

Morbidity pattern of geriatric population in rural areas of western Uttar Pradesh

Rakesh Kumar, Shiv Prasad Bahal, Anurag Srivastava

Department of Community Medicine, Teerthanker Mahaveer Medical College and Research Center, Moradabad, Uttar Pradesh, India
Correspondence to: Rakesh Kumar, E-mail: drakeshk23@gmail.com

Received May 01, 2015. Accepted August 08, 2015

Abstract

Background: Aging is a complex, multifactorial, and inevitable process that begins before birth and continues throughout the life. It is an inevitable truth that older people in Indian society has been well perceived. Although age pyramid with wider top obviously narrates a success story of socioeconomic development and good public health practice in country, there is need to know the problem burden comprehensively.

Objective: To study the morbidity pattern of the elderly.

Materials and Methods: A cross-sectional study was conducted from January 2014 to June 2014. Sample size calculated was 855 and simple random sampling was used to select the villages. The information was collected on predesigned and pretested questionnaires and analysis was carried out with the help of Microsoft Excel and SPSS 20.0.

Result: Of the total 855 respondents, 48.8% were men and 51.2% were women. Most deviated sex ratio was seen in the age group of 76–80 years where 57.5% population comprised women. Overall hypertension (52.8%) was the most common morbidity found in geriatric population followed by anemia (32.8%) and diabetes (32.3%). The overall morbidity status of elderly significantly associated with age, gender, working status, and type of family.

Conclusion: There is an urgent need of dealing with the geriatric health problems in compressive and coordinated approach by health personals and good compliance by the elderly people.

KEY WORDS: Geriatric, morbidity, hypertension, diabetes, anemia

Introduction

Aging is a complex, multifactorial, and inevitable process, which begins before birth and continues throughout the life.^[1] India, like other countries in Asia, is experiencing rapid demographic transition, which has resulted in an increasingly aging population.^[2–4] Declining rates of fertility and mortality, and increasing life expectancy have been the leading determinants of population aging.^[5] A substantial growth in the number

and proportion of older adults in the country estimated at an annual growth rate of 2.8% per annum from 1991 to 2001 compared with the growth rate of the general population at 2% per annum can be seen.

The 2011 census shows that the older population (age 60+) of India reached 100 million. The United Nations statistical projection indicates that the size of India's population aged 60 years and above is expected to increase to 117 million in 2015, 193 million in 2030, and further to 335 million in 2050. The proportion is likely to reach 13% population in 2030 and 20% in 2050.^[4] A growing aging population in any country carries great social, economic, and public health implications. The burden of morbidity and mortality in the population will also undergo change from burden profiles dominated by infectious diseases to those affected by chronic noncommunicable diseases.^[6]

It is an inevitable truth that older people in Indian society has been well perceived. Although age pyramid with wider top obviously narrates a success story of socioeconomic development

Access this article online

Website: <http://www.ijmsph.com>

DOI: 10.5455/ijmsph.2016.0105201576

Quick Response Code:



and good public health practice in country, it also creates various economic and social troubles due to crumbling support system, with qualitatively as well as quantitatively increased unmet need for health and welfare services. Hence it is important to organize our health system in such a way that it will combat the problems and some unforeseen condition due to increase in geriatric population load. This needs comprehensive information about of problem burden so that suitable planning and execution can be done for apposite organization of health system. In consonance of above facts, this study was conducted with the objective to explore morbidity pattern of the elderly in "rural areas of western Uttar Pradesh."

Materials and Methods

A cross-sectional study was conducted in field practice area of rural health center, department of community medicine. Duration of study was from January 2014 to June 2014. Study subjects were persons of age group 60 years and above living in the study area. Sample size was calculated using prevalence rate of 31%, with relative precision as 10% and confidence level 95%.^[7] So sample size calculated was 855. To cover this sample size we selected 10 most populous villages from field practice area by simple random sampling. A team of medical officer and a medico social worker (field investigator) visited the houses. In each village, field investigator visited every household. In the contacted households, it will be verified whether the households have a member who was aged 60 years or more of age. If the person was present there then the household was selected, structured questionnaire was canvassed by field worker and physical examination was carried out by doctor. If not, the team will move to the immediate next household for the similar enquiry. Information regarding current illness and H/O past illness were taken and general examination was performed. Prescription of other qualified medical practitioner was also considered. The information was collected on predesigned and pretested questionnaire.

