

# A Community Based Study Of Psychiatric Disorders Among The Elderly Living In Delhi

A Chowdhury, S Rasania

---

## Citation

A Chowdhury, S Rasania. *A Community Based Study Of Psychiatric Disorders Among The Elderly Living In Delhi*. The Internet Journal of Health. 2007 Volume 7 Number 1.

## Abstract

**Background:** Most studies on the mental health in the elderly have focused on the elderly in a hospital and institutional setting and the community elderly has been neglected at large.

**Aim:** To study the prevalence of psychiatric disorders among the elderly based on different demographic characteristics.

**Method:** A cross-sectional study of 250 elderly living in 'charge 2' census area of New Delhi were administered the General Health Questionnaire (GHQ), the Hindi Mental State Examination (HMSE) after taking their socio-demographic profile. Residents screening positive were administered the Structured Clinical Interview for DSM-III-R and a DSM-III-R derived algorithm for Dementia.

**Results:** One hundred and thirty elderly (52%) screened positive with GHQ and 33 elderly (13.2%) with HMSE. Based on case identification interview, prevalence of psychiatric disorders was 49.2%. Depression (23.6%), Dementia (11.6%) and Anxiety disorder (10.8%) were the most common disorders.

**Conclusions:** The elderly population constitutes a high-risk group for developing mental illness. The high prevalence of psychiatric disorders in this growing population of low-income elderly presents a challenge to the delivery of mental health service.

## INTRODUCTION

The world has seen an unparalleled change and acceleration in the population and demographic composition. The average life span in many parts of the world has increased, over the past century. It has been estimated that over three-fourths (77%) of worldwide rise in elderly population is contributed by the developing regions.

India too has not been left unaffected by this changing global situation. By 2015 more than one quarter of the aged population would belong to India. India's elderly population is likely to touch 12% (from its present 7%) by 2025, when the number will burgeon to 150 million.

The aging of the global population is one of the biggest challenges facing the world health services. The United Nations also declared 1999 as the "International Year of the Older Persons" and adapted the theme "Towards a society for all ages".

The 'twilight years' is a very sensitive phase. Loss of loved ones, chronic disorders and isolation lead to emotional starvation which aggravated by pecuniary hardships due to decreasing income, ultimately, leads to mental illness. Socio-economically, the traditional support of extended families is rapidly undergoing erosion, making the elderly further vulnerable.

Quite a few studies are dated (Ramachandran 1981, Venkoba Rao 1981, Dube 1970) – having been undertaken 20-30 years back. It goes without saying that they helped lay the basis for the emergence of interest in Psychogeriatrics, nevertheless, their clichéd results are no longer 'ne plus ultra'. Moreover, there is a paucity of such studies in Northern India. Research on the elderly has at best been sporadic. Most studies have focused on the elderly in hospital and institutional setting (Rabins et al 1996, Bannerjee et al 1996, Nair et al 2000), or have included the elderly group as a part of a general epidemiological survey

(Nandi et al, 1975).

Moreover, psychiatric diagnosis in elderly is difficult in a cross-section of community residents than in psychiatric clinics. This is because, in addition to the risk of differentiating between psychiatric conditions, it is necessary first to determine (a) whether symptoms exist of a clinical severity (b) whether symptoms indicate psychiatric rather than physical or social and (c) whether symptoms are merely the effects of aging. It is likely that solutions to these difficulties will come mainly from studies that include diagnosis of a cross-section of community's elderly residents and not from studies limited to diagnosis on acknowledged psychiatric patients.

With this background a study was initiated with the objective to find out the prevalence of psychiatric disorders in the elderly population, based on different demographic characteristics.

### **METHOD**

The community based, cross-sectional study was carried out in the neighboring area of Lady Hardinge Medical College and its associated hospitals in New Delhi, which is a well-defined area called "Charge 2" according to Registrar General Census Operations, India. This area has 49 blocks of approximately 75 households in each block.

The area is predominantly urban and mostly residential with a few office buildings, educational and religious institutions and some business areas. Of these residential areas, governmental housing and quarters are most abundant but there are a fair number of privately owned and society homes and a few densely populated 'jhuggi-jhopri' (slum) clusters. The population comprised of people from different strata of society, with various religious and regional backgrounds.

Of the total population of 27,255 in the area, taking the national average of 6.8% elderly (60 years and above), expected number of elderly came to be approximately 1750. A total of 250 elderly comprised the study subjects, which is 14% of the total elderly residing in that area.

