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Psychiatric Morbidity in Hansen's Disease

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Summary

The primary aim of this study was to investigate psychiatric morbidity among the patients with Hansen's disease or leprosy. A total of 100 leprosy patients were examined at Leprosy Hospital, Mohakhali, Dhaka from March 2005 to September 2005. They sought medical treatment voluntarily and were selected consecutively on the basis of defined criteria. Research instruments were interviewer-administered questionnaire and BDI, and other standard mental state examination criteria. Of the 100 leprosy patients, 58.0% were literate and 42.0% were illiterate. Regarding current profession, most of the female leprosy patients had no occupation except household works. Among the male leprosy patients, majority of them have had particular occupation in which 15.8% were service -holders, 18.4% were students, 18.4% were cultivators, 15.8% were businessmen, 13.2% were day-labourer and rest were unemployed. Fifty percent of the leprosy patients were the members of low economic class, 48.0% were of middle economic class and rest were high economic class of population. Majority of the leprosy patients were adolescent and young adults, age ranging from 16-35 years. Regarding marital status, 72.0% of them were married and 28.0% were found to be unmarried. Fifty-four percent of them were living in rural communities and 46.0% in urban areas. In the assessment of co-morbid mental problems, results showed that they were living with leprosy patients for 2-18 years. Most of them (79.0%) have been suffering from major depressive disorders (MDD). Twelve percent were suffering from generalized anxiety disorders and 6.0% from dysthima. Only 3.0% have had no psychiatric problems. In conclusion, in combination with medicines, motivational enhancement therapies can be the only applicable way to perform better management of the leprosy patients in Bangladesh.

Introduction

Hansen's disease is a public health hazard all over the world, particularly in developing countries it becomes a critical national health crisis[1]. Worldwide, nearly 4 million people have or are permanently disabled as a result of leprosy[2,3]. Mycobacterium leprae, the causative agent of leprosy, can remain viable in dried nose secretions and in moist soil at room temperature for 46 days. It is more prevalent in the warm and humid climates. Crowding, poor sanitation, malnutrition and unhygeinic environmental conditions seem to favour its transmission[1]. Skin to skin or airborne transmission is most probable route of transmission and humans are the only host in most countries. In Southeast Asia, leprosy is endemic in India (2.6 per 10,000 population) and Nepal (3.1 per 10,000 population) where 70% of the world's leprosy patient live in[2,4].

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In Bangladesh, Hansen's disease becomes a public health problem with an estimate of 0.51 per 10,000 populations and in endemic areas it is 10.0[4-6]. At present (2008) it may be increasing with time. The environmental factors that favour M. *leprae* transmission are extremely prevalent in Bangladesh. In addition, intercountries human trafficking and tourism between India, Nepal and Bangladesh is remarkably high.

In Bangladesh, as due to strong religious impact and backward social tradition, leprosy and leprosy related matters are not discussed freely in the community. There is a social stigmatism; leprosy is a curse of God. People who have the disease are often thought of as unclean, scary, or are believed to have done something bad to deserve this punishment. They perceived it is an affliction for which people hated and feared them. They should be segregated from their family and society. Therefore, people who suspect that they might have the disease keep it secret so that their families, friends, communities, and employers will not ostracize them[4-6]. The result of this stigmatization may develop disturbance in thoughts, feelings and perceptions of the people *who* suspect leprosy or *who* have been suffering from leprosy and follow by the progress of mental disorders such as anxiety, depression, and phobia etc[1]. Psycho-education and psychotherapy, in addition to pharmacotherapy, seems to be key intervention in the enhancement of treatment and improvement of long-term outcome in several medical conditions such as leprosy, cardiac illness, diabetes, cancers etc[7]. In Addition, behavioral therapies, psycho-education, family and social participation jointly can overcome social stigmatism, can learn to control their crisis and be trained to maintain their normal and productive life in family or in work place or in the community.

