Original Research Article

Geriatric morbidity pattern in a tertiary care center in the hilly state of Sikkim

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ABSTRACT

Background: This study was done to find out geriatric morbidity pattern in a tertiary care hospital in the hilly state of Sikkim.
Methods: The study was conducted in Central Referral Hospital, a tertiary care center, in the hilly state of Sikkim, over a period of three months. All geriatric patients, 60 years or above, were included in the study. Morbidity affecting specific organ systems was classified based on the outpatient department (OPD) visited and case files of those patients.
Results: 215 elderly patients visited outpatient department during the study period. Morbidity related to eyes was most common followed by cardiovascular, gastrointestinal and respiratory systems.
Conclusions: Our study compares well with range of distribution of complaints in other studies. However, there is a wide range of proportionate distribution of different morbidities in different geographic areas of our country. Hence, before deciding about resource allocation for geriatric health facilities related to different specialties, distribution of morbidities should be determined for that region.

Keywords: Geriatric, Morbidity, Pattern, Sikkim

INTRODUCTION

Population of old age individuals is increasing in India. Old people constituted 8.6 % of total population in India in the year 2011 compared to 7.4% in year 2001. Population of elderly in India was 103.9 million in year 2011.[1] Most people, when they reach old age, are not free of disease and advanced age in itself is a risk factor for many diseases like cardiovascular and degenerative diseases.[2] This increase in population as well as increased disease burden among old requires increase in geriatric care facilities and social support mechanisms. For appropriate planning of healthcare facilities, we need to know which morbidities are more common and which are less common.

This study was done to know the geriatric morbidities in elderly seeking healthcare at central referral hospital in Sikkim, a hilly state in the northeast region of India and to compare it with other studies done elsewhere.

METHODS

This was a hospital based retrospective study done at central referral hospital, Sikkim. All patients aged 60 years and above who presented at the hospital, at outpatient department (OPD) or Emergency, between January 1, 2009 and March 31, 2009 were included in this study. It included both new and old patients. Data was obtained from hospital case records. Cases were

classified based on chief complaint of the patient. Patient diagnosis was used in case of endocrine system, for example (e.g.) in diabetes. This study was done as an ICMR STS project. It was approved by institute ethical committee. The results were compared with studies done elsewhere. For this purpose, morbidity pattern from these studies was obtained by classifying symptoms and diseases as organ system specific morbidities. As an example, hypertension was classified as cardiovascular system morbidity.

RESULTS

Two hundred and fifteen elderly patients came to the hospital during the time period of 3 months mentioned above. Males (52.56%) were slightly more than females (47.44%).

Morbidities affecting specific organ systems (Table 1).

Table 1: Morbidity distribution as per organ systems.

	Morbidity distribution	Number (%)
1	Eye	42 (19.55)
2	Cardiovascular system (CVS)	41 (19.06)
3	Gastrointestinal system (GIT)	36 (16.74)
4	Respiratory system (RS)	35 (16.27)
5	Musculoskeletal system (MSS)	32 (14.88)
6	Dermatological disorders (SKIN)	17 (7.9)
7	Endocrine system (ENDO)	15 (6.97)
8	Central nervous system (CNS)	11 (5.11)
9	Eye nose and throat problems (ENT)	9 (4.18)
10	Male genitourinary system - GUT (M)	9 (4.18)
11	Female genitourinary system including both Gynecological as well as urinary systems - GUT(F)	6 (2.79)
12	Dental problems (Dental)	4 (1.86)
13	Psychiatric problems (PSY)	1 (0.46)
	Total*	258

*Note: Total more than 215 as some patients had more than one morbidity.

Eye related morbidities were most common (19.55%) followed by those of cardiovascular system (19%). Psychiatric problems were least common (0.47%). In total, problems related to five systems (eye, Cardiovascular system, gastrointestinal system, respiratory system, musculoskeletal system) constituted more than half of the cases (86.17%) had morbidities related to systems i. e eyes, cardiovascular system, gastrointestinal tract, respiratory system and musculoskeletal system. Afflictions of other organ systems constituted only 13.83% of the cases. Psychiatric complaints were least common.