All elderly were sought out by house – to – house visit. Informed consent was obtained from all elderly who participated in the study. A structured interview schedule was prepared after an initial pretesting to assess the elderly.

A structured interview schedule was prepared after an initial pretesting. The interview schedule obtained socio-

demographic and psychiatric symptoms data. In the Socio-demographic particulars, the name, age, marital status, literacy and occupation of the subject, reasons for retirement, living arrangement, caregiver, activities in the household undertaken, any form of addiction, family composition was taken. Socio-economic status was determined according to modified Kuppuswamy scale.

For screening for psychiatric disorders, Goldberg's General Health Questionnaire (GHQ) is commonly used. The Hindi version of GHQ (Gautam et al, 1987) was used for the present study. Those elderly who scored 8 & above in GHQ were deemed 'probable psychiatric cases'.

They were further evaluated by Structured Clinical Interview for Diagnoses according to DSM-III-R (SCID) to arrive at a final diagnosis. The SCID is an interview schedule for making the major Axis I DSM-III-R diagnoses. Using a decision tree approach, the SCID guides the interviewer in testing diagnostic hypotheses as the interview is conducted. The output of the SCID is a record of the presence or absence of each of the disorders being considered, for current episode (past month) and for lifetime occurrence. The researcher (undergoing MD in Community Medicine) underwent training in the Department of Psychiatry to be able to administer SCID on the elderly.

The most frequently used and widely accepted screening instrument for Dementia is the Mini Mental State Examination (MMSE) (Folstein and Folstein, 1973). The Hindi version of MMSE (HMSE) (Ganguly et al, 1995) was used for the study. The HMSE has 22 items to detect the presence of cognitive impairment, orientation, registration, attention and calculation, recall language and praxis. A cut off of 20 was used to screen for dementia. For those who scored 20 in HMSE, DSM-III-R criteria were applied for diagnosing dementia. Data, thus obtained, was compiled and analyzed using SPSS software.

### **RESULTS**

**Figure 1**

Table 1a: Prevalence Of Psychiatric Disorders In The Study Population

DEMOGRAPHIC CHARACTERS	N=250	NO.WITH PSYCHIATRIC DISORDERS (N=123)	% PREVALENCE	$\chi^2$ , df, p value
<b>AGE</b>				$\chi^2 = 4.22$
60-64	93	41	44.1	df = 4
65-69	83	40	48.2	p value not sig.
70-74	41	21	51.2	
75-79	24	13	54.2	
≥80	9	8	88.9	
<b>MARITAL STATUS</b>				$\chi^2 = 0.53$
MARRIED	162	77	47.5	df = 2
WIDOWED	86	45	52.3	p value not sig.
NEVER MARRIED	2	1	50	
<b>FAMILY TYPE</b>				$\chi^2 = 9.35$
LIVING ALONE	9	9	100	df = 3
NUCLEAR	75	38	50.7	p < 0.02 (sig.)
JOINT	89	43	48.3	
EXTENDED	77	34	44.2	
<b>EDUCATION STATUS</b>				$\chi^2 = 1.075$
ILLITERATE	67	36	53.7	df = 6
PRIMARY	45	23	51.1	p value not sig.
MIDDLE	42	20	47.6	
HIGH SCHOOL	25	11	44	
INTERMEDIATE	19	8	42.1	
GRADUATE	28	16	57.1	
PROFESSIONAL/PG	24	11	45.8	

**Figure 2**

Table 1b: Prevalence Of Psychiatric Disorders According To Financial Status

DEMOGRAPHIC CHARACTERISTICS	N=250	NO. WITH PSYCHIATRIC DISORDERS =123	% PREVALENCE	$\chi^2$ , df, p value
<b>SOCIOECONOMIC CLASS</b>				$\chi^2 = 13.942$
UPPER	13	5	38.5	df = 4
UPPER-MIDDLE	117	54	46.2	p < 0.01 (sig.)
LOWER-MIDDLE	86	43	50	
UPPER-LOWER	32	19	59.4	
LOWER	2	21	100	
<b>WORKING STATUS</b>				$\chi^2 = 1.47$
EMPLOYED(FULL/PART TIME)	67	27	40.3	df = 1
UNEMPLOYED/RETIRED	183	96	52.5	p not sig.
<b>FINANCIAL DEPENDENCE</b>				$\chi^2 = 1.064$
DEPENDENT	100	54	54	df = 3
PARTIALLY DEPENDENT	16	7	43.8	p not sig.
INDEPENDENT	116	52	44.8	
OTHERS DEPENDENT ON SUBJECT	18	10	55.6	

