PREVALENCE OF COMMON MENTAL DISORDERS AND ASSOCIATED COMORBID CONDITIONS IN AN URBAN SLUM OF INDORE, M.P – A CROSS-SECTIONAL STUDY

RITESH UPADHYAY[1], VIPIN JAIN[2], MEGHA JAIN[3], DILEEP DANDOTIYA[1], RUCHI SONI[4]*

[1]Department of Community Medicine, Chhindwara Institute of Medical Sciences Chhindwara, Madhya Pradesh, India. [2]Department of Pharmacology, Chhindwara Institute of Medical Sciences Chhindwara, Madhya Pradesh, India. [3]Department of Dentistry, Chhindwara Institute of Medical Sciences Chhindwara, Madhya Pradesh, India. [4]Department of Psychiatry, Gandhi Medical College, Bhopal, Madhya Pradesh, India. Email: drritesh311@gmail.com

ABSTRACT

Objective: Epidemiology plays an important role in providing interpretation of disease occurrence in populations, change of disease rate, and the associated factors related to occurrence. Physical health problems not only coexist with mental disorders such as depression, but can also predict the onset and persistence of depression. A study of a nationally representative sample of the United States showed 79% of all ill people were comorbid.

Methods: It was a community-based and cross-sectional study carried out in an urban Slum. Slum was divided into four quadrants and 10% of the population was taken. A total of 150 houses were visited by random sampling and the sample size was calculated to be 294. The study was recorded in a pilot tested pre-designed validated semi-structured questionnaire. Four hundred and twenty-three out of 467 people were included in the study which was conducted in two phases. First phase was the screening phase which included history, general examination, and demographic profile along with self-reporting questionnaire (SRQ-20) to measure the presence of mental illness. Socioeconomic status of family and quality of life was evaluated using Kuppuswami socioeconomic status scale. Subjects scored 7 and above selected for the study and further evaluated using mini international neuropsychiatric interview plus in the second phase.

Results: In the present study, highest percentage of CMD was 26.47%, belonging to 16–25 age group and distress was found in 16.07% and severe distress in 7.80% with SRQ-20 scoring between 7 and 13 and >14, respectively, with higher proportion of females. The prevalence of CMD was 238.77/1000 and 11.88% and 8.91% subjects were found hypertensive and diabetic respectively.

Conclusion: There is need to consider the impact of common psychological health problems that urban slum communities are facing today and CMD can be a major contributor to slum's overall burden of functional impairment.

Keywords: Comorbid conditions, Common mental disorders, Urban slum.

INTRODUCTION

Epidemiology plays an important role in providing interpretation of disease occurrence in populations, the change of disease rate in time period, and the factors that are associated with disease occurrence. In epidemiological studies, the population were studied as compared to individuals and it provides useful information in public health measures for prevention, treatment, and social costs of illness [1]. Depressive disorders contributed the most to the total mental disorders DALYs (33.8%, 29.5–38.5) followed by anxiety disorders (19.0%, 15.9–22.4) and have an economical impact on the affected population [2,3]. Psychiatric epidemiology attempts to find out "what is behind the numbers" i.e., causation. Percentage of numbers is relevant for mental health-care delivery in terms of hospital and community services, augmentation of specific services, workforce development, change in medical curricula, and planning, programming, implementing, and evaluating mental health services to cover each aspect [4]. The epidemiological data are shown that 50% of mental illnesses have adolescence onset and ranking third in suicidal death among adolescents [5]. According to Tiple *et al.*, the population of people aged 60 years or above is likely to increase to 18.4% of the total population by the year 2025. Improved health care promises longevity but social and economic conditions such as poverty, break-up of joint families and poor services for the elderly can cause a psychiatric risk to them. The large number of geriatric population has an equally high psychiatric morbidity [6]. Physical health problems not only coexist with mental disorders such as depression but can also predict the onset and persistence of depression [7]. In a study of a nationally representative sample of United States showed, 79% of all ill people were comorbid [8].

There was a need to carry out rigorously implemented general population surveys to assess the prevalence of mental disorders among the urban slum community at Indore M.P. Hence, this study was undertaken to estimate 12-month prevalence rates of common mental disorders (CMD) (as per ICD-10 of WHO-1993) among the urban slum population, sociodemographic correlates of mental disorders.

Aims and objectives

The aims of this study were to study the comorbid condition in subjects with CMD and to assess the risk factors associated with CMD and comorbidity (e.g., diabetes).

