

Original Article:**Clinical profile of geriatric patients in medical wards at a rural tertiary care hospital in South India****A. Praveen Kumar Reddy, Roopa Suresh Krishnamurthy, Y.J. Visweswara Reddy***Department of General Medicine, PESIMSR, Kuppam*

ABSTRACT

Background: Health problems associated with ageing are multiple and sparse data are available on this topic from India.

Methods: We carried out an observational study in 200 of geriatric patients (age ≥ 60 years) at our medical college teaching hospital at Kuppam, Andhra Pradesh during the period November 2012 and October 2013.

Results: Most patients (31%) were in age group 65-69 years. The most common disease conditions noted were hypertension (49%), diabetes mellitus (47%), and chronic obstructive pulmonary disease (37%). Majority of the patients (82.5%) had more than one co-morbid condition.

Conclusions: Cardiovascular and respiratory diseases are important causes for hospital admission in geriatric patients. The majority of cases had three or more diagnoses necessitating admission contributing to higher disease burden in the elderly.

Key words: *Geriatric, COPD, HTN, DM, Morbidity*

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INTRODUCTION

Elderly people are now the most rapidly growing population group worldwide. A century ago, one individual in 20 was aged 65 years or over; presently this number is estimated to be one in six. 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.¹

The challenge ahead for health care in coming years is to ensure the quality of life to a large group of geriatric population. However, to address the health care needs of this growing numbers of vulnerable heterogeneous population, reliable data about their health problems

from different social settings are still lacking from India.

Recognizing the need for reliable data on health problems in the elderly,²⁻¹⁰ the present study was designed.

MATERIAL AND METHODS

We prospectively studied 200 patients aged 60 years or more presenting to the Department of General Medicine in our medical college teaching hospital at Kuppam, Andhra Pradesh during the period November 2012 and October 2013. The Institutional Ethics Committee had approved the study. Written informed consent was obtained from all the participants. In all of them a detailed history was obtained and a complete physical examination was carried out. Laboratory testing included haemogram, serum

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biochemistry including liver and renal function tests, urinalysis, 12-lead electrocardiogram. Diabetes mellitus was diagnosed by testing for fasting and post-prandial blood glucose levels. Pulmonary tuberculosis was diagnosed basing on sputum smear examination for acid-fast bacilli (AFB) and chest radiograph (postero-anterior view). Infections were diagnosed by carrying out relevant imaging procedures including plain radiograph, ultrasonography, computed tomography (CT), magnetic resonance imaging (MRI); and by procuring appropriate tissue/ body fluid specimens for diagnostic testing. Where required two-dimensional echocardiography, gastrointestinal endoscopy and required neuroimaging procedures were also carried out.

RESULTS

Most of the patients were in the age group 65-69 years (n=62,31%); followed by 70-74 years (n=58, 29%); 75-79 years (n=34, 17%); 80-84 years (n=18, 9%), 60-64 years (n=14, 7%); 85-89 years (n=10, 5%); and 90- 95 years (n=4, 2%). There were 132 (66%) males. Most of the patients had cardiovascular disease (n=145, 77.5%) followed by respiratory disease (n=121,

60.5 %), endocrinology problems (n=95, 47.5%), and dyslipidaemia (n=13, 6.5%), and rheumatological problems (n=12, 6%) (Figure 1).

Cardiovascular problems (n=145) included hypertension (n=98, 68%) followed by ischemic heart disease (n=15, 10%), Cardiomyopathy (n=4, 3%), valvular heart disease (n=4, 3%), and arrhythmias (n=2, 1%).

Respiratory problems (n=121) included, chronic obstructive pulmonary disease (COPD) (n=74, (61%)), followed by pneumonia (n=19, 16%), pulmonary hypertension, pulmonary tuberculosis (n=11, 9% each), cor-pulmonale, pleural effusion (n=8, 7% each), bronchiectasis (n=4, 3%), interstitial lung disease (ILD) (n=3, 2%), and bronchogenic carcinoma (n=2, 2%).

A diagnosis of infection was made at the time of admission in 74 cases. Of these, pneumonia was the most common infection noted in 19 (26%) patients, followed by urinary tract infection (n=15, 20%) pulmonary tuberculosis (n=11, 15%), dengue fever (n=10, 14%) malaria and gastroenteritis (n=9, 12% each) and meningitis in one patient.

