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PREVALENCE AND ASSOCIATED FACTORS OF MENTAL DISTRESS AMONG LEPROSY PATIENTS AT ALERT HOSPITAL OUT PATIENT CLINIC ADDIS ABABA, ETHIOPIA, 2011

Ashenafi Damte*[1], Berihun [2], Haftu Berhe [1] and Haftom G/Hiwot [3]

Department of Nursing, College of Health Sciences, Mekelle University, Mekelle, Ethiopia
College of Medicine and Health Sciences University of Gondar, Gondar, Ethiopia
Department of Midwifery, College of Health Sciences, Mekelle University, Mekelle, Ethiopia

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Correspondence to Author:

Ashenafi Damte

Department of Nursing, College of Health Sciences, Mekelle University, Mekelle, Ethiopia

E- mail: ashenafidamte@yahoo.com

ABSTRACT:

Background: Leprosy is one of the infectious diseases of public health importance; it is the leading cause of permanent physical disability as a result of nerve damage. Individuals with leprosy have emotional stress and anxiety, which may lead to both psychological and psychiatric co-morbidity.
Objective: This study was conducted to estimate the prevalence of mental distress among leprosy patients attending ALERT Specialized, Addis Ababa, Ethiopia.
Method: Institution based cross-sectional study was conducted from April 2011-June 2011. Alternate patients from the daily register of outpatients were interviewed for symptoms of mental distress using the Self Reporting Questionnaire (SRQ-20). This questionnaire was administered by two trained nurses. Data was analyzed using SPSS version 15. Odds ratio were calculated to see the association of dependent variable with each independent variable. P-value <0.05 were considered as statistically significant.
Result: The prevalence of mental distress was found to be 30.9%.Physical disability was also associated with mental distress. This study showed that mental distress was significantly higher in patients with leprosy.
Conclusion: This piece of study identifies non-specific mental distress. More over the study indicates a need for integration of psychosocial care into current medical treatment. Based on this, future work should be directed at further characterizing the nature and severity of mental disorder in leprosy patients.

INTRODUCTION: Leprosy is one of the infectious diseases of public health importance; it is the leading cause of permanent physical disability as a result of nerve damage [1]. Prevalence of disability secondary to leprosy is decreasing in the World with MDT treatment. But in poor countries like Ethiopia about 5000new leprosy patients are reported each year for the past 5 consecutive year's. With more than 14% disability rate, meaning greater than 700 Ethiopians are being disabled by Leprosy every year [2]. The fear of leprosy leads to the stigma and discrimination and is due to lack of understanding and knowledge about leprosy which increases misconceptions about the disease's transmission and treatment.

The fact that most of those with untreated leprosy end up with severe deformities and disfigurements has contributed to the stigma [3]. Some studies have concluded that stigma affects many aspects of the lives of people affected by leprosy including "mobility, interpersonal relationships, marriage, employment, leisure activities, and attendance at social and religious activities" [4]. A stigmatizing disease like leprosy severely affects aspects of life such as social status, employment opportunities or jobs, marriage and family life [5].

Individuals with leprosy have emotional stress and anxiety, which may lead to both psychological and psychiatric morbidity [6, 7].They become isolated and lack motivation to continue treatment (if already started). There is a risk that the disease will progress with resultant disability and complications. Individuals may have decreased status in the community because of their conditions [5]. In the case of leprosy they may become destitute and resort to begging as the only way of survival [3, 8].

The social participation of persons affected by leprosy is much more distressing to them than their individual effects. It impairs their quality of life in various ways [9, 10].

Persons with stigmatizing conditions experience problems in their marriages or difficulties in getting married and in their employment or getting employed.

Evidence shows that physical illnesses are strongly associated with psychiatric disorders. Those with physical illnesses have much higher risk of developing psychiatric disorders compared to that without [11, 12].

In Ethiopia between 20-25% of the general population experiences some form of psychiatric disorder at any time. The majority of those with psychiatric illness often remain unrecognized, misdiagnosed and in-appropriately managed. At least 15% of psychiatric disorders presenting for treatment at health units in Ethiopia are due to physical disorder [13].

