



Prevalence of mental morbidity and its associated factors in two communities of Benin metropolis, Nigeria

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KEYWORDS

Prevalence,
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ABSTRACT

BACKGROUND:

Mental morbidity is a public health problem that can lead to a great burden of disability in the community. Early detection and treatment of these morbidities could prevent deterioration. The aim of the survey was to determine and compare the prevalence of mental morbidity and its associated factors in two communities in Benin metropolis in Nigeria

MATERIALS AND METHODS:

The study was carried out among 400 residents of two urban communities of Benin metropolis, Benin City, Nigeria, between November 2012 and April 2013. The design of the study was descriptive, cross-sectional. The 28-item version of the General Health Questionnaire (GHQ-28) and a questionnaire for socio-demographic variables were used to collect information from participants who were selected using multistage sampling technique. Data collected were analyzed using SPSS version 16. Statistical test of association used were Chi square, Fisher's exact test and Multivariate logistic regression. P value of < 0.05 was taken as statistically significant.

RESULTS:

The overall prevalence of mental morbidity in both communities was 24.0%. However, prevalence of mental morbidity in BDPA and Uwelu communities, were 19.5% and 28.5% respectively. Education, income, type of accommodation, and number of co-habitants were variables found to be significantly associated with mental morbidity. The two communities were found to differ significantly on all indices of socio-economic status, and these indices significantly differentiated between cases (GHQ-positives) in the surveyed communities. None of the socio-demographic variables independently predicted mental morbidity.

CONCLUSION:

The need for renewed effort at improving community mental health services and the standard of living of the populace by government and policy makers is emphasized.

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INTRODUCTION

Mental illness is a behavioral or psychological syndrome associated with distress, significantly increased risk of disability, loss of freedom, and death^[1] and it is a public health problem. Of most importance to public health are the minor or neurotic mental disorders. These minor conditions called psychiatric or mental morbidity are more common than the major mental syndromes and probably lead to

a greater burden of disability for the community as a whole.² Studies have not only revealed that mental impairment is prevalent in the general population^{3,4} but that the prevalence is progressively on the increase with successive studies, and it is associated with an increased likelihood of consulting a general practitioner.^{5,6}

In Nigeria, evidence from general health care

settings show that about 18% of adult attendees meet criteria for psychiatric disorders⁷ and community based studies have found the prevalence of mental morbidity to be in the range of 14.0% – 25%.^{4,8} In African countries generally, the estimated share of the total burden due to mental illness is 70-75% compared with 5% in developed countries, primarily due to the disproportionate burden of communicable, maternal, prenatal and nutritional conditions.⁹ Globally, the findings from the first of a series of World Health Organization (WHO) World Mental Health Surveys showed that the high prevalence and burden of mental disorders despite available treatments, remain largely untreated.⁹ The potentially huge burden of mental ill-health world-wide has been emphasized by WHO in its report, 'Investing in Health Research and Development'.^[10] Unipolar depression, for example, is predicted to become the leading cause of disease burden in developing regions.¹⁰ In 2001, neuropsychiatric conditions as a broad category were responsible for 21% of the total disease burden in the world, only infections and parasitic diseases, 41% and cardiovascular diseases, 26% were higher.¹¹ Significant distress, deterioration into major illness, loss of productivity at work, personal disability and premature death resulting from suicide are recognized consequences of mental morbidity especially when it is not detected and treated early.¹² The damaging effect of stigma relating to mental illness in the community cannot be overemphasized.

Screening for mental morbidity in the community is very relevant because it is an

important step towards improving mental health services in the community, it provides the necessary data base for planning and implementation of community mental health programs and services which invariably ensure that as many people as possible in the community remain in a mentally stable state. Furthermore, community surveys might enhance early detection, as well as the overall detection rate of mental morbidity in the community, thereby preventing, to a large extent, the consequences of unrecognized and untreated mental morbidity.

Although many population studies on the prevalence of mental disorders have been conducted in several countries during the last decade,^{5,4,7,9} there has been a relative paucity of community surveys of psychiatric morbidity in this environment, yet the important role played by minor mental impairment in determining the happiness of the community suggests the need for intervention.¹³ To this extent, this study is considered relevant.

