Changing Disease profile of medical inpatients on the first post admission day of a Tertiary Care hospital

Chandra Shekhar Bala[1], Sarmistha Biswas[2], Md. Mahfuze Sarkar[3], Prodip Kumar Sarkar[4],
Joybayer Anam Chowdhury[5], HAM Nazmul Ahasan[6]

[1]Junior Consultant, Department of Neurology, National Institute of Neurosciences & Hospital, Dhaka, Bangladesh; [2]Assistant Professor, Department of Medicine, Dhaka Medical College, Dhaka, Bangladesh; [3]Registrar, Medicine Unit I, Department of Medicine, Dhaka Medical College Hospital, Dhaka, Bangladesh; [4]Indoor Medical Officer, Medicine Unit I, Department of Medicine, Dhaka Medical College & Hospital, Dhaka, Bangladesh; [5]Assistant Registrar, Medicine Unit I, Department of Medicine, Dhaka Medical College & Hospital, Dhaka, Bangladesh; [6]Professor, Department of Medicine, Popular Medical College, Dhaka, Bangladesh

Abstract

Background: Population demography of the world including Bangladesh is on transition. The increasing number of elderly persons has a direct impact on the demand for health services due to the consequent rise in degenerative diseases of aging and changing life style. **Objective:** The objective was to know the disease pattern of the geriatric group of medical inpatients on the first post admission day. **Methodology:** This was a cross sectional observational study. It was conducted in the wards of Medicine department of Dhaka Medical College Hospital from the 1st of March to 15th March, 2016. **Results:** Total 552 patients admitted in the study period. Of them 286 patients were male (51.8%) and 266 were female (48.2%). 176 patients (31.88%) were over the age of 60 years. Median age of the admitted patients is 44.5 years. In geriatric age group regardless of primary diagnosis 78(44.32%) patients had diabetes, 103(58.52%) cases were hypertensive; 31(17.61%) cases were ischemic heart diseases; 26(14.77%) cases were chronic kidney disease, 24(13.64%) cases were presented with stroke; another 24(13.64%) cases were suffering from COPD. **Conclusion:** In conclusion most common geriatric diseases are diabetes mellitus, hypertension, ischaemic heart disease, and chronic kidney disease.*[Journal of National Institute of Neurosciences Bangladesh, 2018;4(2): 113-115]*

Keywords: Elderly; geriatrics; inpatients; disease profile

Introduction

Bangladesh has achieved a remarkable improvement in many primary health care indicators including the millennium development goals in reduction of maternal and infant mortality rates[1]. An increase of life expectancy, decline in fertility rates and decreasing mortality have led to increase in aging population[2]. This development is predicted to continue with an ever increasing number of elderly populations. The improvement in the health care system has raised the life expectancy from 36.6 to 67.7 over the last 40 years in Bangladesh[3-6].

The increasing number of elderly persons has a direct impact on the demand for health services due to the consequent rise in degenerative diseases of aging and changing life style[7]. Elderly people suffer from both communicable as well as non-communicable diseases; further, this is compounded by impairment of sensory functions like vision, hearing, and instability management[8]. Poor life style, decline in immunity as well as age-related physiologic changes lead to an increased burden of communicable diseases in the

elderly[9]. In the population over 70 years of age, more than 50.0% suffer from one or more chronic conditions[2]. The objective was to know the disease pattern of the geriatric group of medical inpatients on the first post admission day.

Methodology

This was an descriptive cross-sectional study. It was conducted in the wards of Medicine department of Dhaka Medical College Hospital from March 2015 to February 2016 for a period of one (1) year. It was audited on the first post-admission day of Medicine Department. Internal Medicine department of Dhaka Medical College was consisted of 12 medicine units having similar structure and strength in terms of manpower, hospital beds and logistics. It was recorded demographic and clinical information of admitted patients of each unit. It was analyzed the collected data in Windows Excel and SPSS version 20.0.