As many as 450 million people suffer from mental disorder worldwide. More than 150 million persons suffer from depression at any point in time. Nearly 1 million commit suicide every year [14].

Over 13 million people are in need of support/consultation for their mental health problems according to recent survey conducted in Ethiopia and the estimated prevalence of common mental disorders is 12-17% [13]. Mental illness was not recognized as public health problem both in developed and developing countries until the recent period of time [15].

A Community base study conducted in Jimma town revealed a prevalence of mental distress to be 22% [16]. Another study conducted in Addis Ababa revealed that prevalence of mental distress was11.7% [17].

Rural community based studies in Ethiopia reported the prevalence of mental distress to be 17 % [18, 19].

The objective of this study was to assess the prevalence of mental distress and associated factors among leprosy patients in ALERT hospital outpatient clinic, Addis Ababa 2011.

MATERIALS AND METHODS: Institution based cross-sectional study was conducted from April-may 2011. The study was conducted at ALERT, leprosy specialized hospital. It is the largest referral centre for people with leprosy in Ethiopia, as well as being an international training centre. It has different outpatient and inpatient services.

The outpatient clinics are divided into leprosy follow-up clinics, general medical clinics for people with leprosy. ALERT specialized leprosy hospital Situated, southwest of Addis Ababa on the way to Jimma.

Source population were all leprosy patients attending at ALERT leprosy specialized Hospital. Study population Leprosy patients attended at outpatient clinic ALERT leprosy specialized Hospital. Diagnosed leprosy patients above 18 years of age from outpatient of ALERT hospital were included in the study. Leprosy patients who were seriously ill were excluded from the study.

This study used single population proportion formula and assumed 95% confidence and a precision of 5 % between the sample and the parameter was taken. To compensate for some non- response the study added 15%, thus a total of patients are required for the study.

The final sample size was 269. Systematic random sampling was employed to select selection from the leprosy outpatient clinic registration book.

Independent variables (Explanatory variables) were Socio-demographic characteristics (age, sex, marital status, level of education, physical Disability grade, type of leprosy and social support)

Mental distress was assessed through an instrument called SRQ-20. Cut off point of 11 out of 20 items was used based on previous Ethiopian studies.

Participants who scored ≥11out of 20 items of SRQ-20 was considered as mentally distressed. The questionnaire contained socio-demographic variables and Self Response Questionnaire (SRQ_20) and general health information. The self reporting questionnaire (SRQ) was originally developed by World Health Organization (WHO).

Pre-test was done in 5 % (13) leprosy patients to assume the consistency of responses of participants. After analyzing the pre-test result necessary modifications was made accordingly before it was used in the actual survey. Two days training was given to the data collectors and supervisor before the pre-test. The supervisor and investigators were closely following the day to day data collection process and ensure completeness and consistency of the collected questionnaire daily.

The collected data was coded, cleaned and entered to SPSS version 15 for data analysis. Univariate analysis was done on socio-demographic characteristics to see the frequency of each variables and the prevalence of mental distress in leprosy patients. Bivariate analysis variables was done to test association were between dependent variable and each independent variables. Association were interpreted if $p<0.05$. In the next stage, a multiple logistic regression method was employed to control for possible confounding by socio-demographic factors and clinical characteristics of leprosy.

First ethical approval was obtained from University of Gondar Ethical Review Committee then ALERT leprosy specialized hospital ethical committee authorized the final ethical clearance. Informed consent was obtained from patients who were willing to participate in the study. Confidentiality was maintained by omitting participant's personal identification**.**

RESULTS:

1. **Sociodemographic characteristics:** A total of 269 respondents participated in this study. From whom 164(61.0%) were males and 105(39.0%) were females (**Table 1**). The mean age of respondents was 34.54+9.11 years ranging from 18-57 years old. Most leprosy patients 190(70.6%) were married, while 48(17.8%) were single, and 31(11.5%) were either divorced or separated. The majority of participants attended primary school 121(45.0%) and 83(30.9%) participants were, illiterate, while 65(24.2%) leprosy patients attended high school. The distribution of religious background in the leprosy patients were orthodox 214 (79.6%) and 55(20.4%) were Muslims. Of respondents 65(24.2%) and 204(75.8%), were rural and urban residence respectively. The employment status leprosy patient reflects 45(16.7%) of leprosy patients were farmers. While jobless leprosy patients, housewife and unskilled laborer accounted for 35(13.0%), 83(13%) and 35(13.0%) of leprosy patients respectively, only 36(13.4%) of leprosy patients were own business. (**Table 1**).

