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Prevalence of mental distress in the outpatient clinic of a specialized leprosy hospital. Addis Ababa, Ethiopia, 2002

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Summary Leprosy is a chronic disease that leads to physical disability as a result of nerve damage. Stigma and associated psychosocial problems are common and may increase the risk of mental disorders. This study was conducted to estimate the prevalence of mental distress amongst people attending a Specialized Leprosy and Dermatology Hospital, ALERT, Addis Ababa. Alternate patients from the daily register of outpatients were interviewed for symptoms of mental distress using the Self Reporting Questionnaire (SRQ). This questionnaire was administered by two specially trained nurses. The study population consisted of 786 people. Of these, 60% had leprosy and the remainder had other skin diseases. The sex distribution of the study population was approximately equal. The overall prevalence of mental distress was found to be 34·6%. Among people with leprosy the prevalence was 52·4%, compared with 7·9% in those with other skin conditions. This represented a 7-fold increased risk of mental distress in people with leprosy, adjusted OR = 7·14 (95% CI; 4·15, 12·35). Physical disability was also strongly associated with mental distress. This study showed that the 1-month prevalence of mental distress was significantly higher in patients with leprosy compared to patients with other dermatological conditions. Such a study allows identification of non-specific mental distress. Thus, 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 our current medical treatment of patients with leprosy.

Introduction

Over 450 million people are estimated to be suffering from mental disorders in the world today.[1] Only a small proportion of these people receive any form of modern treatment, and most untreated cases are found in low income countries. Over 20% of people who attend

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general medical clinics do so because of mental disorders,[2] although their mental health problems are often not recognized. Health workers have a low level of awareness of mental disorder, as little emphasis is given to this topic during their training.[3] Low income countries suffer from a shortage of specialist mental health workers to tackle this problem.

To address this, the World Health Organization (WHO) developed different standardized questionnaires to help primary health care workers detect mental disorders, within the framework of a collaborative study on Strategies for Extending Mental Health Care to Primary Health Care Level.[4] Using these instruments, studies have been conducted in low income countries, including Ethiopia, to determine the magnitude of mental health problems in primary health care attendees.

In Ethiopia, the prevalence of mental disorders in patients attending general medical clinics was estimated to be between 6·8 and 18%.[5–7] Community surveys using the Self Reporting Questionnaire (SRQ), developed by WHO, estimated the prevalence of general mental distress to be between 12 and 23·9% depending on the population group.[8–11] Scores on the SRQ indicate the presence of symptoms of mental distress, while not actually defining specific diagnoses. Mental distress refers to a lack of psychological wellbeing affecting a person's thoughts, feelings, behaviour and functioning.

It is well established that people who suffer from chronic medical conditions have an increased risk of developing mental distress. Leprosy is such a disease, resulting in disfigurement and disability as a result of nerve damage. People affected by leprosy have additional social problems such as divorce, high rates of unemployment and displacement from their areas of residence, compared to the general population.[12]

Society maintains negative feelings towards disabled people in general and people with leprosy in particular. Secondary psychosocial disabilities frequently occur in leprosy because of the chronic nature of disease and the unsightly disfigurement, which results in stigmatization of those affected.[13] The mental health of people affected by leprosy should thus be given as much attention as the physical disability and yet little has been investigated to date.

Studies carried out in India showed that people with leprosy had more psychiatric problems than the general population, most commonly depression.[13,14] To our knowledge, no similar studies have been done in Ethiopia among people affected by leprosy. We report here on the prevalence of mental distress from a study conducted among outpatient attendees at All Africa Leprosy TB & Rehabilitation Training Centre (ALERT), Leprosy and Dermatology Hospital in Ethiopia in 2002.

We postulated that the prevalence of mental distress would be significantly higher among outpatients affected by leprosy compared to those attending with other skin conditions. The objectives of the study were to estimate the 1-month prevalence of mental distress in all patients attending ALERT outpatient clinic, and to investigate whether having leprosy is associated with a higher prevalence of mental distress than other dermatological conditions. The study was approved by ALERT and ALERT/AHRI joint Ethical Committees.

