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ASSESS THE PSYCHIATRIC MORBIDITY OF PERSONS WITH HANSEN`S DISEASE IN SELECTED LEPROSY HOME AT MADURAI

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ABSTRACT

Objectives: To assess the prevalence of psychiatric morbidity among person`s with Hansen`s Disease in selected leprosy Home in Madurai. To associate the psychiatric morbidity of person`s with Hansen disease in selected Leprosy Home, Madurai with their selected base line variables. Introduction: Hansen's disease (leprosy) was probably the first disease known to humanity. Throughout ancient India, leprosy has been regarded as a punishment from god, called kushta roga. The bacterial Hansen's disease (HD), caused by M. leprae or M. lepromatosis, is characterized by a prolonged incubation period. World Health Organization (WHO, 2011) reported 228,474 new leprosy cases in 2010, a two-fold decrease from 20 years ago. Leprosy patients are more likely to suffer from mental disorders than the general population, with 99 cases per 1000 being estimated. Despite the fact that the relationship between HD and other infectious co morbidities is not always clear, other infectious co morbidities often coexist with HD. As a centrally sponsored health program, the National Leprosy Eradication Programme is sponsored by the Ministry of Health and Family Welfare, Government of India. Methodology: Non-experimental descriptive research design was used, 100 Hansen`s patients were selected by non-probability (consecutive) sampling and assessed through Mini International Neuro psychiatric interview tool. Results: The major findings of the study were the baseline variables such as age, Sex, Religion, Type of family, Educational status, Marital status, Occupation, Income of the family per month, Number of children, Place of Residence, Type of Leprosy, Disability level, Duration of illness, Compliance of treatment, Reason for admission, Duration of stay in the home, Social support, Type of care giver. Also, it resulted that Mini International Neuro psychiatric Interview tool among psychiatric patients Conclusion: The study findings evidence that most patients with leprosy have psychological morbidity. Psychiatric care should be practiced as a part of comprehensive health care of the inmates of leprosy homes.

INTRODUCTION

Hansen's disease (leprosy) was probably the first disease known to humanity. Throughout ancient India, leprosy has been regarded as a punishment from god, called 'kushta roga'. Nearly all countries in the world were affected by leprosy during the Middle Ages [1]
After that, it declined slowly in many European countries,

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partly because of strict isolation but also as the quality of life and standard of living improved [2]. By using Mycobacterium leprae, leprosy causes chronic granulomatous inflammation of the peripheral nervous system, skin, and reticuloendothelial system [3]. The cutaneous nerve trunk can be thickened and/or tender, and the anaesthetic patch can be erythematous or hypopigmented. As a highly mimicking disease, leprosy can present with a wide range of morphological lesions, which is why it requires a trained eye to diagnose correctly [4].

The bacterial Hansen's disease (HD), caused by *M. leprae* or *M. lepromatosis*, is characterized by a prolonged incubation period. For the first five to twenty years after the infection, there are no symptoms. Nerves, respiratory tracts, skin, and eyes may also experience symptoms. Due to a lack of sensory ability, the body may lose parts of the extremities as a result of repeated injuries or infections due to noticed wounds [5].

World Health Organization (WHO, 2011) reported 228,474 new leprosy cases in 2010, a two-fold decrease from 20 years ago. It is unfortunate that leprosy has not been stigmatized as drastically as it once was. The stigma associated with leprosy is naively believed to be less in many of the countries in which leprosy is endemic [6]. The stigma reduction attributed to HIV/AIDS is primarily the result of two factors.

This infectious disease is called leprosy because of the scales that form on the skin as a result of it. Leprosy is derived from the Greek word leprosy, which means scaling [7].

Leprosy patients are more likely to suffer from mental disorders than the general population, with 99 cases per 1000 being estimated. It has also been found that long-term illness and physical disabilities are associated with an increased risk of mental health troubles. Leprosy patients are more likely to suffer from depression than from any other disorder.

