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Morbidity pattern and health seeking behaviour of the geriatric population in a rural area of district Faridabad, Haryana: a cross-sectional study

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ABSTRACT

Background: The increase in life expectancy has resulted in changes in age composition of India and tripling of geriatric population in last 50 years. To provide adequate and comprehensive care to elderly, understanding their health problems and health seeking behavior is imperative. Hence, this study aimed to assess the morbidity pattern and health-seeking behavior and factors affecting them among geriatric population of a rural area of district Faridabad

Methods: A cross-sectional study was carried out among 300 elderly above 60 years of age in village Pali of Faridabad district for a period of 3 months. The list of elderly was obtained from health workers' records and they were interviewed regarding socio-demographic factors, morbidity status and health seeking behaviour using a predesigned and pretested structured questionnaire.

Results: Out of 300 subjects, 56% were females and 63% were in age group of 60-69 years. Overall 93.3% subjects had one or more morbidities with musculoskeletal disorders being most common (57.3%) followed by visual impairment and cataract (54.0%) and hypertension (49.0%). Morbidities were significantly higher among females (p= 0.006), divorced/separated (p=0.014) and illiterate elderly (p=0.026). 77.7% elderly preferred allopathic system of medicine with private facilities preferred by 40%.

Conclusions: Morbidity load among elderly was very high and health seeking behaviour was poor. So, strong efforts are needed to provide them with comprehensive and specialised care so that they contribute to their maximum potential to our society. Primary healthcare strategies targeting elderly needs to be strengthened and area specific strategies need to be formulated.

Keywords: Morbidity, Health-seeking behavior, Geriatric, Haryana

INTRODUCTION

At a time of unpredictable challenges for health, one trend which is certain is population ageing and this demographic transition will impact on almost all aspects of society. From demographic standpoint, World Health Organization has fixed the old age cutoff at 60 years for developing countries and 65 years for developed countries considering economic and social situation in

each country.² India adopted its first National policy on old age in year 1999 which defines "senior citizen" or "geriatric" as a person who is of age 60 years or above.³ The constant decrease in fertility level and increase in life expectancy has resulted in changes in age composition of India and as the result, over the age of 60 years has tripled in the last 50 years. India currently comprises 8% of total population which is expected to increase to 12.7% by 2025.^{4,5}

Aging brings various changes in the body with slowing of physiological functions being the hallmark of ageing. Also, some chronic conditions are more frequent in older people like cardiovascular diseases, cancer, diabetes, respiratory illness etc. due to accumulation of known and unknown risk factors with time. Thus, older societies have greater morbidity and more functional limitations than younger populations.

Rural India comprised 70% of total geriatric population of country but on contrary health system is still poor in this part of country even after 13 years of national rural health mission. Health-seeking behavior refers to those activities undertaken by individuals in response to perceived ill health. Generally, elderly patients are more reluctant to seek health care for their health conditions.^{6,7}

During the past decade, there are numerous studies highlighting the morbidity pattern in different geographical areas of India, but none in this part of North India. This study aims to assess the morbidity pattern and health-seeking behavior and factors affecting them among geriatric population of a rural area of district Faridabad. The results of this study are expected to help policy makers in planning specialized services for elderly residing in this area.

METHODS

A cross-sectional study was carried out among elderly population above 60 years of age (both males and females) in village Pali of Faridabad district for a period of 3 months from April to June 2018. Sample size was calculated considering prevalence of morbidity among geriatric as 9% at 3.5% absolute error and 95% confidence interval which came out to be 257.8 After accounting for non-response and rounding off, the final sample size came out to be 300. Elderly with severe disabilities and those who did not give consent to participate in the study were excluded from the study.

Sampling strategy and data collection: The sampling frame is available for village Pali as it is the rural field practice area of department of community medicine. The total population of village Pali is about 9,600 and geriatric population is about 800. The list of elderly was obtained from the records of health workers and subjects were selected using simple random sampling.

Data collection was done by undergraduate medical students after being explained the purpose and objectives of the study. The study subjects were interviewed at their homes and the data was collected on socio-demographic factors, morbidity status and health seeking behaviour of the subjects using a predesigned and pretested structured questionnaire.

Socio-demographic data included factors like age, gender, marital status, level of education, source of income, type of family, socio-economic status and living

arrangement. Data on morbidity pattern and health seeking behavior among the elderly was assessed through self-reported data on history of illness followed by scrutiny of health records, if available.

