

# Psychiatric Morbidity Profile of Elderly residing in a Metropolitan City

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**Abstract**—Elderly population is increasing due to demographic shift in favor of geriatric population. This age group is susceptible for many health problems which have a significant impact on their quality of life. So this cross-sectional study was carried out from September 2009 to August 2010 on 1620 elderly residing in Municipal corporation area of Jaipur city with the aim to find out psychiatric morbidity profile of elderly population. Study population consist of 1620 elderly with M:F ratio 0.95. More than three fourth (82.4%) of elderly were found to have at least one medical problem. From these, majority (54.32%) of elderly have psychiatric problems. So this geriatric group requires more attention by policy makers.

**Key words-** Psychiatric Problem, Elderly, Geriatric, Metropolitan City, Urban Area.

## 1. Introduction

Old age is a normal, inevitable, biological phenomenon. Studies of physical and psychological changes which are incidental to old age are called gerontological studies. Likewise, care of the aged is called clinical gerontology or geriatrics.<sup>1</sup> In 1980, United Nations defined 60 years as the age of transition to the elderly segment of the population.<sup>2</sup>

In India, proportion of persons above 60 years of age is 7.3% consisting 7% and 7.7 % male and respectively. As far as the urban and rural is concerned it was reported 6.9% in urban and 7.5% in rural areas. In urban areas 6.6% male and 7.3% female whereas in rural areas 7.1% male and 7.8 % females.<sup>3,4</sup> It is estimated 18.4% of the total population in India by the year 2025.<sup>5</sup> Social and economic conditions such as poverty, break up of joint families and poor services to the elderly pose a psychiatric threat to them. Emergence of nuclear families, increased cost of living, and change in priorities of a family has adversely affected the elderly in India. Psychiatric morbidity increases with age, is more prevalent in the geriatric (43.32%) than in the non-geriatric group (4.66%).<sup>6</sup>

As people become older the functioning and adaptability of the tissues and different organs decline. Geriatric populations suffer both from communicable and non-communicable diseases but due to changing patterns of socioeconomic factors and urbanization, non-communicable diseases are on increase. Elderly people suffer from the dual impact of different chronic diseases and disability resulting from these diseases. .

Many health problems are known to increase with age and this demographic trend is believed to lead to an increase in the absolute number of health condition in the population as reflected by that older people are at risk for multiple, co-morbid conditions.<sup>7</sup> Survey conducted by NSSO 1984-85 to 1995-96 detected that 50% of elderly Indians had one or more morbidity while up to 40% of them had one or more functional disability.<sup>8</sup>

Psychiatric morbidity in elderly was reported about one fourth (1/4) to two third (2/3) of elderly by many studies in India.<sup>9-11</sup>

## 2. Methodology

After taking approval from Institutional Ethics committee, this community based cross sectional survey was conducted in Municipal Corporation area of Jaipur city, Rajasthan, from September 2009 to August 2010. Study population consists of elderly aged 60 years and above living in municipal corporation area Jaipur city.

Sample size was calculated 525 subjects at 95% confidence limit and absolute sampling error of 4% assuming 30% psychiatric morbidity in elderly. As sampling technique used as 30 cluster so calculated sample size was doubled for design effect of 30 cluster technique ( $DE=2$ ).<sup>12</sup> This was again inflated 20% for contingency addition. So for the study purpose 1620 elderly was taken.

$$\begin{aligned} \text{Sample Size} &= 4PQ/L^2 && \text{here } P=30, Q=100-P=100-30=70, L=4 \\ \text{So, Sample Size} &= 4 \times 30 \times 70 / (4 \times 4) = 8400/16 = 525 \\ \text{Sample Size} &= \text{Calculated SS} \times \text{Design Effect} = 525 \times 2 = 1050 \\ \text{Sample for Study Population} &= 1050 + 20\% \text{ contingency addition} = 1050 + 210 = 1260 \end{aligned}$$

Sample population was taken from 30 wards selected by 30 cluster sampling technique. After obtaining written informed consent and ensuring confidentiality and identity of gathered information house to house survey was conducted in identified 30 wards of Jaipur city. House to house survey was done in each identified ward to have 54 elderly. Thorough personal interview was conducted of each of selected elderly to fill the semi-structured pre-designed and pre-tested performa. For diagnosis of psychiatric illnesses, screening was done by using Gahlot & Gautom questionnaire and confirmation was made by a qualified psychiatrist.

Data thus collected were compiled in the form of master chart in MS Excel 2007 worksheet. Parametric and Non Parametric statistical techniques were used. 'p' value  $<0.05$  was taken significant for inferences. Chi-Square Test was used to find associations. 'p' value  $<0.05$  was taken as significant.