Update treatment facilities in leprosy endemic areas is very inadequate in Bangladesh. A little information about leprosy may be obtained from government or nongovernment organizations. Even there is not, so far known, a single scientific study on mental health of the patients living with leprosy in Bangladesh. However, it is necessary to initiate scientific study on mental health in leprosy, because once their mental state assessment data has been collected, a plan for effective treatment and prevention modality against leprosy can be established. International studies shows that the beliefs and practices engendered by the intense stigma associated with leprosy in traditional-bound country like India, Bangladesh are likely to affect the mental health of the patients living with leprosy[8]. In addition, most of the psychological therapies report positive results on maintenance when used as an adjuvant treatment, and efficacy in chronic illnesses[7]. Therefore, the aim of this study and in continuation of research in this field was to include psychiatric morbidity in Hansen's disease.

Subjects and Methods

Study population

The research participants were leprosy patients admitted in Leprosy Hospital, Mohakhali, Dhaka from March 2005 to September 2005. A total of 100 leprosy patients, 76 male and 24 female, were included in this study. They were selected consecutively on the basis of defined criteria include confirmed diagnosis of leprosy by clinical and pathological investigations, age in between 16-60 years and did not suffer from other diseases. Research instrument was an interviewer-administered questionnaire and standard mental state examination criteria.

A questionnaire was developed and pre-tested among admitted leprosy patients, who were excluded from the study population. It was designed to include general information, socioeconomic profile and mental state examination criteria. The socioeconomic profile included education, occupation, income class, age, marital status and social background. The mental state examination criteria included period of suffering, mood/affects, motor activity, speech, judgement, sleep, food habit, anxiety, sexual dysfunction, behaviour, perception, thought, attention & concentration, orientation, memory and insight.

Initially a psychiatrist briefed objectives, benefits, risks and burdens of this study to the admitted leprosy patients and their close relatives. Only positive respondents were selected as research participant consistent with the selection criteria. A written consent was taken from each of the selected patients with maintaining full autonomy. Then socioeconomic profile was recorded following the questionnaire. Finally, two psychiatrists including author(s) were assigned psychiatric diagnosis according to DSM-IV and other standard criteria[9-12]. In addition, comorbid psychiatric diagnosis was also considered. Of them, who had been diagnosed as depressive illness. Beck Depressive Inventory (BDI) criteria were applied to quantify the depression[13]. Each of the participants was examined individually in a separate room for maintaining their privacy strictly as well. In addition, close relatives were also interviewed, if necessary, to confirm the symptoms of mental troubles. The study did not involve in any social, mental or physical risk to the patients. Prior to conduct, institutional permission was taken from the director of the hospital. As leprosy patients are vulnerable, the procedures followed for this study were in accordance with the CIOMS guidelines as updated in 2002[14]. No wedge-compensation was given to the participants.

Statistical analysis

A software package of SPSS (version 12.0: SPSS Inc., Chicago, IL, USA) was used for analysis of the data. Descriptive statistics was used for all variables. Values were expressed as percentage.

Results

Socioeconomic profile of the leprosy patients is summarized in the Table-I. Of the 100 leprosy patients, 58.0% (n-58) were literate and 42.0% (n-42) were illiterate. Among literate leprosy patients, 30.0% (n=30) were educated upto secondary level, 12.0% (n-12) were upto primary level, 6.0% (n-6) were upto higher secondary level and rest (10.0%, n=10) were graduate or postgraduate. Comparatively, prevalence of illiteracy is higher in female leprosy patients than male (Table-I). Among current profession, most of the female leprosy patients had no occupation except household works. Among the male leprosy patients, majority of them have had particular occupation in which 15.8% (n-12) were service-holders, 18.4%(n-14) were students, 18.4%(n-14) were cultivators, 15.8%(n-12) were businessmen, 13.2%(n-10) were day-labourer and rest (18.4%,,n=14) were unemployed. Fifty percent (n-50) of the leprosy patients were the members of low economic class (monthly income <Tk. 10,000) of population, 48.0% (n-48) were of middle economic class (monthly income Tk. 10,000-20,000) and only 2.0% (n-2) were high economic (monthly income >Tk. 20,000) class of population. Majority of the leprosy patients 58.0% (n-58) were adolescents and young adults having age from 16-35 years, 18.0%

(n-18) were adults of 36-45 years of age and rest 24.0% (n-24) have age above 45 years.