DISCUSSION

Our study found that majority of complaints was related to eye. Other studies showed a range of 12.7 -83.6 % with two studies showing eye complaints to be the commonest (Table 2).[3,4] However, in majority of studies, eye complaints were not the commonest.[5-10]

Other common complaints were related to cardiovascular system, gastrointestinal system and respiratory tract and musculoskeletal system. These complaints, along with eye complaints constituted 86.23% of total complaints. These complaints together constituted for majority of complaints in other studies too (Table 2).[3-10]

CVS complaints were next commonest in our study (19.06%). Other studies have shown a range of 17.5-53.5% for CVS related complaints.[3-10] However, in three studies from hilly areas, CVS complaints constituted 40-53.5% in the population.[4,6,9] The reasons for so much variation with other studies in hilly areas is not clear and needs further study (Table 2).

Gastrointestinal complaints were seen in 16.74% of our patients. Gastrointestinal complaints constituted 12.8 - 51.4% in other studies and compares well with these studies (Table 2).[3-5,7-10]

Respiratory system related complaints were observed in 16% of our patients. In other studies, they constituted 4.05–45.6%.[3-10] Perhaps geographic factors and environmental pollution play a role, as in studies from hilly regions, respiratory disorders constituted 4.05-13.4% (Table 2).[4,6,9]

Musculoskeletal complaints constituted 14.88% in our study whereas other studies showed a distribution of 7.03-63.6% with majority of studies showing musculoskeletal system complaints in more than 30% of patients.[3-10] Amongst studies from hilly areas, only one study (Kakkar et al) showed musculoskeletal system disorders similar to ours.[6] Perhaps, reason for this may be the age distribution among elderly and healthcare seeking behavior and requires further study (Table 2).

Complaints related to skin constituted 8 %. In two other studies by Ghosh et al and Bartwal et al, they constituted 0.69 and 8.6 % respectively with our distribution very similar to the study from hilly area (Table 2).[4,8]

Endocrine system morbidities constituted 7% in our study with the majority being diabetes and compared well with other studies that showed a range of 5.8–13.9% (Table 2).[4,6-10]

CNS related complaints constituted 5% in our study. A wide range of 1.5-45.45% was observed in other studies.[3,4,6-10] However, in three studies from hilly regions, range of 1.5-4.8% was observed which compares well with our study (Table 2).[4,6,9]

Table 2: Comparison with other studies.

Morbidity	Study Sengupta et al[3]	Chandrasekhar et al[5]	Kakkar et al[6]	Bardhan et al[7]	Ghosh et al[8]	Sharma et al[9]	Bartwal et al[4]	Our study	Kumar et al[10]
Eye	83.6%	35.41%	12.7%	55.61%	31.32%	30.8%	53.6%	19.55%	36.8%
CVS	42.4%	17.57%	53.5%	34.28%	41%.29	48.5%	40%	19.06%	34.4%
GIT	41.81%	3.24%		26.83%	51.04%	12.8%	17.5%	16.74%	24.8%
RESP	23.6%	4.05%	4.9%	29.08%	41.77%	12.1%	13.4%	16%	45.6%
MSS	63.6%	7.03%	15.1%	59.08%	50.57%	55.0%	34.8%	14.88	31.2%
SKIN					0.69%		8.6%	8%	
ENDO			13.0%	10%	9.51%	5.8%	13.9%	7%	13.6%
CNS	45.45%		2.5%	32.96%	3%	1.5%	4.8%	5%	19.6%
ENT	35.2%	22.43%		22.44%		4.5%	17.7%	4%	33.2%
GUS(M)		1.89%	9.5%	14.79%	0.69%		2.9%	4%	14.8%
GUS(F)								3%	
Dental				58.77%				2%	
PSY		37.30%		23.67%				0.47%	8.0%

ENT complaints constituted 4% in our study. Other studies showed a range of 4.5-35.2%.[3-5, 7,9-10] Two studies from other hilly regions showed a range of 4.5-17.7% and our study compares well with those studies (Table 2).[4,9]

Complaints related to genitourinary system male and female genitourinary system constituted 7% in our study. Other studies showed a range of 0.69-14.8% and our study compares favorably with them (Table 2).[4-8,10]

Dental problems constituted for 2% in our study while in another study, they constituted for 58.77%. This may be related to perhaps less intake of processed foods in hilly region as in our study and requires further research (Table 2).

Psychiatric problems constituted 0.47% in our study whereas in other studies they constituted 8-37.3%. This may be related to lack of aware ness about seeking medical care for psychiatric problems or probably real low prevalence of psychiatric problems in hilly regions as in our study (Table 2).[5,7,10]

To summarize, our study and comparison with other studies shows that specific geriatric morbidities show a wide range in different regions and proportional representation of geriatric morbidities in hilly regions is different from that in plains. Hence, before planning on resource allocation for geriatric care for specific illnesses, distribution of those illnesses should be determined for that region.

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