### 3. Results

Study population of elderly was having mean age of 66.08 years with age range 60 years to 91 years. When arranging in increasing age mid numbered elderly was having 65 years of age. (Table 1)

**Table No. 1**

#### **Characteristics of study participants**

Age Group (In Years)	Male		Female		Total	
	Number	(%)	Number	(%)	Number	(%)
<b>60-64</b>	269	(16.60)	394	(24.32)	663	(40.93)
<b>65-69</b>	326	(20.12)	244	(15.06)	570	(35.18)
<b>70-74</b>	116	(7.16)	133	(8.22)	249	(15.38)
<b>75-79</b>	64	(3.95)	20	(1.23)	84	(5.18)
<b>80 and &gt;80</b>	16	(0.98)	38	(2.35)	54	(3.33)
<b>TOTAL</b>	791	(48.82)	829	(51.18)	1620	(100.00)
<b>Mean (in years)</b>	66.498		65.674		66.076	
<b>SD (in years)</b>	5.119		5.948		5.572	

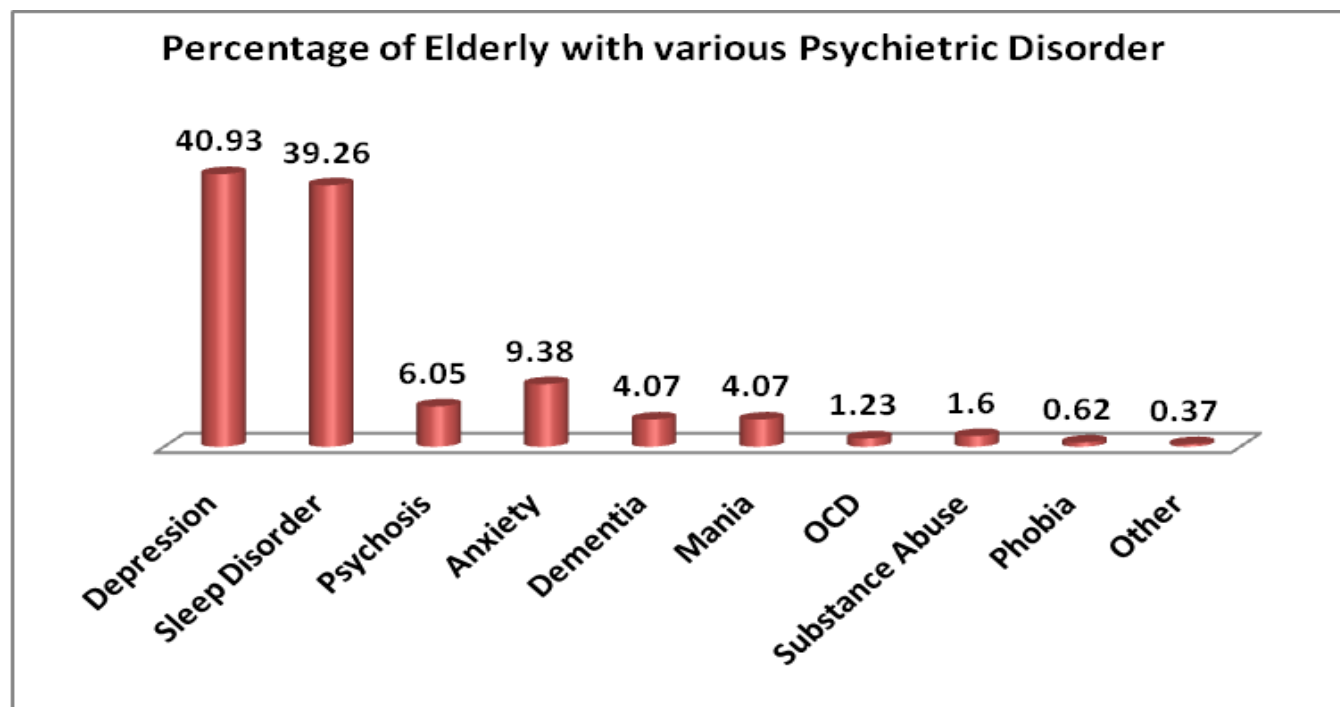
<b>Range (in years)</b>	60-87	60-91	60-91
<b>Median (in years)</b>	65	65	65