In marital status, 72.0% (n-72) of them were married and 28.0% (n-28) were found to be unmarried. Fifty-four percent (n-54) of them living in rural areas and 46.0% (n-46) in urban areas (Table-I).

Table-I

Socioeconomic profile of the leprosy patients

Parameters	Male (n=-76) % (n)	Female(n=24) % (n)	Total (n=100) % (n)
Education			
Illiterate	38.2(29)	54.2(13)	42.0(42)
Primary (1-5 class)	10.5(8)	16.7(4)	12.0(12)
Secondary (6-10 class)	35.5(27)	12.5(3)	30.0(30)
HSC (11-12 class)	5.3(4)	8.3(2)	6.0(6)
Above 12 class	10.5(8)	8.3(2)	10.0(10)
Occupation			
Households	0	83.3(20)	20.0(20)
Service	15.8(12)	16.7(4)	16.0(16)
Students	18.4(14)	0	14.0(14)
Cultivators	18.4(14)	0	14.0(14)
Business	15.8(12)	0	12.0(12)
Day labourers	13.2(10)	0	10.0(10)
No works	18.4(14)	0	14.0(14)
Economic class			
Low	46.1(35)	62.5(15)	50.0(50)
Middle	51.3(39)	37.5(9)	48.0(48)
High	2.6(2)	0	2.0(2)
Age in year			
16-25	34.2(26)	33.4(8)	34.0(34)
26-35	25.0(19)	20.8(5)	24.0(24)
36-45	15.8(12)	25.0(6)	18.0(18)
>45	25.0(19)	20.8(5)	24.0(24)
Marital status			
Married	68.4(52)	83.3(20)	72.0(72)
Unmarried	31.6(24)	16.7(4)	28.0(28)
Social background			
Rural	46.1(35)	79.2(19)	54.0(54)
Urban	53.9(41)	20.8(5)	46.0(46)

1. Income group
Lower income: Monthly income < Tk. 10,000.
Middle income: Monthly income Tk. 10,000 - 20,000.
Higher income: Monthly income >Tk. 20,000

Table II

Psychiatric morbidity among leprosy patients

Psychiatric morbidity	Male (n=76) no. (%)	Female(n=24)) no. (%)	Total (n=100) no. (%)
Period of suffering in years			
1-5	69.7(53)	45.8(11)	64.0(64)
6-10	21.1(16)	25.0(6)	22.0(22)
11-15	7.9(6)	16.7(4)	10.0(10)
15-18	1.3(1)	12.5(3)	4.0(4)
Psychiatric disorders			
Major depressive	75.0(57)	91.7(22)	79.0(79)
Generalized anxiety	13.2(10)	8.3(2)	12.0(12)
Dysthima	7.9(6)	0	6.0(6)
No psychiatric disorder	3.9(3)	0	3.0(3)

In the assessment of psychiatric disorders including comorbidity of the leprosy patients, results showed that they are living with leprosy for 2-18 years. Most of them (79.0%; n-79) suffering from major depressive disorders (MDD). Twelve percent (n-12) were suffering from generalized anxiety disorders and 6.0%(n-6) from dysthima. Only 3.0%(n-3) have had no psychiatric problems. Among the female leprosy patients, more than 90% were found to be suffering from depressive illnesses. None of them were free from anxiety and worries. Symptoms of other mental disorders did not found in studied leprosy patients. Results of the co-morbid mental problems among the leprosy patients are described in the Table-II.