Although 12 million patients were recorded in 1988, there were only 0.25 million registered in 2014. Despite this, the incidence of new cases is relatively stable at around 250 000 a year, primarily among children [8]. Six countries account for 86% of leprosy patients worldwide, with 60% of leprosy cases in India. There are several chronic and disabling diseases associated with leprosy. In addition to the physical manifestations of the disease, the social stigma associated with it contributes to its psychiatric hazards. Additionally, it has been shown that leprosy sufferers experience anxiety regarding the disease's outcome and the future in general.

Despite the fact that the relationship between HD and other infectious co morbidities is not always clear, other infectious co morbidities often coexist with HD. It is the social epidemiology of the patient's region of origin that determines the nature and prevalence of co morbidities.

They may complicate the diagnosis of HD and its relational states, as well as affect the clinical manifestations. As well as being an underappreciated challenge, they also represent a potential reactivation risk when immunosuppressive treatment is administered for HD, especially outside of endemic areas.

Acute neuritis and Type 1 or Type 2 reactions in HD are frequently treated with high-dose corticosteroid therapy given for more than 6 months [9].

As a centrally sponsored health program, the National Leprosy Eradication Programme is sponsored by the Ministry of Health and Family Welfare, Government of India.

Several nongovernmental organizations, including the World Health Organization, the International Federation of Anti-Leprosy Associations (ILEP), and the Anti-Leprosy Alliance, are also partners in the Programme [10].

Identifying and curing cases early is the main objective of this scheme. 118 people out of 10,000 were affected by Leprosy in 1983. By 2005, leprosy prevalence had declined to less than one per 10,000 people, with the State achieving leprosy elimination status. As of February 2017, there were 0.43 cases per 10,000 population. A total of 242 new Leprosy cases were detected in 31 high endemic blocks during 2016-17 with a new case detection rate of more than 10 per 100,000 people. 96 patients have undergone reconstructive surgery as of February, 2017 and 8201 patients have received special varieties of chappals [11]. Leprosy patients with deformed bodies are issued 12748 self-care kits. In addition to those already receiving pensions under the Old Aged Pension scheme, 5680 persons affected by leprosy are receiving pensions of Rs.1000/- per month.

Our study included 189 patients with leprosy and 200 controls who did not have any chronic diseases. An adolescent girl with yellow mutant albinism and anorexia nervosa was reported to have lower mental health scores than those reported by the authors. Kelly also reported the coexistence of a yellow mutant albinism and anorexia nervosa.

STUDY NEED

In 2009, leprosy was reported to be prevalent in 2,13,036 places worldwide. Two hundred and ninety-seven new cases were detected in 2008. More than 9126 new cases were detected globally in 2008, a decrease of 3.54% from 2007. From over 7,63,000 cases in 2001 to 2,49,007 cases in 2008, the number of new cases detected each year continues to decline across the globe.

Although some countries are experiencing declines, this is not true for all countries. There have been

more detections between 2007 and 2008 in six countries. Compared to 2006 and 2007, India reported a 2.54 percent decline in cases between 2007 and 2008. According to the census data on Dec 31, 2005, there were 0.95 cases per 10,000 residents in India. By March 2009, the prevalence rate for AIDS in the United States had been lowered from 57.6% per 10,000 in 1981 to 0.72 per 10,000. Males are more likely to contract leprosy than females [12].

A stigmatized disease coupled with physiological uncertainty contributes to the difficulty of treating, rehabilitating, and controlling it. Gonzales describes stigma as having four components: physical, psychological, social, and moral. In addition to social isolation, patients with leprosy face social stigma, which puts them at a greater risk of developing psychiatric disorders. In addition to affecting sensory perception, causing muscle weakness, reducing work capacity, and having complications, leprosy is a depressing disease. Thus, patients are subjected to a vicious cycle of psychological trauma that few patients can escape.

Approximately 189,000 chronic cases of leprosy were reported worldwide in 2012, compared to 5.2 million in the 1980s. Two hundred and thirty thousand new cases were reported. Leprosy has been cured in 16 million people worldwide in the past 20 years. US reports of this disease average 200 per year [13].

