

ORIGINAL ARTICLE**CORRELATES OF MENTAL DISTRESS IN JIMMA TOWN, ETHIOPIA****Ermias Mekonnen^{1*}, MD, Samuel Esayas¹, MD****ABSTRACT**

BACKGROUND: *In low-income countries where malnutrition and preventable infectious diseases are common, mental disorders, which are regarded as non-life threatening, problems are not given due attention. It is well known fact that mental illness leads to poverty, malnutrition and disability consequently to the increased risk for mortality. The main objective of this study was to determine the prevalence of mental distress and related sociodemographic and other risk factors..*

METHODS: *A cross-sectional community based study was conducted in Jimma town, south west of Ethiopia, between January 8 and February 1, 2002. The study utilized self reporting questionnaire-20 (SRQ-20) which was designed by WHO, and by multistage sampling, 1006 individuals were included in the study. Data analysis was done using SPSS version 7.5.*

RESULTS: *Using a cut-off level of at least 6 out of 20 items categorized, 22.7% of the study population had mental distress. Women had statistically significant increased risk of having mental distress than men: OR(95%CI)=1.90 (1.22,2.94). There was also a significant increased risk with illiteracy than those having tertiary education: OR(95% CI) =2.93 (1.23-6.96). Unemployed individuals had shown increased risk of having mental illness than professionals: OR(95%CI)=2.72 (1.44,5.13). Family history of mental illness was positively associated with Risk: OR (95%CI) =2.22 (1.24-3.98). Age, marital status, Religion, family income and size were not significantly associated with risk of mental distress.*

CONCLUSION: *Based on the result mental distress is fairly common in Jimma town and the decentralization of mental health service and its integration with primary health care and use of community health agents in creating awareness among the community members is recommended.*

KEY WORDS: Mental distress, mental illness, community, Self-reporting questionnaire

Jimma University, Faculty of Medical Sciences, P.O. Box 378, Jimma, Ethiopia

*Corresponding author

INTRODUCTION

In most parts of the world, mental health and mental disorders are not regarded with anything like that same importance as physical health. Instead, they have been largely ignored or neglected. Partly as a result, the world is suffering from an increasing burden of mental disorders, and a widening "treatment gap"(1).

The term mental illness encompasses a broad range of condition characterized by pattern of abnormal behavior and psychological signs symptoms that result in dysfunction (2). It has been estimated that globally 500 million people may be suffering some kind of mental disorder or impairment (3).

In developing countries, most individuals with severe mental disorders are left to cope as best they can with their private burdens such as depression, dementia, schizophrenia, and substance dependence. Globally, many are victimized for their illness and become the targets of stigma and discrimination (1).

In low -income countries where malnutrition and preventable infectious diseases are common, mental disorders which are regarded as non-life threatening problems are not given due attention. However, it is a well-known fact mental illness leads to poverty, malnutrition, infection and debility; consequently to the increased risk for mortality (5-6).

Mental and behavioral disorders are estimated to account for 12.0% of the global burden of disease (1). Consistent with these finding, recent study in Ethiopia showed that mental illness contribute 12.45% of burden of disease (7).

The country has undergone several man made and natural affliction that took many peoples lives and left may more with stressful circumstances in the last two decades. These are known risk factors for emotional disturbances (8).

Studies using Self reporting questionnaire in Ethiopia was conducted by Kortmann in Addis Ababa, where a prevalence of 12.0% was reported for mental distress (10). In a larger sample of mothers of Jimma town using the same instrument, Mulatu (11) reported a prevalence of 12.3%. In another rural sample of 2,000 adults, again using SRQ, Teferi *et al*, reported a prevalence of 17.2% for the general mental disorders (12). Recently studies using the same instrument, SRQ, were conducted on larger sample sizes; in 10,203 sampled adults of Addis Ababa, a prevalence of 11.7% was reported for mental distress (13). In the same year, 10,468 adults in Butajira district were interviewed and a prevalence of 17.4% for mental distress was reported (14). In another study in Ambo district, 1,400 mothers were interviewed with SRQ and a prevalence of 23.9% was reported for mental distress (15).

A very few studies were conducted in Jimma town on mental health among adults of age 15 and above. Thus, this research would determine the prevalence of mental distress in Jimma town and serve as a springboard to launch other community-based studies with broader scopes.

MATERIALS AND METHODS

Study Area, Design and Period

The study was a cross sectional community based study carried out in Jimma town, Oromiya Region, South West of Ethiopia, conducted from January 8, 2002 to February 1, 2002. The source population included all adults of age 15 and above residing in Jimma town.

Sample size and technique

The sample size was calculated using appropriate formula for minimum sample size calculation. As a result the sample size was estimated to be 1040.