## SOCIO – DEMOGRAPHIC CHARACTERISTICS OF THE ELDERLY

Two hundred and fifty elderly formed the sample of which 137 were females (54.8%) and 113 were males (45.2%). The majority of subjects were in the young-old category (70.4%). 162 (64.8%) were married while 34.4% were widowed. Most were living in joint type of families (35.6%) or extended families (30.8%) while 3.6% were living alone. 67 (26.4%) had no formal education.

About 49.2% of the elderly suffered from psychiatric disorders. This was observed higher in female elderly (55.5%). A higher trend psychiatric morbidity was observed with increasing age (44.1% in the 60-64 years age group to 88.9% in the 80+ age group). It was observed that widowed elderly had a higher psychiatric disorder (52.3%).

Elderly who were living alone had higher psychiatric morbidity. Prevalence varied among semiprofessionals (57.1%), illiterates (53.7%) (Table 1a).

Most belonged to the upper-middle (46.8%) or lower-middle (34.4%) socioeconomic classes. 183 (73.2%) were retired or not working. Of the elderly who were financially independent (85.9%), 16% said that their families were dependent on them (Table 1b).

A much higher prevalence of psychiatric disorders in the lower socioeconomic class (modified Kuppaswamy scale) was observed (100%). This reached statistical significance levels ( $p < 0.01$ ). It was 52.5% among the unemployed or retired elderly as compared to 40.3% of those who were still working. Subjects with dependents had higher morbidity (table 1b).

## PREVALENCE OF PSYCHIATRIC DISORDERS

**Figure 3**

% DISTRIBUTION OF PSYCHIATRIC DISORDERS\*

PSYCHIATRIC DIAGNOSES	MALE	FEMALE	TOTAL
DEPRESSION	18.6	27.7	23.6
DEMENTIA	12.4	10.9	11.6
ANXIETY DISORDER	5.3	15.3	10.8
ADJUSTMENT DISORDER	7.1	4.4	5.6
SUBSTANCE ABUSE (ALCOHOL) DISORDER	9.7	0.7	4.8
DELUSIONAL DISORDER	6.2	2.2	4
SCHIZOPHRENIA	2.7	1.5	2
OBSESSIVE COMPULSIVE DISORDER	1.8	2.2	2
HYPOCHONDRIASIS	1.8	0.7	1.2
DYSTHYMIA	0	2.2	1.2
BIPOLAR	0.9	0	0.4
NON-ALCOHOL ABUSE	0.9	0	0.4

## \*MULTIPLE DIAGNOSES

Depression (23.6%) was the most common diagnosis, followed by dementia (11.6%) and anxiety disorder (10.8%). The rates of depression and anxiety disorder were higher among females (27.7% and 15.3% respectively) as compared to males (18.6% and 5.3% respectively). However, dementia was diagnosed in 12.4% males and substance abuse in 9.7% as compared to 10.9% and 0.7% in females respectively. Adjustment disorder was diagnosed in 5.6% elderly it was seen in 7.1% males and 4.4% females.

Alcohol abuse/dependence was present almost exclusively among males (9.7%). No significant gender difference in psychiatric disorders was observed except for anxiety disorders ( $p < 0.01$ ) and alcohol abuse ( $p < 0.001$ ).

## DISCUSSION

There was a generally high acceptance rate for the interview. One hundred and thirty elderly (52%) screened positive with GHQ (Hindi version, Gautam et al, 1985) and 33 (elderly (13.2%) with HMSE. All those who were diagnosed with

psychiatric disorders were later referred to LHMC for psychiatric services.

In this study the prevalence of psychiatric disorders among the elderly was 49.2%. Our finding replicates those of Kay et al, 1964 and Bhutia et al, 2000 who diagnosed psychiatric disorders in 40.7% and 44% respectively. However, different prevalence in studies done by Dube et al 1970, Nandi et al 1975, Ramachandran et al 1979 and Venkoba Rao et al 1981, could be because among these, few were general epidemiology studies involving the whole community (all age groups included) and hence the number of elderly was small. Moreover, these variations could also have been influenced by the choice of instrument, as the threshold for detecting a disorder varies from instrument to instrument.