As part of the programme, leprosy cases are detected, treated, and rehabilitated early and the public is educated about leprosy. According to the National Mental Health Programme, one of the major disadvantages of the program is that little emphasis is given to the psychological aspects of this disease. Approximately 189,000 chronic cases of leprosy were reported worldwide in 2012, compared to 5.2 million in the 1980s. 230,000 new cases were reported.

India accounts for more than half of all new cases, with 16 countries accounting for the majority. There were 16 million leprosy cures around the world in the past 20 years. The United States reports about 200 cases per year.

An overall population of 5745 leprosy patients was analyzed using stratified random sampling to select 540 subjects with leprosy. Four hundred and ninety-four of these subjects underwent mental health evaluations. A prevalence rate of about 99 per 1000 was found in 49 of these patients. Psychiatric disturbances were more likely to occur in patients suffering from long-term illness and those with physical deformities. Psychotherapy is emphasized as an important component of leprosy management and rehabilitation [14].

There is a high prevalence of depression in leprosy patients as a whole. Therefore, the investigator felt the need and importance of assessing depression levels in order to guide them into psychological therapy, minimizing psychological morbidity.

Research consistently shows that 50%-70% of patients suffering from common mental disorders are not diagnosed or treated by physicians in their clinical setting. Medical patients are highly likely to suffer from mental disorders [15]. This phenomenon has been explained in several ways. Mental distress resulting from chronic medical conditions, from life threatening conditions, or from the severity of illnesses can explain this phenomenon.

STATISTICS

159 countries from all WHO regions provided official leprosy statistics for 2017. According to a report by the World Health Organization (WHO), the prevalence of leprosy was 0.25 per 10000 people, with 192 173 cases being treated in 2017. There were 210 671 new cases reported worldwide during the year (2.8 per 100 000). Multibacillary infection made up 60% of the new cases globally, and 39% of the new patients were females. 95% of the global burden was borne by the 22 global priority countries. 145 countries from the 6 WHO regions registered 216 108 new cases of leprosy globally in 2016. As of the end of 2016, there were 173 358 cases, corresponding to a prevalence rate of 0.29 per 10,000 [16].

Each year, India accounts for more than 50% of new cases detected around the world. The goal of eliminating leprosy in India was achieved in December 2005. A total of 32 states and UTs have achieved elimination. There are three states/UTs, which have PRs between 1 and 2.3 per 10,000 people, namely Bihar, Chhattisgarh and Dadra & Nagar Haveli. ANCDR is 10.35 per 100,000 population, with 1.27 lakh new cases detected during 2011-12. Between November 2017 and February 2018, 1.3 lakh leprosy cases were reported at 70 percent of the hospitals in Tamilnadu. Mycobacterium leprae caused 2 out of 5 cases of leprosy, despite the fact that it made up a large percentage of cases. Statistics show that in the Madurai District, 300 cases occurred in the year of (2017), of which 197 (66%) were males and 103 (34%) were females. As per WHO classification, paucibacillary and multibacillary leprosy occur in 45 percent and 55 percent of cases, respectively. In this case, all leprosy patients received a multidrug regimen that was conservative.

OBJECTIVES

1. To assess the prevalence of psychiatric morbidity among person`s with Hansen`s Disease in selected leprosy Home in Madurai.
2. To associate the psychiatric morbidity of person`s with Hansen disease in selected Leprosy Home,

Madurai with their selected base line variables.

HYPOTHESIS OF WORK

H_1- There is a significant association between psychiatric morbidity of persons with Hansen`s disease in selected old age home and their selected base line variables.

STUDY ASSUMPTION

It is assumed that persons with Hansen`s Disease have varying Levels of Psychiatric morbidity due to their long-term illness.

DELIMITATION

1. The Data collection period is 4 to 6 Weeks
2. Person`s with Hansen`s Disease staying in puthupatti, Madurai.

CONCEPTUAL FRAMEWORK

The Present study is aimed at assessing the psychiatric morbidity of persons with Hansen`s Disease in selected leprosy home at Madurai. The conceptual frame work for present study was based on Modified Ferran *et al*`s health related psychiatric morbidity of Hansen`s disease.

