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Geriatric medicine: services and training in Africa

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Abstract

Background: the population is ageing globally and developing countries are experiencing the most rapid increase in the number of older persons. By 2045 the United Nations estimate that for the first time in history more people will be over 65, than under 15, years of age. The World Health Organization predicts that deaths from non-communicable diseases will rise by 24% in Africa in the next decade. The aim of this survey was to determine the specialist medical services available for older persons and the undergraduate and postgraduate training systems in place for geriatrics in each African country.

Methods: a short survey was developed and sent to representatives from every country. Where appropriate, French and Portuguese translations were available.

Results: responses were received from 40/54 countries (74%). Data were obtained via an internet search for a further three countries. Out of 43, 25 countries had no geriatricians. Out of 40, 35 countries had no formal undergraduate training for medical students on geriatrics and 33 of 40 countries reported no national postgraduate training scheme

for geriatrics. Having at least one geriatrician in the country was associated with a World Bank upper middle-income status ($P=0.04$), but there was no significant association with the population size ($P=0.395$).

Conclusion: despite increasing numbers of older people and the increasing burden of chronic disease there are few geriatricians in Africa. Without undergraduate training, even general medical physicians will have limited knowledge of specialist geriatric needs. This is an area that will require development and investment in the future.

Keywords: *geriatric medicine, Africa, medical education, non-communicable diseases, older people*

Introduction

'In Africa, it is said that when an old man dies, a library vanishes', quoted Kofi Annan, the Ghanaian then Secretary General of the United Nations (UN) at the second UN World Assembly on Ageing (2002). Older persons in African societies have historically been respected and revered, but have accounted for a minority of the population. However, the world's population is ageing and older persons make up a larger proportion of society than ever before. It is estimated that nearly two-thirds of the world's population aged over 60 years are living in developing countries [1], and by 2050, 212 million of those will live in Africa [2].

The ageing and urbanisation of many African societies [3] and improved treatment for infectious diseases means that older persons, with chronic disease and morbidity, will be a major burden for health-care services in years to come [4]. It is projected that world-wide, by 2030, the 10 diseases causing the most disability-adjusted life years in low-income countries will include depression, ischaemic heart disease, cerebrovascular disease and cataracts [4].

Recognising the increasing global problem of non-communicable diseases (NCDs), the UN recently held a high-level General Assembly meeting; only the second ever specifically related to health, the first being on HIV/AIDS. They recommend that governments worldwide must set up plans to reduce risk factors for NCDs by 2013 [5].

Dementia, for example, may not be the biggest problem facing the African population at present, but the number of people with dementia is growing [6]. In seven non-African low- and middle-income countries, dementia is already the largest contributor to chronic disease disability burden in older persons [7].

The role of older persons within African households is also changing. Often older persons are left to care for grandchildren following the death of their own children. In Uganda it is estimated that 51% of orphaned children are living with grandparents [8].

Traditionally, older persons are cared for by their children in multigenerational households. However, this model is being affected by children settling far away from their parents, creating an increasing care gap and need for effective care policies and services for older persons [9].

In 2010 there were 10.3 million people aged 65 years and older [10] in the UK, with 1,387 consultant geriatricians registered with the British Geriatrics Society. In Africa

there were estimated to be 53.8 million people over the age of 60 years in 2009 and we suspected very few geriatricians.

The World Health Organization (WHO), through the International Association of Gerontology and Geriatrics (IAGG), recommend that all health professionals will be required to be familiar with old age care, whatever their chosen specialty [11]. We sought to clarify the number of geriatricians and undergraduate and postgraduate training available in each African country through a short survey.

Methods

A survey to determine the number of neurologists in Africa was adapted for this study [12] (Supplementary data are available in *Age and Ageing* online, Appendix I). The English survey was translated into French and Portuguese for the relevant countries. Fifty-three countries, as defined by the UN, plus Somaliland, were included, totalling 54 'countries' (South Sudan was not recognised as an independent country at the start of this survey).

We used a snowball technique to try and contact a representative with current working knowledge of the health-care system in each country. The authors have previous experience of working in The Gambia and Tanzania, and current experience of working in Nigeria. We also contacted the IAGG African Region Chair and the president of the South African Gerontological Association. Other sources of contacts were: the Tropical Health Education Trust, the Association of British Neurologists' African Interest Group, Hospice Africa, the Society of Neuroscientists of Africa, the World Federation of Neurology African Neuro-Atlas, the Movement Disorders Society sub-Saharan Africa (SSA) Interest Group, the SSA Medical Schools Study, the president of the Tunisian Association of Gerontology and Professors and Heads of Departments for Internal Medicine in Morocco, Ghana and Nigeria. Contacts were also collected at academic meetings in Mali, Morocco, Kenya and Egypt. If no respondent was found, the WHO representative for the country was contacted.