TABLE 1: SOCIO–DEMOGRAPHIC CHARACTERISTICS OF LEPROSY PATIENTS AT ALERT, ADDIS ABABA, ETHIOPIA, APRIL 2011

Variables	Frequency	Percent (%)
Age		
18-27	56	20.8
28-37	108	40.1
38-47	66	24.5
48-57	39	14.5
Sex		
Male	164	61
Female	105	39
Religion		
Orthodox	214	79.6
Muslim	55	20.4
Ethnicity		
Amhara	189	70.3
Oromo	52	19.3
Gurage	28	10.4
Marital status		
Single	48	17.8
Separated/divorced	31	11.5
Married	190	70.6

Education		
Illiterate	83	30.9
Elementary	121	45
High school	65	24.2
Occupation		
Jobless	35	13
Unskilled laborer	35	13
House wife	83	30.9
Skilled laborer	35	13
Farmer	45	16.7
Own business	36	13.4
Residence		
Rural	65	24.2
Urban	204	75.8

2. **Support and leprosy related variables:** A total of 269 respondents were participated in this study. Of these, 221(52.4%) and 201(47.6%) were male and female respectively. Of those 132(49.1%), 137(50.9%) respondents had multibaciliary and paucibaciliary type of leprosy respectively. From the total respondents 35(13%) had no physical disability, while 46(17.1%), 188(69.9%) had grade one physical disability and grade two physical disability. Of respondents 90(33.5%), 41(15.2%) had perceived stigma and social stigma respectively. From the total respondents 112(41.6%) had support from family and friend.

TABLE 2: CHARACTERISTICS OF LEPROSY RELATED VARIABLES IN LEPROSY PATIENTS AT ALERT, ADDIS ABABA, ETHIOPIA, AND APRIL 2011

Variables		Frequency	Percent (%)
Type of leprosy	Multi bacillary	132	49.1
	Pauci bacillary	137	50.9
Social stigma	No	228	84.8
	Yes	41	15.2
Perceived stigma	No	179	66.5
	Yes	90	33.5
Support	No	157	58.4
	Yes	112	41.6
Physical disability	No physical disability	35	13
	Grade one physical disability	46	17.1
	Grade two physical disability	188	69.9

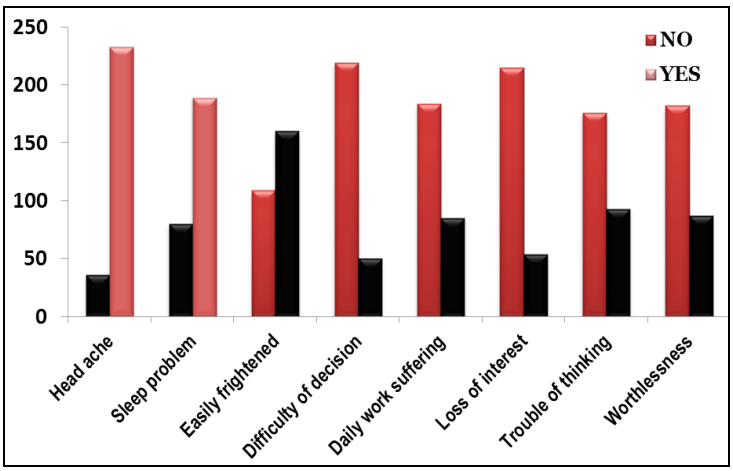

FIG. 1: FREQUENCY OF SYMPTOMS OF MENTAL DISTRESS IN LEPROSY PATIENTS

3. **Prevalence of mental distress in leprosy patients**

a. **Socio-demographic variables, leprosy related variables and mental distress:** The overall prevalence of mental distress was 30.9%. 56(67.5%), 27(32.5%) male and female respondents had mental distress respectively.