METHODOLOGY

RESEARCH APPROACH

The research approach is the most essential part of any research. In this Study to assess the levels of psychiatric morbidity of Persons with Hansen`s Disease is assessed. Therefore, a Qualitative Evaluative approach is used.

STUDY SETTING

A study setting is chosen based on the Investigator's familiarity with the institution, the feasibility of the study, the availability of the sample, and permission. For many years they have been discriminated against and had to endure hardships, but the Rehabilitation Home is their only place to feel at home. Those with Hansen's disease who are admitted to the Leprosy Rehabilitation Home, Y. Puthupatti at Madurai, will be the participants in the study. Since 1973, the Home has been operating. There are currently 60 rooms with a double bed and 20 rooms with a family bed. It is sanctioned that 140 beds be available at the Leprosy Home. Approximately 112 Hansen's Disease patients are enrolled in the Hansen's Disease census.

SAMPLE SELECTION

100 samples with Hansen`s Disease and also stay in the Leprosy Rehabilitation Home, Y. puthupatti and those who met the inclusion criteria.

INCLUSION CRITERIA

- Persons diagnosed with Hansen`s Disease.
- Age > 18 years and who will give valid consent for study.

EXCLUSION CRITERIA

- With Past History of Psychiatric illness.
- Persons who is on Psychotropic Medications.
- Persons with cognitive and sensory deficit.

RESEARCH TOOL

Section A- Age, Sex, Religion, Type of family, Educational status, Marital status, Occupation, Income of the family per month, Number of children, Place of Residence, Type of Leprosy, Features of Reactions to Leprosy, Duration of illness, Compliance of treatment, Type of treatment, Reason for admission, Duration of stay in the home, Social support, Type of care giver.

Section B- Mini International Neuro Psychiatric Interview Scale.

Scoring Procedure

Section A- No scoring is given for the socio - demographic variables

Section B- All questions will be rated either by Yes or No. The rating will be done at the right of each question by circling either Yes or No. If yes, the questions will be further administered for ascertaining the psychiatric morbidity, and the presence of psychiatric morbidity will be judged.

Tool validation and reliability

The questionnaire was given to five experts in psychiatric nursing, psychiatry, psychology, and statistics in order to assess content validity. Content should be clear, related, meaningful, and adequate. Translation and retranslation of tool will be done in Tamil and English. The reliability of a measuring instrument is a major criterion for assessing its quality and adequacy. The reliability of the tool will be used by test retest method.

PILOT STUDY

We will conduct a pilot study to check the feasibility of setting, samples, and tool relevance. We will obtain permission from the IRB/ Ethical Committee and the Leprosy Home at Y. Puthupatti. Through a non-probability sampling (consecutive) technique, samples will be randomly assigned at Y. Puthupatti leprosy home for 7 days. We will select 10 patients with Hansen's and explain the purpose of the study before data collection begins. The patients will be informed of the study and given written and oral consent. Confidentiality will be maintained. The patients will fill out a questionnaire and the data will be collected.

DATA COLLECTION

Every participant in the study in Puthupatti, Madurai, will provide written and verbal informed consent. We will start by introducing ourselves, building rapport, and explaining the study's purpose and nature. A total of 100 patients with Hansen's Syndrome will be selected by non-probability (consecutive) sampling and assessed using the Modified Mini International Neuropsychiatric Interview Scale.

