Epidemiological study of mental morbidity in an urban slum community in India for the development of a community mental health programme

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ABSTRACT

A crossectional field study was carried out in an urban slum in order to assess the prevalence and nature of mental morbidity and identify stressors in the community. A face to face interview was conducted with the help of a questionnaire. The interview consisted of three sections as follows: Data identifying the informant by age, sex, marital status, education, occupation, age at marriage, number of members, children and monthly income. General Health Questionnaire (GHQ) 5- item version used as a screening instrument to assess the present mental health status of the informant and data of past illnesses in self or family and questions framed to elicit perceptions regarding mental illness, alcoholism, their causation and treatment. The subjects who scored above 2 ie 3,4,and 5 in the GHQ were requested to follow up at the Mental Health OPD and subjected to a standardized psychiatric interview by a Psychiatrist. The Diagnostic and Statistical Manual Third Revised (DSM 3 R) criteria were used for diagnosis. After the interview and examination, the appropriate treatment was instituted. A total of 443 individuals were screened. The overall prevalence rate of mental illness in the community was 61 per thousand. It is estimated that the case rate ranges from 38 to 84 per thousand within 95% confidence limits. The overall severity ranged from mild to severe morbidity. The prevalence of severe mental morbidity which includes psychosis, depressive illness, mental retardation was 22.5 per thousand. Neurosis (63.31%) especially Major Depression and Adjustment disorder, Psychosis (10.00%), Somatization disorder (6.66%) and Psychiatric symptoms secondary to physical illness were the major groups of illness. Women were found to have more mental health problems than men. The morbidity pattern also differs significantly with the gender. Neurosis was seen more among the female subjects. There was a significant association of mental health problems with low educational status, unemployment and large family size. Financial problems, marital conflicts, interpersonal conflicts and housing problems were the major stressors as perceived by the respondents. There exists significant mental health problems in the community which can be due to deleterious sociocultural factors and we recommend the integration of mental health care with general health care.

Keywords: Mental health, mental morbidity, stressors.

INTRODUCTION

The Constitution of the World Health Organization accepted by all member states defines health as a state of complete physical, mental and social well being.[1]

Mental health can be defined as the capacity of the individual, the group and the environment to interact with one another in ways that promote subjective wellbeing, the optimal development and use of mental abilities (cognitive, affective and relational) for the achievement of individual and collective goals.[2]

The term mental health encompasses psychosocial and behavioral aspects of health and human development as well as mental and neurological disorders. The second area is better understood by health professionals in general but has been regarded as too specialized to be a part of general health workers job. In a developing country where killer diseases are endemic, blindness and other physical impairment widespread and nutrition inadequate, problems of chronic psychosis, mental retardation and depression probably seem insignificant.[3] The human body cannot be treated as a collection of organs which may sometimes need repair nor can individuals be treated in isolation from society.

The National Mental Health Programme of India (1982) represents a major change in the attitude of the health planner towards mental health.[4] Epidemiological studies indicate that at least a fifth of all contacts at the primary health care level are related to psychological disorders. With the available number of mental health experts approx 1-1.5 psychiatrists for a million population, efforts have to be made to shift the care of the mentally ill from the hospital to the community.

AIMS AND OBJECTIVES

General objectives:

Table-1: Mental morbidity profile

Diagnosis	n.	(%)
Neuroses		
Major Depression	5	16.7%
Anxiety Depression	2	6.7%
Dysthaymia	3	10.0%
Adjustment Disorder	6	20.0%
Anxiety	2	6.7%
Reactive Depression	1	3.3%
Psychoses		
Schizophrenia	1	3.3%
Acute Psychosis	2	6.7%
Epilepsy	2	6.7%
Mental Retardation	1	3.3%
"Dhat" Syndrome	1	3.3%
Somatisation Disorder	2	6.7%
Psychiatric symptoms secondary to physical illness	2	6.7%

i) To determine the prevalence and nature of mental morbidity in an urban slum

ii) To provide basic mental health care services at the urban health centre

Specific objectives:

i) To screen for mental illness by conducting a community survey

ii) To study the socio-demographic co-relates of mental morbidity

iii) To identify stressors as perceived by the community

MATERIALS AND METHODS

Study period: Cross sectional study carried out from February 1995 to May 1995

Table-2: Morbidity profile (Sexwise analysis)