In countries where there was more than one respondent, if there was a discrepancy between responses, we reported the higher figure.

Data relating to a country's income and population was obtained from the World Bank [13].

Statistics

Countries were coded into ordinal categories based on the number of geriatricians practicing in a particular country. The codes used were: 0, no geriatricians; 1, 1–4 geriatricians; 2, 5–9 geriatricians; 3, 10–100 geriatricians; 4, >100 geriatricians. The Chi-square test (income category) and Spearman's test (population) were used to compare countries grouped by the number of geriatricians practicing. Data for countries where no response was obtained were assumed to be missing at random and non-informative. Two-tailed tests were used throughout and the significant level set at $\alpha = 0.05$.

Results

We received responses from 40 (74.1%) of the 54 countries in Africa. World Bank population estimates were not

available for Madagascar, Senegal or Somaliland. However, the total population of the 51 countries for which population estimates were available was 987.4 million people. Those countries who did respond had a total population estimate of 900.9 million, and had a population estimate, ($n = 37$), representing 91.2% of the African population.

For the countries that had no respondents several attempts were made at making contact and all respondents from other countries were asked if they had any contacts in the unrepresented countries. To try and find out more information about medical services in these countries, an Internet search was conducted.

For Angola, a list of registered physicians at the Angolan Medical Order was accessed, and only one specified Geriatrics as their subspeciality [14]. Sao Tome and Principe and Cape Verde each have one hospital that manages mild medical conditions. More severely unwell patients are expatriated for ongoing care. Neither country has a medical school. It therefore seems unlikely that there would be a specialist geriatrician in either country. These data have been included in Map 1 (Figure 1).

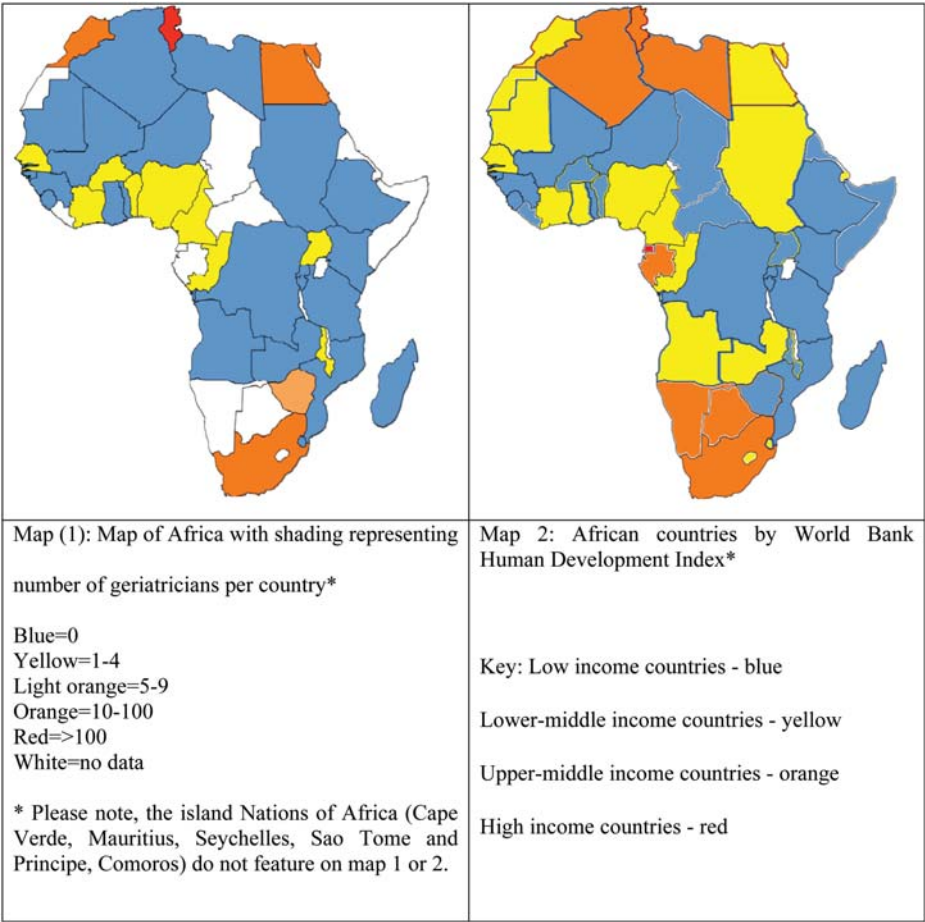


Figure 1. Map 1: Map of Africa with shading representing number of geriatricians per country. Blue = 0, yellow = 1–4, light orange = 5–9, orange = 10–100, red > 100, white = no data. Map 2: African countries by World Bank Human Development Index. Key: low-income countries—blue, lower middle-income countries—yellow, upper middle-income countries—orange, high-income countries—red.

