

# Health Status of Geriatric Population of a Metropolitan City with their inclination towards Indigenous Medicine System

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**Abstract:** Geriatric population is increasing as life expectancy is increasing. This population 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 study the health status of geriatric population and their inclination towards Indigenous medicine system. Study population consist of 1620 elderly with M:F ratio 0.95. Mean age of elderly was 66.08 years with slight female predominance i.e. 1048 females for 1000 males in Jaipur city. Only 285 (17.59%) elderly who were not having and type of morbidity otherwise a sizable count i.e. 573 (35.36%) were having even 4 or more type of co morbidity. Commonest reported morbidity in present study was Psychiatric morbidity (54.32%) followed by Musculo-Skeletal problems, Cataract, Hypertension, Dental problems etc. About one third were having 2 or more episodes of acute illness episodes in last month. Although 805 (49.69%) were not having any limiting condition in last one year but 382 (23.58%) were hospitalized, 171 (10.56%) got some domestic accidents, 139 (8.59%) had some surgery and 123 (7.59%) had fractures in last one year. It was also found that 53.08% of elderly were able to perform their daily activity without difficulty and only 5.3% of elderly required help for daily activity. In daily activity of life of these elderly face highest difficulty in ADL /required help in use of stair followed by mobility, bowel/bladder activity and nails manicure. Majority (1349 i.e. 82.77%) of elderly followed Allopathy but others were following other type of Indigenous system of medicine. Among males were next to majority were following Homeopathy whereas in females Ayurveda. Among Ayurveda followers females predominate over males (10.49% v/s 7.33%).

**Key words-** Health Status, Elderly, Geriatric, Metropolitan City, Urban Area.

## I. INTRODUCTION

Universal effect of aging is gradual loss of functions of cell of practically all tissues and organs leading to various type of morbidity and disabilities. Sir James Sterling had said that although you cannot heal old age but you can extend it.

There is worldwide trend of increasing geriatric population (> 60 years) which is elicited with the fact that 8.6% of 1980 has increased to 10.8% of total world population in 2010.<sup>1</sup> This “demographic time bomb” is nearing explosion in developed nations. Asia, including India, is not far behind.<sup>1</sup>

Population projection indicates that India will have 198 million 60 plus person in 2030 and 326 million in 2050 when it would be 21% of total population of the country making it the country with the largest elderly population in the world (SRS 2003).<sup>2</sup> The percentage of persons above 60 years of age in India was 7.3% having 6.9% in urban and 7.5% in rural areas. In Rajasthan, this population constitute 6.5% (N.H.P.2008).<sup>3</sup>

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 conditions in the population as reflected by the growing body of evidence that older people are at risk for multiple, co-morbid conditions.

Various studies have shown that perceived health declines with age and the effect of ill health impacts on many areas of daily activities.

Higher morbidity among elderly calls for strengthening of geriatric health care services. Old age persons need special health care different from general population. It is necessary to know the health status and prevalent morbidity pattern in this group. By knowing the prevalent preference of type of medicine system will also help in better framing comprehensive policies to make ageing a comfortable experience. So this study was conducted to assess the health status and morbidity pattern in geriatric population of a metropolitan city.

## II. METHODOLOGY

A case control study was conducted after taking approval from Institutional Ethics committee, this community based cross sectional survey was conducted on elderly aged 60 years and above living in Municipal Corporation area of Jaipur city, Rajasthan, from September 2009 to August 2010.

Sample size was calculated 643 subjects at 95% confidence limit and absolute sampling error of 2% assuming 6.9% proportion of elderly (as per SRS 2008). As sampling technique used as 30 cluster so calculated sample size was multiplied by  $2^4$ . So sample size came out to 1286, which was again inflated 20% for contingency addition and came out to 1544. So, for the study purpose 1620 elderly were taken to have 54 elderly from each of 30 clusters.

