

ORIGINAL ARTICLE

PREVALENCE OF GERIATRIC DISEASES AMONG PARENTS OF MEDICAL DOCTORS IN LAHORE

Muhammad Athar Khan, Muhammad Mushtaq*, Muhammad Zameer Ahmad**, Hena Amir, Tariq Mahmood Bajwa, Shaikh Muhammad Laeeque

Department of Epidemiology and Public Health, University of Veterinary and Animal Sciences Lahore, *Department of Community Medicine, Services Institute of Medical Sciences, **Department of Biochemistry, Allama Iqbal Medical College Lahore

Background: The burden of geriatric diseases has a significant impact upon the socio-cultural, socio-economic and administration of health services. The study was carried out to identify a burden of geriatric conditions, magnitude of disease problems and involvements of body systems in the parents of medical doctors from Lahore. **Methods:** After taking the consent, interview based active disease surveillance/information was collected from a total of 137 medical doctors and their parents. They were interviewed about the health status of their parents and recorded in a pre-tested questionnaire. The prevalence of each system involved in each of the category of parents was compared by ANOVA at a significant alpha level of 0.05. **Results:** Prevalence of cardiovascular diseases was the highest, (18.61%), followed by musculoskeletal (10.21%) and digestive system (9.12%). The ranking of other systems in descending order was 4.74%, 3.64% and 1.82% for the respiratory system, urogenital system, and ENT respectively due to single system involvement. A cumulative prevalence due to all diseases in terms of disease load/burden of diseases in both mothers and fathers was 53.28% due to single system involvement and 67.51% because of multiple system involvement. **Conclusion:** Fifty-three percent of the older population, who were above the age of 60, were sick due to the involvement of one body system and sixty eight percent had multiple body systems involvement.

Keywords Geriatrics, Morbidity, Prevalence, Ranking order, Burden, Pakistan

INTRODUCTION

With the advancement of medical knowledge and its application through health services, the average age of life expectancy at birth is increasing worldwide. As a result older population is increasing day by day. According to the United Nations review, it is expected that by the year 2025 the majority of the old people worldwide would reside in developing countries.¹ However, in most developing countries, older people die relatively earlier after remaining sick for some period of time.² Out of 580 million older people globally, about 60% of them are living in developing countries.³ Currently Pakistan is the 6th most populated country in the world, with an estimated geriatric population of 7 million.⁴ However, this group of society is not receiving its due attention from health services.⁵

The conventional joint family system in Pakistan is an essential concern for the provision of medical and rehabilitative social services to the geriatric population.⁶ Tertiary prevention for rehabilitation, functional ability, independence and quality of life issues are the focal indicators for the geriatricians.⁷ In 1025 AD, Avicenna wrote the famous book 'The Canon of Medicine' about the care of old people which is the basis of modern science of geriatrics.⁸

The health problems of older people include arthritis, rheumatism, disorders of vision, loss of hearing, home accidents, diabetes mellitus, cardiovascular diseases, prostate enlargement, depression, senile dementia and Alzheimer's disease.⁹

Morbidity and mortality are the conventional indices whereas the functional disability is a more alarming feature for evaluating the health status of older people. The physical, mental and social impairment may singly or in combination contribute to the intrinsic pathophysiology and patho-biological aging process. Old age complications associated with bed rest include cardiovascular, respiratory, musculoskeletal, gastrointestinal, genitourinary, skin and nervous system.¹⁰ Very recently, drug reactions were reported by using adulterated drugs for the treatment of cardiovascular diseases, this is also a sad demise because thousands of old age heart patients became sick and hundreds of them died in Pakistan.¹¹ The research on geriatric diseases is limited and a meagre data is available about the prevalence of diseases among elderly people in the country.

The study was carried out to identify a burden of geriatric conditions, magnitude of disease problems and involvement of body systems in the parents of medical doctors from Lahore.

MATERIAL AND METHODS

Interview based surveillance was conducted and the information was collected on a pre-tested questionnaire from 137 medical doctors who showed their consent to participate in this study. Medical doctors who were included had both parents alive during the study. This was then followed by a detailed interview from their parents (n=274) about their health status which was recorded in the pre-tested questionnaire. The

information was related to the involvement of their body system(s) and/or disease(s).¹² The diagnosis of the disease was confirmed from medical records and laboratory reports at the time of interview at their homes, or from the hospitals if admitted. Data was analysed using SPSS-11.

RESULTS

The top ten diseases of various body systems in both parents older than 60 years of age in descending order were: cardiovascular (18.61%), musculoskeletal (10.21%), digestive (9.12%), respiratory (4.74%), urogenital (3.64%), central nervous (2.91%), miscellaneous (2.18%), ear nose throat (ENT) (1.82%). The prevalence due to a single disease in total parent population (n=274) was 53.28% (n=146); in mothers it was 59.12% (n=81); and in fathers it was 47.44% (n=65) ($p>0.05$). There are significant differences in prevalence of the parents' diseases with respect to

musculoskeletal system and digestive system. The prevalence of musculoskeletal system and digestive system was higher in mothers, i.e., 13.13% for both compared to fathers which was 7.29% and 5.10% respectively ($p<0.05$).