Discussion:

Social stigmatism, warm and humid climates, poor sanitation, malnutrition, unhygeinic environment and crowding are the major influencing factors for spreading of leprosy, which are highly prevalent in Bangladesh. People living with leprosy or any other chronic diseases are the victim of social infernos of stigmatisms that results suffering of mental disturbances. The Hansen's disease as well as social stigmatisms in Bangladesh critically affects physical, mental and social health of the patients. Government of Bangladesh in joint collaboration with World Health Organization (WHO) has undertaken multiple preventive measures against this human catastrophe[4]. It is one of the major causes of human's disability in leprosy endemic countries including Bangladesh. In light of the incidence of disability and fatality associated with leprosy, the present study was undertaken to investigate the mental disturbances of the patients living with this disease.

The Leprosy Hospital, Mohakhali, Dhaka, the only specialized public hospital for leprosy patients in Bangladesh, presents

a special opportunity to study a variety of mental problems of the leprosy patients in a semi-controlled environment. There is a shortcoming; compliance with mental treatment regimens are not available in the hospital. It is well established that scientific evaluation and enlightened motivated attitudes towards chronic diseases including Hansen's disease might have abolish the forcible incarceration of the patients from pejorative languages and social stigmatisms. It may be aware of the patients to the concomitant loss of many of their civil rights[15]. In addition, it helps in the development of faithful adherence of the patients to the treatment schedules.

In this study, it has been found that most of the leprosy patients have been suffering from major depressive illnesses, anxiety disorder and dysthimic problems. There are many factors that may be attributed for major depressive disorder and other mental illnesses. The most important factor was the diagnosis of Hansen's disease which altering the emotional effect of the patients and/or family members. Initially, they harboured a considerable degree of negative attitude towards their illness. They perceived it was an affliction for which people hated and feared them. However, after diagnosis, the patients go through a sequence of reactions: denial, anger, bargaining, and acceptance. In addition, general population begins to outcast, shunt and fears them and too frequent hurt them with pejorative languages. All of these factors critically influences the self-efficacy and attitudes of the patients and increasingly fail to perform effective coping with these negative manners of the disease. They begin to belief that their disease will not cure, ultimate consequence will be disability and it is the curse of God. These unpleasant negative emotional state and social stigmatisms may be the important contributing factors in the development of anxiety and worries followed by depression and major depressive disorders, and other mental illnesses. Similar mental characteristics of the leprosy patients are consistent with reported data[8-15].

Only 10.0% of the leprosy patients were found to be graduates or post graduate level of education and most of them still in service. Forty-eight percent of them had basic education (primary to higher secondary) and professionally they have no capacity to get a satisfactory occupation. Few of them were small businessmen or cultivators or other inequitable profession. It, possibly, may be due to economical predicament of the nation or social infernos. Most of the female leprosy patients were illiterate and household works were their principal occupation, and most of them had no income. Patriarchal society, religious belief, social stigmatisms as well as conventional socio-cultural impact may be the important contributing factors for such type of socioeconomic characteristics of the women in Bangladesh. Majority of the leprosy patients were married and their social background as well as other socioeconomic profile are consistent with the reported national statistical data[16].

In conclusion, this study revealed that most of the patients living with leprosy have been suffering from depressive illnesses and anxiety. In combination with medication and motivational enhancement therapies such as counseling, behavioural therapies and family counseling can be the only applicable way to perform better management of the

leprosy patients in Bangladesh[17]. It needs to ensure easy availability of the mental healthcare services in every leprosy hospitals.

One of the shortcomings of this study is to include only 100 patients from one hospital. The reason of it is that there is no other public hospital for leprosy patients in Bangladesh. A few Christian Missionary Hospitals are in the hilly remote areas where leprosy treatment facilities are available. Fund constrian and lack of transport facilities limited us to study in this public hospital only. However, it is the first attempt to address mental health of the leprosy patients in Bangladesh.

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