

# Life style and Morbidity Profile of Geriatric Population in Urban Area of Chandigarh

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## Abstract

**BACKGROUND:** Due to scarce resources, demographic transition in the form of increased elderly population and epidemiological transition of diseases, India would require proper planning of health care services for the optimum care of geriatric population. Assessment of life style and pattern of associated chronic diseases would be required for future planning.

**AIMS:** To find out the pattern of life style and morbidity profile of elderly population in urban areas of Chandigarh.

**DESIGN:** Cross-sectional descriptive community based study.

**MATERIAL & METHODS:** Information by interview on pretested proforma obtained by house to house visit. Physical examination and investigations were performed. Elderly with blood pressure >140/90 mmHg or those on drugs recorded as hypertensives, those with random blood sugar = or >180 gm% as probable diabetics, using bidi / cigarettes and alcohol as smokers and alcoholics, having decreased vision, opacity seen by torch or operated upon as cataract and those with Body Mass Index (BMI) >25 as overweight.

**STATISTICAL ANALYSIS:** Chi-square, Z-test, and Percentages.

**RESULTS:** In the population studied 5.47% were above 65 years of age. Of these elderly, 4.1% were smokers, 7.2% were alcoholic, 40.4% had hypertension, 57.2% had osteoarthritis, 33.5% were overweight, 25.5% were diabetics, 67.4% had cataract and 34.2% had respiratory problems.

**CONCLUSION:** Chronic morbidity is common amongst elderly in Chandigarh. They were having lower incidence of smoking, alcohol intake and fair percentage were doing regular exercises.

**KEYWORDS:** Smokers, Hypertension, Anemia, Cataract, Exercise and Morbidity.

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## Introduction

The demographic change in form of increasing proportion of the elderly in the population is a result of decline in mortality rates accompanied with improvement in child survival and an increased life expectancy which is projected to be 67 years in 2011-16 for males & 69 years for females. It is estimated that by the year 2025 the majority of the elderly people worldwide will reside in developing countries.<sup>1</sup> In order to make the world familiar with the old age problems,

World Health Organization celebrated WHO day with "Active aging makes the difference" as slogan and declared the year 1999 as international year for older persons. India has currently a population of more than 40 million elderly and it is expected to increase to nearly 150 million by the year 2025.<sup>2</sup> Care of the elderly is an expensive proposition even in the West. Hence the concept of vulnerable group is important even in the elderly population more so for the country like India where resources are limited. These vulnerable groups are elderly widows, the childless elderly, parents with no son, the physically disabled, the elderly whose children have migrated abroad and the elderly in an alien environment. Life style which is defined as "the way people live" has shown considerable evidence of being associated with the health of an individual. Many current day problems especially of the geriatric

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population, like hypertension, diabetes mellitus and osteoarthritis are related to nutrition and life style. There is a need to focus attention on the problems of elderly so that evidence-based policies are planned particularly in present scenario due to epidemiological transition in diseases. Hence, the present study was conducted with the aim of finding out life style and disease burden in elderly in Chandigarh which could be of help in planning policies for their better care in future.

## Material & Methods

The study was conducted in urban areas of Chandigarh covering a population of 5721 family members in 1353 houses. The house to house visit by trained team members interviewed 313 elderly >65 years of age. The sample was selected by stratified random technique. The methodology comprised of interview, clinical examination and laboratory investigations. The information was collected on a pre-designed, pre-tested format. General demographic, socio-economic and family structure information was obtained by medico-social worker. Physical examinations and morbidity enquiry were conducted by doctors. Blood pressure was measured in lying down position twice in each individual with an interval of 30 minutes. Elderly with a pressure more than 140 mmHg systolic & 90 mmHg diastolic or else who were on treatment were considered hypertensives. Obesity was assessed by calculating Body Mass Index (BMI) using formula ( $\text{wt in kg} / \text{ht in m}^2$ ). Elderly with BMI >25 were classified as overweight. Visual acuity was assessed by using Snellen's chart. Cataract was diagnosed if along with decreased vision there was history of operation or on torch examination lens was found opaque.

