Profile of the geriatric patient hospitalised at Universitas Hospital, South Africa

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Abstract

Background

The elderly population in Africa is unevenly distributed across the continent, with the highest percentage of elderly living in the Southern African region. In 1996, the elderly population of South Africa (65 years and older) was roughly 6.7%, and was calculated to be 10.4% by 2025. If the latter expectation is anywhere near realistic, it stands to reason that the Department of Health should make timely provision for the care of these future patients, as the prevailing disease patterns within a population change as that population ages. Thus, there is an urgent need for profiles of elderly patients in order for adequate training to be implemented and for beds and equipment to be ready when needed.

Methods

A retrospective study was undertaken of all data available from a clinical audit done at Universitas Hospital's Geriatric Unit. All patients aged 65 years and older who were admitted by Internal Medicine's Geriatric Unit over four years were analysed in order to compile a profile of geriatric patients hospitalised at Universitas Hospital.

Results

The study group consisted of 791 elderly patients. Their average age was 81 years (range: 65 to 101 years of age) and they were hospitalised for an average of 11 days, with an average use of five medications per patient. Women represented 66% of the patients and the mortality rate was 17% in the total study group. The main admitting clinical problems were hypertension, heart failure, ischemic heart disease and anaemia. Most of the patients did not smoke or use alcohol. Out of a group of 523(due to the fact that it was a retrospective study, data for this criteria were only available for 523 of the 791 patients), 235 (45%) were self-supporting and 32% were known to use living aids. The majority of the patients were single and an equal amount were living in old age homes and with their families. The main special examinations used in their treatment were chest X-rays, nuclear examinations of the liver, ECG, heart sonar and CT of the brain, and gastroscopies. Almost all of the patients had undergone full blood count analysis and U+E determinations, and in more than 50% of cases, creatine, albumin and glucose measurements were taken.

Conclusion

For successful geriatric care at Universitas Hospital there will be a need for at least 11 days hospitalisation, and a unit with good training in internal medicine, psychiatry, urology, orthopaedy and oncology. The main supporting services will be physiotherapy, occupational therapy and social welfare. Laboratory analyses will include full blood count, urea and electrolyte measurements, urine examination, and creatine and glucose measurements. Special investigations will mainly be radiology and cardiology sonar examination. How well we care for elderly patients in the future will be an indicator of the quality of our healthcare system in general. We need to redesign our social insurance and welfare systems to fit the realities of our current situation.

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Introduction

Populations in many developing countries are in a phase of rapid transition and different age groups may grow at different rates within a population.[1,2] This trend implies a broad shift in the overall population age structure, as well as changes in household/family structures, labour force characteristics and disease patterns.[3]

The aging population in Africa, currently estimated at over 38 million, is expected to grow to 212 million by 2050 – a six-fold increase in merely five decades.[4] Africa's elderly population is unevenly distributed across the continent, with the Southern African region having the highest percentage of elderly people.[5] In South Africa, over half of the elderly are expected to reside in urban areas, with only 32% living in a rural setting.[6] Urbanisation, modernisation and the effect of AIDS are changing the family structures in traditional African societies and, as a result, also the patterns of care and support. These developments have implications for social policy designed to address the needs of the elderly.[5]

In 1996, the elderly population of South Africa (65 years and older) was roughly 6.7%, and was calculated to rise to 10.4% by 2025.[7] If the latter estimation is anywhere near realistic, it stands to reason that the Department of Health should make timely provision for the care of these future patients, as the prevailing disease patterns within a population change as that population ages.

Thus, there is an urgent need for profiles of elderly patients in order for adequate training to be implemented and for beds and equipment to be ready when needed. Because costs are high in financial terms, as well as in caring terms (paid, volunteers and traditional carers) for the chronically ill and frail, South Africa may have to devise new models of caring for their elderly.

Objective

The aim of this study was to compile a profile of geriatric patients that were hospitalised in Universitas Hospital's geriatric ward. Universitas Hospital is situated in the Free State province of South Africa and provides health care to a wide spectrum of patients, mostly from urban areas.

Design

The study included 946 consecutive elderly patients (patients older than 65 years) admitted to the geriatric ward (part of the Department of Internal Medicine) from January 1999 to July 2003. The geriatric ward was newly established to provide a medical service for the growing number of elderly people in the province. Referrals were mostly from urban practitioners in the Free State and the North Cape.

