Socio-demographic and morbidity profile of elderly in national capital region, district Ghaziabad

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Abstract

Background: Ageing is an inevitable physiological process. Old age is characterized by multiple physical and psychological ailments. To understand social and physical problems of elderly a cross-sectional study in a lower middle income society of Ghaziabad was carried out on 1000 elderly.

Method: A questionnaire covering socio-demographic profile and physical morbidities was used as a tool.

Results: Eighty two percent elderly belonged to 60-69 year age group. Forty one percent elderly were illiterate and 66% were financially dependent on others. Almost all elderly (96.3%) were affected by at least one physical ailment with joint pain and hypertension being most common morbidity. A large number of elderly (41.9%) were affected by some disability interfering with daily life, walking difficulty being most common disability.

Conclusion: Changing social structure and continuously increasing elderly population makes it imperative for Government to make policies to ensure dignified care of elderly considering their special needs.

Key words: Morbidity Profile, Elderly, Socioeconomic Status

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Introduction

Progressive degeneration of all the organs and tissues of the body is 'ageing', an inevitable biological process. Every organ system during youth has sufficient homeostatic reserve. Starting in 3rd decade of life there is progressive constriction in this reserve termed "homeostenosis"[1]. Several theories have been proposed to explain the biological basis of ageing.

Along with depleted functional reserve almost all organ systems become susceptible to infections. It is due to weakening of immune system. Thus ageing is characterized by multiple degenerative disorders as well as increased vulnerability to infectious illnesses of various organ systems.

Physiological process of ageing varies amongst individuals. There are ethnic, racial and genetic differences. Lifestyle, nutrition and various other factors can also affect its rate. National Policy on Older Persons adopted by Government of India in January, 1999 defines senior citizen or elderly as a person who is of age 60 years or above.[2] The study of physical and psychological changes that occur in old age is called "Gerontology".

Better health care facilities have resulted in increased longevity. At the same time development and education have led to decreased fertility rates. While these are achievements of last five decades, they have also resulted in progressive ageing of global population. Hence it has drawn attention of health planner, economist and demographers. According to World Health Statistics 2011, India's old age population is 83 million comprising 7% of the nation's total population (1.2 billion). It is expected to increase up to 12% by 2026 (173 million) and approximately 20% (316 million) by 2050. India's old population (83million) was 10% of world's old age population (784million) in 2011.[3] Chronic diseases now are the leading cause of death and disability among India's old in both urban and rural areas[4,5]. Elderly have multiple disorders involving multiple systems. Population aging in China and India will lead to a large number of elderly requiring healthcare facilities for chronic diseases. According to one study 66% of the Chinese and 45% of the Indian health burden are expected to be in geriatric population of these countries by 2030[6].

Old age population in our country is heterogenous. There are variations related to gender, location and socioeconomic status as well as great diversity in cultures, religions, and languages. At least 65% of India's elderly population resides in rural areas. They are afflicted with illiteracy and financial dependence[7,8].

While aging population is a sign of development it also poses various challenges. One of it is to meet the growing demand for increasingly complex healthcare services. Already inadequate resource constrained healthcare infrastructure makes this task much more difficult. With an ever increasing number of this vulnerable population Government and health planners

need to formulate health policies addressing the special needs of elderly. First step for this is to understand the socioeconomic status and morbidity profile of elderly.

Material and Methodology

Design of study: A cross-sectional study.

Thousand subjects above 60 year, randomly selected from Nandgram, district Ghaziabad, where included in this study. There are 10,000 houses in Nandgram with 7 blocks and free households which are inhabited mainly by lower middle class families. Total population of Nandgram is ~70,000.

Elderly people who were excluded from this study were:

1. Unwilling to be part of study.
2. Unable to answer questionnaires because of inability to speak or altered orientation.