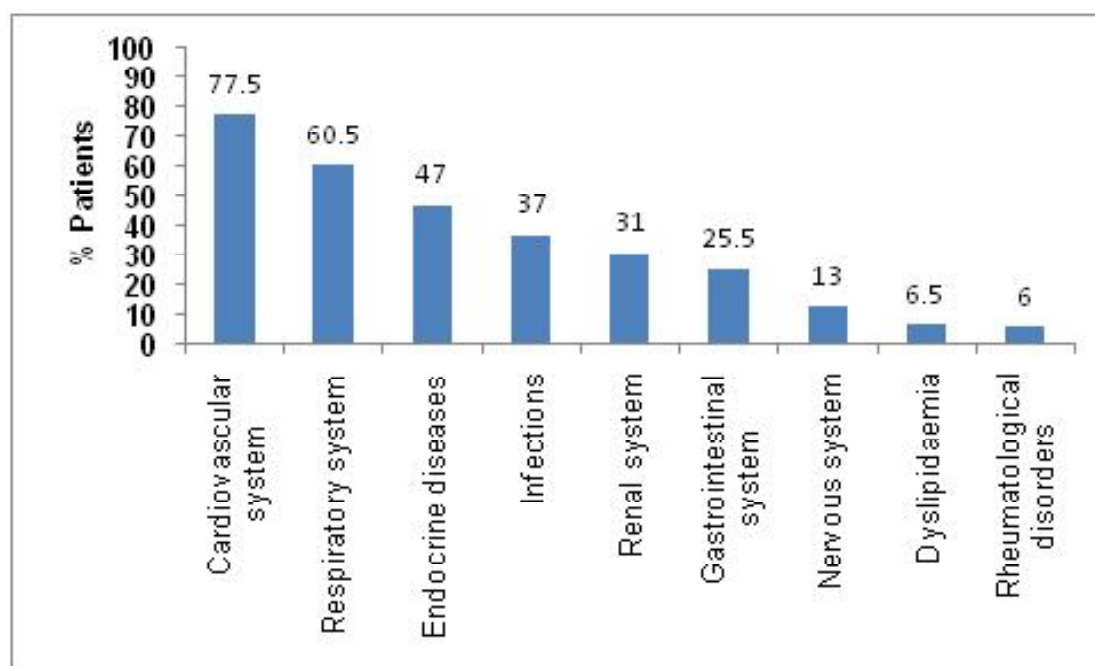


Figure 1 System involved

Neurological disease occurred in 26% of admissions. Cerebrovascular accidents were the most common cause of neurological disease (n=17, 65%). Parkinsonism was noted in 5 patients (19%). Other neurological diseases were epilepsy (n=3, 12%) and meningitis in 1 (4%) patient.

Gastrointestinal problems were found in 51 patients which included, acid peptic disease (n=27, 53%), chronic liver disease (n=14, 27%), gastroenteritis (n=9, 18%) and gastrointestinal malignancy (n=1, 2%).

Renal diseases requiring admission were evident in 62 patients, Chronic kidney disease (n=24, 39%) being the most common. UTI (n=15, 24%), benign prostatic hypertrophy (BPH) (n=13, 21%), dyselectrolytemia (n=6, 10%), and Acute kidney injury (n=4, 6%) were the other causes.

Endocrine diseases were found in 95 patients; diabetes mellitus was present in 94 patients; one patient had hypothyroidism. Dyslipidaemia was present in 13 patients. This included hyper triglyceridaemia in 5, low high-density lipoprotein cholesterol in 4, high low-density lipoprotein cholesterol in 3 and hypercholesterolaemia in 1 patient.

Among 94 patients with diabetes mellitus, 51 were having complications. Nephropathy (n=24, 47%) was the most common followed by neuropathy (n=11, 21%) and retinopathy (n=7, 14%). Other complications were diabetic ketoacidosis (DKA) (n=4, 8%), hypoglycaemia (n=3, 6%) and hyperosmolar non-ketotic coma (n=2, 4%).

