### **Research Article**

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## A cross sectional study on the health status of geraitric population

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#### **ABSTRACT**

**Background:** In 2010, the estimated geriatric population was 8% of total population and is likely to rise to 19% by 2050. In India, the elderly people suffer from dual medical problems, i.e. both communicable as well as non-communicable diseases (NCD). Objective of the study is to study the demographic and socio-economic profile of the study subjects and to identify the perceived morbidity pattern among the elderly population.

**Methods:** A community based cross sectional study was conducted amongst 100 geriatric individuals residing in the field practice area of UHTC, KBNIMS, Kalaburgi, Karnataka, India.

**Results:** 76% of the total study groups were between the age group of 60-69 years. 51% of the participants were male and 49% were female. 70% belonged to the lower socio-economic class. Among the acute diseases, maximum prevalence was that of fever (37%) and followed by cough (36%). The least prevalence was that of tooth ache (1%). Among the chronic diseases; maximum prevalence was that of hypertension (49%) and the least prevalence was that skin diseases (1%) and cancer (7%). Dependency was seen in managing money (43%), followed by washing chores (32%). Among the 100 subjects; 31% were habituated to smoking and 27% were addicted to tobacco chewing.

**Conclusion:** There is a desperate growing need for good quality and efficient geriatric health care services at the primary level and it should be based on evident needs of the elderly.

Key Words: Geriatrics, NCD, Tuberculosis

#### INTRODUCTION

Ageing is a natural process. Old age should be regarded as a normal, inevitable biological phenomenon. The care of old aged is called geriatrics. The study of the physical and psychological changes which are incident to old age is called gerontology. The expectation of life at birth in developed countries is over 70 years. The age structure of population in developed countries has so evolved that the numbers of old people has increased. In the year 2002, there were an estimated 605 Million old persons in the world. Italy and Japan have the highest proportion of older persons about 16.7%. By 2025, the number of elderly people is expected to rise to more than 1.2 billion from about 840 million. In India, for the 2010, the estimates are 8% of total population where above the age

of 60 years and is likely to rise to 19% by 2050. In india, the elderly people suffer from dual medical problems, i.e. both communicable as well as non-communicable diseases. The prevalence of tuberculosis (TB) is higher among the elderly than younger individuals. People suffer from type 2 diabetes, coronary heart disease, hypertension, stroke, chronic obstructive pulmonary disease, Alzheimer's disease, osteoarthritis, osteoporosis, cataracts, macular degeneration, cancer, etc. and at the same time, they are vulnerable to infections involving respiratory (including TB), urinary and digestive tract. The prevalence of seasonal diseases among geriatrics is also common. There is an increased incidence of deep vein thrombosis, pulmonary embolism, aortic rupture, stroke and atrial fibrillation during the winter season similarly during the summer there is an increased incidence of hypertension, sudden cardiac.

Such a study was taken up based on hypothesis that such problems may be present in the old age people in the field practice area of the urban health training Centre, Khaja Banda Nawaz Institute of Medical Sciences, Kalaburgi, Karnataka, India.

#### **METHODS**

A community based cross sectional study was done among Geriatric population (Age above 60 years) in the field practice area of Khaja Banda Nawaz Institute of Medical Sciences (KBNIMS), Kalaburgi from September to November 2015. The sample size was calculated using the formula 4PQ/L2; where prevalence was taken as 83% from the prevalence of acute diseases in a study conducted by Sarasakumari RS<sup>4</sup> and confidence interval was taken at 10%. The sample size we got was 82. To make it closest to the nearest whole number, the sample size was finally chosen to be 100. To meet the desired sample size and to cover whole population every 5<sup>th</sup> house of the field practice area was included in the study with the consent of head of the family. A house to house visit of the area was done beginning from the randomly selected household and moving along the right hand side. Whenever houses with no inhabitants in the geriatric age group were detected; that house was skipped and we went to the next house. In the absence of respondents during the first visit, 2 subsequent visits were made to contact them. Not willing to participate (2 people) in spite of 2-3 persuasion were dropped. Thus a total of 100 elderly belonging to different house-holds were included in the study.

Kuppuswamy's Socio Economic scale was used to determine the socio-economic status where occupation of the head of the family, education of the head of the family and per capita income (modified for 2015) were taken into consideration. A pre-tested, pre-designed and semi-structured proforma was used for the data collection. Visits to urban health training centre (UHTC) were made on the pre-decided dates and the Geriatric Population was assessed.