Materials and methods

SETTING

The study was conducted at ALERT, a specialized leprosy hospital. It is the largest referral centre for people with leprosy and other skin diseases 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 and their families, and clinics for people with other skin diseases. People with leprosy and other dermatological cases are registered separately when they come to the hospital.

SUBJECTS

The study subjects were selected from different leprosy and skin clinics during the study period. Alternate patients were selected from a daily register for each of the two groups of patients.

Other relevant data were obtained from the medical records including: the type of leprosy; disability score; bacillary index; treatment; and duration of illness. When a recent disability grade was not found in the record, a disability grading was done and recorded. Patients were included into the study if they were willing to be interviewed, and aged between 15 and 70 years of age.

INSTRUMENT

The SRQ was used for data collection in this study. This instrument was developed by the WHO to screen for psychiatric disturbance in primary health care settings in low-income countries.[15] The SRQ is not expected to diagnose mental illness but was designed to indicate mental distress. It is used as a first-stage screening instrument for the second-stage clinical interview. The questions ask about features of common mental disorders, particularly anxiety and depression. The instrument had 24 items and was originally known as SRQ-24. Four of the items were meant to identify probable cases of psychotic disorder, but were excluded from the questionnaire after several validation studies because of very low sensitivity. SRQ-20 is now the most widely used version of the instrument and was used in this study. SRQ was supposed to be self-administered, with 'yes' or 'no' response to each question. However, because of the high illiteracy rate in Ethiopia and other countries of the same status, it has been used in an interview format. This study also employed the interview method. Respondents were asked about experiencing symptoms of mental distress over the past 1 month.

SRQ has been previously translated into Amharic, validated and subsequently used for epidemiological studies in clinical and community settings in Ethiopia. In the validation study of SRQ using expert clinical interview as a gold standard, a cut-off point of 8/9 was recommended for general outpatient clinic attendees and 4/5 for urban community studies.[8] For rural community studies 10/11 was used as a cut-off point.[16,17] Socio-demographic and other relevant variables about leprosy were added to the SRQ for this study. Two general nurses working at ALERT hospital were trained to interview subjects using SRQ. They conducted the interview privately after the subjects had seen the doctor for the reason they came to the hospital. The two investigators working at ALERT checked completed questionnaires for consistency and completeness on a daily basis.

In this study eye–hand–feet (EHF) score was used to measure disability. EHF score is the sum of the WHO disability grades of eyes, hands and feet. This method of assessment was preferred since it evaluates disability better than other methods and it has been used in other studies.[18]

DATA ANALYSIS

Data entry and analysis was done using Statistical Package for Social Sciences version 10 (SPSS 10). Those patients who gave 11 or more positive response to SRQ-20 were regarded as having mental distress in this study. Selection of this cut-off was based on reports from studies in Butajira and Kembata, rural populations in Ethiopia. Univariate analysis was done on socio-demographic characteristics and the prevalence of mental distress in leprosy and non-leprosy patients separately. Pearson's chi-square test was used to see if there was a difference in socio-demographic characteristics between the two groups that may account for any difference in the prevalence of mental distress, other than being a leprosy or non-leprosy patient. In the next stage, a multiple logistic regression method was employed to control for possible confounding by socio-demographic factors. Mental distress was included as a dependent variable in the logistic model. The following factors were included as co-variates: sex, age group (four levels), level of education (three levels), marital status (four levels), ethnicity (four levels), family size (four levels), religion (three levels), occupation (eight levels), and diagnosis (two levels).

The Chi square test was used to test the relationship between mental distress and different clinical and bacteriological characteristics of leprosy. Out of 20 items of SRQ, one item enquires about suicidal ideation. The frequency of this item was run separately to estimate the prevalence of suicidal ideation in the respondents.

Results

The study population consisted of 786 people. Of these, 60% were people with leprosy. The sex distribution was approximately equal. Leprosy and non-leprosy patients differed significantly in their socio-demographic characteristics. People with leprosy were more likely to be male, older, married, illiterate and jobless (Table 1).

