Study of Morbidity Pattern in Inmates of Old Age Homes in Urban Area of Central India

Ajay K Dawale*, Abhay Mudey**, Ashok Lanjewar***, Vasant V Wagh****

Abstract

**Background:** After retirement elderly become economically dependent on family for their basic needs and health care and lose their status in the society, often feel lonely, useless and helpless.

**Objective:** To study morbidity pattern in inmates of old age homes in urban area of Nagpur.

**Material and Methods:** Cross sectional study was carried out among all 221 inmates of three old age homes. The methodology comprised of interview, clinical examination and laboratory investigations. Percentage and Chi square test were used for data analysis.

**Result:** Majority of inmates 62 (28.05%) were in the age group 80 years and above. 164 (74.21%) belonged to Hindu religion. 147 (66.52%) were widow or widowers. 179 (81%) were dependent economically. In 77 (34.84%) mates loneliness was the reason for admission. The most common morbidities found were anaemia in 145 (65.61%), arthritis in 87 (39.37%), hypertension in 83 (37.56%), cataract in 69 (31.22%), acid peptic disease in 47 (21.27%). Other morbidities found were impaired hearing in 38 (17.19%), bronchial asthma in 31 (14.03%), diabetes mellitus in 28 (12.67%) inmates.

**Conclusion:** The results of study showed that major portion of elderly were dependent economically, neglected, living alone and suffering from various health problems. Health education regarding stress management exercises, yoga etc should be given to inmates of home for aged.

**Key words:** Elderly, old age, morbidity, loneliness, anemia.

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Introduction

Ageing is universal, inevitable, irreversible slow detrimental changes in physiological function of most tissues and organ system. No one knows when old age begins. The biological age of a person is not identical with his chronological age. Since there is no yardstick regarding measurement of old age, WHO defines old age as “the period of life when impairment of physical and mental functions becomes increasingly manifested by comparison in the previous period of life”.¹ The world elderly population which was 6.6% i.e. 390 million in 1997 is expected to increase to 800 million i.e. 10% by 2025. In 1991, India’s ageing population was 56 million and in 2001, it was 77 million and it has been estimated that in India total number of elderly will rise to 150 million by 2025.² The proportion of people above 60 years of age grew from 5.4% in 1951 to 6.58% in 1991. The proportion was 7.8% in 2005 (82 million).³

The increase in life expectancy has been most dramatic in developing countries during past 50 years. In India, life expectancy which was 32 years for men and 31 years for women in 1941 has increased to 60 years by 1993 and will reach a level of 73 years by 2025.⁴ The number of aged is increasing rapidly. The resulting problem posed by increasing number of aged has increased. It carries important social and economic implications. The problems faced by aged persons are multiple, multi dimensional, not merely medical problems but other problems like socio-economical, emotional, psychological, rehabilitative and related to social security.⁵

Thus in old age elderly face many problems. They become economically dependent on family for
their basic needs and health care. Due to nuclear family norm, there is no place for elderly parent who feel alone and insecure. After retirement elderly lose their status in the society often feel lonely, useless and helpless. In western countries, there are well established old age homes for the elderly and nursing homes for the infirm and disabled elderly. In India home for aged is a new concept, yet in the developing stage and has been limited to large urban areas. In our country there are no special health services or national program for the aged. Data on elderly health problems is inadequate in India, except for few ill-conceived reports.

Material and Methods

The cross-sectional study was carried out in three ‘Homes for Aged’ institutions in Nagpur city with objectives to assess the morbidity pattern during October 2004 to November 2006. These three institutions were Panchavati Vruddhashram, Home for aged and Handicapped, and Shanti-bhavan. In these three institutions, there were total 232 inmates. All the inmates were invited to participate in the study but only 221 inmates participated. Rest 11 inmates did not respond inspite of all efforts. The response rate was 95.26%. Permission from authorities of home for aged and approval from institutional ethics committee was obtained. A schedule was prepared incorporating relevant aspects of the study. The methodology comprised of interview, clinical examination and laboratory investigations. The information was collected on a predesigned and pre-tested format.

A pilot study was conducted on 55 inmates and proforma was tested. During pilot study no difficulty was encountered in completing the proforma.

Inmates were examined on their respective beds because some inmates were bedridden due to musculoskeletal health problems, at some institutions there was no separate place for examination and in one institution two inmates were accommodated in one room. Prior to examination a healthy rapport was established with inmates and their cooperation was solicited. As it was an opportunity for inmates to discuss their problems, they gave voluntary history of their social problems; at the same time doubts about health problems were cleared.

The basic demographic characteristics and then general and systemic examinations were carried out. Relevant medical documents were verified wherever available for verification. 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 and 90 mmHg diastolic or else who were on treatment were considered hypertensives. 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 arthritis. Those inmates having fasting blood sugar >126 mg/dl were taken as diabetic.

Haemoglobin estimation was done by Sahli’s method by obtaining blood drop by a finger prick. Fasting blood sugar was estimated by glucometer. Glucometer results were standardized with the help of bio-chemistry department of Indira Gandhi Government Medical College, Nagpur using glucose oxidase peroxidase method.