The estimated prevalence of mental distress was taken as 17% based on a study by Alem et al in Butajira (14). The desired confidence interval was 95% (i.e. $Z = 1.96$, $d =$ degree of accuracy was taken as 2.5% and $q = (1-p) = 0.83$). Based on the above information, the sample size for the study was 897. Since the non-respondents ratio from the previous studies indicate high proportion of sample size, 15.0% (14), 20.0% contingency sample was added to the minimum sample size. The final sample size was 1040. Then the 1040 individuals were non-proportionally stratified to the three woredas of Jimma town. One Kebele was selected randomly from each Woreda.

From the Kebele's selected; every 3 household was included in the survey. Then one individual was taken by random selection of a lottery pool which included all the dwellers of that particular house above the age of 15, hence a multi-stage sampling was used.

Data Collection

The data collectors were third year medical students, who were given a one day orientation about the objectives of the study and how to fill the questionnaire.

Instrument

The SRQ was developed by WHO, designed to screen psychiatric disturbances in primary care setting, especially in developing countries. (16)

The SRQ has previously been translated into Amharic and validated in Ethiopia, and it has been used for community surveys (10). Thus cut-off point of 8/9 for clinical attendees and 4/5 for non-attendees was used to estimate prevalence. (9) We used a cut off point of at least 6 out of 20 items based on previous studies in Ethiopia. (10,14,15). Other items for sociodemographic and family history of mental illness are added to the questionnaire.

Data Analysis

SPSS 7.5 package was used for analysis. The logistic regression method was employed to adjust odds ratio for potential confounding variables.

Mental distress: a generalized term used to describe the presence of symptoms that grossly indicate emotional or mental abnormality (14).

RESULTS

The study population consisted of 1006 subjects and the overall response rate was 98.7%. The questionnaire of 14 respondents were rejected during data cleaning because of their information. Out of these 689(68.5%) were females and 317(31.5%) were males. The mean and median age of the study population were found to be 33.89 and 29 years respectively.

Five hundred thirty-eight (53.7%) of the study population were married. The major ethnic groups identified in the study area were Oromo (34.6%), Amhara (26.1%). Orthodox Christians account for 64.2%(646) of the population where as 27.2%(274) were Muslims. Housewives,

students, and professionals accounting for 26.7%, 20.8% and 17.8 respectively. Fifteen point two percent (153) of the study population was unemployed, 49.1% had secondary education while 22.5% were illiterates. Fifty three point one percent (534) of the study population had an average monthly family income of 100 to 500 Birr while 125 (12.4%) individuals got below 100 Birr per months, 42.8% and 38.1% study population had family size of 3 to 5, and 6 and above respectively (Table 1).

Only 6.7%(67) of study population had family history of mental illness.

From the total of 20 psychiatric symptoms, 3535 yes answers were given by the study population, and among these indigestion, trouble in thinking clearly and easily frightened were the most commonly reported symptoms (Table 2).

Using a cut-off level of 6 or more items for SRQ-20, 22.7% of the study population was categorized as having mental distress.

In the first step, crude odds ratio were calculated for all factors and female sex, older age, illiteracy, Christianity other than orthodox, widowed, unemployment, housewives, pensioners and low socio economic status (low income level) were all shown to be statistically significantly associated with mental distress (Table 3).

Mental distress was found in 24.7%(170) of females and 18.3%(58) of males. The prevalence of mental distress in the illiterates, housewives, unemployed and age above sixty was 37.6%, 23.7%, 34.6%, 43.0% respectively and in those individuals with monthly family income of less than 100 Birr and greater than 500 Birr was 37.6% and 17.6% respectively (Table 3).

Since sociodemographic characteristics are inter dependent and are known to have effect on mental illness, logistic regression method was applied to adjust the odds ratio

for potentially confounding variables (Table 4).

Adjusting all factors increased the association between female sex and mental distress; females had a 90.0% greater risk than male and the association is statistically significant: OR (95.0%CI)=1.90 (1.22-2.94). However it reduced the OR for illiterate and unemployed. But they still remain clearly significant: OR (95.0%)=2.93(1.23-6.96) and 2.72(1.44-5.13) respectively.

Sixty-seven individuals (6.7%) reported family history of mental illness out of which 38.8% showed mental distress compared to 21.0% among those individuals with no family history (Table 3). An almost two fold increased risk was seen in this group and it is statistically significant independent of all other variables: OR(95.0%CI)=2.22(1.24-3.98) (Table 4).

However age, marital status, religion, family income and size were not significantly associated with the risk of mental distress.

Table 1. Socio demographic characteristics of study population, Jimma town, January 2001.