The aim of this survey, therefore, was to determine the prevalence of mental morbidity and its associated factors in two communities that could influence the condition. It is believed that findings from this study will make a modest contribution to existing data base on community mental health and contribute to providing a guide towards policy implementation of community health programmes.

METHODOLOGY

Study area

The study was carried out in Uwelu and BDPA communities, located in Wards 5 and 6 respectively of Egor Local Government Area (LGA) of the metropolis of Benin City,

Nigeria. Both communities were perceived to be socio-economically dissimilar urban communities. BDPA had an estimated population of 8,507^[14] (low density) consisting predominantly of civil servants/professionals workers of University of Benin and University of Benin Teaching Hospital and a few traders. Uwelu community had an estimated population of 34,030^[14] (high density). The residents were predominantly traders, farmers, artisans and civil servants. It is characterized by high level of commercial activities, as Uwelu has a big vehicle spare parts market with high human movements which generates noise.

Study design

A descriptive cross-sectional study was carried out between November 2012 and April 2013.

Sampling and sample size determination

The sample size required for the survey was calculated using the formula for comparing binomial proportions in two – tailed test, where the sample sizes are expected to be equal.^[15] Prevalence values of 26.5% (P1) and 14.2% (P2) reported among residents of two urban communities in Nigeria^[8] respectively were used. The calculated minimum sample size was 374, however, fifteen percent of this sample size was added to make up for questionnaires that might be rejected eventually, giving a sample size of 430. *Multistage sampling method comprising 6 stages was used to select participants.*

Stage 1: Selection of LGA, Simple random sampling method by balloting was used to select Egor, one of the 3 LGAs in Benin metropolis.

Stage 2: Selection of Wards,

Using simple random sampling technique, two wards were selected from the 10 wards in the LGA by balloting. These were wards 5 and 6.

Stage 3: Selection of Census Enumeration Areas (CEA), in both communities, 1 Census Enumeration Area (CEA) was selected using simple random sampling method for the enumeration areas.

Stage 4: Selection of Houses, in BDPA community, all the 83 houses in the selected CEA were included in the study. In Uwelu Community, using systematic sampling technique, 85 houses were selected from 261 houses, using a sampling interval of 3. The first house was selected by balloting.

Stage 5: Selection of Households, in houses where there were more than one household, simple random sampling by balloting was used to select one household.

Stage 6: Selection of respondents, a maximum of three eligible respondents were selected from each household by balloting to participate in the study.

Study population

The study population was adult males and females, 18 years and above. Residents who had lived in the communities for a year and above and were willing to participate were included in the study, while residents with known chronic physical illnesses were excluded.

Data collection and its tools

Tool for data collection was the General Health Questionnaire,^[16] 28 – item version (GHQ- 28) including demographic characteristics. The GHQ is a screening tool for detecting general psychiatric morbidity and has the advantage of being ideal for quick

screening. A total score of 5 or more indicate mental morbidity.^[8] This tool has been widely validated in different cultures and found to have acceptable sensitivity and specificity.^[17] The questionnaires were interviewer administered and five research assistants who were OND/NCE/Degree holders were trained for 5 working days to properly understand the questionnaire, mode of application and a polite attitude in relating with the clients. The questionnaire was pre-tested in Okhoro, another urban community in Benin metropolis similar to Uwelu/BDPA in socio-demographic characteristics. Subsequently, necessary amendments were made to enhance standardized methods of questionnaire administration.

Data analysis

Data collected were analyzed using the Statistical Package for Social Sciences (SPSS)^[18] version 16. Test of association used included Chi-square test, Fisher's exact test and Multivariate logistic regression.

Ethical consideration

Permission to conduct the study in both communities was granted by Egor LGA authority and the community heads. Verbal informed consent was sought from every

eligible participant and only those who consented were conscripted for the study. The participants were assured of the confidentiality of information volunteered by them. Approval for the study protocol was obtained from the research and ethics committee of the affiliated institution (protocol no.ADM/E22/A/VOL.V11/919).