Inmates with acute health problems, requiring referral for management and investigations, were advised to report to hospital. Report obtained from hospital was subsequently verified to confirm the diagnosis. Percentage and Chi square test were used for data analysis.

Result

Out of 221 inmates in three institutions, Panchavati Vruddhashram consisted of 79(35.75%) inmates, Home for aged and handicapped consisted of 77(34.84%) inmates and Shantibhavan consisted of 65 (29.41%) inmates. There were 94 males (42.53%) and 127 females (57.47%). Majority of inmates i.e. 62 (28.05%) were in the age group 80 years and above (Table1). Majority, 164 (74.21%) belonged to Hindu religion. 93 (42.08%) were illiterate (Table 2). 147 (66.52%) were widow or widowers, followed by 43 (19.45%) inmates who were married, 3 (1.36%) inmates were divorced or separated, while 28 (12.67 %) were unmarried. 117 (52.94%) were unskilled workers while 58 (45.67%) females were housewives before joining the institution.

Table 1. Age and sex composition of study subjects.

<table>
<thead>
<tr>
<th>Age group in years</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>60-64</td>
<td>11</td>
<td>12</td>
<td>23</td>
</tr>
<tr>
<td>65-69</td>
<td>24</td>
<td>23</td>
<td>47</td>
</tr>
<tr>
<td>70-74</td>
<td>24</td>
<td>25</td>
<td>49</td>
</tr>
<tr>
<td>75-79</td>
<td>14</td>
<td>26</td>
<td>40</td>
</tr>
<tr>
<td>&gt; 80</td>
<td>21</td>
<td>41</td>
<td>62</td>
</tr>
<tr>
<td>Total</td>
<td>94</td>
<td>127</td>
<td>221</td>
</tr>
</tbody>
</table>

Table 2. Distribution of elderly subjects by various characteristics.
Majority of inmates i.e. 179(81%) were dependent economically. 104 (47.06%) were from nuclear family, 20 (9.05%) were from joint family, 23 (10.41%) inmates were from three generation family and 74 (33.48%) were living alone before joining the institution. In majority of inmates i.e. 77 (34.84%), loneliness was the reason for admission, followed by strained relations with family members was the reason for admission in 39(17.65%) inmates, physical disability in 20(9.05%) inmates, no accommodation in 10 (4.52%) inmates, low economic condition of family in 6(2.72%) inmates (Table 3).

All the inmates, both male and female were found to be ill during the survey. The most common morbidity found was anaemia in 145(65.61%) inmates (Table 4). In females, anaemia was more prevalent than males and difference was found to be statistically significant $X^2 = 31.76$, d.f. = 1, $p<0.001$. Arthritis was found in 87 (39.37%) inmates, followed by hypertension in 83 (37.56%) inmates, cataract in 69 (31.22%) inmates, acid peptic disease in 47 (21.27%) inmates. Next in order were impaired hearing in 38 (17.19%), followed by bronchial asthma in 31 (14.03%), diabetes mellitus in 28 (12.67%) inmates. Most common presenting symptom was joint pain in 81 (36.65%) inmates, followed by headache in 43 (19.46%), limitation of movements in 41 (18.55%), weakness in 39 (17.65%) and generalized body pain in 38 (17.19%) inmates.

Table 3. Distribution of subjects according to reasons for admission to home for aged.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Morbid condition</th>
<th>Males (n=94)</th>
<th>Females (n=127)</th>
<th>Total (n=221)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Anaemia</td>
<td>42</td>
<td>103</td>
<td>145</td>
</tr>
<tr>
<td>2.</td>
<td>Arthritis</td>
<td>35</td>
<td>52</td>
<td>87</td>
</tr>
<tr>
<td>3.</td>
<td>Hypertension</td>
<td>28</td>
<td>55</td>
<td>83</td>
</tr>
<tr>
<td>4.</td>
<td>Cataract</td>
<td>34</td>
<td>35</td>
<td>69</td>
</tr>
<tr>
<td>5.</td>
<td>Acid peptic disease</td>
<td>24</td>
<td>23</td>
<td>47</td>
</tr>
<tr>
<td>6.</td>
<td>Impaired hearing</td>
<td>15</td>
<td>23</td>
<td>38</td>
</tr>
<tr>
<td>7.</td>
<td>Bronchial asthma</td>
<td>14</td>
<td>17</td>
<td>31</td>
</tr>
<tr>
<td>8.</td>
<td>Diabetes mellitus</td>
<td>11</td>
<td>17</td>
<td>28</td>
</tr>
<tr>
<td>9.</td>
<td>Ischaemic heart disease</td>
<td>10</td>
<td>16</td>
<td>26</td>
</tr>
<tr>
<td>10.</td>
<td>Dental caries</td>
<td>11</td>
<td>12</td>
<td>23</td>
</tr>
<tr>
<td>11.</td>
<td>Pterygium</td>
<td>8</td>
<td>12</td>
<td>20</td>
</tr>
<tr>
<td>12.</td>
<td>Hemiplegia</td>
<td>9</td>
<td>8</td>
<td>17</td>
</tr>
<tr>
<td>13.</td>
<td>Cervical spondylitis</td>
<td>4</td>
<td>12</td>
<td>16</td>
</tr>
<tr>
<td>14.</td>
<td>Lumbar spondylitis</td>
<td>8</td>
<td>7</td>
<td>15</td>
</tr>
<tr>
<td>15.</td>
<td>Respiratory tract infection</td>
<td>5</td>
<td>10</td>
<td>15</td>
</tr>
</tbody>
</table>
Discussion

