

A STUDY ON MORBIDITY PROFILE OF GERIATRIC PATIENTS ADMITTED IN INTERNAL MEDICINE DEPARTMENT OF TERTIARY CARE HOSPITAL IN SOUTH ASSAM, INDIA

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ABSTRACT

BACKGROUND

The age structure of the population in the developed countries has so evolved that the numbers of old people is continually on the increase. Worldwide by 2025, the number of elderly people is expected to rise more than 1.2 billion with about 840 million of these in low-income countries. The population of elderly in India is expected to increase to 173 million by 2026. By 2050; India will be home to one out of every six of the world's older persons. Considering all these the present study was undertaken to analyse the morbidity profile of geriatric patients admitted in internal medicine department of a tertiary care hospital.

MATERIALS AND METHODS

Hospital based cross sectional study of geriatric patients aged 60 years and above. The required sample size calculated was 384. Accordingly, 199 numbers male and 194 females were included in the study. The information were collected systemically in a predesigned format and data analysed in SPSS software package.

RESULTS

Majority 124 (31.55%) cases were in 60-64 years of age. The most common system involved was neurological (42.27%). Overall the prevalence of common morbidities were HTN (29.5%), COPD (22.14%), DM (9.9%), Chronic Kidney disease (8.9%), IHD (4.8%), chronic liver disease (3.8%), Tuberculosis (2.8%).

CONCLUSION

The present study has revealed that geriatric patients are suffering from different non communicable diseases (NCDs) with coexisting other morbidities that require urgent measures to provide specialized care to this vulnerable groups.

KEYWORDS

Geriatric, Non Communicable Diseases (NCDs), hospital based.

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BACKGROUND

Discoveries in medical science and improved social conditions during past few decades have increased the life span of man. The age structure of the population in the developed countries has so evolved that the numbers of old people is continually on the increase. These trends are appearing in all countries where medical and social services are well developed and standard of living is high. Worldwide by 2025, the number of elderly people is expected to rise more than 1.2 billion with about 840 million of these in low-income countries.¹ According to 2011 census geriatric persons in India is about 8.2% of the population. The population of elderly in India is expected to increase to 173

million by 2026. By 2050; India will be the home to one out of every six of the world's older persons.²

Non-communicable diseases requiring large quantum of health and social care are extremely common in old age, irrespective of socio-economic status. Disabilities resulting from these non-communicable diseases are very frequent which affect functionality compromising the ability to pursue the activities of daily living.³

The elderly account for a high proportion of multiple hospital admissions. This fact is mainly as a result of poor health conditions, such as high co-morbidity, presence of chronic multi-organ diseases and functional dependence.⁴ Hospital admissions are a reflection of common diseases in the society. Though it may not be the true incidence of disease at the community level, it would, however, serve as a reflection of the pattern and trend of diseases in the community.⁵ Understanding the magnitude of problems amongst the vulnerable elderly age groups specifically in this part of country the present hospital-based study was undertaken to analyse the morbidity profile of geriatric patients admitted in internal medicine department of a tertiary care hospital.

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MATERIALS AND METHODS

The study was undertaken in Internal Medicine department of Silchar Medical College during the period February 2017 to May 2017. Prior permission was obtained from Medical college authority and head, department of Medicine. The method of study was retrospective hospital based cross-sectional study. The required sample size was estimated on the basis of unknown prevalence of NCD (50% assumed for conservative sample size estimates) with 5% allowable error and 95% confidence level. The sample size calculated was 384. Accordingly, 199 numbers male and 194 females were included in the study.

The cases were selected randomly from among the admitted cases who were more than 60 years of age from both male and female wards after consulting the indoor register and case sheets from medical records department. The information was collected systemically in a predesigned format and where necessary attending physician in respective unit was consulted for additional information. The data obtained was entered in Microsoft excel 2007 and analysis was done using SPSS package 16.0 version. For finding the significant between variables, chi square test was done, p-value of <0.05 was considered significant.