Data collection, compilation, and analysis were carried out with the help of Microsoft Excel and SPSS 20.0.

Result

Table 1 shows age- and sex-wise distribution of geriatric population. Of the total 855 respondents, 48.8% were men and 51.2% were women. Overall 54.9% geriatric population was in the age group 60–70 years. In 60–70 years age group, male:female ratio skewed toward men whereas in above 70 years age group it was toward women. Most deviated sex ratio was seen in the age group 76–80 years where 57.5% population comprised women.

In this study overall hypertension (52.8%) was the most common morbidity found in geriatric population followed by anemia (32.8%) and diabetes (32.3%). Among women, the morbidity pattern was same as in overall population but among

men hypertension was followed by diabetes and anemia. Anemia, osteoarthritis, cataract, urinary problems, skin diseases, psychiatric problems, and constipation predominantly affect the women population whereas hypertension, ischemic heart diseases, diabetes, hearing impairment, blindness, and chronic obstructive pulmonary diseases (COPD) were more common among men.

Effect of sociodemographic factors on frequency of morbidities among geriatric population is clearly shown in Table 3. As the age increases chances of getting more morbidities are increasing hence persons with multiple morbidities were more in age group 80+ where about 80.6% population having multiple morbidities and only 2.7% population had no notified sickness. Sex differentiation was also seen in occurrence of diseases. Of all, 13.7% women had no morbidity whereas in men it was only 11.5%. Most of the men (66.7%) had multiple morbidities. Working makes the persons healthier as 17.2% working persons had no morbidities whereas it was only 9.2% in nonworking group. Geriatric population residing in nuclear family had more chances to get multiple morbidities (78.4%) in comparison to persons with joint family (41.4%). Overall, most of the population (55.7%) had multiple morbidities with 31.7% geriatrics having single morbidities and only 12.6% with no morbidity.

Discussion

In the study, effect of age was clearly seen on gender-wise distribution of population, as the age increases proportion of women population also increases. It was predominantly toward men in <70 years population but toward women in >70 years population. This variation is seen may be due to more life expectancy among women.

The prevalence of morbidity in study population was found 87.4% and hypertension (52.8%) was the foremost morbidity found in geriatric population. In other studies, almost similar prevalence of hypertension was found as 49.4% in Udaipur,^[8] 49.2% in Kolkata,^[9] and 34.3% in Mumbai.^[10] Similarly in the study carried out by Surekha Kishore it was found that hypertension was the most common problem (41.4%), followed by musculoskeletal problems (36.8%), respiratory problems (36.1%), and psychosocial problems (28.8%).^[11] In our study osteoarthritis was found in only 22.5% geriatric population. These findings are in contrast with those of a study conducted by Sharma *et al.*^[12] in which total 362 elderly were interviewed and assessed clinically and 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% ($p < 0.001$). Osteoarthritis was more in women as compared to men (70.1% vs 41.6%). In another study, Purty *et al.*^[13] studied 320 elderly, of which 139 (43.4%) had joint pains/joint stiffness as the most common complaint. These contrasts in findings may be due to difference in study settings and sample size variation.

Prevalence of diabetes was found 32.3% in our study. In a similar study Puri *et al.* found that 40 (54.1%) elderly

Table 1: Age-wise distribution of geriatric population

Age groups (in years)	Men		Women		Total	
	No	%	No	%	No	%
60–65	130	51.2	124	48.8	254	29.7
66–70	109	50.7	106	49.3	215	25.2
71–75	84	48.3	90	51.7	174	20.3
76–80	51	42.5	69	57.5	120	14.2
80+	43	46.7	49	53.3	92	10.6
Total	417	48.8	438	51.2	855	100.0