Predesigned, pretested question-naire was used as tool. It included socio-demographic characteristics which included name, age, sex, marital status, living status, total family members, source of income, health security along with education, economic status & occupation status. Self-reported other co-morbidities were also included. Socioeconomic status was determined by using modified 2012 Kuppuswamy's socio-economic status scale.[9]

Three health workers were trained for this purpose. Door to door survey was carried out and question-naire (socio-demographic and morbidity proforma) was filled. Elderly people were helped in filling questionnaire along with social workers and best answer was taken. Co-morbidities were recorded by self reporting. For confirmation all available records taken from different sectors, prescriptions of medical practitioners and drug wrappers and bottles were seen. Various kind of disabilities related to locomotion, hearing, speech, visual were also recorded. General examination of all the respondents was done to assess the co-morbidities.

Result

Analysis of data showed that 573 of respondent were female which constituted 57.3% of respondent. Mean age of respondents was 65.02 years with maximum age of 93 years. A very large majority of them (823/1000 - 82.3%) were in 60-69 year age group.

Illiteracy rate was very high in respondents (412 – 41.2%). More than half elderly females (321 – 56%) were illiterate. About one third (328 - 32.8%) respondents had education only upto primary or middle level. Only 6% (60) respondents had graduation or above or professional degree. Female elderly had particularly low educational status. (Table 1)

Table 1: Educational Status

Educational status	Male		Female		Total	
	No.	%	No.	%	No.	%
Illiterate	91	21.3	321	56.0	412	41.2
Primary/Middle level	152	35.6	176	30.7	328	32.8
High school/ Intermediate	140	32.8	60	10.5	200	20.0
Graduate or above	44	10.3	16	2.8	60	6.0

Large number of elderly females (30.4%) and (15%) males had lost their spouse and large majority (893 – 89.3%) of elderly were living in joint family.

In our study two third (66%, M-40.3%, F-85.2%) elderly were financially dependent on family. Males had better financial status as compared to females. 39.1% (167) male respondents were still working and 11.48%(49) were receiving pension from past employer. In comparison only 3.32%(19) females were receiving pension and 4.9% (28) were still working. Majority of male respondents (61.1% - 261) in the past were in private service, 23.2% (99) were self employed and 15.7% (67) were in Government or semi-government job. Only 9% (52) of female respondents were working, rest all were housewives.

In present study, 23(2.3%) respondents had self financed health security cover, whereas in 53(5.3%) respondents health security were provided by the employer. Rest of 92.4%(924) respondents had no health security cover and therefore had to pay out of pocket for availing health care.

Table 2: Socio-demographic profile of elderly

	Male		Female		Total	
	No.	%	No.	%	No.	%
Number	427	42.7	573	57.3	1000	100.0
Mean Age (years)	65.63		64.57		65.02	
Widow/Widower	64	15.0	174	30.4	238	23.8
Econ. Dependent	172	40.4	488	85.2	660	66.0
Still Working	167	39.1	28	4.9	195	19.5
No Health Security	378	88.5	541	94.4	919	91.9

As per modified Kuppuswamy's scale 2012, 23.9% of respondent were in lower middle class and 61.4% were in upper lower class. Socioeconomic status of females was much worse than males. Proportion of females was much more in lower and upper lower class as compared to males while males had higher proportion in lower middle and upper middle class. None of the elderly belonged to upper class.

Table 3: Socioeconomic status of elderly (Modified Kuppuswamy's scale 2012)

Socio-economic status	Male		Female		Total	
	No.	%	No.	%	No.	%
Upper	0	0.0	0	0.0	0	0.0
Upper middle	89	0.8	10	1.7	99	9.9
Lower middle	127	9.7	112	19.5	239	23.9
Upper lower	205	48.0	409	71.4	614	61.4
Lower	6	1.4	42	7.3	48	4.8

Morbidity was recorded on the basis of self reporting, records of previous treatment and prescriptions of health care providers. In the study 963 (96.3%) of elderly suffered from at least one chronic illness. Joint pain affecting 36.2% (362) elderly, followed by hypertension in 286 (28.6%), 148 (14.8%) had some kind of chronic respiratory illness (Table 4). Mean number of illness was 1.73 per respondent. Males had higher mean number of illness (1.91 vs 1.60) as compared to females.

