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Psychiatric morbidity in an urban slum of Mumbai: Cross sectional study

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ABSTRACT

Objective: To find out prevalence of psychiatric morbidity in urban slum community in Mumbai.
Methods: A cross-sectional epidemiological study was conducted in a health post area of Dharavi, a large slum in Asia. Systematic random sampling was employed to select households, the sampling unit in this study. All individuals aged 15 and above were eligible to participate in the study. Individuals willing to participate were interviewed with symptoms checklist – 90 for identifying those with psychiatric illness. All individuals identified with a psychiatric disorder on the basis of the symptoms check list were invited for a clinical interview conducted by a psychiatrist. Univariate and multi-variate analysis was carried out with help of SPSS.
Results: The prevalence of psychiatric conditions was found to be 12.5%, much higher compared to previous studies. Affective disorders were the most common accounting for 42.7% of the total morbidity, followed by anxiety disorders (30.7%) and psychoses (21.3%). The adjusted odds ratios for psychiatric disorder were significantly higher for illiterates and those with primary education only (2.4), unemployed (2.1) and those with family history of a psychiatric disorder (1.9).
Conclusions: The high prevalence of psychiatric morbidity calls for primary psychiatric services to be made available to all and integrated with the primary health care. Family members of psychiatric patients constitute high risk group that needs attention in form of screening, care and treatment, if necessary.

1. Introduction

It is estimated that 450 million people are suffering from a mental or behavioural disorder (WHO, 2001); moreover the overall DALYs burden for neuropsychiatric disorders is projected to increase to 15% by the year 2020 (Wig, 2001). Despite the significant public health impact of mental disorders on morbidity, disability and mortality, mental health was given low priority by policy makers and health care administrators worldwide (WHO, 2001). In India alone, about 0.2 million deaths were estimated to occur due to neuropsychiatric conditions in 2004 (WHO, 2008). Morbidity statistics reveal that neuropsychiatric conditions amount to more than 10% of total disease burden in India (WHO, 2008). However, these figures are based upon low levels of evidence as they have been estimated from verbal autopsy data and partial information from incidence and or prevalence studies. Although community based data are essential for setting priories within health and mental health, and for designing and evaluating public health interventions; not many community based studies (none from Mumbai) have been conducted in India (Math et al., 2007). Meta-analysis of these community based studies revealed that urban morbidity was higher than rural (Ganguli, 2000). The urban poor in developing countries are more vulnerable missing out of potential benefits of both rural and urban life (Harpham and Molyneux, 2001). A study in Bangladesh found higher prevalence of childhood psychiatric disorders urban slums compared to urban non-slum and rural communities (Mullick and Goodman, 2005). Given the paucity of data in community settings, specifically urban slums and Mumbai, this study was conducted to increase evidence in such a setting.

2. Methods

Dharavi, a large slum in Asia is catered to by five health posts for delivery of health services. The present study was conducted in

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Shahunagar health post area with population of about 80,000. Using census data of 2001, the population above 15 years of age was estimated to be about 50,000; which constituted the universe for the study. For estimating sample size, we assumed prevalence to be 10% based on a study conducted in Pondicherry (Premarajan et al., 1993). Sample size was calculated to be 609 with estimated prevalence 10%, alpha error of 5% and absolute precision of 2% (Lwanga and Lemeshow, 1991). In line with previous studies, household was considered as sampling unit instead of individuals but unit of analysis was individual. In order to reach 609 individuals, about 200 households were required to be selected. The health post area was divided into eight sections and four of them were selected randomly for the purpose of study. From the data available with the health post, about 6000 households existed in the selected sections. Systematic random sampling was employed to identify households; all eligible individuals within the household were invited to participate in the study after verbal informed consent.