It was observed that the proportion of inmates aged 60-74 years was 53.85% (males 49.58% and females 50.42%), proportion of inmates aged 75 years and above was 46.15% (males 34.13% and females 65.69%). In 60-74 years group, the proportion of males and females was found to be more or less similar but in the age group 75 years and above, the proportion of females was found to be significantly higher than males (X^2=5.23, d.f.=1; p<0.05).

The higher percentages of Hindus in our study could be due to higher percentage of Hindus in general population. Whereas comparatively higher proportion of Christians could be because of the fact that the two out of three institutions were run by Christian organizations. Kalvar MJ et al. found 83% Hindu subjects among 150 residents of pay and stay homes in southern India. While 72% were Christians and 26% Hindu were found in old age homes in Kerala by Irudaya Rajan S.10

Venkoba Rao et al. & Parvan UC et al. found 59.5% & 63.05% elderly subjects were illiterate respectively in general population. While in our study proportion of illiterate persons were less (42.08%). This may be due to fact that study was carried out in old age homes. 66% subjects were widow or widowers in patient study; Shabeen Ara found similar findings.

In the present study proportion of widow inmates were 101 (79.53%) which was significantly high as compared to widower inmates i.e. 46 (48.94%). (X^2= 22.70, d.f.=1, p<0.001) The higher percentage of widow than that of widowers could be due to cultural practice of men marrying younger women and widow remarriage being uncommon. 81% inmates were dependent economically. The difference was not statistically significant. (X^2 = 2.06, d.f.=1, p>0.05.) Shashikant et al. reported similar findings i.e. 21% were economically independent 17% were partly dependent and 62% were fully dependent economically. 45.67% females were housewives before joining the institution similar findings were observed by Mehrotra SK et al.14

The proportion of working males was more than that of females before joining the old age home. The reason is obvious because males work to earn their livelihood for themselves and their family in our country. 33.48% inmates was living alone before joining the institution. Shabeen also found 38% of inmates of old age homes in India were living alone before joining institution. In our study, the reason for admission to old age home were loneliness in 34.84%, strained relations with family members in 17.65% inmates, physical disability in 9.05% inmates, no accommodation in 4.52% inmates, low economic condition of family in 2.72% inmates. In many inmates there was more than one reason for joining institution. While Irudaya in his study revealed no one to take care at home was the reason for admission in 67% subjects, strained relations with family members in 8% subjects. Mishra found the reason for admission to old age home in Kanpur were disagreement and conflicts with family members in 40% subjects.15

Total numbers of morbidities among 221 inmates were 753. Therefore, average number of morbidities per inmate was 3.41. The most common morbidity found was the anaemia in 65.61% inmates. Anaemia was diagnosed in inmates with haemoglobin less than 12 gm%. In females, anaemia was more prevalent than males, and difference was found to be statistically significant X^2 = 31.76, d.f. = 1, p<0.001. Similar observation of anaemia being the commonest morbidity has been made by other workers also. Arthritis in our study was present in 37.23% males and 40.94% females which was somewhat less as compared to other studies. The trend of higher prevalence of arthritis in females as compared to females observed in present and other studies may be due to higher prevalence of overweight and low prevalence of exercise habit in them.

An overall prevalence of 37.56% hypertension in our study was lower as compared to 58.0% prevalence of hypertension revealed by another study. The above mentioned studies also showed a higher prevalence of hypertension among females. Cataract in our study was present in 36.17% males and 27.56% females. It showed higher prevalence of cataract as compared to other studies. Impaired hearing in 17.19%, bronchial asthma in 14.03%, diabetes mellitus was found in 12.67% inmates. Less prevalence of diabetes in males than in females may be due to the higher prevalence of regular exercise and low prevalence of obesity in them.

All the inmates were found to have one or more morbid conditions. Majority of inmates (25.79%) were having four morbid conditions, followed by 23.98% inmates who were having three morbid conditions. Maximum 8 morbidities were found in only one female inmate.

From the results of the study it is concluded that majority elderly were dependent economically, neglected, living alone and suffering from various health problems. Morbidity profile of inmates of old age home showed anemia, arthritis, hypertension, cataract, impaired hearing, asthma and diabetes in...
hierarchical order. Health education regarding stress management exercises, yoga etc should be given to inmates of home for aged. There is a growing need for interventions to ensure the health of this vulnerable group and to create a policy to meet the care and needs of disabled elderly.

References

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