Section-I: Description of persons with Hansen`s Disease according to their selected Base line variables

Table I: Frequency and percentage distribution of Persons with Hansen's according to their selected base line variables

S.no	Base line variables	F	%
1.	**Age** 21-30 years	0	0%
	31-40 years	0	0%
	41-50years	1	20%
	> 50 years	4	80%
2	**Sex**		
	Male	5	100%
	Female	5	100%
3	**Religion** Hindu	4	80%
	Christian	0	0%
	Muslim	0	0%
4	**Educational status** Non-formal	3	60%
	Primary	2	40%
	Secondary	0	0%
	d) Graduate	0	0%
5	**Marital status** Married	5	100%
	Un married	0	0%
	Widower	0	0%
	Separated	0	0%
6	**Occupation** Daily wages	4	80%
	Private employee	0	0%
	Government	0	0%
	Business	0	0%
	Un-employee	1	20%
7	**Income** a) 3000- 6000	5	100%
	b)6001-10000	0	0%
	c)10001-150000	0	0%
	d) >15000	0	0%
8	**No of children** No child	4	80%
	One child	0	0%
	Two children	0	0%
	More than 2 children	1	20%
9	**Type of family** Nuclear	5	100%
	Joint family	0	0%
	Extended family	0	0%

10	**Place of residence**		
	Rural	5	100%
	Semi urban	0	0%
	Urban	0	0%
11	**Type of leprosy**		
	Paucibacillary	1	20%
	Multibacillary	4	80%
12	**Disability level**		
	Grade I	0	0%
	Grade II	0	0%
	Grade III	0	0%
	Grade II & III	1	20%
	None of the above	4	80%
13	**Duration of illness**		
	< 1 year	0	0%
	1-5 years	1	20%
	6-10 years	1	20%
	>10 years	3	60%
14	**Compliance of treatment**		
	Regular& Completed	5	100%
	Irregular & Not completed	0	0%
	Not completed	0	0%
15	**Reason for admission**		
	Lack of social support	2	40%
	Stigma	0	0%
	Negative feeling	1	20%
	Treatment	2	40%
16	**Duration of stay in the home**		
	a)> 1year	0	0%
	b)1-10 years	1	20%
	c)10-20 years	1	20%
	d)>25 years	3	60%
17	**Social support**		
	Family	5	100%
	Relatives	0	0%
	NGOs	0	0%
	Private agencies	0	0%
	others	0	0%
18	**Type of care giver**		
	Spouse	0	0%
	Children	1	20%
	Health personnel	4	80%
	Parents	0	0%

Section-II: Description of psychiatric morbidity of persons with Hansen`s Disease

Table 2: Frequency and percentage distribution of prevalence psychiatric morbidity of persons with Hansen`s Disease (n=10)

S.no	Levels of psychiatric morbidity	F	%
1	Mild (0-4)	8	80%
2	Moderate (5-8)	2	20%
3	Severe (9-12)	0	0%

4	Very severe	0	0%

Table -3: Frequency and percentage distribution of persons with Hansen`s disease according to their psychiatric morbidity

S.no	Psychiatric morbidity Symptoms	Male (n=5)		Female (n=5)	
		F	%	f	%
1.	Major depressive episode	3	60%	2	40%
2.	Dysthymia	1	20%	2	40%
3.	Suicidality	0	0%	0	0%
4.	Hypomanic episode	0	0%	0	0%
5.	Phobic disorder	1	20%	1	20%
6.	Social phobia	4	80%	3	60%
7.	Obsessive compulsive disorder	0	0%	0	0%
8.	Post-traumatic stress disorder	0	0%	0	0%
9.	Agoraphobia	4	80%	3	60%
10.	Alcohol abuse and dependence	0	0	0	0%
11.	Non-alcohol psycho active substance abuse	0	0	0	0%
12.	Anorexia nervosa	0	0	0	0%
13.	Bulimia nervosa	0	0	0	0%
14.	Psychotic disorder and mood disorder with psychotic features.	0	0	0	0%
15.	Antisocial personality disorder	0	0	0	0%
16.	Generalised anxiety disorder	3	60%	4	80%

Section III- Associate between the psychiatric morbidity of persons with Hansen`s Disease with their selected base line variable

Table 4- Association between the psychiatric morbidity of persons with Hansen`s Disease with their selected base line variable