RESULTS

There were total 393 cases, out of which 199(50.6%) male and 194(49.4%) females. The overall mean age was 68.5 yrs. ±7.0, for male 67.6 yrs. ±7.5 and for female 68 yrs. ±7.3. 63.8% belonged to Hindu and 36.1% belonged to Muslim religion. Age group wise, majority of 124 (31.55%) cases were in 60-64 years of age, males outnumbered females in all age groups except in the 60-69 years group where there were more females than males. (Table-1)

Age group (in years)	Male Number (%)	Female Number (%)	Total Number (%)
60-65	56(14.25)	68(17.30)	124(31.55)
65-70	49(12.47)	50(12.72)	99(25.19)
70-75	50(12.72)	39(9.92)	89(22.65)
75-80	25(6.36)	19(4.83)	44(11.20)
80-85	12(3.05)	6(1.53)	18(4.58)
85-90	5(1.27)	9(2.29)	14(3.56)
90-95	2(0.51)	3(0.76)	5(1.27)
	199(50.6)	194(49.4)	393(100.00)

Table 1. Distribution of Cases According to Age and Sex

On further analysis of cases according to different systems, it was found that the most common system involved was neurological (42.27%). The detailed system wise distribution is given in Table-2.

System	Number (Percent) (n=393)
Neurological	164(42.27)
Respiratory	119(30.28)
Cardiovascular	143(36.39)
Infection	71(18.30)
Digestive	55(14.17)
Endocrine	44(11.34)
Renal	35(9.02)
Haematological (Anaemia)	20(5.15)
Poisoning/Snake bite	4(1.03)
Malignant	4(1.03)
Rheumatic	3(0.77)

Table 2. System Wise Distribution of Different Morbidities

Age and Sex wise Pattern of Morbidities with Respect to Various Systems (Table-3)

Out of the total 164 Neurological cases, 143(87.2%) are Cerebrovascular accident (CVA) cases. 56.6% of CVA cases were in the age group 60-69 years, 30.1% in 70-79 years and 13.3% in >80 years of age group. Prevalence was higher in female (88.4%) than Male (85.5%). The sex wise difference of prevalence in different age groups was found to be not significant (p>0.05). 67.9% was due to intracranial haemorrhage (ICH) and 32.1% infarcts.

	Male (n=199)	Female (n=194)	Total (n=393)	Chi sq	p-value
CVA	29.6	43.3	36.4	7.908	0.005
HTN	15.1	17.5	16.3	0.433	0.511
Infection	18.1	18	18.1	0.000	0.990
Respiratory	34.7	25.8	30.3	3.686	0.055
GI	16.6	11.3	14	2.243	0.134
CKD	9.5	5.2	7.4	2.774	0.096
Anaemia	3.5	6.7	5.1	2.061	0.151
Liver	5.5	4.1	4.8	0.421	0.517
Endocrine	10.6	11.9	11.2	0.168	0.682

Table 3. Sex Wise Distribution of Prevalence of Morbidities

Of the total 143 CVS cases, 81.1% with Hypertension, 21.8% IHD. 54.7% of the hypertension cases were in the age group of 60-69 years, 35.9% in 70-79 years and 9.4% in >80 years of age group. Prevalence is higher in female (80.9%) than Male (73.2%). The sex wise difference in prevalence in different age groups is not significant.

There were 71 infection cases, of which 33.8% cases of AGE, 29.6% LRTI, 14.1 Tuberculosis. Prevalence of infection was almost equal in both sexes. However, a higher (60.6%) was in the 60-69 years age group.

Out of 55 Gastro-intestinal cases, majority 24(43.6%) admitted with AGE and 19(34.5%) due to hepatic causes. Males were more affected in both the conditions 79.2% of AGE and 57.9% due to hepatic causes. Among the AGE and hepatic conditions, majority 11(57.9%) and 16(66.7%) were in the age group 60-69 years.

20(5.15%) of cases were with anaemia and females(84.6%) in the age group 60-69 yrs. were more commonly have anaemia compared to males.

