

# CHARACTERISTICS OF GERIATRIC ADMISSIONS TO TWO MEDICAL DEPARTMENTS IN SINGAPORE

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## SYNOPSIS

A survey was conducted to study certain characteristics of geriatric patients admitted to two medical departments in Singapore. The aim was to create awareness as well as to provide a better understanding of these elderly as more and more doctors would have to attend to them.

Our results show that about 27% of admissions were geriatric patients. The typical geriatric patient in this study was about 75 years old (mean age 74.6 years) and was likely to present with breathlessness due to heart disease or pneumonia. The overall duration of stay in hospital was 10 days and only about 6% of the patients had "discharge" problems needing assistance from the Medical Social Worker. About one in five patients died in hospital, usually from pneumonia or ischaemic heart disease.

**Key words:** Elderly, Geriatric patients, Characteristics

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## INTRODUCTION

Current trends in Singapore indicate a progressively ageing population. The absolute numbers and percentage of the total population above the age of 65 years, hereafter referred to as the geriatric population, is projected to increase from 153,100 (5.8%) in 1990 to 215,000 (7.2%) in 2010. (1) The demand on health and social services would rise as diseases and disabilities increase with advancing age.

Geriatric patients presenting with medical problems to a Ministry of Health hospital in Singapore are admitted to one of the 9 medical departments. The characteristics of these patients and the proportion of geriatric admissions to the total number of admissions to these medical departments have not been studied hitherto.

Elderly patients are often misunderstood and not optimally managed. (2) Since most doctors must manage them even if a geriatric department is available locally, knowing the characteristics of these patients would be useful. Furthermore, the care of the elderly is not, and would probably not be the sole concern of geriatricians alone in view of the projected and disproportionate growth of the geriatric population. For these reasons, this survey was undertaken.

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## METHODOLOGY

The survey was conducted in November 1987 by the Department of Medicine 1, Tan Tock Seng Hospital (TTSH 1) and Department of Medicine, Alexandra Hospital (AH). All patients admitted or transferred to either of the two departments on eight specific days, which were the admitting days of TTSH 1, were selected, but details of geriatric patients only were recorded.

Data collected were from time of admission to discharge, through personal interviews of the patients or their relatives, and case notes perusal.

Results from both departments have been combined to give an overall view of geriatric admissions.

## RESULTS and COMMENTS

### 1. Geriatric admissions (Table 1)

About 27% or slightly more than 1 in 4 admissions to the 2 departments consisted of geriatric patients. This closely corresponds to the percentage of geriatric admission of 29.7% for all government medical departments in Singapore in 1986. (3)

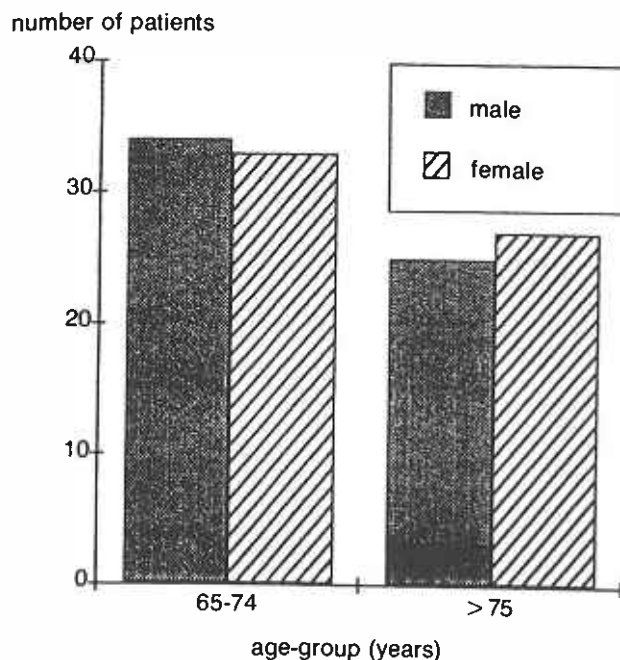
Table 1.  
ADMISSIONS TO THE TWO MEDICAL UNITS

	TTSH 1	AH	TOTAL
Total admission	248	190	438
No. of geriatric patients	79	40	119
% of geriatric patients	31.8	21.1	27.2

### 2. Ethnic group

The racial distribution of the geriatric patients comprised 79.0% Chinese, 9.2% Malays and 11.8% Indians. In comparison, as at June 1986, the population of Singapore comprised 76.3% Chinese, 15.0% Malays, 6.4% Indians and others 2.3%. (4) The Indians appear to have higher admission rate, but this could have been contributed by the relatively low hospitalisation rate amongst local Malays. (5,6)

Figure 1: Geriatric patients by sex and age-group



### 3. Sex and age-group (Figure 1)

Accepting the convention of using age 75 as the cut-off for distinguishing between the "young elderly" and the "old elderly" (7), 67 patients (56%) in the study were the young elderly and 52 patients (44%) the old elderly. The corresponding figures estimated for this 2 age-groups in Singapore in 1990 are 64% and 36% respectively. (8) The higher figure of 44% in this study is not surprising because of the higher prevalence of illnesses requiring hospitalisation in the older age-group.

