

Prevalence of mental illness among old age people in urban area: A study in Kolkata, West Bengal



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ABSTRACT

Background: With an increasing life expectancy, the population of geriatric age group is increasing in India and all around the world. The population aged above 60 years is 8% as per census 2011 and likely to be 21% of the total population by 2050. People from older age group suffer from mental problems more than their younger counterparts. Few studies have targeted the mental health of elderly in community level, especially in Bengal.

Aims and Objectives: This study aims to estimate the prevalence of mental illness among older age group of urban area in Kolkata, West Bengal. **Materials and Methods:** This cross-sectional, descriptive, epidemiological community-based study was conducted in the Chetla area of Kolkata Municipal Corporation, West Bengal. The General Health Questionnaire-12 (GHQ-12) and Mini-Mental State Examination were administered to 341 participants. **Results:** We found 36.95% of old age people having mental illness based on GHQ-12. Females have more prevalence of having a psychiatric illness than males. The most common psychiatric disorder was mood disorder followed by dementia. The prevalence of mental illness increased with advancement of age. About 64.7% of people never sought any kind of treatment for their illness. **Conclusion:** Mental illness is common among elderly people, but they are not well documented. A very significant number of patients do not seek any kind of treatment for their ailments. A comprehensive health-care system to be developed to reduce this treatment gap.

Key words: Mental illness; Old age; Prevalence; Treatment gap; West Bengal

INTRODUCTION

Life expectancy has increased even in developing countries like India.¹ This increase in life expectancy has brought about a demographic increase in aging population.² In the current day of civilization and industrialization, integrity of a society and social norms is loosening day by day. Joint family is becoming a rarity. With the predominance of nuclear family, the aged people are thrown to live a lonely life. They suffer from insecurity and mental tension in their day-to-day life, as they need some form of help for their physical inability due to old age.³ The community survey in various parts of the world has shown that there is a high

prevalence of serious mental illness in old age, much of which is not treated in hospital.⁴

India, being the second most populous country, the population aged more than 60 years has increased to 8% in census 2011.⁵ Furthermore, the United Nations indicated that elderly population will be around 21% by 2050.⁶

There is a common notion that most elderly are lonely, anxious, depressed, isolated, forgetful as a part of their aging and so they often remain undiagnosed and go untreated.⁷ The elderly are disproportionately subject to emotional and mental problems.⁸ The incidence of psychopathology rises with age.⁹ Functional disorders – notably depressions and

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paranoid state – increase steadily with such decade, as do organic brain disease after age 60. A study by the National Institute of Mental Health reported by the World Health Organization clearly suggested that individuals over 65 of years are the group most susceptible to mental illness.¹⁰ Mental disorder is a preventable risk factor for premature mortality.¹¹

Prevalence rates of mental disorder in elderly population in India fluctuate between 20% and 40%.¹² Female sex, lower educational status, not having spouse, physical disability, medical comorbidities, and poor socioeconomic status are established risk factors for psychiatric illness in the elderly.^{13,14}

There are numerous studies in the developed countries regarding the prevalence of psychiatric illness in elder age group and community-based care.¹⁵⁻¹⁹ However, in India, it is a relatively less explored area. Few studies have examined the community prevalence of mental health of the elderly in India, and most of them are either from South or North India.^{7,20,21}

Aims and objectives

The objectives of the study were as follows:

1. To establish the prevalence of mental illness in a population, aged 50 years and above
2. To establish the type of mental illness in the urban community
3. To ascertain the proportion of cases receiving treatment compared with those not availing any treatment.

MATERIALS AND METHODS

Study design

This was a cross-sectional descriptive community-based study. The study was conducted in area of Urban Health Centre, Chetla, the field practice area of All India Institute of Hygiene and Public Health. The area is situated in the southern part of Calcutta, covering about 5.76 sq. km. Ethical clearance from the Institutional Ethical Committee was obtained before commencing the study.

Population

The area is having mixed population of Bengalese (mainly) and residents having origin in Bihar, U.P., Orissa, Nepal, etc. About 5% of the population is Muslims and Christians; Sikhs are very few. The population at present is about 1.7 lakhs and sex ratio having 968 female/1000 males. Literacy rate being 76.7% (from the Department of Statistics, U.H.C., Chetla).

The study was conducted among the aged population both male and female whose age was 50 years or more.

The international acceptance for the old age is 65 years; the life expectancy in India is 63.4 years as per census of 2011. The watershed clinically was kept at 50 years to determine the study group of aged as the life span almost lags by 15 years in the Indian situation. Otherwise, if it was kept at 65 years, it would have been very difficult to get the required number of sample in the short period of time of study. The sample size was determined considering the prevalence of mental illness which varies from 20% to 40% in geriatric population. Hence, if the prevalence is considered 30%, for 2.5% standard error with 95% confidence limit, the allowable error is $2 \times 0.025 = 0.05$. Using $4pq/L^2$, the sample size calculated was 336. As such it was tried to interview 350 persons from the service area, but due to field situation and as some persons were not amenable for detail interview, while some others did not give consent only 341 persons could be interviewed, which was considered adequate in relation to sample size. In some cases especially for the people suffering from cognitive impairment, where the subject was unable to give consent, consent was taken from one responsible family members.