Results

In a comparative survey to determine mental morbidity in two urban communities in Egor LGA, Benin City, Nigeria, 400 out of the 430 questionnaires were fully completed and used for analysis giving a response rate of 93.0%. Of this, 219(54.7%) were females. Their ages ranged between 18 - 80 years with overall mean age of 38.6 ± 13.9 years while mean ages for BDPA and Uwelu respondents were 41.1 ± 14.4 years and 36.0 ± 13.6 years respectively.

The overall prevalence of mental morbidity in the two communities was 24.0%. The prevalence of mental morbidity among respondents in Uwelu was 28.5%, while that among respondents in BDPA was 19.5% and the difference in prevalence rates between the two communities was found to be statistically significant ($P=0.035$) (Table I).

Table 1: Comparison of prevalence of probable mental morbidity in the two communities

Communities	GHQ		Total (%)
	Positive (%)	Negative (%)	
BDPA Community	39(19.5)	161(80.5)	200(100)
Uwelu Community	57(28.5)	143(71.5)	200 (100)
Total	96(24.0)	304(76.0)	400(100)

$\chi^2 = 4.441$; $df = 1$; $p = 0.035^x$
^x p is significant

Table II: Comparison of the social demographic profiles of GHQ- positives in the two communities

Socio-demographic variables	GHQ Positive respondents		Total
	BDPA Frequency (%)	UWELU Frequency (%)	
Age (years)			
18-27	8 (20.5)	12 (21.1)	20 (20.8)
28-37	7 (17.9)	14 (24.6)	21 (21.9)
38-47	9 (23.1)	19 (33.3)	28 (29.2)
48-57	9 (23.1)	9 (15.8)	18 (18.8)
58-67	4 (10.3)	1 (1.8)	5 (5.2)
>67	2 (5.1)	2 (3.5)	4 (4.2)
Total	39(100.0)	57(100.0)	96(100.0)
Fisher's Exact = 5.233 df= 5 p = 0.388			
Sex			
Male	16 (41.0)	27 (47.4)	43 (44.8)
Female	23 (59.0)	30 (52.6)	53 (55.2)
Total	39 (100.0)	57 (100.0)	96 (100.0)
X² = 0.377 df=1 p=0.539			
Religion			
Christianity	36 (92.3)	46 (80.7)	82 (85.4)
Islam	2 (5.1)	10 (17.5)	12 (12.5)
Others	1 (2.6)	1 (1.8)	2 (2.1)
Total	39 (100.0)	57 (100.0)	96 (100.0)
Fisher's Exact =3.482 df= 2 p = 0.153			
Educational Level			
Nil	1 (2.6)	5 (8.8)	6 (6.2)
Primary	4 (10.2)	15 (26.3)	19 (19.8)
Secondary	8 (20.5)	25 (43.9)	33 (34.4)
Tertiary	26 (66.7)	12 (21.0)	38 (39.6)
Total	39 (100.0)	57 (100.0)	96 (100.0)
Fisher's Exact = 19.711 df= 3 p = 0.0001[*]			
Employment status			
Unemployed 7 (17.9)	15 (38.5)	22 (38.6)	37 (38.5)
Employed 32 (82.1)	24 (61.5)	35 (61.4)	59 (61.5)
Total	39 (100.0)	57 (100.0)	96 (100.0)
X²= 0.918 df= 1 p = 0.338			
Monthly Income Naira (Dollars)			
<6000 (38)	7 (17.9)	8 (14.0)	15 (15.6)
6000 (38)-55999 (350)	15 (38.5)	42 (73.7)	57 (59.4)
56000 (351)-105999 (662)	7 (17.9)	4 (7.0)	11 (11.5)
106000 (663)-155999 (975)	5 (12.8)	2 (3.5)	7 (7.2)
156000 (976)-205999 (1,287)	1 (2.6)	1 (1.8)	2 (2.1)
---	4 (10.3)	0 (0.0)	4 (4.2)
Total	39 (100.0)	57 (100.0)	96 (100.0)
Fisher's Exact = 15.953 df= 5 p = 0.003[*]			
[*]p is significant			
Socio-demographic variables	GHQ Positive respondents		Total
	BDPA Frequency (%)	UWELU Frequency (%)	
Type of accommodation			
Single room apartment	8 (20.5)	21 (36.7)	29 (30.2)
A room and a parlour	3 (7.7)	14 (24.6)	17 (17.7)
Two bedroom flat	6 (15.4)	16 (28.1)	22 (22.9)
3-4 bedrooms flat	22 (56.4)	5 (8.8)	27 (28.2)
Above 4 rooms	0 (0.0)	1 (1.8)	1 (1.0)
Total	39 (100.0)	57 (100.0)	96 (100.0)
X²= 26.760 df= 4 p < 0.001[*]			
Family type			
Monogamy	32 (82.1)	47 (82.5)	79 (82.3)
Polygamy	7 (17.9)	10 (17.5)	17 (17.7)
Total	39 (100.0)	57 (100.0)	96 (100.0)
X²= 0.003 df= 1 p = 0.959			
Marital status			
Single	12 (30.8)	16 (28.1)	28 (29.2)
Married	15 (38.5)	26 (45.6)	41 (42.7)
Separated	4 (10.3)	8 (14.0)	12 (12.5)
Divorced	4 (10.3)	2 (3.5)	6 (6.2)
Widowed	4 (10.3)	5 (8.8)	9 (9.4)
Total	39 (100.0)	57 (100.0)	96 (100.0)
Fisher's Exact = 2.380 df= 4 p = 0.678			
Number of occupants per room			
1 person	17 (43.6)	10 (17.5)	27 (28.1)
2 people	17 (43.6)	23 (40.4)	40 (41.7)
3 people	3 (7.6)	15 (26.3)	18 (18.8)
4 people	1 (2.6)	5 (8.8)	6 (6.2)
5 or more persons	1 (2.6)	4 (7.0)	5 (5.2)
Total	39 (100.0)	57 (100.0)	96 (100.0)
Fisher's Exact = 11.803 df= 4 p = 0.013			
[*]p is significant			

