed. Higher prevalence of psychiatric disorder among leprosy patients results as a complication or a consequence of a primary skin

disease, in reaction to disfigurement, perceived social stigma or undesirable changes in lifestyle and living conditions, divorce, high rates of unemployment and displacement from their areas of residence[19]. Studies from Centre in Carville Louisiana (USA) favored an organic explanation and attributed psychiatric co-morbidities to some irritating lesions of the nervous system brought in by toxin [20] and bacterial invasion of central nervous system.[21]

Among the patients with psychiatric co-morbidity, depressive disorder was the commonest (29%). Various studies found depressive disorder to be the most common psychiatric co-morbidity. Depressive disorder was found to be present in 30%-70% of the patients.[11,13,17,22,23]

In the present study, the second most commonly diagnosed co-morbidity in Leprosy group was anxiety disorders (10%) among which generalized anxiety disorder is the commonest (5%).Other studies also found anxiety disorder to be the second most common disorder after depressive disorder. Anxiety disorder was present in 10%-20% of the patients.[7,9,13] One study found anxiety disorder to be the most common psychiatric disorder which was present in 28% patients.[14]The reason for this high morbidity could be due to ICD-9 which is used for diagnosis and the fact that anxiety neurosis is not exactly similar to the generalized anxiety disorder of ICD-10 used in the present study.

Some studies had also reported presence of psychotic disorders in these patients[15]. We also found one case of Schizophrenia and Delusional disorder each.

Psychiatric co morbidity and Socio demographic variables:

The results of the present investigation indicate that patients belonging to urban background had significantly lower psychiatric co-morbidity as compared to patients with semi-urban and rural background**.** Better awareness, better access to healthcare therefore better compliance of medicine and better living conditions could be the reason for significantly lesser psychiatric co-morbidity in urban population. Psychiatric disorders in leprosy patients was more common in older age group (51-60 yrs.) when compared to the younger age group but there is no statistically significant difference between those with psychiatric disorders and those without. This finding is consistent with that of earlier studies[24]. Current investigation reveals that psychiatric disorders were more in females as compared to males, but it was not statistically significant. This finding is consistent with a study conducted in Rome Italy by Angelo et al.[25] who found higher probability of psychiatric disorders in women. Current investigation revealed that psychiatric disorders were more in single persons compared to other group, but the difference was not statistically significant. Poor social and psychological support could be the reason of higher psychiatric co-morbidity in unmarried patients. The current investigation reveals that there are more psychiatric co morbidities in less educated persons, but the difference is not statistically significant. The results of the present study are consistent with that of previous studies[22, 26]. The reasons could be that the majority of the sample populations have low education. The lower level of education results in poor knowledge about the illness and its treatment. Also these patients may not complete the full course of treatment due to their poor understanding of the illness, resulting in poor response to further treatment.

Psychiatric morbidity and Clinical Variables

The present investigation finds that psychiatric co-morbidities were more in patients with lepromatous category. However, categories of leprosy are not significantly related to psychiatric co morbidity. The results of the present study is consistent with that of previous studies.[22] The reasons for increased frequency of psychiatric co morbidity could be because of demoralization, more deformity, longer duration of treatment, medications like dapsone which can cause psychosis.[22] The present investigation finds that patients with multibacillary status have more psychiatric disorders. However, bacillary status is not significantly related to psychiatric co morbidity. Earlier studies also report similar findings.[22,26] The reason for this increased frequency could be the higher disability and increased physical complications associated with multibacillary status that could increase the stress levels of the patient and limit his socio- occupational functioning.

CONCLUSION

Hence we conclude that patients with Hansen's disease have significant psychiatric co-morbidity with depressive disorders being the most common followed by anxiety disorders. Psychiatric co-morbidity not only adds to patients suffering but also adversely affects the prognosis and course of illness. Early detection and treatment of these mental disorders would be helpful. Hence comprehensive treatment of Hansen's disease must involve psychiatric evaluation and treatment if needed.

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