Table 2: Morbidity pattern among geriatric population

Morbidity	Men		Women		Total	
	No	%	No	%	No	%
Anemia	125	44.2	158	55.8	283	32.8
Hypertension	239	53.0	212	47.0	451	52.8
IHD	58	60.4	38	39.6	96	11.2
Diabetes	155	56.2	121	43.8	276	32.3
Osteoarthritis	90	46.9	102	53.1	192	22.5
Hearing impairments	46	52.3	42	47.7	88	10.3
Cataract	97	46.9	110	53.1	207	24.2
Urinary problems	33	45.2	40	54.8	73	8.6
Skin diseases	20	41.7	28	58.3	48	5.6
Blindness	7	53.8	6	44.2	13	1.6
Chronic gastritis	63	60.6	41	39.4	104	12.2
Psychiatric problems/epilepsy	4	40.0	6	60.0	10	1.1
Hernia	8	66.7	4	23.3	12	1.2
Recurrent gastric intolerance	51	57.3	38	42.7	89	10.6
COPD	66	58.9	46	41.1	112	16.4
Constipation	100	48.3	107	51.8	207	24.2
Dental problems	57	58.2	41	41.8	98	16.4
Others	50	56.2	39	43.8	89	9.8

Table 3: Effect of sociodemographic factors on frequency of morbidities among geriatric population

Sociodemographic factors	No morbidity	Single morbidity	Multiple morbidities	Total
Age group (years)				
60–70	77 (16.4)	177 (37.8)	215 (45.8)	469
71–80	29 (9.9)	79 (26.9)	186 (63.2)	294
80+	2 (2.7)	15 (16.7)	75 (80.6)	92
		$X^2 = 51.7, df = 4, p = 0.000$		
Gender				
Men	48 (11.5)	91 (21.8)	278 (66.7)	417
Women	60 (13.7)	180 (41.1)	198 (45.2)	438
		$X^2 = 43.5, df=2, p = 0.000$		
Occupation				
Working	63 (17.2)	83 (22.7)	220 (60.1)	366
Nonworking	45 (9.2)	188 (38.5)	256 (52.3)	489
		$X^2 = 29.3, df = 2, p = 0.000$		
Family type				
Nuclear	41 (12.5)	30 (9.1)	258 (78.4)	329
Joint/extended	67 (12.8)	241 (45.8)	218 (41.4)	526
		$X^2 = 136, df = 2, p = 0.000$		
Total	108 (12.6)	271 (31.7)	476 (55.7)	855

presented with some sign/symptom for which fasting blood sugar level was done and the patient was found diabetic.^[14] 18 (24.6%) were diagnosed on routine investigation and rest 16 (21.6%) accidentally. Purty *et al.* have reported hypertension in 83 (25.9%) and diabetes in only 26 (8.3%) elderly.^[13] This contrast in findings may be due to secular trends of diseases and difference in sample size.

Lena *et al.*^[15] reported in a study at Karnataka that most of the respondents had health problems, the most common were hypertension, osteoarthritis, diabetes, or bronchial asthma; others included cataract, anemia, and skin problems. These findings are in favor of our study. Some more recent studies also favor our findings. Joshi *et al.*^[16] have reported in his study that elderly people were distressed physically, psychologically, and both. The most prevalent morbidity was anemia, followed by the dental problems, hypertension, chronic obstructive airway disease, cataract and osteoarthritis. In another important study conducted by Mujahid, age-related disorders include life-threatening diseases such as heart disease, stroke, cancer, diabetes, and infections, as well as certain chronic disabling conditions affecting vision, mobility, and hearing were reported as most common morbidities among elderly.^[9]

Among the sociodemographic determinants age, gender, occupation, and working status all emerged as key factors affecting the health status of geriatric persons. Association of sociodemographic determinants with morbidity status was found statistically significant also in our study. Various other studies also explained the role of sociodemographic factors in health status of older population in developed and developing countries.^[17–19]

The strengths of this study are that it provides comprehensive information about the burden of different medical problems in geriatric population in study area; also, that it highlights importance of various sociodemographic variables on frequency of morbidities.

