

GEROPSYCHIATRIC MORBIDITY IN RURAL UTTAR PRADESH

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ABSTRACT

In a specific geographical area an estimate of prevalence of psychiatric morbidity was done. The sample was divided into geriatric population-psychiatrically ill and non-ill, and non-geriatric psychiatrically ill-field based population; the last group was compared with a similar hospital based sample. The total prevalence of psychiatric illness in geriatric group was 42.21%, and neurotic depression, MDP-depressed and anxiety state were most prevalent. To no single factor could be a definitive role, such as diagnostic, etiological, therapeutic or preventive, could be attributed.

Key words : Epidemiological study, geriatric population

The modern era in geriatric psychiatry began at the early part of this century with the differentiation of senile dementia, arteriosclerotic dementia and presenile psychosis. The need for research in geropsychiatry has been demanded by growth in the size of elderly population. In 1980, out of total world population of 4.37 billion, about 250 million were over the age of 65 years. Small et al. (1988) have estimated that by the end of this century US alone will have a population of about 35 million people aged 65 years & above and Livingston et al. (1990) found that about 32% of the individuals in a specified community showed impairment in activities of daily living.

India is also facing a similar situation. Although in terms of percentage the population of 60 years or above has remained constant at around 8% (Govt. of India, 1986) for past few decades, but a general increase in the population has engendered a rise in the absolute numbers of elderly citizens. Moreover the increased life-expectancy of an individual from about 46 years in 1971 to about 60 years in 1993 (Govt. of India, 1993), has also contrib-

uted significantly. It is estimated that by the end of twentieth century, the population above age of 60 years would be around 65 million. Another estimate is that while in 1980, only 7.5% of the total population in India was aged above 60 years, by 2025 A.D., this would rise to 18.4% (Sharma, 1994).

This large burden of geriatric population also accompanies with it an equally high psychiatric morbidity. Various studies have been carried out in the country to estimate the prevalence rates, notable among which are Dube (1970)- 23.3/1000 population, Nandi et al. (1975) - 33%. Ramchandran and colleagues (1979, 1982) have found that psychiatric disorders are present in 35% of elderly population, out of which rates for depression and schizophrenia were found to be 240 and 40 per 1000 population. Such high rates of psychiatric morbidity itself demand special attention directed specifically towards the geriatric population. Which prompted us to undertake this study with the following aim of assessing the prevalence of psychiatric illness in person aged 60 and above in a defined rural

community, and comparing it with that of non-geriatric population so as to have an idea of the difference, if any, between geriatric and non-geriatric segments.

MATERIAL AND METHOD

Sample Selection : The sample was drawn from the villages under Mohanlalgaraj Primary Health centre in district of Lucknow. Out of a total of 27 villages, 5 villages were chosen randomly for the study, and a door-to-door survey was done in these villages. All subjects aged 60 years or above, at the time of evaluation, were included in the study, provided they had been residing in the same village for a minimum period of 1 year, or if less than a year, then had firm intentions of staying permanently in future. These subjects yielded psychiatrically ill (group A) and psychiatrically non-ill (group B) field based geriatric subjects. The psychiatric diagnosis was made as per criteria of the ICD 9. Those residents were also inducted in the study who were less than 60 years of age but were having a psychiatric illness (group C), and an equal number of consecutive patients (aged less than 60 years) admitted in our hospital (group D) were also taken up in the study. The four groups were included to nullify the effect of common psychosocial factors and to study what specific factors, if any, could correlate with psychiatric illnesses in geriatric subjects. As a result to achieve these objectives psychiatrically ill geriatrics (group -A) were compared with psychiatrically non-ill geriatrics (group-B) and psychiatrically ill non-geriatrics (group-C) from the same geodemographic area. To bring in further specificity another dimension was added by studying psychiatrically ill non-geriatrics (group-D) from different geodemographic areas admitted in psychiatric hospital at King George's Medical College. Hence, the sample comprised of 2 distinct groups, each group in turn having two subgroups :

