RESEARCH PAPER | Medical Science | Volume : 4 | Issue : 5 | May 2014 | ISSN - 2249-555X

# A Cross-Sectional Study of Common Health Problems of the Elderly

KEYWORDS: elderly, health problems.


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**ABSTRACT** *Background:Estimates of health problems of the elderly in developing countries are required from time to time.*

*Aims:To identify the common geriatric health problems in slum and a village and to explore any gender and urban–rural difference in morbidity.*

*Materials and Methods:A community-based cross-sectional study was carried out in all people aged over 60 years in an urban slum and a village in the field practice area of a teaching hospital having population of 407.*

*Results:Visual impairment was the most common handicap with prevalence of 83.29% (339/407), with males more affected than females (OR = 2.52, 95% CI 1.32-4.87). Uncorrected hearing impairment was also common. Prevalence of hypertension was 30.7% (125/407); 12% (49/407) had diabetes; 7.6% (31/407) gave history of ischemic heart disease.*

*Conclusion:Unmet health needs exist in elderly.*

**Introduction**

By 2050, older people will outnumber children under the age of 14 years[1]. Moreover, health in old age is associated with health in earlier years of life, from womb to tomb. Intrauterine growth retardation for example increases the risk of diseases of the circulatory system and diabetes in later life.[1] Tomstad et al,[2] in their study among older people reported a higher risk of under-nutrition among elders living alone. Foottit and Anderson[3] in their study on a sample of 325 elders living in the community in Australia found that perceived wellness was influenced by hearing, mobility, memory, chronic disease, exercise, gambling and single status.

Considering the increasing burden of geriatric health and social problems in India, the World Health Organization (WHO) in collaboration with the Government of India carried out a cross-sectional, community-based study of the elderly population 60 years and above at 10 different sites in different states and union territories of India[9], hence the present study.

**Methodology**

**Study site**

The study was carried out in both the urban and the rural field practice areas of a medical college in Nagpur, India. An urban slum was selected in the urban field practice area located at a distance of 3 km from the college and a village was selected in the rural field practice area about 25 km from the college.

**Study design:** A community-based cross-sectional study design was used.

**Sample size calculation**

Sample size calculation was done using software EPI info (WHO/CDC Atlanta). A default prevalence of morbidity at 50% was taken with worst possible estimate at 45% on one side and 95% confidence interval. Using these inputs, the sample size calculated was 384 subjects.

**Selection of study subjects**

It was decided to select the slum (with a population of 12,000) nearest to the urban health center for survey in the urban area. In the rural area, a village (population 5000) nearest to the rural health center was selected for the survey. House to house survey was carried out of all the eligible elderly population (above 60 years). In case the sample size could not be met, it was decided beforehand, to extend the survey to the adjacent slum/village. However, survey of one slum and one village, respectively, yielded more than the required number of study subjects, i.e., 407 (203 in urban area and 204 in rural areas).

**Data collection**

Data were collected by house to house survey. All people of both genders over 60 years of age staying in the selected slum/village were interviewed after informed consent.

**Data entry and statistical analysis**

Data were entered in a Microsoft Excel file and statistical analysis was done using Epi Info 2002 (WHO/CDC)

**Results**

**Urban-rural difference in prevalence of elderly**

A survey of 12,000 people in the urban slum yielded 203 elderly individuals over the age of 60 years, giving a prevalence of 1.69% (203/12000). While in the village, 204 out of the 5000 people surveyed were over 60 years, giving a proportion of elderly more than twice, 4.06% (204/5000) in the rural area compared with the urban slum.

**Age distribution**

The overall mean age in elderly females was 68.68 years (SD 8.3 years), and in males it was 70.1 years (SD 7.3 years). The combined average of all elderly was 69.2 years (SD 8.04 years). The maximum age among females was 110 years, while for males it was 94 years.

**Religion**

Hindus constituted 79.6% (324/407), Buddhist 17.2% (70/407), Muslims 2% (8/407) and Christian 1.5% (5/407) of the population.

**Addictions**

**Tobacco use**

Among the selected sample, 58.97% (240/407) were using some or the other form of tobacco. Prevalence was 55.38% (139/251)in females and 64.74% (101/156) in males.

Volume : 4 | Issue : 5 | May 2014 | ISSN - 2249-555X

**Alcohol use**
This had a very low prevalence-only 2.7% (11/407) of the study sample took alcohol.

**Visual impairment**
Of the 407 subjects, 339 (83.29%) had visual impairment. Overall, visual impairment was significantly higher in males than in females (OR = 2.52, 95% CI 1.32-4.87) [Table 3]. There was no urban rural difference.

**Hearing impairment**
Self-reported hearing impairment was 63.1%, (257/407) with no appreciable urban rural difference. Males had a higher proportion of hearing impairment, 65.4% (102/156) compared with females, 61.8% (155/251), which was statistically not significant.

**Urinary problems**
Overall, 14.5% (59/407) of the elderly had urinary symptoms. Males had higher self-reported urinary problems18.6% (29/156) compared with females 12.0% (30/251) [Table 3].

**Discussion**
Rapid urbanization leads to more elderly people being left behind to fend for themselves in rural areas when the young migrate to the city in search of greener pastures. This is reflected in the higher proportion of elderly in the rural area compared with the urban area, and also higher mean age of the rural elderly as brought out in the present study.

Living alone, which can be taken as a surrogate measure of loneliness, was higher in the rural area (11.76%) compared with the urban area (4.43%). Loneliness can be a strong risk factor for undernutrition among older people.[2] This may perhaps be the reason for the higher prevalence of anemia in the rural elderly compared with the urban elderly in the present study.