To start with survey, list of all wards with their respective population was obtained from Municipal Corporation. Then 30 clusters were selected from all the wards of Municipal Corporation as per 30 cluster technique. After selecting the 30 clusters, in the second step colonies were selected within the cluster by lottery method. In case of selected colony not meeting sufficient subject criteria, adjoining colony was taken. To identify elderly included in study, a landmark was identified in the centre of ward/colony previously selected eg, temple, school, and then survey was started from there to have 54 elderly from that selected colony. Likewise the procedure is followed for other clusters. 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 proforma. B.G.Prasad's classification of socio economic status (updated till April 2010) was used to find out SES of elderly. Likewise the procedure is followed for other clusters.

Data thus collected were compiled in the form of master chart in MS Excel 2007 worksheet. Parametric and Non Parametric statistical techniques were used with the help of statistical software Primer (version 6). '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.

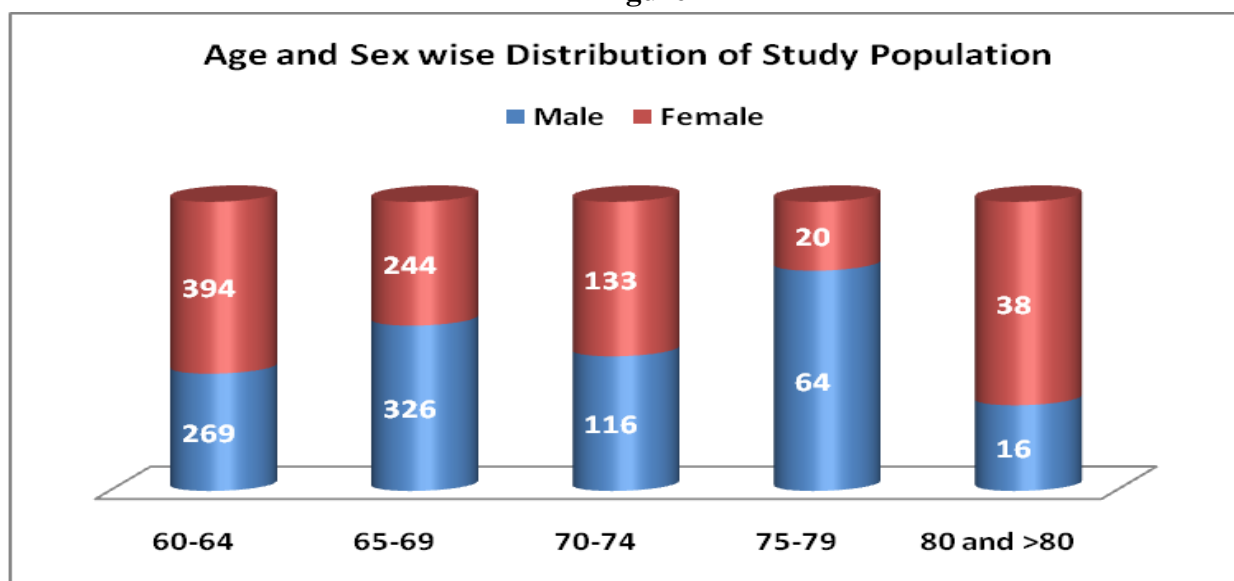
The list of wards and colonies were selected are as follows:-

S. No.	Ward no.	Colonies	Serial no.	Ward no.	Colonies
1	1	Dadi ka Phatak	16	30	Jawahar nagar
2	3	Ashok Nagar and modi nagar	17	34	Fateh Tiba
3	4	SushilPura	18	37-	Chand pole gate
4	6	C-Scheme	19	41	Chokdi Topkhana Hujuri
5	9	Sri Ram nagar Vistar	20	45-	Moti Singh bhomia ka rasta
6	11	Dharm Park	21	47	Guljar Masjid
7	12	Rajiv Nagar(hasanpura)	22	50	Hida Ki Mori
8	13	Man Sarovar sector 10	23	52	Anand Puri
9	15	Jetpuri(Mahesh nagar)	24	54	Pratap nagar sector 8
10	17	Sitaram colony	25	57	Foota Khurra
11	21	Durgapura	26	60	Uniaro Ka Rasta
12	23	Jagannath Puri	27	62	Nahri ka Naka
13	24	Jagdish Colony	28	65	Sanjay nagar bhatta basti
14	27	Jhalana Basti	29	68	Saket Colony and tirth nagar
15	28	Prem Nagar	30	70	Shyam nagar