- I. Geriatric Group (field based)
1. Psychiatrically ill (Group A)

2. Psychiatrically non-ill (Group B)
 - II. Non-geriatric Group
 1. Field-based (Group C)
 2. Hospital based (Group D)
- All the diagnoses were given in accordance to ICD-9

Procedure : A pilot survey preceded the actual work to familiarize the workers with the project. All the subjects were evaluated on following instruments :

1. Semi-Structured proforma for recording sociodemographic details.
2. Mental health item sheet (Verghese et al. 1973) for screening subjects.
3. Criteria for age determination (Venkoba Rao & Madhavan, 1982) for age determination.
4. ICD 9 for making diagnosis.

In the event of mental illness being discovered, the first author (SCT) personally interviewed the individual and close family members, to ascertain/disprove the diagnosis.

Statistical Analysis : Percentage and Chi-square test were used wherever applicable.

RESULTS

The total sample comprised of 7727 individuals obtained after screening 1517 families. The total number of geriatric population was 488 out which 206 were psychiatrically ill. Among the non-geriatric population (N=7239) only 288 were suffering from a psychiatric illness (Table -1). The psychiatric morbidity was much higher in the geriatric population (42.21%) as compared to the non-geriatric population (3.97%), as is evident in table-2.

As illustrated in table-3 the majority of geriatric patients belonged to age-group 60-69 years, both in psychiatrically ill (59.71%) and non ill (87.73%) groups, whereas in the non-geriatric group the majority of subjects fell in the group 20-39 year. The differences between group A vs B and C vs D were statistically significant.

Table-4 shows the sociodemographic

TABLE - 1
STUDY SAMPLE

1. Total no. of families screened	- 1517
2. Total population surveyed	- 7727
3. (a) Total no. of geriatric population found	- 488
(1) No. of psychiatrically ill geriatric persons (Group A)	- 206
(2) No. of psychiatrically non ill geriatric persons (Group B)	- 282
(b) (1) Non geriatric population	- 7239
(2) Non geriatric psychiatrically ill persons (Group C)	- 288
4. Non geriatric psychiatrically ill persons (Hospital based) (Group D)	- 288

TABLE-2
PSYCHIATRIC MORBIDITY PROFILE

Study group	Population Covered	Sick subjects	Frequency
		N	%
1. Psychiatric morbidity in general population.	7727	494	6.39
2. Psychiatric morbidity in non-geriatric population (Field based)	7239	288	3.97
3. Psychiatric morbidity in nongeriatric population (Hospital based)	—	288	—
4. Psychiatric morbidity in geriatric population	488	206	42.21

profile of the sample. Although the subjects were distributed among the groups, for sex, religion and caste, significant difference was present between groups A vs D and C vs D; for education group A differed significantly from C and D, and C from D. It is also evident from the table 4 that about 50% individuals were married and almost half of the sample in geriatric groups-both ill and non-ill was separated/divorced or widowed. On analysis group A was found to differ significantly from all the 3 groups,

TABLE 3A
AGE DISTRIBUTION IN GERIATRIC SUBGROUPS

Age distribution (years)	Group A (N=206)	Group B (N=282)
	%	%
60-69	59.71	67.73
70-79	24.27	25.53
80 & Above	16.02	06.74

A vs B $X^2=10.00$, d.f.=2, $p<0.01$

TABLE 3B
AGE DISTRIBUTION IN NONGERIATRIC SUBGROUPS

Age distribution (years)	Group C (N=288)	Group D (N=288)
	%	%
20-39	42.36	59.03
40-59	41.67	14.24

C vs D $X^2=54.463$, d.f.=2, $p<0.01$

and so did group C from group D.