The overall prevalence of mental distress in the study population was found to be 34·6%. Among people with leprosy the prevalence was 52·4%, compared to 7·9% in the non-leprosy patients. On crude analysis, people with leprosy had a 12-fold higher risk of mental distress than non-leprosy patients. After controlling for other socio-demographic variables, the magnitude of the association decreased, but remained significant with an odds ratio (OR)=7·14 [95% confidence interval (CI); 4·15, 12·35].

Subjects who were 60 years and older had a 3-fold increased risk of mental distress compared to those who were 15–24 years of age. The difference was independent of other socio-demographic factors, OR=3·23 (95% CI; 1·21, 8·65). Patients who were employed appeared to have a decreased risk of mental distress compared to those who were jobless, apart from farmers where the risk of mental distress was doubled. This difference did not, however, reach statistical significance (Table 2).

People with leprosy who belonged to the multibacillary group had a higher rate of mental distress than the paucibacillary group. In the bivariate analysis, it was shown that the level of disability and receiving mono-therapy for leprosy were both significantly associated with mental distress (Table 3). However, with multivariate analysis where classification, disability score, type of treatment, bacillary index and duration of illness were entered as covariates, only the group with disability score above 4 was shown to be significantly associated with mental distress, OR=3·96 (95% CI: 2·10, 7·45). When the level of disability increases the risk of mental distress also seems to increase (data not shown).

Table 1. Baseline characteristics of leprosy versus non-leprosy patients, ALERT, Addis Ababa, Ethiopia, 2002

Characteristics	Patients		χ^2	*P*-value
	Leprosy (%)	Non-leprosy (%)		
Sex				
Male	262 (55·6)	109 (34·4)	34·08	<0·001
Female	209 (44·4)	206 (65·6)	–	–
*Age group**				
15–24	79 (16·9)	127 (41·2)	–	–
25–44	196 (42·0)	144 (46·8)	100·5	<0·001
45–60	137 (29·3)	35 (11·4)	–	–
60+	55 (11·8)	2 (0·6)	–	–
*Family size**				
1–2	80 (19·1)	60 (19·8)	–	–
3–5	177 (42·3)	96 (31·7)	13·36	0·004
6–8	135 (32·3)	110 (36·3)	–	–
9+	26 (6·2)	37 (12·2)	–	–
Level of education				
Illiterate	261 (55·4)	40 (12·7)	–	–
Elementary	120 (25·5)	56 (17·8)	216·98	<0·001
High school +	90 (19·1)	219 (69·5)	–	–
*Religion**				
Orthodox	412 (88·0)	235 (76·1)	–	–
Islam	37 (7·9)	40 (12·9)	21·13	<0·001
Protestant	19 (4·1)	34 (11·0)	–	–
Ethnicity				
Amhara	313 (66·5)	146 (46·3)	–	–
Oromo	96 (20·4)	68 (21·6)	49·64	<0·001
Gurage	32 (6·8)	68 (21·6)	–	–
Others	30 (6·4)	33 (4·2)	–	–
Marital status				
Single	119 (25·3)	169 (53·7)	–	–
Married	239 (50·7)	115 (36·5)	70·8	<0·001
Separated/divorced	75 (15·9)	22 (7·0)	–	–
Widowed	38 (8·1)	9 (2·9)	–	–
Occupation				
Jobless	146 (31·0)	41 (13·0)	–	–
Unskilled labourers	80 (17·0)	33 (10·5)	–	–
Housewife	58 (12·3)	44 (14·0)	–	–
Skilled labourers	25 (5·3)	65 (20·6)	–	–
Farmer	55 (11·7)	8 (2·5)	135·8	<0·001
Own business	20 (4·2)	34 (10·8)	–	–
Student	22 (4·7)	56 (17·8)	–	–
Others	65 (13·8)	34 (10·8)	–	–
Total	471 (100·0)	315 (100·0)	–	–

* Values in the subcategories do not add up to 471 or 315 because of missing values.