There are few limitations also for this study, which are as follows:

1. As sample size calculation was based on general morbidity pattern, results may not be applicable for geriatric problems with lower prevalence.
2. Complete spectrum of sociodemographic variables could not be covered.

Conclusion

The study brings to light that almost all elderly had reported to have one or the other health problem. Most of the health problems increased with the age of elderly. As the age increases chances of multiple morbidities also increases. The overall morbidity status of elderly significantly associated with age, gender, working status, and type of family. Hence there is an urgent need of dealing the geriatric health problems in compressive and coordinated approach by health personals and good compliance by the elderly people.

References

1. WHO Aging: Exploding the myths. *J Indian Med Association* 1999;97(4):138–40.
2. Chaudhury, RH. Ageing in Nepal. *Asia-Pacific Popul J* 2004;19(1): 61–77.
3. Mujahid, G. Population aging in East and South-East Asia, 1950–2050: Implications for elderly care. *Asia-Pacific Popul J* 2006;21(2):25–44.
4. United Nations Population Division. Revision world population prospects. New York, NY: United Nations, 2006.
5. Alam M. Ageing in India: Socio-economic and health dimensions. Academic Foundation: New Delhi, India 2006.
6. Omran AR. The epidemiologic transition. A theory of the epidemiology of population change. *Milbank Memorial Fund Quarterly* 1971;49:509–38.
7. Tiwari SC, Srivastava G, Tripathi RK, Pandey NM, Agarwal GG. Prevalence of psychiatric morbidity amongst the community dwelling rural older adults in Northern India. *Indian J Med Res* 2013;138:504–14.
8. Prakash R, Chaudhary SK, Singh US. A study of morbidity pattern among geriatric population in an urban area of Udaipur. *Indian J Commun Med* 2004;29(1):35–40.
9. Sarkar S. Morbidity profile of aged population of old age home in Calcutta. *Ind J Pub Health* 2003;47(2): 47–50.
10. Dhar HL. Emerging geriatric challenge. *JAPI* 2005;53:867–72.
11. Kishore S, Juyal R, Semwal J, Chandra R. Morbidity profile of elderly persons. *JK Sci* 2007;9:87–9.
12. Sharma MK, Swami HM, Bhatia V, Verma V, Bhatia SPS, Kaur G. An epidemiological study of correlates of osteo-arthritis in geriatric population of UT Chandigarh. *Indian J Commun Med* 2007;32(1):11–3.
13. Purty AJ, Bazroy J, Kar M, Vasudevan K, Veliath A, Panda P. Morbidity pattern among the elderly population in the rural area of Tamil Nadu, India. *Turk J Med Sci* 2006;36:45–50.
14. Puri S, Kalia M, Swami H, Singh A, Abhimanyu, Mangat C, *et al.* Profile of diabetes mellitus in elderly of Chandigarh, India. *Internet J Endocrinol* 2007;4(1).
15. Lena A, Ashok K, Padma M, Kamath V, Kamath A. Health and social problems of the elderly: A cross-sectional study in Udupi taluk, Karnataka. *Indian J Commun Med* 2009;34:131–134.
16. Joshi K, Kumar R, Avasthi A. Morbidity profile and its relationship with disability and psychological distress among elderly people in Northern India. *Int J Epidemiol* 2003;32:978–87.
17. Kalavar JM, Jamuna D. Aging of Indian women in India: The experience of older women in formal care homes. *J Women Aging* 2011;23:203–15.
18. McDonough P, Walters V. Gender and health: Reassessing patterns and explanations. *Soc Sci Med* 2001;52:547–59.
19. Roy K, Chaudhuri A. Influence of socioeconomic status, wealth and financial empowerment on gender differences in health and healthcare utilization in later life: Evidence from India. *Soc Sci Med* 2008;66:1951–62.

How to cite this article: Kumar R, Bahal SP, Srivastava A. Morbidity pattern of geriatric population in rural areas of western Uttar Pradesh. *Int J Med Sci Public Health* 2016;5:430–433

Source of Support: Nil, **Conflict of Interest:** None declared.