### III. RESULTS

In this study, mean age of elderly was observed 66.08 years with age range 60 years to 91 years with slight female predominance i.e. 51.18% and 48.82% of male and female respectively. (Figure 1)

Figure 1



It was found that most common morbidity observed was psychiatric problems (54.32%) followed by musculo-skeletal problems (47.90%) were the most reported illness followed by cataract (46.97%), hypertension (33.58%) and dental problems (30.06%) etc. (Table 1)

**Table No.1**  
**Morbidity Pattern of Study Population (N=1620)**

S. No.	Type of Morbidity	Cases	
		No.	%
1	Musculo- Skeletal Problem	776	47.90
2	Respiratory Problems	414	25.55
3	Cancer	101	6.23
4	Tb	42	2.59
5	Hypertension	544	33.58
6	Heart Diseases	88	5.43
7	Paralysis	70	4.32
8	Diabetes	254	15.67
9	Cataract	761	46.97
10	Eye Disease (Excluding Cataract)	47	2.90
11	Deafness	164	10.12
12	Ear Diseases(Excluding Deafness)	82	5.06
13	Dental Problems	487	30.06
14	Psychiatric Problems	880	54.32
15	Renal Diseases	120	7.40
16	Gut	94	5.8
17	Git	243	15
18	Skin Diseases	134	8.27
19	Bph	130	8.02
20	Gyanic Problem	16	0.98
21	Hemorrhoids	104	6.41
22	Hernia	52	3.20
23	Neurological	157	9.69
24	Obesity	199	12.28

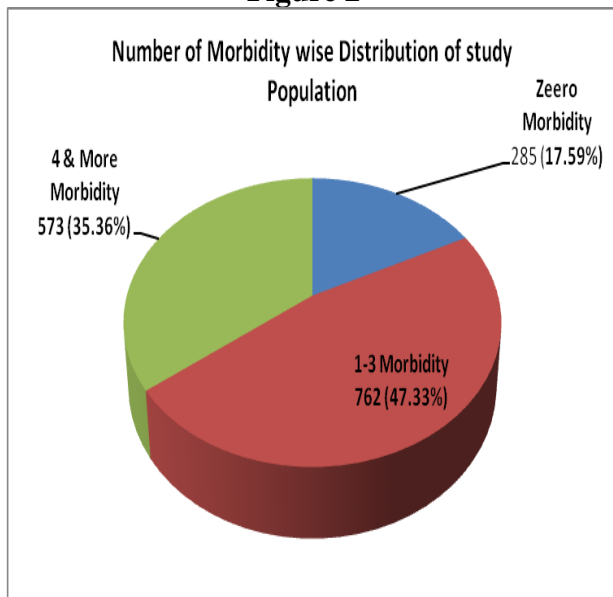
This study also revealed that there were only 285 (17.59%) elderly who were not having and type of morbidity otherwise a sizable count i.e. 573 (35.36%) were having even 4 or more type of co morbidity. (Figure 2)

When number of acute illness episodes of last month was revealed it was found that about one third i.e. 538 (33%) were having 2 or more episodes of acute illness episodes in last month. (Figure 3)