A trend of increasing psychiatric morbidity with increasing age was seen. However, this did not reach statistical significance.

Though psychiatric disorder was found to be more in widow/widowers (52.3%) as compared to married elderly, this however was not statistically significant. Ramachandran et al, 1981 reported a high correlation with widowed state and psychiatric disorders.

Prevalence rate was presented by marital status and size of household, since these two demographic variables are known to be risk factors for dementia and other psychiatric disorders (Kramer et al, 1985). In addition they provide some information about an individual's living arrangement and potential presence of or absence of social support network. This may have a bearing on the ability of cognitively impaired individuals to remain in the community.

It was a welcome fact to see majority living in joint/extended families. Yet, size of the household in which they live also reflects the fact that the percentage of psychiatric disorders in elderly increases as the family support system moves away and is higher in those elderly who live alone (100%). The association of psychiatric disorders and family type was statistically significant ( $p < 0.02$ ).

There was no definite pattern observed among those diagnosed with psychiatric disorders and their education status. Venkoba et al, 1981, had reported that majority were illiterates. The difference in the percent prevalence could be primarily due to the fact that these studies were conducted in a suburb (where 59.5% were illiterates) and a city (the present study, where most are literate i.e. 73.3%).

Ramchandran et al, 1981 found that prevalence of psychiatric disorders was significantly higher in lower middle and lower social classes as compared to upper middle social classes, i.e. the elderly from the lower and disadvantaged sections of our society are psychiatrically more morbid. The present study also observed similar findings. The association was however found to be statistically significant ( $p < 0.05$ ).

This not being a productive age leads to economic dependence. A higher psychiatric morbidity among unemployed and retired elderly (73.2%) was observed in the present study, corroborating that reported by Ramchandran et al, 1981.

Depression represented the largest diagnostic group (23.6%). This is comparable to that reported by Kay et al 1964 (26.2%), Ramachandran et al 1979 (24%) and Bannerjee et al (26%).

The prevalence of dementia (11.6%) is also similar to that reported by Griffiths et al 1987, Venkoba Rao 1981, Weissman et al 1985, Pfeffer et al 1987, Bannerjee et al 1996 and Rabins et al 1996. However, in other Indian studies, researchers have quoted lower figures of 6% by Ramachandran (1979) and a prevalence of 3.39% by Shaji et al (1996). This could be because of different demographic studies and instruments used.

There is agreement with the finding of 10.8% anxiety disorders in this study and that reported by van Balkom et al, 2000. It was further observed that Generalized Anxiety disorder (GAD) was the most common, followed by Phobic disorders, Obsessive-Compulsive disorder (OCD) and Panic disorder. Though there is agreement on these common anxiety disorders, the % prevalence and rank order as reported by van Balkom et al is different. The reason behind this could be the presence of comorbidity as seen by van Balkom.

Gender difference had no influence on psychiatric morbidity except for anxiety disorders and alcohol abuse.

### **CONCLUSIONS**

Conceptually, from the community point of view, mental health concerns are a lower priority in comparison with physical health needs. This is evident from our study, wherein very few of those diagnosed with psychiatric disorders reported to the Geropsychiatric clinic. In addition, the stigma associated with mental disease result in failure to

seek or a delay in seeking appropriate care. This may be an umbrageous issue with the community at large but the high-risk group of the elderly and the evident high psychiatric prevalence stipulates availability and easy accessibility of such care in a more cordial setting (read community).

The elderly have traditionally been overlooked and underserved by the society, government and medical fraternity at large. The reasons for this are complex and include reluctance among the elderly to seek and accept treatment, high rates of medical comorbidity, mobility impairment and cognitive impairment. Psychogeriatrics needs to be therefore taken up on a priority basis.

The truth is community health programs are essentially vertical in nature and do not fulfill the holistic nature of primary care. Comprehensive Geriatric care should be incorporated in all levels of health care and especially in primary health care. Health care professionals will need to be sensitized and educated about the physical and mental health changes typically related to aging and the know-how to deal with these.

### **ACKNOWLEDGEMENTS**

Authors acknowledge the support and help from Dr. U. Goswami and Dr. U. Khastgir of department of Psychiatry, Lady Hardinge Medical College during this study..