S. NO	Base line variables	Psychiatric morbidity								N	χ^2
		Mild		Moderate		Severe		Very Severe			
		f	%	F	%	f	%	f	%		
1.	**Age**										**18.8**
	21-30 years	0	0%	0	0%	0	0%	0	0%	0	**p=0.02**
	31- 40years	1	10%	0	0%	0	0%	0	0%	1	**S**
	41-50 years	2	10%	0	0%	0	0%	0	0%	2	
	> 50 years	5	60%	2	20%	0	0%	0	0%	7	
2.	**Gender**										**4.93**
	Male	4	40%	1	10%	0	0%	0	0%	5	**p=0.16**
	female	4	40%	1	10%	0	0%	0	0%	5	
	c) Transgender	0	0%	0	0%	0	0%	0	0%	0	
3.	**Religion**										
	Hindu	7	70%	2	20%	0	0%	0	0%	9	**4.93**
	Christian	1	10%	0	0%	0	0%	0	0%	1	**p=0.24**
	Muslim	0	0%	0	0%	0	0%	0	0%	0	
4.	**Educational status**										
	Non formal	3	30%	0	0%	0	0%	0	0%	3	**2.93**
	Primary	5	50%	2	20%	0	0%	0	0%	7	**p=0.15**
	Secondary	0	0%	0	0%	0	0%	0	0%	0	
	Graduate/post Graduate	0	0%	0%	0	0	0%	0	0%	0	

5.	**Marital status** a) Married	8	80%	2	20%	0	0%	0	0%	10	**0 P=1**
	b) Un married	0	0%	0	0%	0	0%	0	0%	0	
	c) Widower	0	0%	0	0%	0	0%	0	0%	0	
	d) Separated	0	0%	0	0%	0	0%	0	0%	0	
6.	**Occupation** a) Daily Wages	8	80%	1	10%	0	0%	0	0%	9	**3.84 P=0.25**
	b) Private employee	0	0%	0	0%	0	0%	0	0%	0	
	c) Government employee	0	0%	0	0%	0	0%	0	0%	0	
	d) Business	0	0%	0	0%	0	0%	0	0%	0	
	e) Un employee	0	0%	1	10%	0	0%	0	0%	1	
7.	**Income** a) 3000-6000	8	80%	2	20%	0	0%	0	0%	10	**0 P=1**
	b) 6001-10000	0	0%	0	0%	0	0%	0	0%	0	
	c) 10001-15000	0	0%	0	0%	0	0%	0	0%	0	
	d) >15000	0	0%	0	0%	0	0%	0	0%	0	
8	**No of Children** a) No child	5	50%	1	10%	0	0%	0%	0%	6	**5.8 P=0.34**
	b) one child	1	10%	0	0%	0	0%	0	0%	1	
	f) Two children	2	20%	0	0%	0	0%	0	0%	2	
	g) > Two children	0	0%	1	10%	0	0%	0	0%	1	
9	**Type of family** a) Nuclear	7	70%	1	10%	0	0%	0	0%	8	**1.57 P=0.84**
	b) Joint	1	10%	1	10%	0	0%	0	0%	2	
	c) Extended	0	0%	0	0%	0	0%	0	0%	0	
10	**Place of residence** a) Rural	7	70%	2	20%	0	0%	0	0%	9	**4.93 P=0.84**
	b) Semi urban	1	10%	0	0%	0	0%	0	0%	1	
	c) Urban	0	0%	0	0%	0	0%	0	0%	0	
11	**Type of Leprosy** a) Paucibacillary	4	40%	0	0%	0	0%	0	0%	4	**6.42 P-0.05 S**
	b) Multibacillary	0	0%	6	60%	0	0%	0	0%	6	
12.	**Disability level** a) Grade I	0	0%	0	0%	0	0%	0	0%	0	**16.1 P-0.05 S**
	b) Grade II (Hands)	0	0%	0	0%	0	0%	0	0%	0	
	c) Grade III (Feet)	2	20%	0	0%	0	0%	0	0%	2	
	d) Grade II&III	2	20%	0	0%	0	0%	0	0%	2	
	e) None of the above	4	40%	2	20%	0	0%	0	0%	6	
13	**Duration of illness** a) <1 year	0	0%	0	0%	0	0%	0	0%	0	**13 P-0.05 S**
	b) 1-5 years	3	30%	0	0%	0	0%	0	0%	3	
	c) 6-10 years	1	10%	0	0%	0	0%	0	0%	1	
	d) More than 10	4	40%	2	20%	0	0%	0	0%	6	