Diagnosis	Male (%)%	Female (%)	Total
Neurosis	3 (37.50%)	16 (69.57%)	19
Psychosis	2 (25.00%)	1 (4.35%)	3
Epilepsy	0 (0.00%)	2 (8.70%)	2
Mental Retardation	1 (12.50%)	0 (0.00%)	1
Dhat syndrome	1 (12.50%)	0 (0.00%)	1
Somatisation disorder	0 (0.00%)	2 (8.70%)	2
Others PSPI	1 (12.50%)	2 (8.70%)	3
Total	8	23	31

Table-3: Mental health status and age

Age/status	Mentally ill	Normal (%)	Total
<20	3 (11.11%)	41 (9.86%)	44
20-29	9 (33.33%)	160 (38.46%)	169
30-39	5 (18.52%)	101 (24.28%)	106
40-49	4 (14.81%)	72 (17.31%)	76
50-59	3 (11.11%)	20 (4.81%)	23
>60	3 (11.11%)	22 (5.29%)	25
Total	27	416	443

Study area: The urban slum selected is a field practice area adopted by a Teaching Institute and Hospital of Greater Mumbai situated 35 kms away. According to available records the total slum population is 1,15,000.

Research Design: Pilot study was undertaken to assess the mental morbidity among the patients attending the General OPD of the urban health centre and accordingly changes were made to the proforma .

Sampling Population: Restricted to adults 18 yrs and above

Sample size: Epidemiological studies indicate a prevalence of between 10/1000 to 48/1000 mental disturbances in the community. Using the formula

$n = pq/(E/1.96)^2 = 439$
Taking p= 4.8 and E = 2%
The actual sample size is 443.

Sampling technique:

Systematic random sampling technique was used. The first house was chosen at random and thereafter every 10^{th} house was visited. In the event that the said house was locked the next house was visited and the process of data collection continued. A total no. of 310 houses were visited.

TOOL USED FOR DATA COLLECTION

A face to face interview was conducted with the help of

Table4: Education and mental health status

Education	Mentally ill%	Normals (%)	Total
Illiterate	11 (40.74%)	68 (16.35%)	79
Primary	12 (44.44%)	206 (49.52%)	218
Secondary	1 (3.70%)	67 (16.11%)	68
Higher secondary	3 (11.11%)	58 (13.94%)	61
Under graduate	0 (0.00%)	10 (2.40%)	10
Post graduate	0 (0.00%)	7 (1.68%)	7
Total	27	416	443

Table-5: Mental health status by occupation (self)

Occupation	Mentally ill%	Normals%	Total
Student	2 (7.41%)	36 (8.65%)	38
Unemployed	6 (22.22%)	25 (6.01%)	31
Housewife	12 (44.44%)	195 (46.88%)	207
Self employed	0 (0.00%)	31 (7.45%)	31
Skilled labour	4 (14.81%)	51 (12.26%)	55
Unskilled labour	1 (3.70%)	6 (1.44%)	7
Service	1 (3.70%)	62 (14.90%)	63
Retired	1 (3.70%)	10 (2.40%)	11
Total	27	416	443

a questionnaire. The interview consisted of three sections as follows:

i) Data identifying the informant by age, sex, marital status, education, occupation, age at marriage, number of members, children and monthly income

ii) General Health Questionnaire 5- item version used as a screening instrument to assess the present mental health status of the informant.[5,6]

iii) Data of past illnesses in self or family and questions framed to elicit perceptions regarding mental illness, alcoholism, their causation and treatment.

Those who scored above 2 ie 3,4 and 5 in the GHQ were requested to follow up at the Mental Health OPD and subjected to a standardized psychiatric interview by a Psychiatrist. The Diagnostic and Statistical Manual Third Revised (DSM 3 R) criteria were used for diagnosis. [7] After the interview and examination, the appropriate treatment was instituted.

RESULTS

For this study the subjects with medically diagnosed mental illness were arbitrarily labeled as mentally ill and those subjects who scored low ie 0-2 on the 5 item GHQ were arbitrarily labeled as normal individuals.