METHODS

Institutional Research and Ethical Committee approval of SAMC and PGI was obtained before starting the study. It was a community-based and cross-sectional study carried out in an urban slum in the field practice area of Urban Health Center, Pardeshipura of SRI AUROBINDO MEDICAL COLLEGE AND P.G. INSTITUTE INDORE (M.P).

Sample size estimation

In a study by Ganguli in Bangalore, India found that national prevalence rates were 73/1000 for rural population and for urban population prevalence rates were 70.5/1000 [9].

The sample size calculation for our study was done by considering the prevalence of urban population of 70.5/1000 which came to be 294.

Sampling technique

The reference population is above the age group of 16 years, residing in a common residential area with a population of 29,609 predominantly belonging to Hindu religion. There are four slums in the catchment area of the Urban Health Center. Pancham-ki-phel is one of the slums which have been selected for the study by random sampling technique using a lottery method. The population of pancham-ki-phel is 4219. The slum was divided into four quadrants for convenience and 10% of the population was taken. A total of 150 houses were visited by random sampling, of which four houses were found locked and 13 persons were unavailable for interview even after three consecutive visits.

Informed consent

Informed written consent was taken from the head of the family and the subjects who were interviewed during the study, with the assurance of their confidentiality.

Inclusion criteria

All persons above 16 years of age were screened in phase I and for phase 2 screening of persons with score 7 and above in SRQ 20 included in the study.

Reliability and validity of data

Training of the investigator was done in the Department of Psychiatry of SAMC and PGI for a period of 1 month. In this training, the necessary skill and knowledge were acquired regarding the requirement of the pro forma and subject concerned under study. The training was repeated until the investigator produced consistent results.

A pilot study was conducted on 40 random subjects from a different slum so as to assess the viability of the questionnaire and the average time taken to complete the questionnaire. Feedback was taken from these subjects and improvements were made in the questionnaire. These subjects were then excluded from the actual study. A total of 467 people were visited, out of which 44 were below 16 years of age and were excluded from the study. The remaining 423 people were included in the study. Each house was visited and the head of the family was informed about the purpose of the study. The head of the family was interviewed to start with the information, followed by an individual interview, during the 1 year of study. The core design of the study was door-to-door enquiry of each family as a unit and each individual member of the family separately.

The present study was conducted in two phases, that is, first and second phase.

First phase

The first phase was the screening phase in which history, general examination, and demographic profile along with self-reporting questionnaire (SRQ-20) was administered to measure the presence of mental illness of the patient as approved by the WHO. SRQ-20 consists of 20 questions having options of yes and no, with a reference period of the preceding 30 days. SRQ comprises questions related to cognitive symptoms, anxiety, depression, and manifestation as somatic symptoms. The sociodemographic variables were collected for all individuals and assessed using SRQ-20. The cut of value for the SRQ by WHO is 7 and above hence the subject with the score of 7 and above were selected for the study [10]. Socioeconomic status of the family was evaluated using Kuppuswami socioeconomic scale [11].

Second phase

All the subjects who scored 7 and more in SRQ-20 were further evaluated using M.I.N.I.Plus (Mini International Neuropsychiatric interview plus) [13]. One hundred and one people were observed to have CMD for the second phase.

RESULTS

In our study, we found the distribution of subjects among various age groups. Out of 423 people screened 26.47% belonged to 16–25 age group and had the highest percentage, 15.36% belonged to 26–35 age group, 36–45 age group at 22.2% and 18.67% belonged to age group 46–55, and 56–65 age group at 10.40 and 6.85% belonged to the age group above 65 of the population. Among the screened group, 46.80% constituted the male and 53.19% were female (Table 1) SRQ-20.

In the present study, observation shows that 76.12% reported typical responses within 7 in the SRQ-20 scoring system. CMD was found in 16.07% with SRQ-20 scoring between 7 and 13 and severe distress was found in 7.80% of the population with SRQ-20 score >14. Among psychological distress groups, females scored higher with 10.63% as compared to male 5.4%. In the severe distress group again females scored higher with 4.96% than the male population (2.83%) (Table 2), although this was statistically not significant.

Total 101 subjects were found to have CMD after screening the population and its prevalence came to 238.77/1000; however, the prevalence of male was 176.76 and in female it was 293.33/1000. There was multiple comorbidities in 18 (18.18) % subjects. Results show that 11.88% subjects were hypertensive, 8.91% subjects were found diabetic, and among females 8.91% were found to have hypothyroidism as comorbid conditions; however, 58.41% subjects showed no comorbidity (Table 3).