Among the cardiovascular system diseases, 99 individuals were involved, out of which 51 (18.61%) had only cardiovascular system involvement while 48 (17.51%) had other system(s) involvement in addition to cardiovascular system. Out of 69 individuals, 28 (10.21%) had involvement of musculoskeletal system only, whilst 41 (14.96%) had multiple system(s) involvement in addition to musculoskeletal system. Similarly, out of 52 individuals 25 (9.12%) had digestive system involvement only whilst 27 (9.85%) had other system(s) involvement too. Urogenital, respiratory, and ENT single system involvement was 3.64%, 4.74% and 1.82% respectively. (Table-1).

Table-1: Prevalence of various body system(s) diseases in sick parents of medical doctors in Lahore

Body System	Mothers			Fathers			Both Parents			p
	n=137		Ranking Order	n=137		Ranking Order	n=274		Ranking Order	
	No.	(%)		No.	(%)		No.	%		
Cardiovascular	25	18.24	1	26	18.97	1	51	18.61	1	0.800
Musculoskeletal	18	13.13	2	10	7.29	2	28	10.21	2	0.020
Digestive	18	13.13	2	07	5.10	3	25	9.12	3	0.008
Respiratory	06	4.37	3	07	5.10	3	13	4.74	4	0.340
Urogenital	03	2.18	5	07	5.10	5	10	3.64	5	0.040
Central Nervous	04	2.91	4	04	2.91	4	08	2.91	6	1.000
Miscellaneous	04	2.91	4	02	1.45	5	06	2.18	7	0.012
Ear Nose and Throat	03	2.18	5	02	1.45	5	5	1.82	8	0.606
All Diseases	81	59.12	-	65	47.44	-	146	53.28	-	0.080

DISCUSSION

The study was carried out in order to understand the involvement of the body system(s) and diseases in parents of the medical doctors in Lahore. As there is a natural sentimental affiliation from children towards their parents, and medical doctors would know better than non-medical offspring, with respect to diagnosis and rehabilitation processes, the study is more accurate and precise compared to results obtained from the general population.

Numerous studies have been conducted in different parts of the world on geriatric population.¹³ Very few studies have been conducted in developing countries like Pakistan where a total of 5.6 million out of 7 of the older population is estimated to be sick.¹⁴ With the increasing age, the magnitude of disease problems also increases and as a consequence chronic diseases and psychological ailments also increase. In the current study the cardiovascular and musculoskeletal systems were on the top of the other systems for both male and female parents of medical doctors. In this study, 99 mothers and fathers showed involvement of cardiovascular system, out of these 73 (26.64%) suffered from hypertension, 9.12% (n=25) from Ischemic heart disease and only 0.36% (n=1) suffered

from congestive cardiac failure. In another study by Saks in Estonia, similar results were reported showing that the ranking order of cardiovascular and musculoskeletal system problems were on top of the list. A high prevalence of Ischemic heart disease (56.5%) was reported by Saks in older people in Estonia.¹⁵ Mohrana *et al*¹⁶, Bhatia *et al*¹⁷ and Shankar *et al*¹⁸ found that hypertension was the most prevalent condition in India.

In this study the musculoskeletal system stood second in the ranking order of geriatric diseases among which arthralgia was most common (13.86%), arthritis was the 2nd most common morbidity (6.93%) musculoskeletal system. The results are in agreement with Haque¹⁹ in Bangladesh who reported that 40.1% of the study population suffered from arthritis.

Diabetes mellitus (9.12%), and acid peptic disease (7.66%) were more common in the digestive system which stood 3rd in the ranking order of the diseased systems in this study. The prevalence of diabetes mellitus was 36% as reported by Mohrana *et al*¹⁶. Prevalence of diabetes in Chandigarh India²⁰ was 25.5% whereas in USA²¹ the prevalence of diabetes mellitus was only 6.3%. Prevalence of diabetes mellitus in a study¹⁹ conducted in the rural population of

Bangladesh was 3.4% which is very low compared to this study and other studies.

Among respiratory diseases, chronic obstructive pulmonary disease (10.21%) was highest in the respiratory system which is ranked fourth in our study. Whereas in Estonia it was reported¹⁵ to be 13.8% which was high compared to this study. The major cause of this much high prevalence of chronic obstructive pulmonary disease may be due to environmental pollution. Urogenital system was 5th in the ranking order in which benign prostatic hypertrophy was present in 4.37% fathers. Chandwani²² reported benign prostatic hypertrophy as 10.5%.