Respodents categorized in age group 28-37(9.6%) had higher rate of mental distress the other age group catagories.Maried respondents had higher rate of mental distress 60(72.3%) than single respondents 3(3.6). Respondents who had attended high school had higher rate of mental distress than respondents who had no formal education which is 30(3.6%), 22(26.5%) respectively. Among leprosy patients house wife respondents had higher rate of mental distress which is 24(28.4).

Respondents residing urban area had higher rate of mental distress than respondents residing rural area which is 50(60.2%), 33(39%) of respondents 40(48%) with multibaciliary type of leprosy and 43(51%) with pauci bacillary leprosy type had mental distress. Respondents with grade two physical disability had 65(78.3%) mental distress which is higher than respondents with no physical disability which is 4(4.8%).

Of respondents 24(71.1%) and 45(54.2%) which had social stigma and perceived stigma had mental distress respectively. Respondents with no support from family or friends had 59(71.1%) mental distress (**Table 3**).

Factors associated with mental distress: Separated /divorced respondents had a 4-fold higher risk of mental distress than single leprosy patients AOR=3·91 (95% CI; 1·29, 11·77) and were significantly associated with mental distress.

Participants who were 48–57 years old had high rate of mental distress and 4 times risk of mental distress compared to those who were 18–27 years of age with AOR=4.53(95%CI; 1.28, 16.02)

Respondents in all occupations were protective for mental distress. Participants who live in rural area were 3 times risk for mental distress than participants who live in urban area, AOR=2.83(95%CI; 0.84, 9.54).

Respondents with perceived stigma were 5 fold risks for mental distress than who had no perceived stigma , AOR=5.62(95%CI; 2.44, 12.92).

Perceived stigma was strongly associated with mental distress (P-value= <0.001)

Respondents who had grade two physical disability were 4 fold risk of mental distress than respondents with no physical disability AOR=4.15(95%CI; 1.18, 14.56).

This shows as physical disability increases risk of mental distress increases. Grade one and grade two physical disabilities were significantly associated with mental distress with p-value =0.031and 0.026 respectively.

TABLE 3: SHOWING SOCIO -DEMOGRAPHIC VARIABLES AND LEPROSY RELATED VARIABLES ASSOCIATED WITH MENTAL DISTRESS

VARIABLES		Mental distress			COR (95.0% CI)	AOR (95% CI)
		No n(%)	Yes n(%)	Total		
Age	18-27	48(25.8)	8(9.6)	56	1 -	1 -
	28-37	72(38.7)	36(43.4)	108	3(1.28,7.01)	2.27(0.75,6.84)
	38-47	44(23.7)	22(26.5)	66	3(1.21,7.42)	2.33(0.71,7.64)
	48-57	22(11.8)	17(20.5)	39	4.63(1.74,12.35)	4.53(1.28,16.02)*
Ethnicity	Amara	131(70.4)	58(69.9)	189	1	1
	Oromo	42(22.6)	10(12.0)	52	0.53(0.25,1.14)	0.28(0.08.0.97)*
	Gurage	13(7.0)	15 (18.1)	28	2.60(1.16,5.82)	0.16(0.03,0.73)*
Marital status	Single	45(24.2)	3(3.6)	48	0.14(0.04,0.48)	0.12(0.02,0.58)*
	Separated/divorced	11(5.9)	20(24.1)	31	3.93(1.77,8.73)	3.91(1.29,11.77)*
	Married	130(69.9)	60(72.3)	190	1 -	1 -
Education	Illiterate	61(32.8)	22(26.5)	83	0.42(0.21,0.83)	0.21(0.07,0.58)*
	Elementary	90(48.4)	31(37.3)	121	0.40(0.21,0.75)	0.41(0.16,1.04)
	High school	35(18.8)	30(36.1)	65	1 -	1 -
Occupation	Jobless	31(16.7)	4(4.8)	35	0.08(0.02,0.28)	0.36(0.08,1.67)
	Unskillelaborer	28(15,1)	7(8.4)	35	0.15(0.05,0.46)	0.56(0.14,2.20)
	House wife	59(31.7)	24(28.9)	83	0.25(0.11,0.58)	0..63(0.09,4.27)
	Skilled laborer	26(14)	9(10.8)	35	0.22(0.08,0.60)	0.10(0.02,0.54)*
	Farmer	28(15.1)	17(20.5)	45	0.38(0.15,0.95)	0.32(0.06,1.61)
	Own business	14(7.5)	22(26.5)	36	1 -	1 -
Perceived stigma	NO	141(75.8)	38(45.8)	179	1 -	1
	Yes	45(24.2)	45(54.2)	90	3.71(2.14,6.41)	5.62(2.44,12.92)*
Support	NO	121(65.1)	36(43.4)	157	0.41(0.24,0.69)	0.29(0.14,0.62)*
	Yes	65(34.9)	47(30.9)	112	1 -	1 -