Elderly having history of pain or swelling in joints, with or without restriction of movements were considered to have osteoarthritis. Presence of crepts and / or rhonchi on chest auscultation with or without evidence of taking anti tubercular / bronchodilator drugs was considered diagnostic of respiratory pathology. History of pain in abdomen and burning micturition with or

without dysuria was used to diagnose gastrointestinal (GIT) and genito-urinary (GUT) morbidities respectively. Haemoglobin was estimated using Sahli's method and random blood sugar using glucose strip test. Elderly with haemoglobin <13gm% in males & <12gm% in females and having random blood sugar level >180gm% were classified as anemics & probable diabetics respectively. The data was analysed.

## Results

The elderly comprised of 5.47% of the population studied. The male and female distribution was 42.3% and 57.7% respectively. The elderly >85 years (very old) comprised of just 6.7% of total elderly. The majority of elderly (66.8%) were in the age group of 65-74 years (Table-1).

Table 2 depicts that only 8.6% males and 1.1% females were smokers, while 18% of males were alcoholic. Significantly more males (57.1%) than females (28.7%) were doing regular exercise (majority in the form of fast walking). Only 20.8% of elderly were consuming barely minimum required 1500 calories.

Table 3 demonstrates morbidity pattern in elderly. It is observed that all the problems were more common in females and statistically significant difference between males and females was observed for hypertension, osteoarthritis, overweight, diabetes and GIT morbidity.

## Discussion

The proportion of 5.47% of total elderly and 6.7% of very old people in Chandigarh is comparable to 5.2% of total elderly and 6.7% of very old persons which is similar to urban Delhi population.<sup>4</sup> The Delhi based male elderly smoked nearly twice more commonly than the male elderly in Chandigarh (19.6% Vs 8.6%) while for Delhi based females smoking was nearly eleven times more common than in females in Chandigarh (12.5% Vs 1.1%).<sup>4</sup> This difference in smoking habit between Delhi and Chandigarh based elderly, may well be due to the fact that Sikh population contributed significantly more towards Chandigarh elderly and less

Table 1: Age & sex wise distribution of urban elderly

Age Group (years)	Males (n=128)	Females (n=185)	Total (n=313)
65-74	74 (57.8)	135 (73.0)	209 (66.8)
75-84	43 (33.6)	40 (21.6)	83 (26.5)
>=85	11 (8.6)	10 (5.4)	21 (6.7)

TABLE 2: Distribution of elderly according to life style

Life Style	Males (n=128)	Females (n=185)	Total (n=313)	P-Value
Smoking				
Yes	11 (8.6)	2 (1.1)	13 (4.1)	<0.001
No	117 (91.4)	183 (98.9)	300 (95.9)	<0.001
Alcohol				
Yes	23 (18.0)	0	23 (7.2)	NA
No	105 (82.0)	185 (100.0)	290 (92.8)	
Physical Activity				
No	22 (17.1)	59 (31.9)	81 (25.9)	<0.001
Occasional	33 (25.8)	73 (39.4)	106 (33.7)	<0.001
Regular	73 (57.1)	53 (28.7)	126 (40.4)	<0.001
Calorie Consumption				
<1500	85 (66.4)	163 (88.1)	248 (79.2)	<0.001
>1500	43 (33.6)	22 (11.9)	65 (20.8)	<0.001

towards Delhi based elderly (37.8% Vs 10.9%).<sup>4</sup> Though none of the female elderly by either study consumed alcohol, the same habit of consuming alcohol was nearly twice as common in Delhi based elderly as compared to Chandigarh based elderly (30.4% Vs 18.0%).<sup>4</sup>

In our study the proportion of elderly doing regular exercise was significantly more in males as compared to females (57.1% Vs 28.7%; P value <0.001). These two figures for Delhi based elderly were 10.7% for males and 9.7% for females. Thus Chandigarh based male elderly were doing regular exercise 5 times and females 3 times more than Delhi based corresponding elderly.<sup>4</sup> As per our study 79.2% of elderly were consuming less than 1500 Kcal energy per day. Similar figure for South Indian elderly aged 60 to 84 years was 90%.<sup>5</sup>