Table 1: Distribution of screened study subjects according to age and gender

Age in years	Male		Female		Total	
	N	(%)	N	(%)	N	(%)
16–25	51	12.05	59	13.94	112	26.47
26–35	23	5.43	42	9.92	65	15.36
36–45	39	9.21	57	13.47	94	22.2
46–55	47	11.1	32	7.56	79	18.67
56–65	25	5.9	19	4.49	44	10.40
Above 65	13	3.07	16	3.78	29	6.85
Total	198	46.81	225	53.19	423	100.00

Table 2: Distribution of CMD among screened study subjects (n=423)

SRQ-20	Male		Female		Total	
	N	%	N	%	N	%
Disorder absent	163	38.53	159	37.58	322	76.12
Distress	23	5.4	45	10.63	68	16.07
Severe distress	12	2.83	21	4.96	33	7.80
Total	198	46.81	225	53.19	423	100.00

CMD: Common mental disorders. χ^2=7.93, p=0.019

Table 3: Distribution of study subjects screened for CMD with comorbid conditions (n=101)

(Comorbid condition present)	Male		Female		Total	
	N (35)	%	N (66)	%	N (101)	%
Hypertension	5	4.9	7	6.95	12	11.88
Diabetes	3	2.9	6	5.94	9	8.91
Asthma	2	1.9	2	1.9	4	3.96
Hypothyroidism	0	00	9	8.91	9	8.91
Arthritis	1	0.99	2	1.9	3	2.9
Other chronic disease	3	2.9	2	1.9	5	4.9

CMD: Common mental disorders

DISCUSSION

In the majority of the studies, the researchers were able to assess major mental disorders accurately, but minor mental disorders were not assessed adequately. Indian researchers made attempts to overcome the difficulty of diagnosis by assessing the positive cases on screening [14] for final diagnosis using their clinical judgment and available diagnostic guidelines at that time, thus avoiding clinician bias in diagnosis. This raises a query whether the findings can be generalized to even one State in a country like India, which is well known for its geographical, linguistic, and ethnic diversity. Mental health-care priorities need to be shifted from psychotic disorders to CMD such as depression, anxiety disorders, and somatoform disorder, which are also associated with high disability [15].

The available evidence suggests that though there has been increase in the prevalence rate of psychiatric disorders in the past few decades in India, the changing health scenario has led to imminent epidemic of non-communicable diseases [16] and also the psychiatric comorbidity being common in non-communicable diseases provides indirect evidence of rise in psychiatric disease prevalence [17].

The dynamic nature of mental illness will have their impact on planning, funding, and health-care delivery. In our study, a total of 423 people were included and 101 people were found to be suffering from CMD giving an overall prevalence rate of 238.7/1000 which is high in accordance with the other studies [9]. The other population-based studies from a slum in India from Mumbai found that a CMD prevalence was similar to our study [21].

In a study by Ganguli [9] by Pooled data from 15 selected studies found the prevalence of 73.0/1000, and also in another study by Premarajan *et al*, it was reported a prevalence of 9.94% (99.4/1000) [18]. A trend of continuous increase in the prevalence of psychiatric disorders with time was revealed by above study findings. Substantiating the above observation Murray and Lopez from their study in 1996 found that mental and behavioral disorders to be increasing in the population [19] and even WHO has published similar reports of increase in incidence of psychiatric disorders with time period [20]. The prevalence rate of CMD in our study is higher than prevalence rates of population-based surveys from non-slum communities in India, even when our data are disaggregated by age and gender to allow for more precise comparisons to the populations sampled in those studies [17].

In the present study, observations show that 11.88% subjects were hypertensive, 8.91% subject was found diabetic, and among females 8.91% were found hypothyroidism as comorbid conditions and these observations were supported by other study also [22].

We found that the impact of sociodemographic variables such as age, gender, marital status, income, and education have been directly attributed to the causation of CMD. In the present study, CMD was commonly affecting the middle age group (25–55), low socioeconomic status, female gender, uneducated, unemployed, comorbid medical condition, substance abuse, unmarried, widow, and people with poor marital harmony. While these findings suggest that slums may suffer from a higher burden of CMDs, future population based studies that compare a variety of slum and non-slum populations in the same urban location, as well as adjacent rural locations, would be required to address the mental health care need.

CONCLUSION

Our study concluded that there is a need to consider the large impact of common psychological health problems that urban slum communities are facing today which is largely a neglected part of today's modern society. CMD can be a major contributor to the slum's overall burden of functional impairment. Almost one-third of the total population dwelling in urban slum communities suffered from CMD which is evident by prevalence which came out to be 238.7/1000 indicating high prevalence of common psychological health problems. Hence, it is essential to design interventions that aim at allaying their distress which can improve their mental health, overall quality of life and can decrease the family burden.

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