As the sampling frame is not available in the study area nor the households are numbered properly, systematic random sampling could not be done. Hence, it was decided to take cluster random sampling. From the office of the Urban Health Centre, Chetla, the basic information about the area, the road, and lane numbers were collected and study cluster was chosen randomly.

Tools/study instruments

- a. Prepared semi-structured schedule and questionnaire for interview for all subjects taken as sample. This consists of two parts:
 1. The first part has been designed to collect basic information about the family and aged persons
 2. The second part is General Health Questionnaire 12 (GHQ-12)²² which is a screening instrument widely used in community survey. A score more than or equal to 2 is a cutoff score for possible psychiatric disorder for this screening instrument
- b. Special interview schedule for mental status examination for subjects suspected to have psychiatric illness
- c. Mini-Mental Status Examination (MMSE)²³ questionnaire for persons suspected to have dementia. MMSE is the most commonly used instrument to screen for dementia worldwide. It has Bengali version which has been validated and used in various studies. A score below 9 indicates severe impairment, 10–18 indicates moderate impairment, and 19–26 indicates mild impairment. Any score more than 27 indicates normal cognition
- d. Geriatric Depression Scale-15 is a 15 item self-report scale to assess depression. As per this scale, a score <9

Table 1: Distribution of sample by age and sex (n=341)

S. No.	Age group (years)	Male		Female		Total	
		No.	%	No.	%	No.	%
1.	50–54	54	35.3	61	32.4	115	33.7
2.	55–59	42	27.4	46	24.5	88	25.8
3.	60–64	29	19.0	38	20.2	67	19.6
4.	65–69	22	14.4	27	14.4	49	14.4
5.	70–74	06	3.0	10	5.3	16	4.7
6.	75–79	00	0	05	2.6	05	1.5
7.	80+	00	0	01	0.5	01	0.3
	Total	153	100	188	100	341	100

is normal, 10–19 indicates mild depression, and 20–30 indicates severe depression²⁴

- e. Medical records of the past illness when available
- f. Records of household register from the office of Urban Health Centre, Chetla.

Methods of data collection

Social and domestic data were collected using a prepared questionnaire. These data also include medical history in the past, psychiatric history and it presents in detail, personal history, especially of psychoactive substance abuse or addiction. Interviewing was done using medical and psychiatric inventory designed to record the subjective answers and observer's observations and arrive at a formal diagnosis. Preliminary screening was done using GHQ-2 and who score ≥ 2 interviewed further with detailed mental status examination for psychiatric diagnosis using International Classification of Diseases-10 (ICD) DCR²⁵ criteria for diagnosis of mental disorder. For persons suspected to have dementia, mini-mental status pro forma was used. If multiple diagnoses were made, the main diagnosis was taken into account. The subjects were always seen but supplementary information was also collected from relatives in some instance. In this process, the old people living at home and found psychiatric illness were referred as domiciliary cases and number of cases found to be received treatment from any institution for mental illness was treated as institutional cases. Statistical analysis was done using SPSS-19.

RESULTS

A total of 347 households were surveyed in this study covering a population of 4236. Out of these, 341 (8.05%) were in the age group of 50 years or more. Distribution of people in different age group is depicted in table-1. Among them, 153 were male and 188 were female. About 95.9% of samples belong to Hindu, 3.8% Muslim, and out of 341, only one person of Christian religion is found, 74.5% of aged people in the area live in nuclear family, and only 25.5% live in joint family. About 69.3% of males are living with their spouse, 44.1% of females are living with their

Table 2: Distribution of mental illness in elderly population in specific age group (n=341)

S. No.	Age group (years)	Mental illness		Total	%*
		Present	Absent		
1.	50–54	7	108	115	6.1
2.	55–59	39	49	88	44.3
3.	60–64	34	33	67	50.7
4.	65–69	26	23	49	53.1
5.	70–74	09	07	16	56.2
6.	75–79	03	02	05	60.0
7.	80+	01	00	01	100

Figure in parenthesis indicates percentage

spouse, and 55.4% of total sample are living with spouse. A total of 251 (73.6%) of the aged population are found to have possessed some kind of bad habit/addiction. Sleeplessness is very common in the aged person, which is present in 197 (57.8%) persons out of 341 in this study.

About 36.95% of elderly population suffers from mental illness. About 37.3% of males and 36.7% of females are mentally ill. While among total mentally ill persons, 45.2% are male and 54.8% are female.

Among them, only 35.3%, that is, slightly more than one-third of mentally ill persons receive regular treatment while 64.7% remain untreated. Moreover, only 30.2% of mentally ill persons are aware of their mental illness, others are not.