Out of 119 respiratory cases, 58% males remaining 42% females. Majority 54.6% of cases in age group 60-69 years. Of all respiratory cases 73.1% are COPD of whom majority 64.3% males comparing to females (35.7%). 12.6% constituted the LRTI Cases, the occurrence in male and females were similar. Out of total pleural effusion (6.7%) cases 100% were among the females.

Out of total 35 renal cases, majority 24(68.6%) were males. Chronic Kidney Diseases was the most common findings in 85.7% of renal cases among 76.7% of male cases.

Out of 44 Endocrine cases 38(86.4%) were Diabetics, 5(11.4%) hypothyroid cases. The occurrence was almost similar in both sexes. 60-69 yrs. age group have the prevalence of 56.8%, 70-79 years age group of 40.9 and >80 years of 2.3%.

Frequency in Presence of Other Co-morbid Conditions

No. of Comorbid Conditions	Neurological (n=164)	Respiratory (n=113)	CVS (n=87)	GI (n=55)	Endocrine (n=40)	Renal (n=35)
1.	24	25	42	17	18	13
2.	11	14	31	11	19	17
3.	1	2	6		2	2
4.						1
Total	36(22.0%)	41(36.3%)	79(90.8%)	28(50.9)	39(97.5)	33(94.3)

Table 4. Presence of Number of Other Comorbid Conditions with Various System Involvement

From Table-4, it is evident that the patients with renal diseases were with the highest number of comorbid conditions (94.3%) while neurological diseases were with least comorbid disease. On examination of the group with cardiovascular disease it is seen that among group-1 out of 42cases, Hypertension is most common condition 31 (73.8%) followed by IHD 6(14.3%). CVA due to intracranial haemorrhage is more commonly (23.8%) observed in hypertensive cases. The other major comorbid disease was COPD (21.4%). In Group-2, hypertension was the most common (77.4%) the other diseases in decreasing order were 35.5% of Chronic kidney diseases, 32.2% Diabetes Mellitus, 29.% Transient Ischemic Attacks/Cerebrovascular Accidents, 25.8% Chronic Obstructive Pulmonary Diseases and 22.6% of Ischemic Heart Diseases.

DISCUSSION

The mean age 68.5 yrs ±7.0 of patients is similar to finding from other studies.⁶ The present study has revealed that (31.6%) of cases were in the age group 60-65 years comparing to this other studies^{7,8} have reported the common age group to be 65-70 years. A large multicenter study of 10, 035 individuals conducted in India showed that nearly 71.3% of elderly were in the age group of 60–69 years⁹ the present study observe this to be little lower 56.8%.

Overall the prevalence of common morbidities were HTN (29.5%), COPD (22.14%), DM (9.9%), Chronic Kidney disease (8.9%), IHD (4.8%), Chronic liver disease (3.8%), Tuberculosis both Extrapulmonary and pulmonary (2.8%).

The most common morbidity among different systems was found to be neurological (42.3%) whereas the Andhra Pradesh study⁷ observed cardiovascular disease (CVDs) as the most common (77.5%) while in our study found it to be 36.4%, the second most common morbidity. Still Lower prevalence of cardiovascular disease 11.59% has been reported from Nepal.¹⁰

Out of the CVDs, hypertension was found to be the most common 73.6% against 68% followed by IHD 21.8% which is higher than 10% as reported in Andhra Pradesh study.⁷ The incidence of hypertension in the Indian elderly population has been reported between 10% and 63%.^{11,12}

The present finding of 29.1% respiratory cause is much lower than 53.9% as reported from Nepal.¹⁰ Out of total respiratory cases, 70.6% were with chronic obstructive pulmonary diseases (COPD) which is higher than other study (61%).⁷ Similar prevalence of Pleural effusion has been observed in the present study of 6.7% with that of 7% in the other study.⁷

Out of 71 infection cases, 33.8% cases with acute gastroenteritis (AGE) whereas lower prevalence (12%) is reported from South India.⁷ The prevalence of pulmonary Tuberculosis is 2% in contrast with 12(15%).