A pre-designed, pilot-tested interview schedule was used. Symptoms check-list 90-revised (SCL-90-R) (Derogatis, 1977), a standardized tool for diagnosing psychiatric conditions was used as the instrument to identify people with psychiatric disorders. Although SCL-90-R is self-administered questionnaire, given high illiteracy in the study area, the tool was translated in local languages (Marathi and Hindi) and was introduced as interview schedule by a trained interviewer. SCL-90-R includes 90 questions regarding symptoms, covering nine domains and miscellaneous questions. Each response is noted on a five-point scale of 'not at all' (0) to 'extremely' (4). Score for each domain and general symptom index is calculated using simple arithmetic average. A study by Holi found that SCL-90-R performed comparably well with GHQ-36 and GHQ-12. This study suggested cut-off point of 0.9 on SCL-90-R for Finnish population. In absence of previous data on cut-off point for Indian Population and given the possibility of over-diagnosis (Schmitz et al., 2002), we decided a cut-off of 1.5. A person was said to be suffering from psychiatric disorder (operational definition) if he/she satisfies scored 1.5 or more under any domain or had general symptom index of 1.5 or more or was a known case of psychiatric illness on psychiatric therapy. Gupta's socioeconomic scale (Mahajan and Gupta, 1995) was used for socioeconomic (income) classification. Data related to socio-demographic variables, past and present use of addictive substances and health seeking behaviour was also collected.

In the first stage, data was collected by conducting structured interviews of respondents who could be persons of either sex, aged 15 years and above and residing in the study area for at least six months. Homeless people were not included in the study. All individuals who fulfilled operational definition of psychiatric disorder were invited at nearby secondary healthcare facility. At the health facility, a psychiatrist conducted clinical interview and examined them to arrive at the specific diagnosis based on Diagnostic and Statistical Manual (DSM)-IV guidelines. For those who fulfilled the operational definition but did not report to the health facility (nearly half of patients), the case history and response sheet were discussed with the same psychiatrist to arrive at specific diagnosis. As an ethical consideration, all patients were given referral slips of psychiatric outpatient department at the teaching institution. Data entry, coding and analysis was done using excel and SPSS software packages. Data was classified, tabulated and tests of significance were applied wherever appropriate.

3. Results

A total of 758 people from 196 households were selected for the study. Twenty nine of them refused to participate in the study, 89 were not available at house even after four visits, 18 could not be interviewed due to language barriers or communication problems whereas another 22 left the interviews half way. About 596 (80%) persons could be interviewed and another four who were mentally retarded could not be administered the schedule but were included in the analysis.

Out of the final sample size of 600, 75 (12.5%) were suffering from psychiatric disorder as per the operational definition used in the study., Prevalence of psychiatric disorders in the urban slum was found to be significantly higher compared to urban morbidity reported in the meta-analysis.

Table 1
Prevalence of psychiatric disorders by gender.

Specific diagnostic group/condition[a]	Male no. (per 1000) $n=329$	Female no. (per 1000) $n=271$	Total no. (per 1000) $n=600$
Mood disorders			
-Depressive	11 (33.4)	20 (73.8)	31 (51.7)
-Bipolar		1 (3.7)	1 (1.7)
Somatoform disorders			
-Conversion		1 (3.7)	1 (1.7)
-Somatization	1 (3.0)	4 (14.8)	5 (8.3)
Personality disorders	1 (3.0)	4 (14.8)	5 (8.3)
Psychoses			
-Schizophrenia	9 (27.4)	3 (11.1)	12 (20.0)
-Delusion disorder		1 (3.7)	1 (1.7)
-Organic psychosis	3 (9.1)		3 (5.0)
Anxiety disorders			
-Specific phobia	1 (3.0)	2 (7.4)	3 (5.0)
-Social phobia	1 (3.0)	2 (7.4)	3 (5.0)
-Obsessive–compulsive	1 (3.0)		1 (1.7)
-Panic disorder with Agoraphobia	3 (9.1)	1 (3.7)	4 (6.7)
-Generalized anxiety disorder	4 (12.2)	5 (18.5)	9 (15.0)
-Panic disorder without agoraphobia	1 (3.0)	2 (7.4)	3 (5.0)
Sleep disorders	3 (9.1)		3 (5.0)
Adjustment disorders		1 (3.7)	1 (1.7)
Culture bound syndrome (Dhat syndrome)	1 (3.0)		1 (1.7)
Mental retardation	3 (9.1)	1 (3.7)	4 (6.7)
Total	33 (100.3)	42 (155)	75 (125)

[a] Co-morbidities exist.