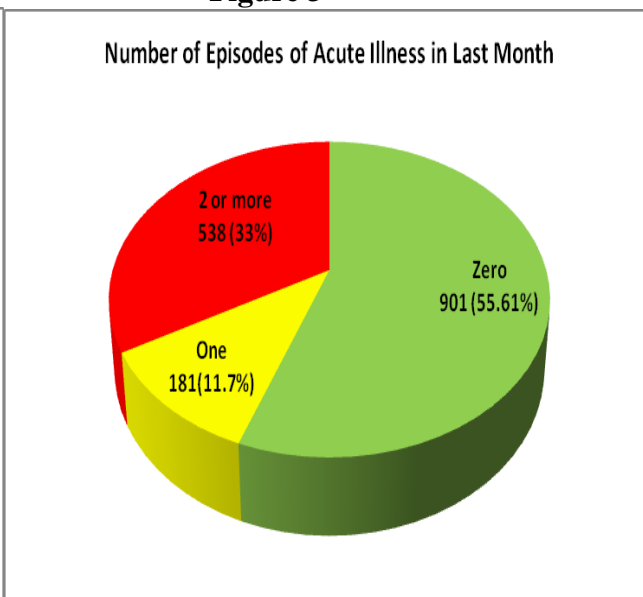
When limiting condition of these elderly were found it was observed that although 805 (49.69%) were not having any limiting condition in last one year but 382 (23.58%) were hospitalized, 171 (10.56%) got some domestic accidents, 139 (8.59%) had some surgery and 123 (7.59%) had fractures in last one year. (Figure 4)

When daily activity of life of these elderly were explored it was found that although 860 (53.08%) were not having any difficulty in their daily activity of life but 674 (41.6%) were doing their daily activity of life with some difficulty and 86 (5.3%) were needing help of other person in doing their daily activity of life. (Figure 5)

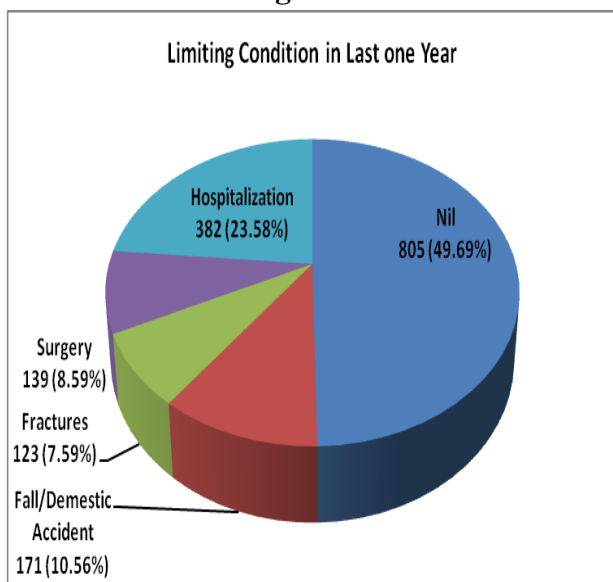
**Figure 2**



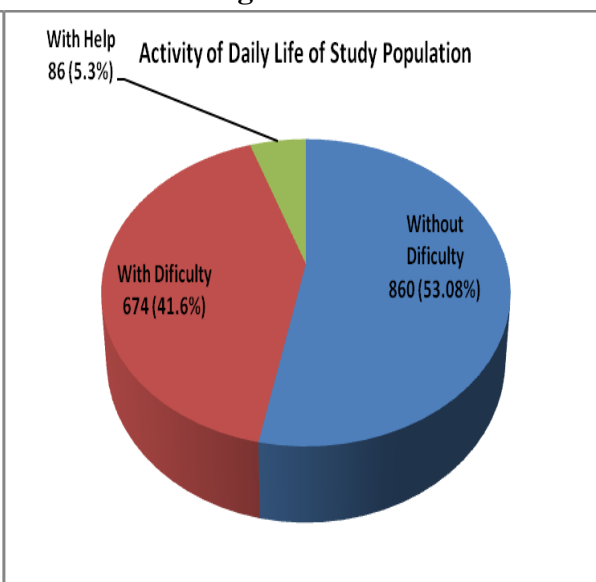
**Figure 3**



**Figure 4**



**Figure 5**



When these daily activity of life of these elderly were further explored it was found that these elderly had highest difficulty in ADL /required help in use of stair (39.69%) followed by mobility, bowel/bladder activity and nails manicure which was in 22.03%, 14.86% and 13.15% respectively. This variation in distribution of elderly as per difficulty in doing type of activity was found with significant variation. (Table 2)