Results

Total 552 patients admitted in the study period. Of them 286 patient were male (51.8%) and 266 were female (48.2%). The oldest patient was 90 years old and the youngest one was 13 years old. 176 patients (31.88%) were over the age of 60 years. Median age of the admitted patients is 44.5 years. Highest admission is from the 6th to 8th decade of age group (Table 1).

Table 1: Age distribution of admitted patients in medicine ward on first post admission day (n=552)

Age Group	Male	Female	Total
Less than 20 Years	21	21	42
20 to 29 Years	40	37	77
30 to 39 Years	33	31	64
40 to 49 Years	46	55	101
50 to 59 Years	48	44	92
60 to 69 Years	69	49	118
70 to 79 Years	21	22	43
80 to 89 Years	07	07	14
90 to 99 Years	01	00	01
Total	**286**	**266**	**552**

Regardless of primary diagnosis the diseases are diabetes mellitus (44.32%), hypertension (58.52%), ischemic heart disease (17.61%), chronic kidney disease (14.77%), stroke (13.64%), COPD (13.64%), chronic liver disease (6.82%), malignancy (5.68%), peptic ulcer disease (5.68%), rheumatologic diseases (4.55%) and thyroid diseases (3.41%) (Table 2).

Table 2: Disease Profile in Elderly Population on the First Post Admission Day (n=276)

Diseases	Male	Female	Total
DM	35	43	78
HTN	49	54	103
IHD	17	14	31
Stroke	13	11	24
Bronchial asthma	3	5	08
COPD	21	3	24
CKD	15	11	26
OA	1	1	02
RA/SLE/MCTD	0	2	02
Gout	2	2	04
CLD	6	6	12
Chronic PUD	4	6	10
Thyroid disorder	1	5	06
Malignancy	7	3	10
Others	**10**	**8**	**18**

COPD=Chronic Obstructive Lung Disease; CKD=Chronic Kidney Disease; OA=Osteoarthritis; RA=Rheumatoid arthritis; SLE=Systemic Lupus Erythromatosus; CLD=Chronic liver disease; PUD=Peptic ulcer disease; IHD=Ischaemic heart disease; DM=diabetes mellitus; HTN=Hypertension;

Discussion

There has been considerable change in different aspects of life in last two decades in Bangladesh. For example, annual food production has increased 6 times, per capita income has raised to 1190 US Dollars[4]. Population demography is on transition in Bangladesh as well. Life expectancy has increased from 36.6 years in 1950 to 1955 to 60.7 years in 2000 to 2005, and is expected to rise to 75.0 years by the year 2045 to 2050. Life expectancy is 64 years as per 2011 population census. Approximately 6.7% of the population is aged over 60 years at present. By 2050 Median age may raise to 34.8 years with 16.0% of its population over the age of 60 years. One common measure of population aging is the increase in the median age of its members. It is the figure below or above of which each half of the population lies. The median age of the population of Bangladesh, may increase by about 15 years over the next half century, i.e. 20.2 years in 2000 and 34.8 in 2050[7]. Median age of population of Bangladesh is 22 years at present[5]. Globally, the median age moved from 24 years in 1950 to 29 years in 2010, and will continue to increase to 36 years in 2050. United Nations has classified societies broadly into

'young' (4% or less of those aged 60+), 'matured' (4.0 to 7.0%) and "ageing" (7.0% and above). In developed countries, the geriatric age group is taken as 65 years and above. Bangladesh is not yet included into the aging population country according to the WHO definition till now[6].

The chief objective of present study was to know the diseases and conditions prevalent in the older age group of patients admitted so that we can redistribute our resource and expertise to deal those conditions. A study in Rajshahi Medical College Hospital revealed that 25.0% medical inpatients was above the age of 50 years from 1991 to 1993. In contrast the present study shows that 48.55% medical inpatients are above the age of 50 years[8]. This reflects the impact of changing population demography on the health facilities.