Results and discussion

During the study period, 21% (n=18 264) of the total admissions to Universitas Hospital were patients older than 65 years and 11% (n=9 181) were paediatric admissions. The geriatric patients were admitted mainly by Oncology (11%, n=1 929), Ophthalmology (10%, n=1 793), Internal Medicine (10%, n=1 778), Cardiology (8%, n=1 424), Surgery (8%, n=1 391), Urology (5%, n=925) and Orthopaedics (5%, n=906). The newly established Geriatric Unit forms part of the Department of Internal Medicine. Nine hundred and forty-six patients (53% of Internal Medicine's admissions) were admitted by the Geriatric Unit, and these were the patients that we included in our study. As the unit was newly introduced, practitioners from urban regions sent their patients to the unit for evaluation and treatment and the patients were then referred to special units for specialised treatment. In the light of the fact that a situation was created where referrals were made to a central unit (and not directly to a specialist unit), we did a retrospective audit of our data available to compile a general profile of the geriatric patients and to evaluate the necessary supporting examinations needed for effective treatment. The results reflect routine evaluations where financial costs, time and the personnel available play a role – giving a true reflection of the general evaluation of geriatric patients in a normal working day situation at Universitas Hospital.

A total of 121 patients (16% of the total) were readmitted. Twenty-seven of them came back for a third follow up, five came back four times and one each came back five and six times. The initial group (n=121) had an average age of 82 years (age range was 68 to 96 years), and included 40 men and 81 women, 116 white patients, 4 black patients and 1 coloured patient. They were admitted for an average of nine days and used an average of six different medications, and 19 (16%) of them died during hospitalisation. Geriatric patients are generally admitted with more than one clinical problem. The main clinical problems for readmittance were hypertension (62 patients), heart failure (48 patients) and ischemic heart disease (43 patients). Other clinical problems that featured strongly were anaemia (27 patients), urinary tract infections (24 patients), renal failure (21 patients), hypothyroidism (20 patients), dementia due to several causes (19 patients), and type 2 diabetes (18 patients).

In this study we used only the first admissions, which gave us a working group of 791 patients.

The audit results showed that the average age of the geriatric group was 81 years (range from 65 to 100 years old), with the highest representation being in the 75 to 84 year group (55%, n=431). Women represented 66% of the group and men represented 32%, which also provides an indication of the composition of the elderly population in South Africa – similar to other parts of the world.[1,5] There was a mortality rate of 17% (n=131), which is summarised in Table I, compared to an international mortality rate of 21.7%.[8] The highest incidence of death was in the age group 75 to 84 years (55%, n=431). The death rate was higher for men (18%) in the 75 to 84 age group than for women (15%), but the mortality rate was equal in the 85+ age group.

The patients were hospitalised for 11 days on average. They had an average of eight admitting clinical problems per patient and used an average of five different medications.

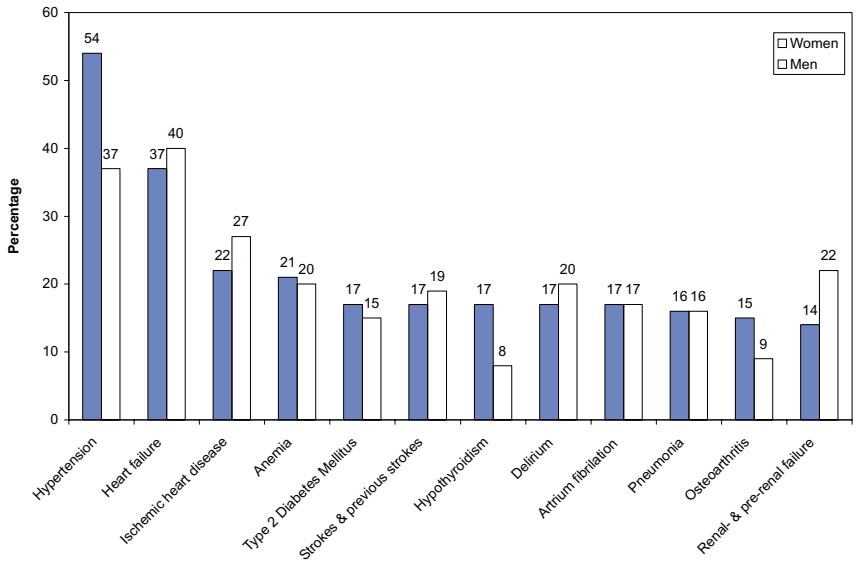
If the main admitting clinical problems were divided into diagnoses for men (n=250) and women (n=527) (given as percentage of each group), it is evident that women suffer more from hypertension and men more from heart failure, as illustrated in Figure 1.

Table I: Mortality distribution in the different genders

Age in years	Women (n=527)	Men (n=250)
65-74	15% (11/74)*	16% (8/49)
75-84	15% (42/288)	18% (26/143)
85+	18% (30/165)	19% (11/58)

*Number of patients that died during hospitalisation in specific age and gender group

Figure 1: The main admitting clinical problems for each gender group



The main specialist fields that were involved according to the reported clinical problems for the total study group were cardiology (n=1 421), neurology (n=732), gastroenterology (n=701), pulmonology (n=670), endocrine (n=560), nephrology (n=358), haematology (n=278), rheumatology (n=261), oncology (n=141) and ophthalmology (n=125).