In both BDPA and Uwelu, the prevalence of mental morbidity was higher among female respondents (59.0% and 52.6% respectively) than among male respondents. In both BDPA and Uwelu, mental morbidity was relatively more prevalent in the age group 38-47 years ((23.1% and 33.3% respectively). Mental morbidity was found to be significantly associated with the level of education ($p = 0.001$), income ($p = 0.003$), type of accommodation ($p = 0.001$), and the number of cohabitants ($p = 0.013$). There was a statistically significant difference between cases (GHQ- positives) in both communities using some indices of socio-economic status:

education, $p = 0.0001$, monthly income, $p = 0.003$, type of accommodation, $p = 0.001$ and number of cohabitants, $p = 0.013$ (Table II).

Multivariate logistic regression analysis revealed that, although the risk of mental morbidity was higher with female gender (OR = 1.001, $p = 0.990$) Christianity/Islam, (OR = 1.2 $p = 0.885$; OR = 1.5, $p = 0.652$) being widow/widower (OR =0.38, $p = 0.182$) living in Uwelu community (OR =1.7; $p = 0.075$) and increasing age (1.00; $p = 0.893$), none of the variables independently predicted mental morbidity. The tested variables accounted for 4.6% of variation in the predicted value of GHQ morbidity (Table III).

Table III: Predictors of mental morbidity (logistic regression)

Predictors	B	p-value	Odds Ratio
Sex			
Female	.003	.990	1.003
Male*	1		1
Religion			
Christianity	.164	.855	1.179
Islam	.427	.652	1.532
Other religion*	1		1
Marital Status			
Single	-.953	.182	.385
Married	-.776	.175	.460
Separated	-.364	.567	.695
Divorced	-.284	.692	.753
Widowed*	1		1
Education Level			
No formal education	-.494	.425	.610
Primary	.084	.842	1.087
Secondary	-.018	.956	.982
Tertiary*	1		1
Settlement			
Uwelu community	.545	.075	1.724
BDPA community*	1		1
Occupation			
Unemployed	-.619	.130	.538
Employed*	1		1
Type of Marriage			
Polygamy	-.117	.759	.890
Monogamy*	1		1
Age	.002	.893	1.002
Number Of Occupant	-.058	.295	.944
MonthlyIncome2	.000	.368	1.000
Constant	-.591	.667	.554

*Reference category; R²: Coefficient of determination of the logistic model.