	years										
14	**Compliance of Treatment** a) Regular & Completed	7	70%	0	0%	0	0%	0%	0%	7	**5.33 P=0.86**
	b) Irregular & Not Completed	1	10%	2	20%	0	0%	0	0%	3	
	c) Not Completed	0	0%	0	0%	0	0%	0	0%	0	
15	**Reason for admission** a) Lack of social support	2	20%	0	0%	0	0%	0	0%	2	**7.6 P=0.86**
	b) Stigma	1	10%	1	10%	0	0%	0	0%	2	
	c) Negative feeling	0	0%	1	10%	0	0%	0	0%	1	
	d) Treatment	5	50%	0	0%	0	0%	0	0%	5	
16	**Duration of stay in the home** a) >1 year	0	0%	0	0%	0	0%	0	0%	0	**11.2 P=0.91**
	b) 1-10 years	1	10%	0	0%	0	0%	0	0%	1	
	c) 10-20 years	1	10%	2	20%	0	0%	0	0%	3	
	d) >25 years	6	60%	0	0%	0	0%	0	0%	6	
17	**Social support** a) Family	0	0%	0	0%	0	0%	0	0%	0	**0 P=1**
	b) Relatives	0	0%	0	0%	0	0%	0	0%	0	
	c) NGOs	8	80%	2	20%	0	0%	0	0%	10	
	d) Private agencies	0	0%	0	0%	0	0%	0	0%	0	
	e) others	0	0%	0	0%	0	0%	0	0%	0	
18	**Type of care giver** a) Spouse	2	20%	0	0%	0	0%	0	0%	2	**10.4 0.10**
	b) Children	1	10%	0	0%	0	0%	0	0%	1	
	c) Health personal	5	50%	2	20%	0	0%	0	0%	7	
	d) Parents	0	0%	0	0%	0	0%	0	0%		

STATISTICAL ANALYSIS

In descriptive analysis, Sociodemographic variables and psychiatric morbidity are analysed using frequency and percentage distributions. An analysis of Chi-square will be performed to examine the association between psychiatric morbidity and selected socio-demographic variables among Hansen's disease patients for inferential anlaysis.

DISCUSSION

According to selected baseline variables, 8 of the subjects (80%) were older than 50 years of age, and 1 (20%) was in the 41-50 age group. None of the subjects were between 21 and 30 years old. 5 subjects (100%) were males and 5 subjects (100%) were females. In the Hindu group, 9 (90%) and 1 (10%) subjects were Christians, none of whom were Muslims. Majority of the subjects (70%) were studied up to primary education, 3 (30%) were non-formal education, and none were secondary or graduate education. According to the marital status of the subjects, most of them (100% of them) were married, no one was unmarried, widowed or separated. There were 9 (90%) daily wage earners, 1 (10%) employee, none of whom were a government employee or a business owner. The majority of subjects (100% of them) earned between Rs.3000-6000 per month, none earned between Rs.6001-1100 or Rs 10000-15000 or more than Rs 15000. Majority of the subjects (5 (50%) had no child, 2 (20%) had two children, 2 (20%) had more than two children, and 1 (10%) had one child. Approximately 80% of the subjects belonged to a nuclear family, 2 (20%) to a joint family, and 2 (20%) to an