This original work was carried out in the department of Community Medicine, Lady Hardinge Medical College & associated hospitals, New Delhi as part of Thesis Dissertation for MD (Community Medicine) degree.

### **CORRESPONDENCE TO**

Dr Archana Chowdhury, 52/29 C R Park, New Delhi – 110019 India E-mail: drarchanam@gmail.com; drarchanam@rediffmail.com Tel: +91-9971695931

### **References**

1. Banerjee S., MacDonald A. Mental disorders in an elderly home care population: associations with health and social service use. *British Journal of Psychiatry*, 168: 750-756, 1996.
2. Bhutia TK, Walia I, Singh A. Social and mental health of elderly in Chandigarh. *Bulletin of PGI*, 34: 98-101, 2000.
3. Dube K. C. A study of prevalence and biosocial variation in mental illness in a rural and urban community in U.P., India. *Acta Psychiatrica Scandinavica*, 46: 327, 1970.
4. Folstein M.F., Folstein S.E., McHugh P.R. Mini-Mental State: A practical method for grading the cognitive state of patients for the clinician. *Journal of Psychiatric Research*, 12: 189, 1975.
5. Gautam S., Pant A. Depressive disorders in the elderly. *Indian Journal of Gerontology*, 11(3&4): 52-57, 1997.
6. Griffiths RA, Good WR, Watson NP, O'Donnell HF, Fell

- PJ, Shakespeare JM. Depression, dementia and disability in the elderly. *British Journal of Psychiatry*, 150: 482-493, 1987.
7. Kay DWK, Beamish P, Martin R. Old age mental disorders in Newcastle Upon Tyne. Part I. A study of prevalence. *British Journal of Psychiatry*, 110: 146-158, 1964.
8. Kramer M, German PS, Anthony JC, von Korff M, Skinner EA. Patterns of mental disorders among the elderly residents of Eastern Baltimore. *Journal of American Geriatric Society*, 33:236-245, 1985.
9. Kuppuswamy B. Manual of socio-economic status scale (urban), Manasayan, New Delhi. 1976
10. Pfeifer RI, Afifi AA, Chance JM. Prevalence of Alzheimer's disease in a retired community. *American Journal of Epidemiology*, 125: 420-436, 1987.
11. Rabins PV, Black B, German P, Roca R, McGuire M, Brant L, Cook L. The prevalence of psychiatric disorders in elderly residents of public housing. *Journal of Gerontology: Medical sciences*, 51A (6): M319-M324, 1996.
12. Ramachandran V, Menon MS, Ramamurthy B. Family structure and mental illness in old age. *Indian Journal of Psychiatry*, 23 (1): 21-26, 1981.
13. Ramachandran V, Menon MS, Ramamurthy B. Psychiatric disorders in subjects aged over fifty. *Indian Journal of Psychiatry*, 22: 193-198, 1979.
14. Rao AV, Madhavan T. Geropsychiatric morbidity survey in a semi-urban area near Madurai. *Indian Journal of Psychiatry*, 24 (3): 258-267, 1979.
15. Registrar General of Census Operations in India. Delhi Census Hand Book. Part XII A&B. Census of India 1991.
16. Shaji S, Promodu K, Abraham T, Roy KJ, Verghese A. An epidemiological study of dementia in a rural community in Kerala, India. *British Journal of Psychiatry*, 168: 745-749, 1979
17. Spitzer RL, Williams JBW, Gibbon M, First MB. Structured Clinical Interview for DSM-III-R - Patient edition (SCID-P, Version 1.0). American Psychiatric Press, Washington, DC, 1990.
18. Van Balkom AJLM, Beekman ATF, De Beurs E, Deeg DJH, van Dyck R, van Tilburg W. Comorbidity of the anxiety disorders in a community-based older population in the Netherlands. *Acta Psychiatrica*, 101: 37-45, 2000
19. Weissman MM, Myers JK, Tischler GL, Holzer CE, Leaf PJ, Orvaschel H, Brody JA. Psychiatric disorders (DSM-III) and cognitive impairment among the elderly in a U.S. urban community. *Acta Psychiatrica Scandinavica*, 71: 366-379, 1985.

**Author Information**

**Archana Chowdhury, MD**

Program Leader – Rural Health, S M Sehgal Foundation

**Sanjeev Kumar Rasanias, MD**

Professor and Head, Department of Community Medicine, Vardhaman Mahavir Medical College & associated Safdarjung Hospital