**Table No.2**  
**Status of Activity Of Daily Living wise distribution of Study Population (N=1620)**

S. No.	Activity Of Daily Living	Without Difficulty		With Difficulty		With Help	
		No.	%	No.	%	No.	%
1	<b>Bowel &amp;Bladder</b>	1364	84.20	242	14.94	14	0.86
2	<b>Bathing</b>	1506	92.96	92	5.68	22	1.36
3	<b>Feeding</b>	1586	97.90	30	1.85	4	0.25
4	<b>Nails Manicure</b>	1407	86.85	163	10.06	50	3.09
5	<b>Mobility</b>	1260	77.78	337	20.80	20	1.23
6	<b>Dressing</b>	1506	92.96	72	4.44	42	2.59
7	<b>Stairs (Up &amp; Down)</b>	977	60.31	575	35.49	68	4.20
8	<b>House Hold Work</b>	1459	90.06	123	7.59	38	2.35
9	<b>Grooming</b>	1493	92.16	91	5.62	36	2.22

**Chi-square = 1522.874 with 16 degrees of freedom; P <0.001 LS=S**

When these elderly were explored about their inclination towards the type of medicine it was found that although majority (1349 i.e. 82.77%) followed Allopathy but others were following other type of Indigenous system of medicine. Among Indigenous system of medicine followers maximum were Ayurveda followed by Homeopathy and Naturopathy etc.

When these elderly were further explored about their inclination towards the type of medicine as per sex it was found that although majority of elderly of both the sex were following Allopathy but among males were next to majority were following Homeopathy whereas in females Ayurveda. Among Ayurveda followers females predominate over males (10.49% v/s 7.33%). This variation in distribution of proportion of type of medicine as per sex was found with significant variation. (Table 3)

**Table No.3**  
**Type Medicine System followed by elderly wise distribution of Study Population (N=1620)**

S. No.	System Of Medicine Followed	Male (N=791)		Female (N=829)		Total (N=1620)	
1	<b>Allopathy</b>	699	(88.36%)	642	(77.44%)	1341	(82.77%)
2	<b>Ayurveda</b>	58	(7.33%)	87	(10.49%)	145	(8.95%)
3	<b>Homeopathy</b>	70	(8.84%)	51	(6.15%)	121	(7.46%)
4	<b>Naturopathy</b>	14	(1.76%)	06	(0.72%)	20	(1.23%)
5	<b>Other</b>	08	(1.01%)	05	(0.60%)	13	(0.80%)

**Chi-square = 13.064 with 4 degrees of freedom; P=0.011 LS=S**

#### IV. DISCUSSION

It was found that the percentage of elderly females was slightly more (51.18%) than males (48.82%) giving a sex ratio of 1048 females per thousand males. These observations were well in resonance with other authors. Observations made by Seby et al (2011)<sup>5</sup> Nandi P S et al (1997)<sup>6</sup>, Reddy MV et al (1998)<sup>7</sup> and Purna Singh et al (2012)<sup>8</sup> were also almost similar to present study. Even SRS (2003) India survey reported 1136 women for every 1000 men in the age group > 60 years.<sup>2</sup>

Commonest reported morbidity in present study was Psychiatric morbidity (54.32%) followed by Musculo-Skeletal problems (47.90%) Cataract (46.97%), Hypertension (33.58%), Dental problems (30.06%). The present study supported conclusion of the earlier studies that Visual Impairments, Hypertension, Arthritis and Dental Problems are extremely common complaints in the Elderly.<sup>9-11</sup> Rahul Prakash et al<sup>12</sup> shows that 70% elderly were suffering from ophthalmic problems, 48% with hypertension and 42% with psycho-social problems.