The proportion of female geriatric patients was more in the older age-group as expected since the life expectancy of a woman is 5 years more than a man. (8)

### 4. Ward class status

Majority of the geriatric patients (78.2%) were in the C class (subsidised) wards. The rest were evenly distributed in the A and B class wards.

### 5. Length of stay (Table 2)

The length of stay of geriatric patients in the study was 10 days which is almost double that of non-geriatric patients admitted to government medical departments in 1986. This would account for the high proportion of geriatric patients seen at any one time in the wards.

Table 2.  
AVERAGE LENGTH OF STAY IN HOSPITAL

Average length of stay of:	days
a) geriatric patients in study	10.0
b) geriatric patients of all the government medical departments in 1986(3)	8.0
c) non-geriatric patients of all the government medical departments in 1986(3)	5.1

### 6. Patients from Aged Institutions

Only 6 patients or 5.0% of the geriatric admissions came from one of the Aged Institutions in Singapore. Four were from one of the private Homes and two from the government Welfare Homes.

### 7. Mobility status (Table 3)

Patients were considered as ambulant when they were able to walk either independently or with some aids or support, and nonambulant when they were bedridden for at least 2 weeks prior to admission.

It will be noted that more of the old elderly were bedridden both at admission and on discharge. About 13% of patients admitted and 17% of patients discharged were bedridden. The latter figure included those patients who were so at admission. For comparison, 16% of 3476 aged residents from 66 Aged Homes in Singapore was found to be bedridden in a survey done in 1986. (9)

Table 3  
PERCENTAGE VALUES OF NON-AMBULANT PATIENTS AT ADMISSION AND ON DISCHARGE BY SEX AND AGE-GROUP

	Non-ambulant status	
	at admission	on discharge
Age-group (years)	%	%
65-74	3.4	5.2
>75	9.2	11.5
Total	12.6	16.7

### 8. Repeated admissions

About one in five geriatric patients (19.3%) had at least one previous admission for the same problem in the 6 months preceding the study period.

### 9. Reasons for admission (Figure 2)

The primary diagnosis for which the patient was admitted is represented in figure 2. Pneumonia, heart failure and cerebrovascular diseases (CVA) were the main causes of hospitalisation.

[Note: Ischaemic heart disease (IHD) includes acute myocardial infarction (AMI); Pneumonia includes pulmonary tuberculosis and chest infection not necessarily associated with radiological changes; CVA includes strokes, transient ischaemic attacks and vertebrobasilar ischaemia.]

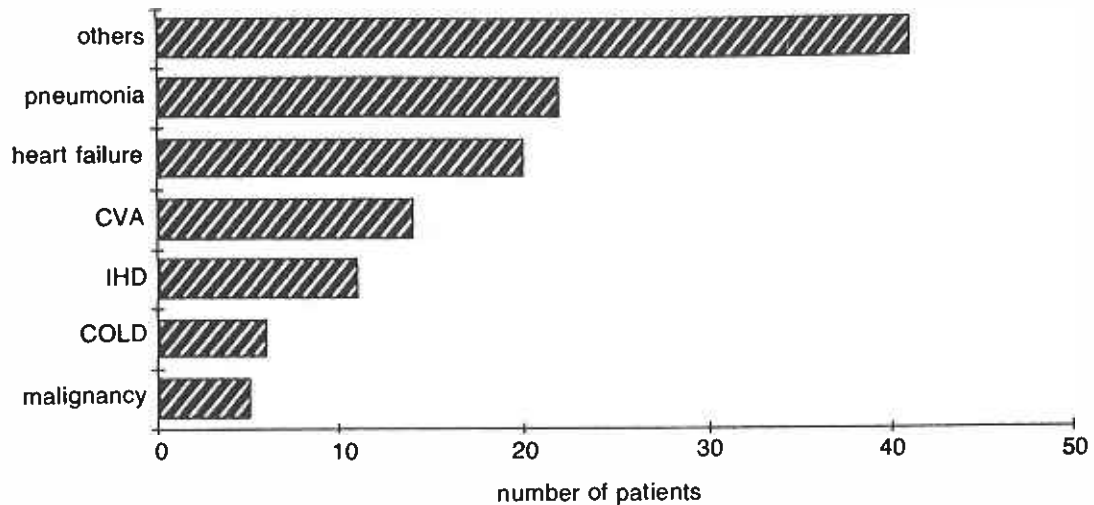
### 10. Prevalence of disease (Table 4)

Geriatric patients often had more than one medical problem besides the primary diagnosis. About 46% of the old elderly and 39% of the young elderly had at least 3 medical problems. These medical problems were usually hypertension, IHD or diabetes mellitus as illustrated in table 4, which show the prevalence of the top 6 diseases during the survey period.