Table 4: Morbidity profile of elderly (percentage)

Morbidity	Male		Female		Total	
	No.	%	No.	%	No.	%
Respiratory	82	19.2	66	11.5	148	14.8
Diabetes Mellitus	58	13.6	59	10.3	117	11.7
HT	106	24.8	180	31.4	286	28.6
Cardiac	44	10.3	17	3.0	61	6.1
Hearing	28	6.6	49	8.6	77	7.7
Cataract	67	15.6	90	15.7	157	15.7
Joint Pain	173	40.5	189	33.0	362	36.2
Skin Problems	28	6.6	43	7.5	71	7.1
Urinary	39	9.1	27	4.7	66	6.6
Abdominal	79	18.5	105	18.3	184	1.4
Obesity	12	2.8	21	3.7	33	3.3
Other	101	23.7	70	12.2	171	17.1
None	24	5.6	13	2.3	37	3.7

Difficulty in walking was the most common disability affecting 292 (29.2%) elderly. Females (36.1%) were much more affected by this disability as compared to males (19.9%).Visual disability was second most common disability affecting 112 (11.2%) elderly. 47 (4.7%) suffered more than one physical disability.

Discussion

Higher number of females as compared to males in our study is consistent with other available data suggesting sex ratio in favour of females in elderly. [10] As per the census 2011, whereas for total Indian population sex ratio is in favour of male population in ratio 940:1000, for elderly at (60+) population it's in favour of elderly women by 1022:1000. Since females have higher life expectancy than males this ratio keeps on increasing in favour of females as age advances. It reaches as high as 1980 elderly women per 1000 elderly men at 80 years of age.[10]

In our study majority of elderly (82.3%) were in 60-69 year age group. It is consistent with age distribution of elderly reported in literature. Piramayagam et al in a study in South India 59.6% of elderly population in 60- 69 year age group. Anjali R reported similar age distribution.[11,12]

High illiteracy in elderly especially females is a big cause of their poor status in family. Education leads to rational and logical thinking. It is big empowerment tool to improve ones financial, social status and affects various demographic decisions taken by an individual. Lack of it makes an individual more vulnerable. In our study 21% of males and 56% females were illiterate. Improving literacy rate of population over the years is obviously getting reflected in elderly population also but it is still quite high. As per NSSO (national sample organization) 2007-08 23% males and 56% females

were illiterate in urban areas.[13] Literacy level among elderly in rural areas is worse more so among females (87% illiterate as per NSSO 2007-08), whereas in our study 56% elderly females in urban area are illiterate indicating empowerment of elderly population.

Spouse is the biggest support in this elderly phase of life. But the possibility of losing him/her increases with ageing. It affects physical as well as psychological health. It increases sense of loneliness, depression. This adversity affects females much more. As per 2001 census about half of all elderly women were widowed while only 15 per cent of elderly men were widowers.[14] It adversely affects financial security of females. A research on widows in India indicated high level of poverty among women in India upon becoming widows.[15]

High financial dependence in elderly 660 (66.0%), [Males- 172 (40.3%), Females 488 (85.2%) in our study is supported by literature. As per 2004 NSSO 44% of males and 83% females and another study of 2011 63% males and 84% females elderly residing in urban area were economically dependent partially or fully.[16] Since Indian females are traditionally housewives, very high economic dependence in elderly females can be understood. But high rate of widowhood among elderly females means a large number of them are dependent financially on family members other than spouse. According to a 2011 report of Government of India 84% elderly females in rural and 81% in urban area were financially dependent on person other than their husband.[13] Not only financial but physical support is required by elderly population. It makes them particularly vulnerable.

As per our study a very large majority of elderly had no health security cover. Even among those with health security cover most of them had been provided it by past employer. This data suggests that a very large majority of elderly have to do out of pocket expenditure on health. This is the phase of life when they need healthcare services most but are financially weak and dependent on others for survival. Continuously increasing geriatric population in country makes it imperative for policymakers to provide some health care cover for them.