Data was collected regarding religion, type of family, acute and chronic illness, morbidity patterns etc. The subjects were explained the objectives of our study and were assured that their identities won't be disclosed. Thus collected data was coded and analyzed by Microsoft Excel 2007 and was further tabulated.

#### **RESULTS**

In this geriatric age group study conducted on 100 subjects, it was found that 76% of population belongs to the age group of 60-69 years, 17% population belongs age group of 70-79 and only 7% were noticed to be above 80 years. 51% of the participants were male and 49% were female. According to Kuppuswamy's socioeconomic status classification, our study shows that out of 100 subjects, 1% belong to lower middle class, 29%

belong to upper lower and 70% belong to lower class (Table 1). This study shows that among the acute diseases, maximum prevalence was that of fever (37%) and followed by cough (36%). The least prevalence was that of tooth ache (1%).

Among the chronic diseases; maximum prevalence was that of hypertension (49%), diabetes mellitus (39%), arthritis (38%) and the least prevalence was that skin diseases (1%) and cancer (7%) (Table 2). Acute illness was seen in 23% of males and 20% of females and chronic illness was seen in 46% of males and 45% of females. Multiple diseases were noticed in one individual. This association of gender versus acute and chronic diseases was not statistically significant (Chi Square: 0.101; P>0.05). Highest prevalence of acute illness was seen among age group of 71-80 (13%) and the least prevalence among 81 to 90 years (07%).

The highest prevalence of chronic illness was seen among the age group of 60-70 (44%) and the least prevalence among 91 to 100 Years (04%). This comparison was statistically significant (Chi Square: 15.2854; P<0.05). Of the total 100 were Healthy with no acute or chronic conditions (Table 3). On studying the morbidity pattern of the study population, most of the dependency was seen in managing money (43%), followed by washing chores (32%) and house hold work (15%). Most of the partial dependency was seen house hold work (18%) and locomotion (14%). 27 of the 100 geriatric individuals were completely independent (Figure 1).

On looking into the addictions and habits of the study community, it was alarming to note that the entire study population had one or the other addiction or habit. Among the 100 subjects; 31% were habituated to smoking, 27% were addicted to tobacco chewing, 23% on alcohol drinking and 18% on Pan chewing (Table 04).

Table 1: Distribution of study subjects according to age, sex and Kuppuswamy's socioeconomic status.

Age (years)	No.	%
60-69	76	76
70-79	17	17
80+	7	7
Total	100	100
Sex	No.	%
Male	51	51
Female	49	49
Total	100	100
Class	No.	%
Upper	0	0
Upper middle	0	0
Lower middle	1	1
Upper lower	29	29
Lower	70	70
Total	100	100

Table 2: Distribution of diseases in the study community.

Chronic	No.	%
Diabetes mellitus-ii	39	39
Hypertension	49	49
Asthma	19	19
Arthritis	38	38
Heart diseases	7	7
Haemorrhoid	3	3
Kidney problems	4	4
Dementia	6	6
Gi problems	4	4
Peptic ulcer	4	4
Skin problems	1	1
Cancer	7	7
Acute	no.	%
Fever	37	37
Cough	36	36
Sneezing	20	20
Common cold	33	33
Sore throat	18	18
Joint pain	21	21
Oedema	11	11
Headache	22	22
Acidity	20	20
Memory loss	8	8
Tooth ache	1	1
Eye diseases	14	14
Anxiety	18	18
Urinary incontinence	09	09
Accident	4	4
Skin disease	1	1
Backache	6	6
Chest pain	2	2

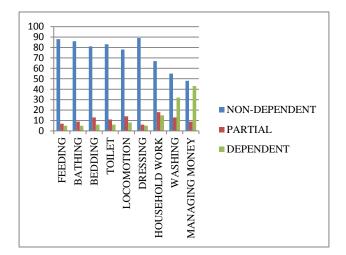


Figure 1: Distribution of study subjects according to perceived morbidity pattern excluding the 27 subjects who were completely independent.

Table 3: Distribution of diseases with respect to gender and age.

Gender	Acute illness	%	Chronic illness	%	Chi- square
Male	23	23%	46	46%	0.101
Female	20	20%	45	45%	(p:0.7506)
Total	43	43%	91	91%	
Age	Acute	%	Chronic	<b>%</b>	Chi-
(years)	illness		illness		square
60-70	08	000/	4.4	4.40/	15 2054
	00	08%	44	44%	15.2854
71-80	13	13%	26	26%	(p:0.0015)
71-80 81-90					
	13	13%	26	26%	

Table 4: Distribution of study subjects according to addictions and habits.