A well documented fact is the role of family in precipitating and perpetuating psychiatric illness. In our study, it was seen that in the geriatric groups, about half of the sample belonged to an extended family, followed by nuclear family whereas the reverse was seen in non-geriatric groups; however, the two geriatric groups did not differ to a statistically significant level.

A collation of diagnostic break-up of the different groups (Table-5) reveals that the prevalence of psychiatric disorders varied with the groups. The geriatric-ill group had highest rate of neurotic depression (30.09%) followed by MDP-depressed type (21.84%) and anxiety state (20.38%); rest of the illness were found in a minority of the population. In the non-geriatric groups, anxiety states (24.65%) and MDP-depressed (16.67%) were most prevalent disorders in the field-based group (C), while MDP depressed (31.25%) and schizophrenic psychoses (22.23%) dominated in the hospital

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TABLE 4
SOCIODEMOGRAPHIC PROFILE

	Geriatric Group A (N=206)	Geriatric Group B (N=282)	Non Geriatric Group C (N=288)	Non Geriatric Group D (N=288)	Pairwise comparison X ² value
	%	%	%	%	
1. Sex ^a					A Vs B = 0.74
Male	48.54	52.48	44.44	69.44	A Vs C = 0.81
Female	51.46	47.52	55.56	30.56	A Vs D = 22.0 ..
					C Vs D = 36.71 ..
2. Religion ^a					A Vs B = 0.03
Hindu	88.83	88.30	89.58	81.60	A Vs C = 0.07
Muslim	11.17	11.70	10.42	18.40	A Vs D = 4.8 ..
					C Vs D = 7.5 ..
3. Caste distribution ^b					A Vs B = 0.03
Upper	22.82	21.28	30.21	50.69	A Vs C = 3.53
Backward	31.55	33.33	30.21	31.25	A Vs D = 54.81 ..
Scheduled	45.63	45.39	39.58	18.06	C Vs D = 38.15 ..
4. Education ^c					A Vs B = 0.68
No school	78.21	78.37	61.11	18.40	A Vs C = 15.16 ..
Literate with education	11.17	08.86	09.03	09.72	A Vs D = 193.15 ..
Primary	09.71	09.57	14.58	21.53	C Vs D = 123.96 ..
High school & above	02.91	03.19	15.28	50.35	
5. Marital status ^b					A Vs B = 6.30 ..
Unmarried	2.43	0.71	18.75	29.51	A Vs C = 101.03 ..
Married	46.60	58.38	69.09	65.63	A Vs D = 161.92 ..
Seperated/ Divorced/ Widowed	50.97	42.91	12.15	4.86	C Vs D = 16.17 ..
6. Economic status ^b					A Vs B = 5.57
Upper	3.40	2.13	1.74	8.68	A Vs C = 2.83
Middle	19.42	28.37	24.31	34.03	A Vs D = 21.59 ..
Lower	77.18	69.50	73.96	57.29	C Vs D = 24.09 ..
7. Family structure ^c					A Vs C = 57.24 ..
Nuclear	23.79	32.62	62.85	60.42	A Vs B = 7.20
Joint	7.28	6.03	6.94	7.99	A Vs D = 83.90 ..
Extended	58.25	55.32	27.43	31.25	C Vs D = 6.51
Single member	10.68	6.03	2.78	0.35	

For all values * p<.05, ** p<.01, ^a d.f.=1; ^b d.f.=2; ^c d.f.=3

based group (D).