Characteristic	Population	Percent
Sex		
M	317	31.5
F	689	68.5
Age		
15-24	374	37.2
25-44	395	39.3
45-59	130	12.9
60 ⁺	107	10.6
Marital status		
Single	359	35.7
Marred	538	53.5
Divorced/Separated	25	2.5
Widowed	84	8.3
Ethnicity		
Amhara	263	26.1
Oromo	348	34.6
Gurage	145	14.4
Dawro	106	10.5
Others	144	14.3
Religion		
Orthodox	646	64.2
Muslim	274	27.2
Others	86	8.5
Occupation		
Professional	179	17.8
Housewife	269	26.7
Student	209	20.8
Unemployed	153	15.2
Daily laborer	71	7.1
Pensioner	58	5.8
Self employed	57	5.7
Education		
No schooling	226	22.5
Elementary	199	19.8
High school	494	49.1
Above	87	8.6
Family income		
<100	125	12.4
10-499	534	53.1
500+	142	14.1
Unclassified	205	20.4
Family size		
1-2	192	19.1
3-5	431	42.8
6 ⁺	383	38.1

Table 2. Distribution of mental illness symptoms in the study population, Jimma town, January 2002

Symptoms	Population	Percent
Indigestion	346	9.7
Trouble thinking clearly	284	8.0
Easily frightening	278	7.9
Headache	265	7.4
Lose of interest	231	6.5
Easily tired	226	6.4
Unhappy	225	6.4
Poor appetite	220	6.22
Tired all the time	211	5.96
Uncomfortable feeling in the stomach	208	5.88
Others*	1041	29.45

* (eg. Bad sleep, feels tense, worthless, difficulty in decision, etc.)

Table 3. Distribution of mental distress* according to socio-demographic & other characteristics with crude odds ratio, Jimma town, January 2002

Variables	Population	Cases		OR	95% CI
Sex					
M	317	58	18.3	1.00	
F	689	170	24.7	1.463	(1.0482-2.041)
Age					
15-24	374	66	17.6	1.00	
25-44	395	79	20.0	1.17	(0.80-1.70)
45-59	130	37	28.5	1.86	(1.14-3.03)
60 ⁺	107	46	43.0	3.52	(2.15-5.76)
Literacy status					
Above	87	14	16.1	1.00	
Secondary	494	84	17.0	1.07	(0.56-2.08)
Elementary	199	45	22.6	1.52	(0.75-3.12)
No schooling	226	85	37.6	3.14	(1.61-6.23)
Occupation					
Professionals	176	25	14.0	1.00	
Housewives	269	63	23.4	1.88	(1.10-3.23)
Students	209	37	17.7	1.33	(0.74-2.39)
Unemployed	153	53	34.6	3.26	(1.850-5.80)
Daily laborer	71	17	23.9	1.94	(0.92-4.08)
Pensioner	58	21	36.2	3.50	(1.67-7.31)
Self employed	57	10	17.5	1.31	(0.54-3.11)
Income level					
>500 Br	142	25	17.6	1.00	
100-499	534	123	23.0	1.40	(0.85-2.32)
<100 Br	125	47	37.6	2.82	(1.55-5.16)
Marital status					
Single	359	68	18.9	1.00	
Married	538	113	21.0	1.14	(0.80-1.61)
Divorced/separated	25	9	36.0	2.41	(0.94-6.08)
Widowed	84	38	45.2	3.54	(2.07-6.04)
Religion					
Orthodox	646	146	22.6	1.00	
Muslim	274	74	27.0	1.27	(0.90-1.77)
Other Christian	86	8	9.3	0.35	(0.15-0.77)
Family size					
6+	383	77	20.1	1.00	
3-5	431	106	24.6	1.30	(0.92-1.83)
1-2	192	45	23.4	1.22	(0.78-1.88)
Ethnicity					
Amhara	263	62	23.6	1.00	
Oromo	348	88	25.3	1.10	(0.74-1.62)
Gurage	145	23	15.9	0.61	(0.35-1.07)
Dawro	106	28	26.4	1.16	(0.67-2.01)
Others	144	27	18.8	0.75	(0.44-1.28)
Family hx of mental illness					
No	928	200	21.6	1.00	
Yes	67	26	38.8	2.31	(1.37-3.87)

*(defined by a 20 item SRQ, using a cut off of 6 or more items out of 20)

Table 4. Distribution of mental distress (defined by a 20 item SRQ, using a cut off of 6 or more items out of 20) according to socio-demographic & other characteristics with adjusted odds ratio, Jimma town, January 2002