Table 1. Summary of survey results.

African countries by World Bank status ^a	Total population	Geriatricians per country	Geriatrics is taught at medical schools	Postgraduate courses in geriatrics	No medical school
Low income (<i>n</i> = 26 countries)	453.9 million ^b	0: 15 countries 1–4: 5 Countries 5–9: 1 country (5 countries no response)	2 Countries	1 Country	0 Countries
Lower middle income (<i>n</i> = 17)	423.2 million ^b	0: 4 Countries 1–4: 5 Countries 10–100: two Countries (6 countries no response)	2 Countries	4 Countries	4 Countries
Upper middle income (<i>n</i> = 9)	109.6 million	0: 3 Countries 1–4: 2 Countries 10–100: 1 Country >100: 1 Country (2 countries no response)	1 Country	2 Countries	0 Countries
Total (<i>n</i> = 54)	987.4 million ^b	0: 23 Countries 1–4: 12 Countries 5–9: 1 Country 10–100: 3 Countries >100: 1 Country	5 Countries	7 Countries	4 Countries

^aThere is one high-income country in Africa, which did not respond to our survey (population 0.7 million).

^bThe World Bank has no population estimate for Madagascar (low income), Senegal (lower middle income) and Somaliland (unclassified), therefore these populations are excluded from the totals [14].

The main findings of our survey are presented in Table 1. Tunisia has the most comprehensive coverage of geriatricians of any African country for which a response was received, with over 100 geriatricians for a population of 10.5 million people. Over the other 36 countries for which a response was received and a where a World Bank population estimate was available there could be as few as 47 and a maximum of 357 geriatricians covering a total population 890.4 million people [13].

Comparing countries with no geriatricians to those with at least one geriatrician, there was a significant association with a country's status being low or middle income ($\chi^2 = 4.174$, $P = 0.041$). By Spearman's test, there was no significant association between the population size and the number of geriatricians in a country ($r = 0.144$, $P = 0.395$). This is likely to be due, in part, to the large number of countries with no geriatricians. However, of the five countries with five or more geriatricians, all had populations of 10 million or more; while of the 32 countries with fewer than 5 geriatricians, 14 (43.8%) had a population of <10 million.

Maps 1 and 2 show the number of geriatricians per country and the World Bank Human Development Index classification [13] of each country, respectively.

Discussion

This survey suggests that coverage of specialist medical services for older persons in the majority of African countries is very limited. Indeed, in most countries with data available there were no geriatricians (25/43).

Postgraduate medical education programmes in SSA, in particular, are only available for a minority of graduates [15]. A survey of all SSA medical schools reported 58 programmes being offered across the region, of which 14% of places were for internal medicine [15].

This survey has limitations. There were 14 of 54 non-responders and responses largely being based on personal opinions. However, we feel that the general lack of recognition of geriatrics as a specialty in the majority of responding countries warrants report and discussion. As most medical schools do not teach geriatrics on their curricula, even general physicians have had no training in this area.

The IAGG has already developed a 'core minimum' of areas that all medical schools should cover relating to geriatric medicine [11]. However, according to our survey this has not been widely incorporated.

One option for filling the gap in medical services for older persons in Africa would be non-physician clinicians. In many SSA countries they already perform many of the roles a doctor would, but require significantly shorter, and less expensive, training. They are also more likely to remain working in their own country and to work in rural areas [16].

Conclusions

Many countries in Africa do not have geriatricians, and the physicians taking on this role may have had no under or postgraduate training in geriatrics. At present geriatrics is not seen as a priority area in most African countries, but it will become a pressing issue, and dealing with multiple

co-morbidities and diseases of the older persons is already a significant drain on resources.

Key points

- The population in Africa is ageing and there are few physicians trained in geriatric medicine.
 - The majority of African medical schools do not teach geriatrics on their undergraduate curricula.
 - There are few developed postgraduate specialty training programmes for geriatrics in Africa.
 - The United Nations has recently prioritised the prevention and treatment of NCDs globally: governments worldwide must set up plans for reducing risk factors for NCDs by 2013.
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Conflicts of interest

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Supplementary data

Supplementary data mentioned in the text is available to subscribers in *Age and Ageing* online.

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