**Chi-square = 67.681 with 4 degrees of freedom; P < 0.001 LS=S**

Out of total 1620 study population of elderly, maximum (663 i.e. 40.93%) of elderly was in 60-64 years followed by 65-69 years, 70-74 years, 75-79 years and 80 and above 80 years. But when sex wise distribution was observed majority of elderly fall in 65-69 year age group followed by 60-64 years, 70-74 years, 75-79 years and 80 and above 80 years in males whereas in females maximum of elderly was in 60-64 years followed by 65-69 years, 70-74 years, 80 & above 80 years and 75-79 years. This variation in proportion as per sex was found significant.(Table 1)

Out of total 1620 study population of elderly, 880 i.e. 54.32% of elderly was having either of type of psychiatric illness. Among various major psychiatric illness Depression was more common (in 663 i.e.40.93%) followed by Sleep disorder, Anxiety, Psychosis, Dementia, Mania, Substance abuse, OCD and Phobia. (Figure 1)

Figure 1



When distribution of major psychiatric disorders was observed according to sex, it was observed that there was no significant difference (P>0.05) in proportion of elderly was observed in case of Anxiety (P=368), Dementia (P=067), Mania (P=150), OCD (P=905) and Substance abuse (P=267). But proportion of elderly was found significantly more in females in case of Depression (P<0.001), Sleep Disorders (P<0.001), Psychosis (P<0.001) and Phobia (P=0.005). (Table 2)

Table 2

**Major Psychiatric Disorders as per sex in elderly**

S. No.	Type of Psychiatric Disorders	Male (N=791)		Female (N=829)		Total (N=1620)		Chi-Square at 1 DF	
		Number	%	Number	%	Number	%	P Value	LS
1	Depression	279	35.27	384	46.32	663	40.93	19.985 P<0.001	S
2	Sleep Disorder	239	30.21	397	47.89	636	39.26	52.285 P<0.001	S
3	Psychosis	28	3.54	70	8.44	98	6.05	16.277 P<0.001	S
4	Anxiety	80	10.11	72	8.69	152	9.38	0.811 P=0.368	NS
5	Dementia	40	5.06	26	3.14	66	4.07	3.345 P=0.067	NS
6	Mania	26	3.29	40	4.83	66	4.07	2.073 P=0.150	NS
7	OCD	10	1.26	10	1.21	20	1.23	0.014 P=0.905	NS
8	Substance Abuse	16	2.02	10	1.21	26	1.60	1.231 P=0.267	NS
9	Phobia	0	0.00	10	1.21	10	0.62	7.735 P=0.005	S
10	Other	2	0.25	4	0.48	6	0.37	0.124 P=0.725	NS

\*Multiple Response

#### 4. Discussion:

The present study found that the percentage of elderly females (51.18%) was slightly more than males (48.82%) giving a sex ratio of 1048 females per thousand males. In India according to SRS there are 1136 women for every 1000 men in the age group > 60 years.<sup>13</sup> Observations made by Seby et al (2011)<sup>14</sup> Nandi P S et al (1997)<sup>10</sup>, Reddy MV et al (1998)<sup>15</sup> and Purna Singh et al (2012)<sup>16</sup> were also almost similar to present study.

This study found that majority of the elderly (76.11%) belonged to age group of 60-69 years followed by 20.56% in the age group of 70-79 years and 3.03% in age group of 80 years and above. Subhash et al<sup>9</sup> observed that 63.45% of elderly belonged to 60-69 years followed by 28.07% in the age group of 70-79 years and 8.48% in age group of 80 years and above. National data for the corresponding age group which were 61.74%, 27.39% and 10.87 % respectively (Census 2011)<sup>17</sup>

Observations of present study was well comparable with the study conducted in Udaipur, Rajasthan,<sup>11</sup> Orissa<sup>18</sup> and South Korea<sup>19</sup> where 87.3%, 83% and 80.9% elderly persons were in the age group 60-75 years respectively.

In present study Psychiatric morbidity was found in 54.32% which is much higher with Subhash et al,<sup>9</sup> Rahul et al,<sup>11</sup> who also conducted survey in urban population of Rajasthan and reported

psychiatric morbidity 24.24% and 26.67% respectively. But various other studies<sup>20,21,22</sup> well comparable with the present study.

Statistically significant association of gender was found with a number of Psychiatric problems with female predominance. Female's predominance in psychiatric problems has also been documented in a number of studies.<sup>20,21,22</sup>

### CONCLUSIONS

More than half of studied elderly were having either of various type of psychiatric morbidity. Among major psychiatric disorders depression was the commonest followed by sleep disorders, Anxiety etc. As these psychiatric morbidity affects adversely on quality of life and interns the physical health. So it should be taken care with preventive and control measures.

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