Variables	Population	Cases	%	OR	95%CI
Sex					
M	256	46	18.00	1.000	
F	532	146	27.40	1.895	(1.22-2.94)
Literacy Status					
Above	66	10	15.2	1.00	
Secondary	367	66	18.0	0.943	(0.42-2.07)
Elementary	165	42	25.5	1.542	(0.645-3.68)
No schooling	190	74	38.9	2.928	(1.23-6.96)
Occupation					
Professionals	171	25	14.6	1.000	
House Wives	225	55	24.4	0.871	(0.46-1.63)
Students	105	21	20.0	1.529	(0.77-3.02)
Unemployed	114	47	41.2	2.722	(1.44-5.13)
Daily laborer	70	17	24.3	1.449	(0.67-3.12)
Pensioner	52	18	34.6	1.888	(0.84-4.26)
Self employed	51	9	17.6	1.283	(0.53-3.13)
Ethnicity					
Amhara	195	50	25.6	1.00	
Oromo	269	77	28.6	1.02	(0.65-1.59)
Gurage	130	20	15.4	0.41	(0.22-0.75)
Dawro	87	25	28.7	0.79	(0.43-1.47)
Others	107	20	18.7	0.57	(0.30-1.07)
Family History of Mental Illness					
No	728	168	23.1	1.00	
Yes	60	24	40.0	2.22	(1.24-3.98)

DISCUSSION

A variety of factors determine the prevalence, onset and course of mental and behavioral disorders. These include social and economical factors, demographic factors such as age and sex, serious threats such as conflicts and disasters, the presence of major physical illness, drug and substance abuse and the family environment.

Our finding showed that 22.7% of the study population reported mental distress. Of course this finding is much higher than most reports from previous community based studies in Ethiopia.

One of the first of such studies was conducted by Kortmann (10) in Addis-Ababa where a prevalence of 12% was reported. Recent SRQ-20, studies in Addis Ababa and Butajira have showed a prevalence of 11.7% and 17.4% respectively (13-14). Considering the last two decades, Ethiopia has undergone several man made and natural afflictions that took many people's lives and left many more with stressful circumstances (8). WHO has estimated that a third to half of all people affected by natural and manmade affliction suffer from mental distress (1). Hence, it could be a true difference that life could be more stressful than it used to be a decade ago. However, a second stage assessment using a more specific instrument is required as well.

Our finding of a positive association of the female sex with mental distress independent of other socio-demographic factors has been reported in literature from Africa (17) and rural (12), Butajira (13) and Addis Ababa(14) studies of Ethiopia. It is clear that women are in that group who are deprived of schooling and cover most of the social and household burden in Ethiopia that might have predispose them to more stressful environment. Another reason for the sex difference in common mental

disorders may be the high rate of domestic and sexual violence to which women are exposed (1). Hormonal differences between the sexes may also account for either the higher occurrence of symptoms in women or higher inclination to report the symptoms by woman or both (13). Hormonal changes are believed to alter the chemical balance in a brain, which could cause mental disturbance such as depression (Weisman et al., 1977 and Paykel).

The significant association between literacy and mental distress in the study was similar to the findings from previous community studies in Ethiopia. Previous studies in Ethiopia had showed that illiterates groups were at higher risk for mental disorders (13,14,15). Partly the association between illiteracy and mental disorder was attributed to unemployment and females who are deprived of modern education in the present set up of Ethiopia.

The significant association between unemployment excluding housewives, students and pensioners and mental distress was peculiar finding to this study considering previous community based Ethiopian studies. Part of association may be explained by poverty and the associated condition of unemployment and low educational level, which are known determinants of mental and behavioral disorders (1).

Mental distress was twice as common among those who reported a family history of mental illness. Similar findings were discussed in the literatures and other community based Ethiopia studies (13,14). The increased risk may be explained by shared genetic predisposition and living condition i.e. living with the mental ill, which may involve caring for the mentally ill, that may predispose additional stress.

Although many researches cited the association between age and mental distress our study did not show significant

association. The scenario might have resulted from the skewedness of the study population age distribution, which has resulted in few numbers of aged populations.

The finding that there was no significant association between marital status and mental distress was consistent with the finding of Kebede *et al* (13). It would have been possible to analyze the data with the different categories: as married and unmarried. However the practicality of such classification was doubted. Hence, marital status has no significant association to mental distress in the study.

In conclusion this study has shown that a large segment of the adult population of Jimma reports mental distress and is probably suffering from mental disorders, hence mental distress is fairly common in Jimma town. These Disorders appear to be more common in women, the less educated, the unemployed and those with family history of mental illness..

Based on the results of the study, the following recommendations are forwarded.

1. Further and detailed evaluation has to be conducted using a more specific instrument to measure the overall level of burden of mental disorders.
2. The priority status of mental health in national health policy should be translated into strategies or actions to control mental illness. Enlightened mental health policy and legislation are needed and training of professionals and adequate and sustainable financing should support them.
3. Mental health service should be delivered for those who need them at all level.
To achieve all this decentralization of mental health services and their integration with the primary health care and use of community health agents in creating awareness among the community members is crucial.

ACKNOWLEDGEMENTS

This study was financially supported by Jimma University. We thank Dr. Atalay Alem, Dr. Kidist Lulu, and Dr. Yonas Shiferaw in reviewing the manuscript, and W/rt Eyerusalem W/Tsadik for secretarial assistance.

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