R² = 4.2% to 6.4%

DISCUSSION

The overall prevalence of mental morbidity in the communities was 24.0%. This prevalence is similar to the prevalence observed in earlier studies; 24.4% among the pacific people in New Zealand,¹⁹ 24.7% in the semi-urban community of south Kuala Lumpur²⁰ but higher than 21.9% reported in Oyo State, Nigeria⁴ and 16.0% in Athens.²¹ The differences in prevalence between this and previous studies could be due to differences in the instruments used, since it is known that the type of instrument used could influence prevalence. The higher prevalence reported in this study could be a reflection of a possible increase in awareness and knowledge of mental ill-health, due to declining stigmatization, admittance and reporting of mental symptoms. Also, the high prevalence of mental morbidity could be attributable to the harsh economic climate in the nation, unemployment, poor infrastructure, and insecurity due to criminal activities such as kidnapping which cause residents to live in perpetual fear and uncertainty.

The prevalence of mental morbidity was higher in Uwelu (28.5%) than BDPA (19.5%). This difference was found to be statistically significant ($P = 0.035$). Although Uwelu and BDPA are urban communities in Benin metropolis, they are dissimilar socio-economically. As found in this study, there was a statistically significant difference between the two communities on all the indices of socio-economic status assessed except for monthly income where prevalence was higher among the high income earners in BDPA. The difference in the prevalence of mental morbidity between the two communities may not be unconnected with the socio-economic dissimilarity. A similar

finding was reported in Lagos, Nigeria,⁸ where the prevalence of psychiatric morbidity obtained for the lower status and the higher status communities were 26.5% and 14.2% respectively. Evidence has accumulated in support of association between lower socio-economic and higher frequency of a wide range of health problems.^{8,22,23} The disparity in the prevalence of mental morbidity between the two communities may be presumed to be due in part to the differences in the environmental conditions which included high human population and movement, commercial activities associated with criminal activities, poor infrastructural facilities, high noise generation due to population density among others. These environmental conditions could be present in BDPA but at lower level. The observed high prevalence of mental morbidity in this survey is note worthy. Some of them are untreated⁹ and may not see the need to seek help from qualified professionals because of lack of knowledge of the symptoms they experience. The consequence of untreated mental morbidity on the individual, family and community could be devastating, minor impairment could, invariably progress to major and disability with associated risk of alcohol and other substances abuse and increased risk of suicide.²⁴ These findings underscore the need for government and policy makers to see mental health as key public health priority and to set out frame works for proactive interventions. Increasing the detection rate of mental morbidity in the community is fundamental. The inclusion of mental health care as a component of primary health care in Nigeria is commendable and will, no doubt,

enhance the detection rate, while early detection and prompt treatment of mental morbidity will prevent progression to more severe conditions.

A comparison of the social demographic profile of GHQ-positives in the two communities revealed that the level of education, income and number of cohabitants were variables that were significantly associated with mental morbidity. The finding of significant association between mental morbidity and education as found in this study is in keeping with previous reports.^[25,26] Education is one of the indices of socio-economic status²⁷ and enhancing people's access to qualitative education will, no doubt, impact positively on their mental status. Low income as observed in this survey had been associated with mental morbidity^{28,29} in all societies irrespective of level of development.^[30] This observation is significant because it attests to the implication of poverty for mental status, and underscores the need to alleviate poverty in the communities.

The prevalence of mental morbidity was highest among those who lived alone or who lived with just one other person in BDPA. Social isolation has been reported to be associated with high risk of mental morbidity while social contact/ support is associated with less risk.³¹

Although this study did not find a significant association between age and mental morbidity; contrary to findings in some other community studies,^{8,25} it is worthy of note that a high prevalence of mental morbidity in the age group 38-47 years was common to the two communities. This is similar to the finding of community study in Sao Paulo, Brazil where

overall morbidity decreased at the extreme age groups with a peak in the 35-44 years age group.^[32] We speculate that this finding might not be unconnected with the fact that this age group is perhaps the most stressful and challenging period of life with, sometimes, overwhelming psychosocial issues such as job-related stress, concern about career and appraisal of life achievement, apprehension about perceived failures, grappling with family responsibilities, including care of aged parents and pre-menopausal tension in women.