In all, 18·5% of people affected by leprosy had suicidal ideation while only 6·3% of the non-leprosy patients reported such thoughts in the previous month.

Discussion

Unlike other urban and hospital based studies that used SRQ as an interview instrument, the current hospital based study was more stringent, using 11 as a cut-off point.[16,17]

Table 2. Sociodemographic and diagnostic correlates of mental distress, ALERT, Addis Ababa, Ethiopia, 2002.

Characteristics	Population	Cases (%)	Cru. OR	95% CI	Adj. OR	95% CI
Sex						
Male	371	143 (38·5)	1·00	–	1·00	–
Female	415	129 (31·1)	0·72	0·54, 0·97	1·26	0·77, 2·07
Age group						
15–24	206	39 (18·9)	1·00	–	1·00	–
25–44	340	105 (30·9)	0·10	0·05, 0·19	1·11	0·57, 2·17
45–60	172	86 (50·0)	0·19	0·10, 0·35	1·89	0·88, 4·05
60+	57	40 (70·2)	0·43	0·22, 0·81	3·23	1·21, 8·65
Family size						
1–2	140	48 (34·3)	1·00	–	1·00	–
3–5	273	97 (35·5)	1·06	0·69, 1·62	0·74	0·42, 1·29
6–8	245	86 (35·1)	1·04	0·67, 1·60	0·94	0·53, 1·66
9+	63	17 (27·0)	0·71	0·37, 1·37	0·78	0·33, 1·82
Level of education						
Illiterate	301	167 (55·5)	1·00	–	1·00	–
Elementary	176	63 (35·8)	0·45	0·31, 0·66	0·88	0·54, 1·44
High school +	309	42 (13·6)	0·13	0·09, 0·19	0·67	0·37, 1·22
Religion						
Orthodox	647	240 (37·1)	1·00	–	1·00	–
Moslem	77	23 (29·9)	0·72	0·43, 1·21	1·01	0·48, 2·13
Protestant	53	8 (15·1)	0·30	0·14, 0·65	1·09	0·42, 2·81
Ethnicity						
Amhara	459	170 (37·0)	1·00	–	1·00	–
Oromo	164	63 (38·4)	1·06	0·73, 1·53	1·26	0·76, 2·08
Gurage	100	20 (20·0)	0·43	0·25, 0·72	0·99	0·47, 2·06
Others	63	19 (30·2)	0·73	0·42, 1·30	1·48	0·69, 3·14
Marital status						
Single	288	58 (20·1)	1·00	–	1·00	–
Married	354	143 (40·4)	2·69	1·88, 3·84	1·39	0·74, 2·60
Separated/divorced	97	50 (51·5)	4·22	2·58, 6·90	1·82	0·83, 4·02
Widowed	47	21 (44·7)	3·20	1·68, 6·10	0·87	0·34, 2·19
Occupation						
Jobless	187	99 (52·9)	1·00	–	1·00	–
Unskilled labourers	113	38 (33·6)	0·45	0·28, 0·73	0·47	0·25, 0·86
Housewife	102	37 (36·3)	0·51	0·31, 0·83	0·58	0·30, 1·12
Skilled labourers	90	8 (8·9)	0·09	0·04, 0·19	0·25	0·10, 0·63
Student	78	11 (14·1)	0·15	0·07, 0·29	0·72	0·28, 1·90
Farmer	63	42 (66·7)	1·78	0·98, 3·23	2·03	0·96, 4·27
Own business	54	9 (16·7)	0·18	0·08, 0·38	0·27	0·10, 0·74
Others	99	28 (28·3)	0·35	0·21, 0·59	0·41	0·21, 0·79
Diagnosis						
Non-leprosy	315	25 (7·9)	1·00	–	1·00	–
Leprosy	471	247 (52·4)	12·82	8·20, 19·99	7·14	4·15, 12·35

Terms included in the logistic model: sex, age group (4 levels), level of education (3 levels), marital status (4 levels), ethnicity (4 levels), family size (4 levels), religion (3 levels), occupation (8 levels), diagnosis (2 levels).