Physical disability	No physical disability	31(16.7)	4(4.8)	35	1 -	1 -
	Grade one physical disability	32(17.2)	14(16.9)	46	3.39(1.00,11.43)	4.98(1.16,21.40)*
	Grade two physical disability	123(66.1)	65(78.3)	188	4.09(1.38,12.10)	4.15(1.18,14.56)*

*Significant at p<0.05

DISCUSSION: Many leprosy patients attend clinics with multiple and vague somatic complaints that cannot be explained by any known anatomical or physiological abnormalities.

The present study showed that, the prevalence of mental distress among leprosy patients was 30.9%. Prevalence of mental distress 30.9% in this study is much higher than the 2·7% reported in a general population study from Addis Ababa. (30).And this result is also higher than hospital-based studies done in Ethiopia reported the prevalence of mental distress to be between 6·8 and 18·0 %.(33, 34)

This current prevalence is higher when it is compared with rural community based studies in Ethiopia that used a similar cut-off point showed the prevalence of mental distress to be 17% [28, 29] and community based study done in jima town revealed prevalence of mental distress 17% [17].

This higher prevalence in our current study might reflect the particular psycho-social stresses experienced by leprosy patients. Individuals with leprosy have emotional stress and anxiety, which may lead to both psychological and psychiatric morbidity [6, 7].

This current prevalence is lower compared with the previous comparative study done in ALERT hospital in leprosy patients and patients with skin disease that revealed prevalence of mental distress to be 52.4 %(25).This difference could be the sample size taken is small in this study.

Our study showed that, grade two physical disability was associated with the occurrence of mental distress (COR=4.09(1.38, 12.00) and p value=0.026) which was in agreement with the study done by R. Leekassa *et al*., [25].

Being in any form of employment seems to be protective against mental distress.

In this finding farmer respondents with AOR= 0.32(95%CI; 0.06, 1.61) were protective for mental distress which is in contrary with previous study done in leprosy patients by R. Leekassa *et al*., [25] in which farmers were risk factors for mental distress.

In this study, we had expected to find a higher prevalence of mental distress in female leprosy patients than males as their life situation is reported to be even harder when they are affected by the disease [26]. The finding in this study was to the contrary, and disagrees with the findings of many other studies. It might be that women in this study had reservations about reporting symptoms of mental distress.

Mental distress was significantly associated with disability. It seems that the increase in the level of disability increases the risk of mental distress.

Those working with people affected by leprosy should be concerned about this problem. We know that MDT is the most effective drug treatment to date and has helped greatly in shortening the duration of treatment. However, many patients will still be left with significant Physical disability. Our study highlights that mental distress may lead to further disability.

Attending to the psychological impact of leprosy should form a core part of any rehabilitation Programmes. Specific psychosocial interventions might be developed for those most at risk.

CONCLUSION: This current study showed the overall prevalence of mental distress among leprosy patients in ALERT hospital is high (30.9%). The study instruments allowed identification of non-specific mental distress. Future work should be directed at further characterizing the nature and severity of mental disorder in this group. However, our study has indicated a need for the integration of psychosocial care into current medical treatment of patients with leprosy in ALERT hospital.

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