Addictions and habits	No.	%
Tobacco	28	28
Smoking	31	31
Pan	18	18
Alcohol	23	23
Total	100	100

#### DISCUSSION

In this study conducted on geriatric population, we found that 76% of population belongs to age group of 60-69 years, 17% population belongs age group of 70-79 and only 7% were observed to be above 80 years. As per the study by Jadhav in Paithan of Government Medical College, Aurangabad, a majority 41.07% elderly males were of the 60 to 64 Year age group and 26.82% females were of the 65-69 Years age group.<sup>5</sup> This finding was similar to the finding of our study in terms of distribution of geriatric study subjects with respect to the demography of age. According to our study, a majority of 51% of the participants were males and 49% were females. As per the study in Paithan of Govt. Medical College, Aurangabad, by Jadhav a majority of 61% were elderly males and 39% were elderly females.<sup>5</sup> This finding was also similar to the finding of our study in the terms that the male participants outnumbered female participants. However, a study by R P Thakur and team at urban and rural field practice areas of Pune shows that among a total number of 407 old persons; female elders outnumbered the male elders.<sup>6</sup> According to Kuppuswamy's socioeconomic status classification, our study shows that out of 100 subjects, 1% belong to lower middle class, 29% belong to upper lower and the maximum number of individuals (70%) belong to lower class, thereby clearly suggesting that the study was conducted in poor socioeconomic. As per the study by Mrs. RS Sarasa Kumari in Thiruvananthapuram, only 26% in urban set up were in lower income group.<sup>4</sup> This finding was considerably less compared to ours. Also another study conducted by Lalitha Vadrevua and team in Rural West Bengal, shows

increase in disease conditions due to low economic status and educational status.<sup>7</sup> Our study shows that among the acute diseases, maximum prevalence was that of fever (37%) and followed by cough (36%). The least prevalence was that of tooth ache (1%). Among the chronic diseases; maximum prevalence was that of hypertension (49%), diabetes mellitus (39%), arthritis (38%) and the least prevalence was that of skin diseases (1%) and cancer (7%). The prevalence of Heart related illness in our study was 7%. A study by R P Thakur and team at urban and rural field practice areas of Pune shows that prevalence of hypertension was 30.7%; 12% had diabetes; 7.6% gave a history of ischemic heart disease.<sup>6</sup> On comparing the study of Mr. R P Thakur to our study, the prevalence of hypertension and diabetes Mellitus in noticeably higher in our study. However, the study in pune has more prevalence of heart related illness than our study. A study by Shraddha K and team shows that diseases of skin were more prevalent among aged females (10.0%) and that the most common disorder reported among elderly were diseases of the eye (51.7%).8 In our study, the prevalence of eye diseases (14%) and skin diseases (1%) was rather less on comparison with the study by Shraddha K. According to our study, acute illness was seen in 23% of males and 20% of females and chronic illness was seen in 46% of males and 45% of females giving an overall prevalence of 37% and 91% for acute and chronic disease respectively. A study conducted by RS Sarasakumari in Thiruvananthapuram showed the prevalence of 70.3% for acute diseases and 83% for chronic diseases. On comparison of this finding to the finding of our study, the prevalence of acute disease was greater than that of our study and the prevalence of chronic diseases was less than that of our study. In another study by Sharma MK they found that the overall prevalence of osteoarthritis was 56.6%; in rural areas it was 32.6% and in urban it was 60.3%. Osteoarthritis was more in females as compared to males (70.1% Vs 41.6%). In our study the prevalence of osteoarthritis was much less at 38%. As per our study conducted on 100 subjects; 59% were habituated to smoking and tobacco, 23% on alcohol drinking and 18% on pan chewing. A study among the geriatrics by R P Thakur and team at urban and rural field practice areas of Pune, observed that among a total number of 407 old persons, Tobacco use was very high at 58.97%. 6 A study among the geriatrics by Sanjiv Kumar Barman and team found that 47.50 % of population consumed alcohol. 10

#### CONCLUSION

This study shows that the quality of health care services to the geriatric population in this area must be improved in order to reduce the burden of diseases and disabilities. It would be done efficiently by education and awareness of the family members as well as the grass root health workers. There is a desperate growing need for good quality and efficient geriatric health care services at the primary level and it should be based on evident needs of

the elderly. Regular screening and frequent health checkups to lessen morbidity should be conducted regularly.

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Institutional Ethics Committee

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