Ethical considerations: The study was conducted following approval from Institutional Ethical Committee and informed consent was taken from study participants after explaining the objectives of the study.

Statistical analysis: Statistical analysis was done using SPSS-21software. Descriptive statistics were used for describing socio-demographic variables and morbidity pattern. Chi square test and student t-test were used for comparing proportions and means respectively. P value<0.05% is considered significant.

RESULTS

Total 300 subjects were enrolled and analyzed in the study. More than half of subjects (56%) were female and aged mainly 60-69 years (63%). Two-third of study subjects (68%) were illiterate while approx. one-fifth of the subjects had primary education (15%). 63% of study subjects were married and lived with their spouse at the time of study. Majority of the subjects (92%) were living with their children, including subjects who were widow/widower. One fifth of the subjects (20%) were currently working and were financially independent (18.3%) while one-third of the subjects (36%) were fully dependent on their children financially. Less than half of the study subjects (44.3%) were enrolled in any of the government schemes for elderly people (Table 1).

Table 2 shows the morbidity pattern among study subjects. Overall 93.3 % subjects had one or more morbidities. The most common morbidity among elderly subjects were musculoskeletal disorders (57.3%) followed by visual impairment and cataract (54.0%) and hypertension (49.0%). Acid peptic disorders were reported in roughly one-third elderly subjects (28.3%). Other morbidities reported by the subjects were chronic lung diseases (17.7%), senile deafness (16.7%) and diabetes (12%). Musculoskeletal problems, eye problems and acid peptic disorders were found to be significantly higher among female subjects while chronic lung diseases were significantly higher among male subjects (p=0.008).

Table 3 shows the distribution of morbidities according to the age. In 61-64 year age group, musculoskeletal diseases were most prevalent followed by hypertension while in 65-69 year age group, eye diseases (visual impairment and cataract) were most prevalent. In older geriatrics, major morbidities were cataract, hypertension, senile deafness and acid peptic disorders. However, the difference in morbidity pattern across the various age groups in geriatric population was statistically significant only in senile deafness and orodental problems with a p-value of 0.001 and 0.013 respectively.

Table 1: Socio-demographic profile of study subjects (n=300).

| S. No. | Socio-demographic factors | | N | % |
|--------|-------------------------------|----------------------------------|-----|------|
| | · | 61-69 | 189 | 63 |
| 1 | Age | 70-79 | 84 | 28 |
| | | 80 and above | 27 | 9 |
| 2 | Sex | Male | 132 | 44 |
| 4 | Sex | Female | 168 | 56 |
| | | Illiterate/just literate | 204 | 68 |
| 3 | Education | Primary | 45 | 15 |
| 3 | Education | Middle school | 30 | 10 |
| | | High school and above | 21 | 7 |
| 4 | Policion | Hindu | 299 | 99.7 |
| 4 | Religion | Muslim | 1 | 0.3 |
| | | Married | 189 | 63 |
| 5 | Marital status | Widow/widower | 104 | 34.7 |
| | | Divorced/living away from spouse | 7 | 2.3 |
| 6 | Employment | Currently working | 60 | 20 |
| U | Employment | Not working | 240 | 80 |
| | | Spouse only | 14 | 2.7 |
| | Currently staying with | Spouse and children 174 | 173 | 57.7 |
| 7 | | Children only 102 | 103 | 34.3 |
| | | Alone | 8 | 2.7 |
| | | Others | 2 | 0.7 |
| | Registered under a | Yes | 133 | 44.3 |
| 8 | government scheme for elderly | No | 167 | 55.7 |
| | | Independent | 55 | 18.3 |
| 9 | Economic dependence | Partially dependant | 137 | 45.7 |
| | | Fully dependant | 108 | 36 |

Table 2: Morbidity pattern among study subjects (n=300).

| Morbidities | Total N (%) | Male N (%) | Female N (%) | Chi- square (P value) |
|--------------------------|-------------|------------|--------------|-----------------------|
| Hypertension | 147 (49.0) | 59 (19.7) | 88 (29.3) | 0.186 |
| Diabetes | 36 (12.0) | 18 (6) | 18 (6) | 0.439 |
| Musculoskeletal problems | 172 (57.3) | 58 (19.3) | 114 (38) | 0.001** |
| Eye problems | 162 (54.0) | 61 (20.3) | 101 (33.7) | 0.016** |
| Senile deafness | 50 (16.6) | 22 (7.3) | 28 (9.3) | 1.000 |
| Oro-dental problems | 39 (13) | 16 (5.3) | 23 (7.7) | 0.688 |
| Acid peptic disorder | 85 (28.3) | 28 (9.3) | 57 (19) | 0.015** |
| Chronic lung diseases | 53(17.7) | 32 (10.7) | 21 (7.3) | 0.008** |
| Genitourinary disorders | 20 (6.7) | 8 (2.7) | 12 (4) | 0.709 |
| CNS disorders | 37 (12.4) | 11 (3.7) | 26 (8.7) | 0.062 |

^{**}Statistically significant; #Multiple response.