Equally worthy of note, is the fact that a higher proportion of females than males had mental morbidity in both communities. Higher prevalence of mental morbidity in females than males, has been consistently found in studies of community mental morbidity.^{4,8} It has been suggested that women's multiple roles in the society and heavier burden of social and domestic responsibilities put them at higher risk for developing mental disorders.³³ More so, in many traditional societies, women bear additional burdens in the form of gender discrimination and violence.³³

The multivariate logistic regression revealed a higher risk of mental morbidity with some variables but none of the variables significantly predicted mental morbidity as also reported in Mamra, South Africa.³⁴ Many hypotheses have been postulated concerning the etiology of mental disorders: genetic, social, environmental, brain pathology and childhood adversity hypotheses, but usually an inter-play of some of these factors is required for an individual to exhibit a disorder.¹ It is therefore, not surprising that none of the variables tested individually

predicted mental morbidity. The tested variables accounted for 4-6% of variation in the predicted value of GHQ morbidity. Though the coefficient of determination was small, it could not be ignored

In conclusion, the prevalence of mental morbidity in BDPA and Uwelu were 19.5% and 28.5% respectively. The factors associated with the condition were, level of education, income, number of co-habitant and type of accommodation. There is need for compulsory education for all, alleviation of poverty and renewed effort in improving community mental health surveillance and care services to reduce incidence.

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References

1. Kaplan IK, Sadock BJ. Typical Signs and Symptoms of Psychiatric Illness Defined. In: Synopsis of Psychiatry 8th Edition; Lippincott Williams and Williams, 1998: 275-286.
2. Croft-Jeffers C, Wilkinson G. Estimated costs of neurotic disorder in UK general practice. *Psycho.Med.* 1989; 19:549-558.
3. Ohaeri JU, Odejide DA, Gurege O, Olatuwura MO. The Prevalence of Psychiatric Morbidity Among Adult Attenders in the Five PHC Facilities of a Rural Community in Nigeria. *Psychopathology Africaine.* 1994; 26(1): 97-108.
4. Amoran OE, Lawoyin TO, Oni OO. Risk factors associated with mental illness in Oyo State, Nigeria: A

community based study. *Annals of General Psychiatry* 2005; 4:19.

5. Williams P, Tarnopolsky A, Hand D, Shepherd M. Minor psychiatric morbidity and general practice Consultations: the West London Survey. *Psychol Med.* 1986; Suppl; Monograph.
6. Abiodun O. Sensitivity and Validity of the Self-Reporting Questionnaire in a Primary Health Centre in a rural community in Nigeria. *Psychopathologic Africaine* 1988, 221:79-88.
7. Gurege O, Odejide OA, Olatuwura MO. Psychological problems in general health care: Results from the Ibadan centre. In: Ustun TB; Sartorius N, editors. *Mental illness across the world in general healthcare: an international study.* Chichester: Wiley 1995: 157-173.
8. Mba N, Famuyiwa OO, Aina OF. Psychiatric Morbidity in Two Urban Communities in Nigeria. *East African Medical Journal* 2008; 85(8): 368-377.
9. World Health Organization (WHO). World Mental Health Survey Journal of the American Medical Associations 2001, 291:2581-2590.
10. World Health Organization. Investing in Health Research and Development: *Acta psychiatrica scandinavica* 1999; 397:5-10.
11. World Health Organization (WHO), Report of the ad hoc committee in health research relating to future international options 1996: Geneva, Switzerland
12. World Health Organization. Country profile on Mental Health resources. Geneva 2001.
13. Cecil B. Kidd. Psychiatric morbidity among students *Brit. Prev. Soc. Med,* 1965.