Overall prevalence of diabetes in the study population was 15.67%. Dey et al (2001)<sup>9</sup> found a prevalence of 15.20% among the elderly subjects attending geriatric clinics. Canadian study of Health and Aging (CSHA-1) estimated the prevalence of diabetes mellitus among the elderly to be 12.1%. Several other studies have reported it to vary from 6-16%.<sup>13</sup>

Overall prevalence of psychiatric morbidity was found to be 54.32% in present study. Many other authors had reported their findings well in resonance with this study. Tiwari S C (2000)<sup>14</sup> reported prevalence of psychiatric morbidity in the geriatric age group (43.32%) compared to the non geriatric group (4.66%).

Present study found that 53.08% of elderly were able to perform daily activity without difficulty and 41.60% with difficulty. Only 5.3% of elderly required help for daily activity. However present study have some difference with Bhatia V et al (2003)<sup>15</sup> who noticed 2% of the subjects were unable to perform daily activity which may be due to differences in defining the difficulty or may be an aberration. But other studies were with present study like Baiyewu O (1997)<sup>16</sup> and Ibrahim T (2010)<sup>11</sup> who found prevalence of disability 5% and 11.3% respectively.

Survey conducted by NSSO<sup>17</sup> 1984-85 to 1995-96 detected that 50% of older Indians had one or more morbidity while up to 40% of them had one or more functional disability.

Disability among elderly population was found to be reported by many authors<sup>11,12,15</sup>, ranging from 5%-15 %.(Baiyewu O 1997,Bhatia 2003,Rahul Prakash 2003,Ibrahim T Mauraph 2010). Similarly Nandi et al<sup>6</sup> found psychiatric morbidity was found to be 33%.

In this study it was also found that although majority (1349 i.e. 82.77%) followed Allopathy but others were following other type of Indigenous system of medicine. Among males were next to majority were following Homeopathy whereas in females Ayurveda. Among Ayurveda followers females predominate over males (10.49% v/s 7.33%). This variation in distribution of proportion of type of medicine as per sex was found with significant variation. It was stated by WHO that in some Asian and African countries, up to 80% of the population relies on traditional medicine for their primary health care needs. When adopted outside of its traditional culture, traditional medicine is often called alternative medicine.<sup>18</sup> Many herbs and minerals used in Ayurveda were described by ancient Indian herbalists such as Charaka and Sushruta during the 1st millennium BC.<sup>19</sup> Although over 100 countries have regulations on folk medicines there are still some risks associated with the use of them, especially when they are used without supervision. It is often assumed that because the medicines are herbal or natural, that they are completely safe<sup>20</sup> but one type of folk medicine commonly used with Ayurvedic medicine is Rasa Shastra which involves the use of dangerously toxic heavy metals in herbal remedies. However report of the Committee on the Indigenous Systems of Medicine<sup>21</sup> reported that about 6% of total medical practicers are of Indigenous medicine and people believe on them so they should be welcomed. So National Rural Health which was launched in 2005 had an agenda for mainstreaming AYUSH.

## V. CONCLUSION

Mean age of elderly was 66.08 years with slight female predominance i.e. 1048 females for 1000 males in Jaipur city. Only 17.59% elderly who were not having and type of morbidity otherwise a sizable count were having even 4 or more type of co morbidity. Commonest reported morbidity in present study was Psychiatric morbidity followed by Musculo-Skeletal problems, Cataract, Hypertension, Dental problems etc. About one third were having 2 or more episodes of acute illness episodes in last month. Although 49.69% were not having any limiting condition in last one year but 23.58% were hospitalized, 10.56% got some domestic accidents, 8.59% had some surgery and 7.59% had fractures in last one year. And 53.08% of elderly were able to perform their daily activity without difficulty only 5.3% of elderly required help for daily activity. In daily activity of life of these elderly face highest difficulty in ADL /required help in use of stair followed by mobility, bowel/bladder activity and nails manicure.

Although majority (82.77%) of elderly followed Allopathy but others were following other type of Indigenous system of medicine. Among males were next to majority were following Homeopathy whereas in females Ayurveda. Among Ayurveda followers females predominate over males.

## CONFLICT OF INTEREST

None declared till now.

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