Table 3: Association between morbidity pattern and age of study subjects.

| Mauhiditiaa | Total | Age groups | | | | P value* |
|--------------------------|-------|--------------|------------|------------|-------------------|----------|
| Morbidities | | 61- 64 (130) | 65–69 (59) | 70–74 (62) | 75 and above (49) | P value* |
| Hypertension | 147 | 66 | 23 | 33 | 25 | 0.383 |
| Diabetes | 36 | 16 | 6 | 10 | 4 | 0.587 |
| Musculoskeletal problems | 172 | 81 | 32 | 34 | 25 | 0.404 |
| Eye problems | 162 | 59 | 34 | 39 | 30 | 0.066 |
| Senile deafness | 50 | 8 | 12 | 13 | 17 | 0.001** |

Continued

| Morbidities | Total | Age groups | | | | P value* |
|------------------------|-------|--------------|------------|------------|-------------------|----------|
| Worbidities | | 61- 64 (130) | 65–69 (59) | 70–74 (62) | 75 and above (49) | 1 value |
| Genitourinary problems | 20 | 10 | 2 | 3 | 5 | 0.470# |
| Chronic lung diseases | 53 | 20 | 8 | 17 | 8 | 0.174 |
| Acid peptic disorders | 85 | 34 | 17 | 17 | 17 | 0.741 |
| Oral / Dental problems | 39 | 11 | 5 | 15 | 8 | 0.013** |
| CNS diseases | 37 | 17 | 4 | 11 | 5 | 0.290 |

^{*}Using chi-square test; *using Fischer's exact test; ** Statistically significant.

Table 4: Association between morbidity pattern and socio-demographic variables.

| Socio-demographic variables | | N | Mean number of morbidities | P value |
|-----------------------------|-----------------------|-----|----------------------------|---------|
| | <70 | 233 | 2.61±1.615 | 0.127* |
| Age (years) | 71-80 | 56 | 3.02±1.883 | |
| | >80 | 11 | 3.36±2.618 | |
| Sex | Male | 132 | 2.41±1.667 | 0.006# |
| Sex | Female | 168 | 2.96±1.721 | |
| Marital status | Married | 189 | 2.53±1.629 | 0.014# |
| Maritai status | Divorced/Widow | 111 | 3.04±1.822 | |
| | Illiterate | 204 | 2.90±1.738 | 0.026* |
| Education | Primary and middle | 75 | 2.37±1.707 | |
| | High school and above | 21 | 2.19±1.250 | |
| | Independent | 55 | 2.24±1.33 | 0.064* |
| Financial Dependence | Partial dependence | 137 | 2.78±1.67 | |
| | Complete dependence | 108 | 2.88±1.91 | |
| Registered under | Yes | 133 | 2.89±1.68 | 0.109# |
| government scheme | No | 167 | 2.57±1.74 | |
| Insurance | Yes | 22 | 2.55±1.37 | 0.628# |
| Thisurance | No | 278 | 2.73±1.74 | |
| Substance use | Yes | 136 | 3.12±1.72 | 0.036# |
| Substance use | No | 164 | 2.71±1.64 | |

^{*}Using ANOVA, *using student's t-test.

Table 5: Source of treatment during minor and major illness (n = 300).

| Healthcare facility | Males | Females | Total | % |
|---------------------|-------|---------|-------|------|
| Government | 49 | 64 | 113 | 37. |
| Private | 49 | 71 | 120 | 40 |
| Ayush | 12 | 19 | 31 | 10.3 |
| Others* | 22 | 14 | 36 | 12 |

^{*}Include home remedies and traditional healers.

Table 4 shows the association of morbidity pattern to various socio-demographic variables. The mean number of morbidities increased with increasing age. Females were more affected as compared to males and this was found to be statistically significant (p=0.006). The mean number of morbidities was significantly higher among divorced/separated and illiterate elderly with a p-value of 0.014 and 0.026 respectively.