While a single disease condition was present in 35 (17.5%), more than one disease condition was present in 165 (82.5%) patients. Most of the patients had three co-morbid conditions (n=53, 26.5%) followed by two (n=52, 26%), four (n=40, 20%), five (n=10, 5%), six (n=6, 3%) and seven co-morbid conditions (n=4, 2%).

Comparison of observations of present study with other published studies is shown in Table 1.^{7,10} and Table 2.⁴⁻⁷

DISCUSSION

The number of older persons in developing countries has increased rapidly in recent years. A country like India is experiencing quadruple burden of disease, consisting of chronic non-communicable diseases, human immunodeficiency virus (HIV) infection / acquired immunodeficiency syndrome (AIDS), poverty related conditions and trauma. However, among the elderly, non-communicable or chronic diseases are the main contributors to the burden of disease, as is also the case with developed countries. While geriatric health services have undergone great advancements in developed countries over the past few decades, these services are lagging behind in India. This has resulted in a paucity of epidemiological data on ageing and associated burden of disease.

Cardiovascular diseases were the most frequent chronic disease condition seen in our of patients; hypertension (49%) was the most common problem. Similar observations were reported in other studies^{4,6,7} from North India while a lower figure was reported in a study⁵ from South India (Table 2).

Table 1: Burden of co-morbid conditions

Study	Co-morbid contions No. (%)
Joshi K, et al (2003) ⁷	4-6 (42.5)
Fuchs Z, et al (1998) ¹⁰	>3 (44.4)
Present study	4-6 (28)

Table 2: Comparison of burden of hypertension in some of the published studies from India and the present study

Study	% present
Purty AJ, et al ⁵ (2007)	14
Parry SH, et al ⁶ (2008)	58
Kishore S, et al ⁴ (2007)	41.4
Joshi K, et al ⁷ (2003)	49
Present study (2013)	49

Among respiratory conditions, COPD (61%) was the most common respiratory disease seen in our patients. This figure is more than that reported from Chandigarh,⁸ but less than that reported from Kashmir.⁴

In the present study the majority of admissions with neurological disease were for stroke. The high prevalence of hypertension in this group and the high frequency of end-organ damage suggesting poor control also explain the high prevalence of stroke in general¹⁰ and in this study as well.

The admission profile among this geriatric population indicates that the majority of patients were admitted with multiple diagnoses, ranging from one to seven. This supports the observation that there is an increased burden of disease among the elderly, with patients being admitted with multiple medical problems.

REFERENCES

1. Situation Analysis of Elderly in India. Central Statistics Office, Ministry of Statistics and Programme Implementation, Government of India, June 2011. Available at: http://mospi.nic.in/mospi_new/upload/elderlyinindia.pdf. Accessed on December 20, 2015.
2. Medhi GK, Hazarika NC, Borah PK, Mahanta J. Health problems and disability of elderly individuals in two population groups from same geographical location. *J Assoc Physicians India* 2006;54:539-44.
3. Goel PK, Garg SK, Singh JV, Bhatnagar M, Chopra H, Bajpai SK. Unmet needs of the elderly in rural population of Meerut. *Indian J Community Med* 2003;28:165-6.
4. Kishore S, Juyal R, Semwal J, Chandra R. Morbidity profile of elderly persons. *JK Sci* 2007;9:87-9..
5. 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. *Turk J Med Sci* 2006; 36:45-50.
6. Parry SH, Ahmnad D, Ahmed M. Morbidity profile of geriatric population in Kashmir (India). *Indian J Community Med* 2008; 4: 6.
7. 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.
8. Bhatia SPS, Swami HM, JS Thakur, V Bhatia. A study of health problems and loneliness among the elderly in Chandigarh. *Indian J Community Med* 2007;32:10-12.
9. Fuchs Z, Blumstein T, Novikov I, Walter-Ginzburg A, Lyanders M, Gindin, J et al. Morbidity, comorbidity, and their association with disability among community dwelling oldest old in Israel. *J Gerontol A Biol Sci Med Sci* 1998; 53:M447-55.
10. Hertz R, Unger A. Racial disparities in hypertension prevalence, awareness and management. *Arch Intern Med* 2005; 165:2098-104.