In the ranking order of diseased systems of the body's central nervous system was 6th ranked, in which neuritis/peripheral neuropathy was seen in 3.28% parents, while in another study²³ overall 8.6% elderly were suffering from diseases of nervous systems among which neuritis was 2.0%.

CONCLUSION

Geriatric diseases have a similar distribution/pattern/trends like other developing countries due to a lack of medical facilities and awareness. A total of 53.28% of parents had single system involvement, i.e., cardiovascular/musculoskeletal and/or digestive system, whereas 67.51% of parents had multiple systems involvement. Majority of patients had cardiovascular, musculoskeletal and/or digestive system diseases.

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REFERENCES

1. United Nations world population projections to 2150. Pop Dev Rev 1998;24:183-9.
2. Zafar SN, Ganatra HA, Tehseen S, Qidwai W. Health and needs assessment of geriatric patients: results of a survey at a teaching hospital in Karachi. J Pak Med Assoc 2006;56:470-4.
3. World Health Organization: Ageing -Exploding the Myths. Geneva. Ageing and Health Programme (AHE); 1999.
4. Population Reference Bureau. The 2006 World Health Data

- Sheet, Washington. Available at: www.prb.org/Publications/Datasheets/2006/2006worldpopoualntiondatasheet.aspx
5. Baig LA, Hassan Z, Ilyas M. Are the elderly in Pakistan getting their due share in health services? Results from a survey done in the peri-urban communities of Karachi. J Pak Med Asso 2000;50(6):192-6.
6. Itrat A, Taqui AM, Qazi F, Qidwai W. Family system: Perceptions of elderly patients and their attendants presenting at a University hospital in Karachi, Pakistan. J Pak Med Assoc 2007;57(2):106-9.
7. Joshi K, Kumar R, Avasthi A. Morbidity profile and its relationship with disability and psychosocial distress among elderly people in Northern India. Int J Epidemiol 2003;32:978-87.
8. Howell, Trevor H. Avicena and his regimen of old age. Age and Aging 1987;16:58-9.
9. Harper CM, Lyles YM. Physiology and Complications of bed rest. J Am Geriatr Soc 1988;36:1047-54.
10. Ilyas M, Manzoor S. Health of the elderly. In: Ilyas M. (Ed) Community Medicine and Public Health, 6th ed, Karachi: Time Publishers; 2003.p. 785-92.
11. Drug reactions. The Express Newspaper 2012, January 25. p. A9.
12. National Health Interview Survey. Available at: www.cdc.gov/nchs/nhis.htm. [Retrieved on December 25th, 2011]
13. Borglin G, Jakobsson U, Edberg AK, Hallberg IR. Self-reported health complaints and their prediction of overall and health-related quality of life among elderly people. Int J Nurs Stud 2005;42(2):147-58.
14. Sharma AL 'Geriatrics' a challenge for the twenty first century. Indian J Public Health 2003;47(3):16-20.
15. Saks K, Kolk H, Allev R, Soots A, Kõiv K, Paju I, *et al.* Health status of the older population in Estonia. Croat Med J 2001;42(6):663-8.
16. Moharna PR, Sahani NC, Sahu T. Health status of geriatric population attending the preventive geriatric clinic of a tertiary health facility. J Community Med 2008;4(2):41-5.
17. Bhatia SPS, Swami HM, Thakur JS, Bhatia V. A study on health problems and loneliness among the elderly in Chandigarh. Indian J Community Med 2007;32:255-8.
18. Shankar R, Tondon J, Gambhir IS, Tripathi CB. Health status of elderly population in rural area of Varanasi district. Indian J Public Health 2007;51(1):56-8.
19. Haque J, Alam R. Health problems of the geriatric people, A community based study in the in a rural area in Bangladesh. J Teach Assoc 2003;16(1):15-9.
20. Sharma MK, Swami HM, Gulati R. Life style and morbidity profile of geriatric population in Urban Area of Chandigarh. J Indian Acad Geriatrics 2005;3:122-5.
21. Guccione AA, Felson DT, Anderson JJ, Anthony JM, Zhang Y, Wilson PW, *et al.* The effects of specific medical conditions on the functional limitations of elders in the Framingham study. Am J Public Health 1994;84:351-8.
22. Chandwani H, Jivarajani P, Jivarajani H. Health and social problems of geriatric population in an urban setting of Gujrat, India. Int J Health 2009;9(2): DOI: 10.5580/d8f
23. Parkash R, Choudhary SK, Singh US. A Study of morbidity pattern among geriatric population in an urban area of Udaipur Rajasthan. Indian J Community Med 2004;29(1):1-3.

Address for Correspondence:

Dr. Muhammad Mushtaq, Department of Community Medicine, Services Institute of Medical Sciences, Lahore, Pakistan. Cell: +92-321-4439154

Email: MuhammadMushtaq2009@hotmail.com