Large work participation rate by elderly in our study is supported by other studies also. As per 2001 census 44% elderly male and 9% females in urban area were working. While these figures are 39% and 7% respectively in 2007-08 NSSO survey.[13] It has been seen that this rate is higher in developing countries than developed one and rural than urban areas in our country. It suggests that this high work rate is out of compulsion due to absence of universal social security cover for elderly. In the absence of this formal support and crumbling of informal family support system inability to work exposes elderly to psychological, verbal and physical abuse. According to a 2011 report by Helpage India 22% of elderly face some kind of abuse with daughter in law and son being major abusers.[17]

Musculoskeletal disorders are common in old age. Degenerative disorders of joint affecting mobility in old age are important concern. They affect quality of life by hampering their ability to live independently. In our study joint pain was the most common morbidity among elderly afflicting 362 (36.2%) of sample population.

It was followed by HT affecting 28% (286) population. In studies at Sangli and Ahmedabad also musculoskeletal disorders were most common morbidity amongst elderly. In Sangli study 39% suffered joint pain while in Ahmedabad study locomotor problems affected 48% elderly. In both these studies Hypertension was third most common morbidity following ocular problems.[19,20] Although almost all studies report arthritis as a very common problem in elderly a large number of studies suggest problems related to vision or hearing as the most common affliction among geriatric population. In a community based study conducted in Delhi among 10,000 elderly people, problems related to vision and hearing topped the list, closely followed by backache and arthritis.[21] Another study in rural area of Pondicherry reported higher prevalence of joint related problems(43%) among elderly still it was lesser than visual problems affecting 57% population. Another study by Sushma Batra showed incidence of musculoskeletal disorders as high as 60% in males and about 90% in elderly females. In this study almost all the females above 70 suffered from musculoskeletal disorders.[22]

Old age characterized by declining physical capacities, is usually associated with many diseases. Morbidity in elderly affects not only physical but also psychological and financial health. A 2005 study on Health problems of aged mentioned that health is not only a biological or medical concern but also a significant personal and social concern. In general with declining health, individuals can lose their independence, lose social roles, become isolated, experience economic hardship, be labeled or stigmatized, change their self perception and some of them may even be institutionalized.[18] In India elderly suffer both from communicable as well as non communicable diseases.

Prevalence of DM and cardiac illness in our study population was 117 (11.7%) and 51 (6.1%), both being more common in males than females. UNPF report on status of elderly in India published in 2012 reported prevalence of DM and cardiac illness in elderly 13.8% & 6.8% respectively. Prevalence of DM and cardiac illnesses increases with age. They are an important cause of morbidity and mortality. With changing lifestyles incidence of DM is progressively increasing. Prevalence of DM in a south Indian study was 23.7% in urban area while in study at Trivandrum it was 16.3%.CSIR-NEERI study at Nagpur reported

prevalence as high as 30% [23,24,25,26] Comparatively lower prevalence of DM in our study could be due to inclusion of only already diagnosed cases and many cases might be hidden.

In our study 77 (7.7%) of population suffered from hearing problem. Hearing disability leading to communication problems adversely affects wellbeing of elderly. Many times it subjects elderly to ridicule. Some studies have suggested hearing loss to be the commonest morbidity amongst Indian elderly. There is wide variation in reported prevalence of hearing disability amongst elderly. It is probably because of difference in methodology used. Studies relying on interview report lower while those using audiometry reporting higher prevalence. Increasing prosperity with sedentary lifestyle and over nutrition is getting reflected in increasing prevalence of obesity in India. Elderly belonging to middle and upper class in urban areas are also getting affected by it. In our study 3.3% (33) of respondents were affected by obesity. Prevalence of obesity in elderly in studies at Chandigarh and Delhi was 7.7 and 9.7% respectively. Lower incidence of obesity in our study could be because majority of our respondents belonged to lower or lower middle income group. Higher prevalence of obesity in females as compared to males in our study is in accordance with other studies.[27,28]

Conclusion

Changing demographic profile with increasing number of geriatric population is one such challenge. Social changes with fast disappearing informal family support structure make it much more difficult. As exemplified by present study and various previous studies almost all elderly suffer from some chronic illness and large number have multiple illnesses. They are financially dependent, do not have health security cover and many of them face some kind of abuse from own family members. Government, policy planners, social service organizations and health care experts need to work so that elderly can lead a productive and healthy life with dignity. Old age becomes a time when one can enjoy the fruits of hard work done in youth.

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