Table 2 shows mental illness across different age group. It was found that of total mentally ill males, 32.7% are in the age group of 60–64 years followed by 29.1% in 65–69 years, 21.8% in 55–59 years, while in late of female maximum in the age group of 55–59 years, 42.2% followed by 60–64 (25%), 70–74 (15.6%), etc. On the other hand in the age group of 80 years and above, only single female was found to be suffering from illness indicating 100% morbidity, 60% in group 75–79, and 58.7% in the age group of 55–59 years. In case of male maximum prevalence in the age of group of 65–69 years – 72.8% in this group is mentally ill followed by 70–79 (66%), 55–59 (62%), 55–59 (28.6%), and 50–54 (9.2%). Statistical test of significance was done

Table 3: Distribution of different types of mental illness in male and female (n=119)

S. No.	Mental illness	Male	Female	Total
1.	Organic mental syndromes dementia	13 (10.3)	19 (15.1)	32 (25.4)
2.	Psychiatric illness due to psychoactive substance abuse			
	Cannabis	03 (2.3)	00	03 (2.3)
	Alcohol	07 (5.6)	02 (1.6)	09 (7.2)
3.	Thought disorder			
	Schizophrenia	02 (1.6)	01 (0.8)	03 (2.4)
	Persistent delusional disorder	02 (1.6)	00	02 (1.6)
4.	Affective disorder			
	Bipolar affective disorder			
	Manic	07 (5.6)	01 (0.8)	08 (6.4)
	Depressive	01 (0.8)	01 (0.8)	02 (1.6)
	Hypomanic	02 (1.6)	11 (8.7)	13 (10.3)
	Depression	09 (7.1)	18 (14.3)	27 (21.4)
	Cyclothymia	02 (1.6)	01 (0.8)	03 (2.4)
5.	Neurotic disorder			
	Anxiety disorders	03 (2.3)	05 (4)	08 (6.3)
	Conversion disorder	00	01 (0.8)	01 (0.8)
	Obsessive-compulsive disorder	00	03 (2.4)	03 (2.4)
6.	Other disorder, that is, personality disorder, mental subnormality	06 (4.7)	06 (4.7)	12 (9.4)
	Total	57 (45.2)	69 (54.8)	126 (100)

Figure in the parenthesis indicates percentage

using Chi-square test to see any correlation between age and prevalence of mental illness. The value of X^2 is 15.29 proves the correlation.

Table 3 shows different mental illnesses as per ICD-10 diagnosis. The most common disorders were mood disorder followed by dementia.

DISCUSSION

The study found that the prevalence of mental disorder is 36.95% of population over 50 years. One previous study estimated the prevalence almost same in the area of Madras, India.²⁶ Burden of mental disorder was more in female corroborating to the findings of many studies in India and abroad.²⁷⁻³⁰

Mood disorders are the most prevalent mental illness reported in literature.^{18,31,32} In our study, we found mood disorder around 16%, among which unipolar depression 7.9%. Review of literature of Indian studies indicates a wide range varying from 6.0% to 55% of elderly people were suffering from depressive illness depending on methodology selected by the specific study and depending on selection of sample.^{1,33-35} A review by Grover reported prevalence of depression among the elderly in community setting was varying from 8.9% to 61.16%.³⁶ A study on the prevalence of depression in urban geriatric population in Marathwada region in Western part of India found that the prevalence of depression is 16.75%.³⁷ We found almost equal number of people suffering from bipolar affective disorder, which is not found in other Indian studies.

In the present study, it was found that 9.4% of elderly persons are suffering from dementia. The prevalence of dementia in various studies in India varies between 1% and 10%. This variation is mainly due to methodological differences and diversity of the study population.^{38,39} In the aging demography and memory study, the prevalence of dementia was 13.9% in the USA.⁴⁰ A study from Kolkata, West Bengal, about epidemiology of dementia showed community prevalence is about 1.12%.⁴¹

Some Indian studies have shown higher prevalence rate of anxiety disorder around 10% having generalized anxiety disorder,^{26,32,38} but as of our findings, anxiety disorder is quiet less prevalent in older age group, about 2.3% in the current study.

Limitations of the study

One limitation of this study that all participants were from a single urban slum population. A multicenter approach would have been better. In field surveys of old people living at home, the precise demarcation of psychiatric disorders from minor divergences from normal health is unavoidably arbitrary.

CONCLUSION

The result of the study agrees with those of other study, the prevalence mental illness among elderly people living in an urban slum community is high. Majority of them do not seek treatment for their illness and lack awareness about mental illness. Evidently, the majority of cases are at present and will continue to be cared for throughout

the greater part of their illness at home. Hence, a system should be developed to strengthen community psychiatric care for early diagnosis and effective treatment.

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AC- Concept and design of the study, interpretation of results, prepared first draft of manuscript, revision of the manuscript, and final editing; **AKM-** Concept, statistical analysis, and review of literature; **DM-** Preparation of manuscript and statistical analysis; and **SKG-** Guidance and final revision.

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