Table-6: Mental health status and spousal occupation

Occupation	Mentally ill%	Normals%	Total
Student	0(0.00%)	0(0.00%)	0
Unemployed	3(17.65%)	4(1.39%)	7
Housewife	5(29.41%)	83(28.92%)	88
Self employed	1(5.88%)	33(11.50%)	34
Skilled labour	5(29.41%)	65(22.65%)	70
Unskilled labour	1(5.88%)	7(2.44%)	8
Service	1(5.88%)	92(32.06%)	93
Retired	1(5.88%)	3(1.05%)	4
Total	17	287	304

Table-7: Mental health status by family size

No of family members	Mentally ill (%)	Normals (%)	Total
1	1 (3.70%)	0 (0.00%)	1
2	1 (3.70%)	10 (2.40%)	11
3	0 (0.00%)	32 (7.67%)	32
4	4 (14.81%)	81 (19.42%)	85
5	2 (7.41%)	118 (28.30%)	120
6	6 (22.22%)	98 (23.50%)	104
7	8 (29.63%)	35 (8.39%)	43
8	5 (18.52%)	26 (6.24%)	31
9	0 (0.00%)	17 (4.08%)	17
Total	27	417	444

A total of 443 individuals were screened.

In the present study the prevalence of mental health problems was estimated at 61 per thousand. The prevalence of severe mental morbidity was 22.5 per thousand. The overall severity ranged from mild to severe morbidity. Neurosis (63.31%) especially Major Depression and Adjustment disorder, Psychosis (10.00%), Somatisation disorder (6.66%) and Pychiatric symptoms secondary to physical illness were the major groups of illness as depicted in Table-1. Housewives and the unemployed account for 78.94% of the "neuroses". Neurosis was significantly higher in the females (84.21%) than males (37.5%). 68.42% of the subjects with neurosis were married (68.42%) (Table-2).

In the present study, the prevalence of mental illness was found to be higher among subjects aged 20-39 yrs though it is not significantly more as compared to other age-groups. The more common diagnosis in this age group was psychosis and mood disorders (Table-3).

Table-8: Mental health status and per capita income

Income per month (Rs)	Mentally ill%	Normals%	Total
0 – 200	3 (11.11%)	27 (6.49%)	30
201 – 400	16 (59.26%)	156 (37.50%)	172
401 – 600	7 (25.93%)	129 (31.01%)	136
601 – 800	0 (0.00%)	50 (12.02%)	50
801 – 1000	1 (3.70%)	38 (9.13%)	39
> 1000	0 (0.00%)	16 (3.85%)	16
Total	27	416	443

Mental illness among the illiterate subjects was significantly more than those with higher levels of education. $\times^2$ =11.53 S (P<0.01). 40.74% of the subjects were illiterate, 44.44% had studied upto primary level and 14.80% had higher levels of education. The Odd's ratio (OR) is 2.98 (Table-4).

The prevalence of mental illness was significantly more among the unemployed (22.2%) $\times^2$ = 7.9S (P<0.01) OR = 4.46 and housewives (44.44%) OR= 0.91(Table-5).

Unemployment of the male spouse was significantly more among the mentally ill (17.6%) than among the normal(1.39%) $\times^2$= 12.31S(P<0.01) OR=71.75 (Table-6)

Increasing morbidity was seen with increasing family size and significantly more when the family size was 7 members and more. The exposure rate is 48.15%. $\times 2$ = 13.25S (P<0.001) Odd's ratio= 4.04 (Table-7).

There was a significant increase in mental illness when the monthly per capita income was less than Rs 400. 70.37% of the ill were below this level and 43.86% of the normal subjects. $\times^2$ = S (P<0.01) OR=3.02. (Table-8)

The major stressors as perceived by the subjects were financial problems (91.1%), bereavement (4.97%), marital conflicts (3.87%) and interpersonal conflicts (3.31%) Table-9.

59.26% of the ill and 18.99% of the normal subjects had chronic illnesses. The chronic illnesses seen were Tuberculosis, hypertension, bronchial asthma and ischaemic heart disease (Table-10).