extended family. There were nine subjects from rural areas (90 percent), one from semi-urban (20 percent), and none from urban areas. Multi bacillus caused 70% of the cases, and *Pauci Bacillus* caused 30%. There were 6 (60%) subjects with no disability, 2 (20%) with Grade III disability and 2 (20%) with Grade II & III disability. Six (60%) of the subjects had had their illness longer than 10 years, three (30%) had had their illness between 1 and 5 years, and one (10%) had had their illness longer than 6-10 years. In regards to compliance with treatment, nine (90%) of the subjects were regular and completed their treatments while one (10%) were irregular and did not complete their treatments. According to the discussion of reasons for admission, majority of the subjects (50% of them) were admitted for treatment, 2 (20%) were lacking social support, 2 (20%) were stigmatized, and 1 (10%) were experiencing negative feelings. Among the subjects, 6 (60%) stayed over 25 years, 3 (30%) stayed between 10-20 years, and 1 (20%) stayed between 1-10 years, none of whom stayed longer than a year. Among the 10 subjects (100%) majority had family support, but none had support from relatives, NGO, or private agencies. As for the type of caregiver, 7 (70%) were from health care personnel, 2 (40%) came from their spouse, and 1 (10%) was not from their parents. As shown in the table (2) above, psychiatric morbidity is prevalent among persons with Hansen's disease in both a frequency as well as a percentage distribution. A total of 8 (80%) of the Hansen's disease patients had mild levels of psychiatric morbidity, two (20%) had moderate levels, and none had severe levels. The above table (3) shows the prevalence of psychiatric morbidity among male and female Hansen`s patients**,** In male Hansen`s diseases, majority of the subjects 4 (80%) were had agoraphobia and 4 (80%) were had social phobia, 3 (60%) were had major depressive episode and 3(60%) were had generalized anxiety disorder, 1 (20%) was have dysthymia and 1 (20%) was had phobic disorder, none of them had suicidality, or Hypomanic episode or obsessive compulsive disorder or post-traumatic stress disorder or Alcohol abuse and dependence or Non-alcohol psychoactive and substance abuse or anorexia nervosa or bulimia nervosa or Psychotic disorder and mood disorder with psychotic features or anti-social personality disorder. Whereas in female Hansen`s patients majority 4 (80%) were had GAD, 3 (60%) were had agoraphobia and social phobia, 2 (40%) were had major depressive episode and 2 (40%) was had phobic disorder and none of them had suicidality or Hypomanic episode or obsessive compulsive disorder or post traumatic disorder or Alcohol abuse and dependence or Non-alcohol psychoactive and substance abuse or anorexia nervosa or psychotic disorder and mood disorder with psychotic features or anti-social personality disorder. Psychiatric morbidity associated with selected baseline variables in persons with Hansen's Disease is presented in table 4. An analysis of the relationship between psychiatric morbidity and selected baseline variables was conducted in order to determine if there is an association between them. An analysis of Chi squares was performed. According to the test, psychiatric morbidity was significantly associated with age over 50 years (x2= 18.8), (p=0.02), type of leprosy multibacillary (x2=6.42), (p=0.05), and no disability level (x2=16.1), (p=0.05), and duration of illness greater than 10 years (x2=13). There was no statistically significant association between other base line variables and psychiatric morbidity of Hansen's disease patients and their chosen base line variables. An evaluation of psychiatric co morbidity in Hansen's Disease patients in a tertiary care medical centre at Bareilly in Uttar Pradesh was carried out by Niharika Mahindra *et al* (2018). In this study, 100 Hansen's Disease patients aged 18-60 years were surveyed with a sequential sampling technique and a semi-structured proforma. Mental disorders such as depression and anxiety are the most prevalent psychiatric co morbidities among all study participants. As part of a cross-sectional study, Abudfata T Bakare *et.al.* (2015) investigated anxiety and depression among 235 leprosy patients living in a leprosy home in Sokoto, North Western Nigeria. An examination of general health was conducted using the General Health Questionnaire. According to the study results, thirty-three people (14%) had moderate depression, thirteen people (5.5%) had severe depression, meanwhile 45 people (19.2%) had generalized anxiety disorder, and 21 people (8.9%) had mixed anxiety and depression. People with leprosy are highly likely to experience depression and anxiety if they have certain sociodemographic or clinical factors.

CONCLUSION

The study findings evidence that, most of the Hansen`s patients residing in Govt Leprosy Rehabilitation Home, Y. Puthupatti, Madurai had psychiatric disorders. They need integrated strategies for the identification and management of psychiatric morbidity among Hansen`s patients.

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