The higher tobacco use in the present study should be a cause of concern. The prevalence of tobacco use in the elderly in the present study is much higher than in other studies.[7,9] This lifestyle factor puts the elderly at greater risk for most non-communicable diseases. It has been reported that even people who quit past 60 years of age live longer than those who continue to smoke.[10]

WHO multicentric study reported poor vision in 45.4% in the elderly but in our study, the problem with near vision due to uncorrected presbyopia was also included as visual impairment, which may have contributed to the high prevalence of visual impairment of 83.29%. In many developing countries like India, there is only one eye specialist for a million population.[11] Secondary eye care involves definitive management of common blinding conditions such as cataract, which accounts for 62.6% of blindness in India.[12] The eye camp approach to make cataract surgery available has been highly successful, and has received wide popular support.

Hearing problems were almost three times higher in the present study sample than that reported by the WHO multicentric study.[9] Only 1.47% of the hearing impaired used hearing aid. There is need for evaluation and management of hearing problems among the elderly.

Prevalence of urinary problems (14.5%) was identical to the findings of the WHO multicentric study.[9] The higher prevalence in urinary problems in males, also reported in earlier studies.

More than half of the elderly reported feelings of depression in the past 6 months. Mental health care and psychological rehabilitation should be part of health care of the elderly.

Dental problems is a common accompaniment of ageing and, in India and while planning health care for the elderly, dental component should also be considered.

**Conclusion**
Overall morbidity was high among the study population, with non-communicable and degenerative diseases comprising the major burden of disease. Hearing and visual impairments (mostly correctable) were high.

**Table 1. Showing socio-demographic characteristics of the population studied**

| Characteristic | Classification | No. (n=407) | Percentage (%) |
|---|---|---|---|
| Urban-rural residence | Urban | 203 | 49.87 |
| | Rural | 204 | 50.13 |
| Sex | Male | 156 | 38.33 |
| | Female | 252 | 61.67 |
| Religion | Hindu | 324 | 79.6 |
| | Muslim | 8 | 2 |
| | Buddhist | 70 | 17.2 |
| | Others | 5 | 1.5 |
| Socio-economic status* | Class i | 2 | 0.5 |
| | Class ii | 22 | 5.4 |
| | Class iii | 92 | 22.7 |
| | Class iv | 185 | 45.6 |
| | Class v | 106 | 25.9 |
| Occupation | No work | 253 | 45.7 |
| | Pensioneers | 80 | 19.6 |
| | Odd jobs | 74 | 17.3 |

**Table 2. Showing the common health problems of the elderly in the study.**

| Morbidities | No (n=400) | Percentage (%) |
|---|---|---|
| Visual impairment | 339 | 83.29 |
| Hearing impairment | 257 | 63.1 |
| Urinary problems | 59 | 14.5 |
| Falls | 21 | 5.2 |
| Self reported depression | 213 | 52.3 |
| Anemia | 202 | 49.6 |
| Arthritis | 182 | 44.7 |
| Hypertension | 125 | 30.7 |
| Dental problems | 133 | 32.6 |
| Cataract | 89 | 29.2 |
| Diabetes | 49 | 12 |
| Ischemic heart diseases | 31 | 7.6 |
| Asthma | 24 | 5.9 |

**Table 3. Showing association between gender and morbidity.**

| | Present (%) | Absent (%) | Total (%) | Odds ratio (95% ci) |
|---|---|---|---|---|
| Visual impairment | 141 (90.3) | 15 (9.7) | 156 (100) | 2.52(1.32-4.87) |
| Males | 198 (78.8) | 53 (21.2) | 251 (100) | |
| Females | 339 (83.29) | 68 (16.71) | 407 (100) | |
| Total | | | | |
| Urinary complaints | 29 (18.6) | 127 (81.4) | 156 (100) | 1.68(0.93-3.04) |
| Males | 20 (12.0) | 221 (88) | 251 (100) | |
| Females | 59 (14.5) | 348 (85.5) | 407 (100) | |
| Total | | | | |
| Hypertension | 40 (25.6) | 116 (74.4) | 156 (100) | 1.48(0.93-2.37) |
| Females | 85 (33.9) | 166 (66.1) | 251 (100) | |
| Males | 125 (30.7) | 282 (69.3) | 407 (100) | |
| Total | | | | |

Volume : 4 | Issue : 5 | May 2014 | ISSN - 2249-555X

**Table 4. Showing rural-urban difference in morbidities.**

| | Yes (%) | No (%) | Total (%) | Odds ratio (95% ci) |
|---|---|---|---|---|
| Falls in past 6 months<br>Urban<br>Rural<br>Total | 16 (7.8)<br>5 (2.4)<br>21 (5.2) | 187 (92.2)<br>199 (97.6)<br>386 (94.8) | 203 (100)<br>204 (100)<br>407 (100) | 3.41 (1.14-10.86) |
| Arthritis<br>Rural<br>Urban<br>Total | 104 (50.98)<br>78 (38.42)<br>182 (44.72) | 100 (49.02))<br>125 (61.58))<br>225 (55.28) | 204 (100)<br>203 (100)<br>407 (100) | 1.67 (1.10-2.52) |
| Hypertension<br>Rural<br>Urban<br>Total | 71 (34.80)<br>54 (26.6)<br>125 (30.7) | 133 (65.2)<br>149 (73.4)<br>282 (69.3) | 204 (100)<br>203 (100)<br>407 (100) | 1.47 (0.94-2.30) |

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