DISCUSSION

In the present study the overall prevalence rate of mental illness in the community is 61 per thousand. It is estimated that the case rate ranges from 38 to 84 per thousand within 95% confidence limits as against Surya (62-63) from Pondicherry who reported a mental morbidity prevalence rate of 9.3 per thousand.[8] Dube (1970) from Agra found a 11/2 yr period prevalence of 17.99 per thousand.[9] Sen *et al* found a prevalence rate of 48.7 per thousand in a slum in Calcutta.[10]

Table-9: Stressors perceived by the study subjects

Problems	Mentally ill%	Normals (%)	Total
Financial	165 (86.84%)	209 (40.19%)	374
Marital conflicts	7 (3.68%)	22 (4.23%)	29
Interpersonal conflicts	6 (3.16%)	23 (4.42%)	29
Housing	1 (0.53%)	125 (24.04%)	126
Discrimination	2 (1.05%)	9 (1.73%)	11
Bereavement	9 (4.74%)	15 (2.88%)	24
No problems	0 (0.00%)	117 (22.50%)	117
Total	190	520	710

The overall morbidity in the present study ranged from mild to severe. The prevalence rate of severe mental morbidity which includes psychosis, depressive illness, mental retardation is 22.5 per thousand. This is higher compared to the findings of the ICMR Collaborative Multicentric field study on severe mental morbidity. The prevalence was 11.1, 4.6, 8.3, 14.1 per thousand in Bangalore, Baroda, Calcutta and Patiala. The study population was rural and situated close to the cities mentioned.[11]

In the present study, the prevalence of mental illness was found to be higher among subjects aged 20-39 yrs though it is not significantly more as compared to other age-groups. The more common diagnosis in this age group was psychosis and mood disorders.

Overall there was no significant difference between men and women but for individual disease entities, neuroses was significantly more among the females.

Chakraborthy *et al* in an epidemiological study of mental illness in Calcutta reported that women showed higher rates for neuroses as well as psychoses.[12]

Married subjects had higher case rates than either the unmarried, divorced or widowed persons. The disease entity predominantly seen amongst the married subjects was Neuroses (68.42%). Earlier studies on social epidemiology have shown that marital status is one of the most important influencer on rates of affective disturbance.

Bebbington *et al* reported that the relative impact of being single or married varies with gender in that marriage appears to have a protective effect on men only. Married women have higher rates of affective disorders than single women.[13]

That women suffer more mental health problems than men has been affirmed by a document jointly produced by the WHO and the Key Centre for Women's Health in society, Melbourne, Australia.

This is connected to their social roles and not to an innate

Table-10: Mental health status and chronic illness

Chronic illness	Mentally ill	Normal
Absent	11 (40.74%)	337 (81.01%)
Present	16 (59.26%)	79 (18.99%)
Total	27	416

female inability to cope. Their social roles as wife, mother, daughter, employee and carer for others puts them at a greater risk of stress, depression and anxiety. Pregnancy puts a unique stress on women. Abortion, miscarriage and stillbirths are likely to affect a woman's emotional state for many years.[14]

The prevalence of mental illness among the illiterate subjects was significantly more than those with higher levels of education. Subjects with low educational status ie illiterate and primary level education showed a high rate for all the disease entities.

Hodiamont *et al* from a Dutch Health area reported high case rates among subjects with lower levels of education and occupation.[15]

Occupational status of the subjects significantly influenced the prevalence of mental illness among the subjects in the present study. Unemployment was significantly more among the mentally ill. Unemployment among the spouse was significantly more for the mentally ill subjects. Neuroses and Psychoses were the disease entities see more among the unemployed. Eales M.J.(1990) reported that Depression and Anxiety were more among unemployed men as compared to matched employed men.[16] Peukower et al (1988) in a prospective study found that the husband's unemployment did not have any immediate term effects on the wives symptomology, but by the end of the 2 year period, the wives level of distress was increased.[17]

Per capita income of less than Rs 400 per month was significantly associated with mental illness in the present study. Poverty is accompanied by a range of social problems. A greater prevalence of mental health problems. Bruce *et al* has been well documented among the poor but questions remain about the nature of this association.[18] An increasing mental morbidity is seen in the present study with increasing family size. It was significantly more among subjects with a family size of seven members or more. Sen *et al* noted a similar increase in morbidity with increasing family size in a Calcutta slum.[10] Chronic illnesses in the family was significantly higher among the mentally ill subjects.

Perceived Stressors: Financial problems, marital conflicts, interpersonal conflicts and housing problems were the major stressors as perceived by the subjects.

There was a significant association of mental health problems with female gender, low educational status, unemployment and large family size.

There exists significant mental health problems in the community which can be due to deleterious sociocultural factors.

Recommendations have been made in the light of the above findings for the integration of mental health care with the comprehensive health care services and the evolution of a Community Mental health programme.

The health staff at the centre should be equipped with basic psychosocial skills in order to identify, diagnose and treat mental disorders.

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