The commonest morbidity as per our study is anemia. Similar observation of anemia being the commonest morbidity has been made by other workers in another study amongst Chandigarh based elderly.<sup>6</sup> We observed that 95.3% of male and 98.4% of females were anemic. Study covering elderly of five states Assam, Bihar, Orissa, West Bengal and Tripura revealed 76.6% males and 81.3% females to be anaemic.<sup>7</sup> Cataract by our study results was present in 58.8% males & 65.4% females. Urban elderly in Rajasthan showed its prevalence as 34.7% and 60.0% amongst males & females respectively.<sup>8</sup> The higher prevalence of cataract in our study may be due to the fact that we estimated the said morbidity in elderly of age group >65 years as compared to Rajasthan based

study which included population less than 65 years also. Their cut off point of age was >60 years, and cataract is highly positively associated with increasing age. The second reason for the same may be the increasingly made diagnosis due to better availability of health care services in Chandigarh. An overall prevalence of 61.0% hypertension in our study is higher as compared to 56.0% prevalence of hypertension revealed by another study in same area<sup>6</sup> while others have reported its prevalence to be 65%.<sup>9</sup> The above last mentioned three studies also showed a higher prevalence of hypertension among females. The prevalence of 57.2% osteoarthritis in present study is higher than US based elderly in whom its prevalence has been reported to be 53.3%.<sup>10</sup> The trend of higher prevalence of osteoarthritis in females as compared to males observed in present and other study may well be due to higher prevalence of overweight and low prevalence of exercise habits in them.<sup>11</sup> The higher prevalence of diabetes in females than in males noted in this study is in agreement with the results of study on Delhi based elderly.<sup>4</sup> The significantly less incidence of diabetes in males than in females may be due to the higher prevalence of regular exercise and low prevalence of obesity in them. The prevalence of diabetes in Indian population (by this study as 25.5% and by Delhi study as 32.0%) is higher than US based elderly in whom the disease prevalence is just 6.3%.<sup>4,12</sup> The respiratory tract morbidity amongst elderly in Chandigarh was less as compared to Delhi based study (34.2% Vs 41.4%). The female predominance of respiratory tract morbidity observed in our study is

Table 3: Sex wise morbidity in elderly

Morbidity	Males (n=128)	Females (n=185)	Total (n=313)	P-Value
Anaemia	122 (95.3)	182 (98.4)	304 (97.1)	>0.05
Hypertension	67 (43.8)	124 (67.0)	191 (61.0)	<0.01
Osteoarthritis	59 (46.1)	120 (64.9)	179 (57.2)	<0.001
Overweight	27 (20.9)	78 (42.2)	105 (33.5)	<0.001
Cataract	90 (58.8)	121 (65.4)	211 (67.4)	>0.10
Diabetes	23 (15.0)	59 (31.9)	82 (25.5)	<0.01
GIT Morbidity	34 (26.6)	66 (35.7)	100 (31.9)	<0.05
GUT Morbidity	11 (8.6)	18 (9.7)	29 (9.5)	>0.10
Respiratory Morbidity	42 (27.4)	65 (35.1)	107 (34.2)	>0.10

however in agreement with Delhi based study.<sup>4</sup> The lower incidence of respiratory tract morbidity in our study may be due to less common habit of smoking among Chandigarh based elderly. However 33.5% prevalence of respiratory tract morbidity in elderly observed by another Delhi based study, is in agreement with our study results.<sup>13</sup> Compared to our study results other workers have reported higher GIT morbidity amongst elderly of Varanasi (31.9% versus 66.4%).<sup>14</sup> The overall prevalence of 9.5% GUT morbidity in our study is in between the prevalence observed by Delhi based study (15.6%) and by Rajasthan based study (2%).<sup>4,8</sup>

## Conclusion

The study revealed that elderly in Chandigarh were having lower incidence of smoking, alcohol intake and fair percentage were doing regular exercises. The morbidity profile showed 40.4% had hypertension, 57.2% had osteoarthritis, 33.5% were overweight, 25.5% were diabetics, 67.4% had cataract and 34.2% had respiratory problems.

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