Regarding health-seeking behavior, it was found that more than three-fourth of elderly population (77.7%) preferred allopathic system of medicine (both public and private). Private health facilities were preferred by two-fifths of elderly subjects (40%) while government health facilities were preferred by more than one-third elderly

subjects (37.7%). Roughly one-tenths of elderly subjects (10.3%) preferred alternate system of medicine for their health problems (Table 5).

DISCUSSION

Aging is a universal phenomenon and presents both challenges and opportunities for the family as well as society. The extent of opportunities for elderly and their contribution in various activities depend heavily on one factor i.e. their health. While health is usually inversely related to age, the number and severity of the disease is directly related to ageing. This fact has been shown in our study where overall 93.3% of elderly had some or other morbidities. Our finding is similar to the findings

of a study in rural Karnataka where 96.3% elderly had one or more morbidity. Another study conducted in Bangladesh reported that 98.8% elderly reported having illness. Various studies conducted across different parts of India have reported high prevalence of morbidities in India (84% in Shimla, 88.9% in northern India, 88% in Varanasi). 12-14

The mean number of morbidities in our study was 2.72±1.72 which is comparable to the study findings of Jospeh et al who reported a mean of 2.4±1.2 in southern India. 15 Our study reported that musculoskeletal disorders were the most prevalent morbidity among elderly with a prevalence of 57.3%. A study conducted in Shimla hills by Sharma et al also reported a similar finding that musculoskeletal problems were the most prevalent morbidity (56.5%). A study conducted by Verma et al in Allahabad district reported the prevalence of musculoskeletal disorders as 59.7% which is similar to our findings. 16 Our findings are consistent with other studies conducted across various parts of India. 17-19 The prevalence of hypertension in our study was 49% which is similar to the findings of Hameed et al in Karnataka and Joseph et al in South India. 10,15 The prevalence of cataract in our study was 30% which is comparable to the study findings of Sharma et al. 12 Few studies however have reported lower prevalence of morbidities as compared to our study. A study conducted in southern rural area of Pondicherry by Sudarshan et al, found that hypertension was prevalent in 14.2% subjects, arthritis in 12.3% subjects and similarly magnitude of other morbidities was quite low.9 The reason of higher magnitude of morbidities in our study is due to occupational pattern in our study area. Pali village of Faridabad is the biggest crusher zone of Asia. By virtue of this, climatic conditions of this village are very poor with poor air quality. There is a well-known effect of air pollution on various acute and chronic diseases like hypertension, chronic lung disease, visual impairment etc. also.²⁰ Prevalence of substance use is also higher in this area leading to higher morbidity.

We assessed various factors affecting occurrence of morbidities among elderly. The mean number of morbidities was higher in females as compared to males which is similar to other study findings. 12,15,21 In our study, musculoskeletal problems, eye problems and acid peptic disorders were found to be significantly higher among female subjects while chronic lung diseases were significantly higher among male subjects. Sharma et al reported higher occurrence of musculoskeletal disease among female and chronic lung disease in male, whereas other morbidities were nearly same in both sexes.¹² Same has been advocated by Prakash et al in their study conducted in an urban area. 19 The mean number of morbidities was higher among those elderly who were divorced and widowed, illiterate and substance users. This finding is consistent with the study findings of Sharma et al in Shimla and Shankar et al in Varanasi hat morbidities were higher among widowed elderly. 12,14

Regarding health-seeking behavior, our study findings revealed that 77.7% elderly preferred allopathic system of medicine (both public and private) which was similar to the findings of Sharma et al who reported a prevalence of 81.2%. Majority of elderly preferred private healthcare facilities for their illnesses and this finding was similar to the findings of Narapureddy et al. However, proportion of elderly who preferred government facilities was higher in our study which may be due to higher proportion of females in our study population who can access government facilities during fixed morning hours.

CONCLUSION

Our study concluded that morbidity load among the elderly was very high. So, strong efforts need to be taken to provide specialised care to this group so that they remain active and contribute to their maximum potential to our society. There is a need to strengthen community care for early detection and control of these morbidities. Regular assessment of geriatric group needs to be done especially the most vulnerable including females, oldest old and widowed. The health seeking behaviour of the elderly in our study was poor and is an area of concern. All efforts to strengthen primary healthcare needs to be done and area specific strategies need to be formulated. The government facilities in rural areas need to be strengthened with special emphasis on geriatric programs.

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Ethical approval: The study was approved by the

Institutional Ethics Committee

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