A cross sectional observational study of patients at community level is done[9] and shows musculoskeletal problems (86%) at the top of the list including cataract (37%), respiratory tract infections (37%), diarrheal diseases (16.6%) peptic ulcer diseases (14.9%), dental problems (9.4%), bronchial asthma (7%), hypertension (6.7%), diabetes (3.4%)[9]. This reveals that non communicable diseases are adding burden to the communicable diseases.

Kenya is a developing country of Africa. A study done in medical wards of Keneyatta National Hospital, Nairobi, Kenya showed hypertension and cardiac diseases was highest cause of admission in the geriatric age group making up 43.9%. This is quite similar to findings of this study. Stroke was the commonest neurological diseases[10].

Nigeria is a developing nation in Africa. There is increasing population of older people and the percentage of the population over 60 years of age was put at 5.13% from 1991 census figure. The traditional way of caring for the elderly through nuclear and extended family members is being affected by the rural-urban migration for economic reasons and reduction in family size. A study shows Infectious diseases accounted for 31% of the total admissions. The three most common infectious diseases were: tuberculosis, 11.2%; pneumonias, 5.5%; and sepsis syndrome, 4.0%. Non-communicable diseases constitute 69.0% of admission in this review. Hypertensive heart failure (HHF) was the commonest disease entity diagnosed at admission. It accounted for 18.4% of total admission, followed by CVA (12.1 %) and TB (9.7%)[11].

Conclusion

In conclusion most common geriatric diseases are diabetes mellitus, hypertension, ischaemic heart disease, and chronic kidney disease. In course of time the median age of medical inpatients is becoming older due to increased life expectancy, decreased mortality rate and improved sanitation, social safety and health care network. Elderly people are asset of a nation. They can lead a nation forward with their knowledge and experience. We, the physicians must prepare ourselves and redistribute our national resources to deal the diseases and conditions prevalent to the elderly patients.

References

1. National Institute of Population Research and Training (NIPORT), Mitra and Associates, and ICF International. 2013. Bangladesh Demographic and Health Survey 2011. Dhaka, Bangladesh and Calverton, Maryland, USA: NIPORT, Mitra and Associates, and ICF International. Page 2

2. Jaspinder K, Sargun S, Kawaljit K. Impact of age on the prevalence of chronic diseases in geriatric population. International Research Journal of Biological Sciences. 2014;3(9):79-85

3. Gavrilov LA, Heuveline P. Aging of Population. In: Paul Demeny and Geoffrey McNicoll (Eds.)The Encyclopedia of Population. New York, Macmillan Reference USA, 2003

4. CPD: State of the Bangladesh Economy in Fiscal Year 2014 (Third Reading) Page 5

5. National Institute of Population Research and Training (NIPORT), Mitra and Associates, and ICF International. 2013. Bangladesh Demographic and Health Survey 2011. Dhaka, Bangladesh and Calverton, Maryland, USA: NIPORT, Mitra and Associates, and ICF International. Page 2

6. United Nations, Department of Economic and Social Affairs, Population Division (2013). World Population Ageing 2013. ST/ESA/SER.A/348

7. Desa. World Population Prospects: The 2010 Revision, Volume II-Demographic Profiles. UN; 2013.

8. Azhar MA, Chowdhury MAJ, Ahasan HAMN, Rafiqueuddin AKM. Geriatric disease and geriatric problems amongst medical indoor patients. TAJ 1994;7:109-111

9. Haque MJ, Alam R. Health Problems of the Geriatric People: A Community Based Study in a Rural Area in Bangladesh ; TAJ 2003;16(1):23-27

10. McLigeyo SO. The pattern of geriatric admissions in the medical wards at the Kenyatta   National Hospital, , Esat Afr Med J 1993;70(1):37-9

11. Sanya EO, Akande TM, Opadijo G, Olarinoye JK, Bojuwoye BJ. Pattern and outcome of medical admission of elderly patients seen at University of Ilorin Teaching Hospital, Ilorin. Afr J Med Med Sci. 2008;37(4):375-81