However, the rates for cannabis and alcohol dependence syndrome, when consid-

ered for the whole geriatric sample (Groups A and B) (N=488), came to be 3.4% and 0.6% respectively; the same for schizophrenic psychosis were 0.6% and for MDP-depressed type were 9.2%. Similarly, the rates for whole

TABLE 5
DIAGNOSTIC BREAKUP (ACCORDING TO ICD- 9)

Diagnostic category	Geriatric subjects		Non geriatric subjects	
	Group A (N=206)	Group C (N=288)	Group C (N=288)	Group D (N=288)
	%	%	%	
300 <u>Neurotic disorder</u>				
300.0 Anxiety state	20.38	24.65		7.29
300.1 Hysteria	2.43	4.51		0.07
300.3 Obsessive compulsive disorder	0.97	2.06		0.43
300.4 Neurotic depression	30.09	14.58		5.17
304.0 <u>Drug dependence</u>				
304.0 Morphine type (Raw opium)	---	0.69		3.82
304.3 Cannabis type	8.25	7.98		1.39
303.0 Alcohol dependence syndrome	1.45	2.43		2.78
295.0 <u>Schizophrenic psychoses</u>	1.45	4.16		22.23
296.0 <u>Affective psychoses</u>				
296.0 MDP (Mania type)	---	1.04		7.64
296.1 MDP (Depressive type)	21.84	16.87		31.25
290.0 <u>Organic psychotic condition</u>				
290.0 Senile dementia (simple)	6.31	---		---
290.2 Senile dementia (depressed)	3.39	---		---
290.4 Arteriosclerotic dementia	0.97	---		---
317 <u>Mental retardation</u>	0.97	11.80		1.04
309.1 <u>Adjustment reaction</u> (prolonged depressive)	1.45	2.06		0.69
345.1 <u>Generalized convulsive epilepsy</u>	---	3.12		2.06
309 G.S.R.	---	0.35		---
Febrile-fits	---	0.35		---
346 <u>Migraine</u>	---	0.69		---
Dhat syndrome	---	2.77		3.12

non-geriatric population (n=7239) were also different-morphine (0.1%), cannabis (0.32%) and alcohol (0.9%) dependence; schizophrenic psychosis was seen in only 0.16% of the population, while MDP-depressed and MDP-mania were 0.04% and 0.66% respectively.

Table-6 shows the pattern of suicidal attempts, which were highest in non-geriatric field-based group (2.05%) followed by hospital-based group (1.72%) and geriatric-ill group (0.96%), while there was none in the

geriatric non-ill group.

The patterns of drug abuse, including alcohol are indicative that the use of tobacco (Table-7), either by chewing or smoking was found most commonly in all the groups except non-geriatric hospital-based one where alcohol use (14.93%) scored marginally higher. Although the proportion using psychoactive substances was much higher, but those conforming to ICD-9 diagnoses of substance abuse was much less (table-5).

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TABLE 6
SUICIDAL ATTEMPTS

	Geriatric subjects Group A (N=206)	Group B (N=282)	Non Geriatric subjects Group C (N=288)	Group D (N=288)
	%	%	%	%
Yes	0.9	0	1.6	2.05
No	99.1	100	98.4	97.95

DISCUSSION

The present work was an epidemiological study conducted in a localized geographical area stipulated to be representative of the general population. The study aimed at estimating the prevalence of psychiatric morbidity in those aged 60 years or more, and comparing their sociodemographic profile from non-ill geriatric subjects.

Group A geriatrics drawn from the field were compared with non-geriatrics drawn from the same catchment area (group C) with objectives to delineate differences, if any, in psychiatric morbidity in subjects hailing from the same sociocultural matrix and having different age groups. The issue was further

studied comparing the group A subjects with group D subjects admitted in the hospital to evaluate any differences in the sociodemographic profile of subjects who were admitted in a psychiatric hospital and the others who are not brought to hospital (Group A).