Comparatively, higher prevalence of neurological diseases 42.3% is observed in present study than the study conducted in a rural tertiary care hospital in Andhra Pradesh 26%. Out of neurological cases 87.2% were because of Cerebrovascular accidents (CVA) in contrast with 65% as observed in the same study.⁷

The present study shows that among the Gastrointestinal causes majority 24(43.6%) with AGE and 19(34.5%) due to hepatic causes whereas the above study reported acute gastroenteritis 18% and chronic liver disease to be 27% respectively.⁷

Our study reveals the most common renal disease to be chronic kidney disease (CKD) 85.7% which is much higher compared to 39% as reported from other study.⁷

A similar higher prevalence of diabetes mellitus (DM) among the endocrine cases is observed in our study.

In contrast with above study finding of 17.5% much higher of 34.4% of cases has single cause for admission. The remaining 65.6% has one or more comorbid condition during admission on diagnosis.⁷

CONCLUSION

The pattern of disease seen in hospitals may not be a good guide to the pattern of disease in the community. Patients with more number of coexistent morbidities are more likely to report to the hospital. Also, the nature of disease and degree of suffering is a further reason for seeking health care.⁷ The present study has revealed that geriatric patients are suffering from different non communicable diseases (NCDs) with coexisting other morbidities, unless urgent and specific focus on preventing, treating and controlling NCDs are targeted, the burden of NCDs will continue to pose a burden in the existing health system due to high cost and specialized care will be required for treating these NCDs.

Limitation of the Study

The above study conducted among the indoor patients in the internal medicine department so other common causes of morbidities like low vision, musculoskeletal problems, gynaecological, hearing, mental problems, surgical problems etc. could not be assessed. Further study constituting larger samples with representation from other departments would substantiate the pattern of morbidities in this part of India.

REFERENCES

- [1] Health action. Eldercare Feb, 2004;17(2).
- [2] Situation Analysis of Elderly in India. Central Statistics Office, Ministry of Statistics and programme Implementation, Government of India June 2011.
- [3] National program for health care of the elderly (NPHCE)-operational guideline, health & family welfare, Govt of India.
- [4] Sona A, Maggiani G, Astengo A, et al. Determinants of recourse to hospital treatment in the elderly. Eur J Public Health 2012;22(1):76-80.
- [5] Carneiro I, Howard N, Lucianne B, et al. Introduction to epidemiology. 2nd edn. Maidenhead, UK: Open University Press 2011.
- [6] Jamkhandi DM, Bhattacharji S. Profile of elderly attending a general practice clinic in a poor urban area: a cross-sectional study from South India. J Family Med Prim Care 2016;5(4):792-797.
- [7] Kumar ARP, Suresh KR, Reddy YJV. Clinical profile of geriatric patients in medical wards at a rural tertiary care hospital in South India. J Clin Sci Res 2016;5:101-104.
- [8] Mohapatra A, Handoo SK, Gambhir IS, et al. A study of non-communicable morbidity pattern in geriatric patients attending a Referral railway hospital in Allahabad, Uttar Pradesh. National Journal of Community Medicine 2011;2(2):191-195.
- [9] Srivastava RK, Mathur A, Ananthanarayanan PH, et al. Multicentric study to establish epidemiological data on health problems in elderly. New Delhi: Directorate General of Health Services 2007.
- [10] Acharya P, Manandhar N, Acharya S. Cause of admission and mortality in geriatric patients: a hospital based study, Nepal. Journal of Patan Academy of Health Sciences 2017;4(1):32-37.
- [11] Epidemiology and prevention of cardiovascular diseases in elderly people. Report of a WHO Study Group. World Health Organ Tech Rep Ser 1995;853:1-67.
- [12] Hazarika NC, Biswas D, Mahanta J. Hypertension in the elderly population of Assam. J Assoc Physicians India 2003;51:567-573.