Data on smoking habits were available for only 491 patients (62% of the total group) and of these 44% (n=217) were non smokers, 28% (n=139) had stopped smoking and 27% (n=135) were still smoking. For alcohol use, data were available for 413 patients (52% of the total group), of which 61% (n=253) were abstainers, 33% (n=135) currently used alcohol and 6% (n=25) had stopped using alcohol.

Marital status was documented for 408 patients (52% of the total group), with 63% (n=258) being alone and 37% (n=152) being married; 81% of the women were alone (n=200 out of a group of 246 women), compared to 35% of the men (n=58 out of 164),Out of a group of 488 patients (62% of total)(due to the fact that it is a retrospective study, we had data available on this criteria for only 488 of the 791 patients), 50% were living with their family and 50% in old aged homes.

Information was available on 253 patients (32%) using aids such as a cane (40%; n=100), catheter (21%; n=53), walking frame (23%; n=58) and wheelchair (17%; n=42).

The activities of daily living (ADL) status was determined in 523 patients (66%) on admission, using the Barthel score (score of 18 being fully independent) and was reported with an average value of 14.6. In this group, 9% (n=47) were totally dependent (ADL≤6) and 45% (n=235) were self-supporting (ADL≥18). The ADL on discharge was only reported in 16 patients (2%), with an average value of 13.4. Of these, 19% (n=3) were totally dependent and 32% (n=5) were self-supporting.

During the patients' hospitalisation, they were exposed to different special examinations, which are summarised in Table II.

Lung function determination was done in 8% (n=63) of the admitted patients.

Laboratory tests were requested as needed to help with the diagnosis and treatment of the patients (a total workout of the patient was not always possible due to finances, time and available staff). The tests were mainly full blood count (98% of patients; n=772) and U+E (98% of patients; n=772). The following tests were also frequently used: glucose measurement in 95% (n=754) of patients, albumin in 75% (n=596), fructose amine 42% (n=336), cholesterol levels in 32% (n=254) and urine cultures for 29% (n=226) of the study group.

All the geriatric patients were referred to physiotherapy and occupational therapy as part of the students' training programme. Other specialist referrals included social services (4%; n=31), and surgery, cardiology, orthopaedics and urology (3%; n=23 each). Neurology, psychology, ophthalmology and dermatology had 2% (n=14) referrals each.

Conclusion

South Africa is in the midst of an epidemiologic transition from the prominence of infectious diseases to chronic degenerative diseases,[6] and the aim of this study is to provide a comprehensive look at the health status of the elderly patients hospitalised at an urban reference hospital.

This study made use of data available from the newly developed Geriatric Unit at Universitas Hospital. The results here represent only 4% (791/18264) of the total admissions to Universitas Hospital's Geriatric Unit. Not all the geriatric patients were referred to the Unit because they had already been diagnosed and treated by other divisions. The audit results showed that the average age of the geriatric group was 81 years, with a mortality rate of 17%. The patients were hospitalised for an average of 11 days and used an average of 5 medications each. Clinical problems were mostly cardiac problems, and also anaemia, strokes and delirium. Most of the patients did not smoke or use alcohol; the predominant group of patients

Table II. Special examinations used in the treatment of the geriatric patients (results are given as a percentage of the total group, n=971)

X-rays	Nuclear examinations	ECG	Sonar examinations	CT	MR	Endoscopies
Chest 77	Liver 27	ECG 74	Heart 54	Brain 20	Brain 2	Bronchoscope 2
Skeleton 11	Lung 15	Cardiac pacemaker 4	Abdomen 14	Lung 5	Skeleton 1	Sigmoidoscopy 4
Abdomen 7	Skeleton 5	Holter 4	Renal 8	Abdomen 3		Gastroscopy 18
Bone density 5	Thyroid 1	Stress 0.3	Neck 2			Colonoscopy 5
	Abdomen 0.3					ERCP 0.3

was single and an equal amount was living in old age homes and with their families.

Caring for elderly patients is time consuming. The presence of concomitant chronic conditions, the use of multiple medications, and atypical presentations of illness in this population make clinical decision making more complex and time consuming. Impairments in a patient's mobility, vision and hearing, combined with the frequent need to involve family members and other surrogate decision makers in complex discussions of clinical care require more time and attention.[9] Rehabilitation to allow the patient to become as self-caring and independent as possible in the community is important to prevent the cost of care from escalating.

Older patients can be expected to be discerning consumers who will demand high quality service and high quality care. Because of these market forces, some providers within health care may be forced to embrace the core values of medicine in the future. Support at the national level is critical to meet the care needs of elderly patients.

How well we care for elderly patients in the future will be an indicator of the quality of our healthcare system in general. We need to redesign our social insurance and welfare system to fit the realities of our current situation.

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