It has been well borne out in other studies that there is comparatively higher psychiatric morbidity in elderly people. In a recent epidemiological study (Premaranjan et al., 1993) the overall psychiatric morbidity was 99.4 per 1000 population and that in those aged 60 years or above it was 173.9/1000. Similarly, higher rates have been found by other workers as well—Dube (1970) - 22.34%, Nandi et al. (1975) 333/1000 population, and Ramchandran et al. (1979) - 350/1000 population. Albeit, the difference in these studies is that some of them targeted urban sample, while others were conducted in village (s), all are unanimous in reporting higher prevalence of psychiatric disorders in elderly subjects. Another aspect is that these studies have been conducted in various parts of the country—Dube (1970) in Agra, Nandi et al. (1975) in West Bengal and Premaranjan et al. (1993) in Pondicherry, which seems to cover the 3 corners of our vast

TABLE 7
TYPE OF DRUG ABUSE

	Geriatric subjects Group A (N=206)	Group B (N=282)	Non Geriatric subjects Group C (N=288)	Group D (N=288)
	%	%	%	%
1. Morphine or derivative	4.37	6.38	2.43	5.56
2. Opium or derivatives	1.46	0	0	0
3. Alcohol	17.48	12.06	20.14	14.93
4. Amphetamines or derivatives	0	0	0	0
5. Hashish, marijuana (bhang or ganj)	17.96	1.77	15.97	11.82
6. Hallucinogens (LSD) and others	0	0	0	0
7. Barbiturates and sedative	0	0	0	0
8. Tobacco (Chewing/smoking)	45.63	50.00	34.72	13.19

country, but the findings are similar. This is further supplemented by the present study where psychiatric morbidity was much higher in geriatric (42.21%) than non-geriatric subset (3.97%).

The two geriatric subgroup differed significantly only with regard to marital status, Albeit the ill group had less education and more subjects were living as single member family. Group A differed to a significant extent on more with hospital-based (Group D) than field based (Group C) geriatric parameters. Among the non-geriatric groups (Group C and D), the hospital based sample had higher representation of upper and backward castes, those with more education, those belonging to upper/middle socioeconomic status, and those living in joint and extended families, as compared to the field-based group (Group C).

Hence, it appears that, among all groups, higher rates of psychiatric disorders were seen in those with less level of education, poorer financial conditions and limited or no family support system. The level of education vis-a-vis psychiatric morbidity has also been the focus of investigation in other studies, and both have been found to have an inverse relationship. This is exemplified in the study of Premaranjan et al. (1993) where psychiatric morbidity in illiterate subjects was highest (23.6%) and declined progressively, and was only (8.3%) in those who had been educated till postgraduate level or had a professional qualification.

At present it is not possible to expatiate conclusively on the existing caste difference in this regard. A probable rational could be that those belonging to upper/backward castes are more aware of psychiatric illness and their treatment than those belonging to scheduled caste, who additionally may be worse functionally. This explanation requires further scientific enquiry before it could be accepted as logical explanation.

The diagnostic break-up within various groups varied. Predictably, organic psychiatric conditions were seen only in geriatrics, and dhat

syndrome in non-geriatric population; mental retardation was highest in field based group C. Neurotic disorders, especially neurotic depression, were present more frequently in geriatric group, the attribution of which could possibly be made to higher susceptibility to psychosocial stressors in the elderly. The use of psychoactive substances shows a variegated picture. Other workers have also noted that the use of alcohol and tobacco figure as highest among all psychoactive substances (Channabasavanna et al., 1990; Mohan et al., 1993; Sitholey et al., 1993), our figures are *enrapport* with these findings. In geriatric group, dependence on cannabis was highest; and notably, no subjects were dependent on morphine group of drugs. The use of cannabis is culturally sanctioned which was the probable reason for the high figures.

One shortcoming of our study was the selection of hospital-based sample (Group-D), which ideally should have comprised of hospitalized individuals coming from the same geographical area. However, as this was not feasible to make adequate sample size (equal to field-based (Group C) subjects), we recruited consecutive patients to eliminate selection bias to certain extent. Estimate of psychiatric morbidity in geriatric population has been done by other workers as well, but to the best of belief of authors no study has compared geriatric and non-geriatric groups simultaneously on these parameters. This study has revealed certain differences in sociodemographic profile of these 2 groups, which, however need to be validated in other studies, for planning and execution of mental health policies directed specifically against geriatric subjects.

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