14. Federal Republic of Nigeria, Official Gazette, Abuja. Feb. 2, 2009; 96(2): B27
15. Bonita A, Beaglehole JJ, Kjellstrom T. Basic Epidemiology. 2nd Edition. Geneva: WHO press; 2006.
16. Goldberg DP. The Detection of Psychiatric illness by Questionnaire: London: Oxford University Press. 1972
17. Tarnopolsky A, Hand DJ, Mclean EK, Roberts H., Wiggins RO. Validity and uses of Screening Questionnaire (GHQ) in the community. British Journal of Psychiatry 1979; 134: 508 -575 6.
18. SPSS, Statistical Package for Social Studies (for windows SPSS tnc: Illinois, Chicago, III) 1999.
19. Baxter J, Kokaua J, Wells JE, McGee MA, Oakpey Brown MA. New Zealand Mental Health Survey Research Team: Ethnic comparisons of the 12 month prevalence of mental disorders and treatment contact in Te Rau Hinengaro: the New Zealand Mental Health Survey. Aust NZJ Psychiatry. 2006 Oct; 40 (10): 905 - 13.
20. Zam Zam R, Thambu M, Midin M, Qmar K, Kaur P. Psychiatric Morbidity among adults patients in a semi-urban care setting in Malaysia. Int J Ment Health Syst. 2009; 3(1):13.
21. Mavreas VG, Beis A, Mouyias A, Rigoni F, Lyketsos GC. Prevalence of psychiatric disorders in Athens. Social psychiatry and psychiatric epidemiology 1986; 21(4): 172-181.
22. Wiggins R.D, Schofield P, Sacken A, Head J, Bantley M. Social Position and Minor Psychiatric Morbidity overtime in the British Household Panel Survey 1991- 1998. Epidemiol Community Health. 2004 Sep; 58 (9).
23. Fryers T, Melzer D, Jenkins R. Social Inequalities and the common mental disorders: a systematic review of the evidence. Soc. Psychiatry Psychiatr Epidemiol 2003 May; 38 (5): 229 - 37.
24. Slutske WS. Alcohol use disorders among US college students and thjeir non- college attending peers. Arch Gen psychiatry 2005 March; 62 (3): 321 -7
25. Premaragan KC, Danabalan M, Chandrasekar R, SinniVasa DK. Prevalence Psychiatric morbidity in an urban community of Pondicherry. Indian Journal of Psychiatry 1993; 35(2): 99-102.
26. Patel V, Kleinman A. Poverty and common metal disorders in developing countries. Bull World Health Organ. 2003; 81 (8): 609-15. Epub 2003 Oct 14.
27. Daradkeh TK, Alawan A, AlMa'aitah R, Otoom SA. Psychiatric morbidity and its Sociodemographic correlates among women in Irbid, Jordan. Eastern Mediterranean Health Journal 2006; vol2 (Supplement 2).
28. Fryers T, Meizer D, Jenkins R. Social inequalities and the common mental disorders: a systematic review of the evidence. Soc Psychiatry Psychiatr Epidemiol. 2003 May; 38 (5): 229 - 37.
29. Maziak W. Socio-demographic correlates of psychiatric morbidity among low income women in Aleppo, Syria. Social Science and Medicine 2002; 54: 1419-27
30. Patel V, Kleinman A. Poverty and common mental disorder in developing countries. Bulleting of the World Health Organization 2003; 81: 609-15.
31. Stansfeld SA, Gallacher JE, Sharp DS, Yamell JW. Social factors and minor psychiatric disorders in

middle-aged men: a validation study and a population survey.

32. Laura Andrade, Ellen E. Walters, Valentim Gentil, Ruy Laurenti. Prevalence of ICD-10 mental disorders in a catchment area in the city of Sao paulo, Brazil. *Soc. Psychiatry Psychiatr. Epidemiol.* 2002; 37: 316 - 325.
33. Women's mental health: an evidence based review. Geneva, World Health Organization 2000; (WHO/MSD/MDP/00.1)
34. Rumble S. Swartz L, Parry C. Zwarenstein M. Prevalence of minor psychiatric disorders in an adult rural community in South Africa. *Psychol. Med.* 1996; 26(3): 997-1007.