The investigators thought leprosy patients might over-report symptoms of mental distress as a way of seeking attention from health care providers. This might be expected because of the chronic nature of the illness and its associated physical disability.

The prevalence of mental distress (34·6%) in this population is the highest ever reported in Ethiopia. Other hospital-based studies in the country reported the prevalence of mental distress to be between 6·8 and 18·0%.[5–7] The high prevalence in the current study seems to be

Table 3. Clinical characteristics of leprosy patients versus mental distress, ALERT, Addis Ababa, Ethiopia, 2002

Character	Population	Mental distress (%)	χ^2	*df*	*P*-value
Classification (n = 459)					
PB	186	87 (46·8)	–	–	–
MB	273	152 (55·7)	3·51	1	0·06
EHF score (n = 469)					
No disability	80	30 (37·5)	–	–	–
1-4	175	76 (43·4)	26·27	2	<0·001
>4	214	139 (65·0)	–	–	–
Bacillary Index (n = 394)					
Zero	316	159 (50·3)	–	–	–
One or more	78	40 (51·3)	0·02	1	0·88
Treatment (n = 470)					
MDT	302	147 (48·7)	–	–	–
Mono	168	100 (59·5)	5·09	1	0·02
Duration of illness (n = 463)					
0–15 years	246	121 (49·2)	–	–	–
16–30 years	100	56 (56·0)	1·76	2	0·41
>30 years	117	64 (54·7)	–	–	–

specific to leprosy as the prevalence in this group of patients was shown to be 52·4% compared to 7·9% in non-leprosy cases. Rural community based studies in Ethiopia that used a similar cut-off point as this study reported the prevalence of mental distress to be 17%.[16,17] The higher prevalence in the current study might reflect the particular psycho-social stresses experienced by this group of patients. The finding of an association between old age and mental distress is consistent with the literature. Although patients affected by leprosy were older than the comparison group, the association with mental distress persisted after adjusting for age.

Being in any form of employment seems to be protective against mental distress, except for farming. Most of the farmers reporting symptoms of mental distress had leprosy and tended to live in rural areas. They may have been more stigmatized and exposed to stressful life experiences than those living in urban areas. A farmer in rural Ethiopia is expected to actively earn his living and support his family, very often as sole breadwinner of the family. More often than not they walk barefoot, exposing their feet and hands to injury, which may lead to disability and 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.[20,21] 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 as measured by the EHF score. It seems that the increase in the level of disability increases the risk of mental distress. This might be an understandable and expected reaction to such a chronic and disabling disease. This is why secondary prevention of physical disability in leprosy is an essential element of patient care.

The 1-month prevalence of suicidal ideation was shown to be 3 times higher in the leprosy patients (18·5%) compared with the non-leprosy patients (6·5%). In both patient groups, the prevalence is much higher than the 2·7% reported in a general population study from

Addis Ababa.[19] Clinical staff at ALERT make many psychiatric referrals due to perceived high mental morbidity within the patient population. Some patients have committed suicide in the hospital compound. As an example of the tragic measures patients with leprosy may be driven to, a young patient burnt himself to death with gasoline a few years ago. The study interviewers observed many patients with leprosy bursting into tears when asked about suicidal ideation. The patients had not previously been asked such questions by health workers and were grateful to be able to express such distressing thoughts for the first time in their lives. These findings suggest that enquiring about suicidal ideation in people attending outpatient clinics with leprosy might in itself be helpful.

Greater awareness of mental health problems in this patient group by health workers should allow improved detection of mental distress. Many leprosy patients attend clinics with multiple and vague somatic complaints that cannot be explained by any known anatomical or physiological abnormalities. Psychosocial problems rather than physical ones might explain their complaints better. If identified as such, this could lead to more appropriate interventions.

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 programme. Specific psychosocial interventions might be developed for those most at risk.

In conclusion, this study showed that the one-month prevalence of mental distress was significantly higher in patients with leprosy compared to patients with other dermatological conditions. 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. Even without this, our study has indicated a need for the integration of psychosocial care into our current medical treatment of patients with leprosy.

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