Table 4.  
PREVALENCE OF TOP 6 DISEASE AMONG SURVEY POPULATION

	Male (%)	Female (%)	Total (%)
Hypertension	27.1	50.0	38.7
IHD	32.2	40.0	36.1
Diabetes mellitus	18.6	28.3	23.5
Pneumonia	22.0	18.3	20.2
Chronic obstructive lung disease	25.4	11.7	18.5
CVA	18.6	15.0	16.8

Figure 2: Primary diagnosis at admission

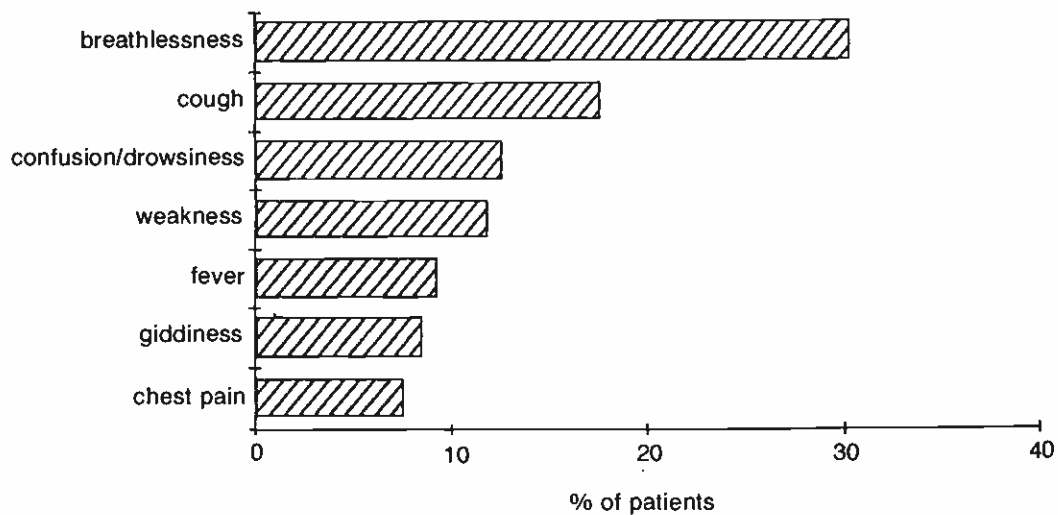


**11. Main symptoms at admission (Figure 3)**

The high prevalence of breathlessness as a presenting complaint was consistent with the high prevalence of heart failure and pneumonia. However despite the high prevalence of pneumonia and IHD, fever and chest pain were relatively uncommon. This is not unexpected in the elderly who often do not manifest the classical symp-

tomatology. (10) Instead vague symptoms like drowsiness/ confusion were the third most common. Of the 15 patients with this symptom, 11 were more than 75 years. Both drowsiness and confusion were considered as one because they were not objectively determined (11, 12) but were often the complaints of patients' relatives or guardians.

Figure 3: Main symptoms at admission



**12. Deaths, discharges and followup (Table 5)**

For the year 1987, the average % of death to total discharges and deaths for all patients (including those below 64 years) for both departments was 4.5%. (13)

Although the mortality of the geriatric patients in the study was high, majority were the old elderly. The 2 leading causes of death were pneumonia (39.1%) and heart disease (26.1%; mainly AMI).

At least 80% of patients were amenable to treatment and were discharged. Of the discharges, 36.5% did not require any form of specialist follow up and were referred to polyclinics or private doctors (GP).

Only 6.3% of the patients needed to be referred to the Medical Social Worker (MSW); this rather low figure reflects the adequacy of family support in these patients.

Table 5. PERCENTAGE VALUES OF DEATH, DISCHARGE AND FOLLOWUP BY AGE-GROUPS

Age-group (years)	65-74	>75	Total
Deaths	13.4	26.9	19.3
Discharges	86.6	73.1	80.7
Discharges to:			
Aged Institutions	8.6	13.2	10.4
Polyclinic/GP	34.5	39.5	36.5
Referrals to MSW	5.2	7.9	6.3

## CONCLUSION

Some characteristics of geriatric patients admitted to two medical departments are described. Although limited in scale, certain aspects mentioned in the survey and summarised below may increase our awareness and provide a better understanding of geriatric patients whom we will be increasingly attending to:

1. The old elderly would place a higher demand on the health and social services because more of them would have multiple problems, be bedridden, and require help from the Medical Social Worker; however, only a small proportion required subsequent admissions to institutions while the majority returned home.
2. The high prevalence of multiple medical problems were due to chronic illnesses like hypertension,

ischaemic heart disease and diabetes mellitus, but the main reasons for hospitalisation were pneumonia, heart failure and cerebrovascular diseases. These were potentially amenable to therapy and about eighty percent of the patients could be discharged.

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