

The knowledge and attitudes of final-year medical students regarding care of older patients

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Background. South African (SA) studies indicate that elderly patients receive poor-quality and inadequate medical care at primary care level. Medical schools must be responsive to the needs of the communities they serve. This article reviews medical students' knowledge of and attitudes towards caring for older patients to identify areas to enhance their learning.

Objective. To evaluate the knowledge and attitudes of final-year medical students regarding the care of older patients at the University of KwaZulu-Natal (UKZN), Durban, SA.

Methods. All final-year medical students were invited to complete a self-administered questionnaire that evaluated their geriatric knowledge and attitudes. Geriatric knowledge was assessed with a modified Palmore's Facts on Aging Quiz, and the UCLA geriatric attitudes scale was used to assess their attitudes. Ethical approval was obtained from the UKZN Biomedical Research Ethics Committee and data were collected from September to November 2019.

Results. There was a 79% ($n=173$) response rate. The average age of participants was 24 (interquartile range (IQR) 23 - 24) years. The mean geriatric knowledge score was 56.8% (standard deviation 10.4). The mean attitude score was 3.67 out of 5, indicating mildly positive attitudes towards caring for older patients. The majority of students expressed difficulties in communicating with older patients.

Conclusion. The poor knowledge and mildly positive attitudes of students necessitate educational interventions to stimulate student interest in geriatrics and improve learning in this field, including increased attention to communication skills training relevant to the care of older patients.

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Medical graduates in South Africa (SA), in almost all disciplines, encounter older adults in their professional lives owing to the rapid ageing of the population.^[1] The number of people aged ≥ 60 years in SA is predicted to double from 7.8% of the total population in 2012 to 14.8% in 2050.^[2] This will result in an increased demand for health services that are responsive to the health needs of older adults. Studies in SA indicate that older patients receive poor-quality and inadequate medical care at primary care level.^[3,4] This situation is partly due to the limited geriatric training and perceived ageist attitudes of health professionals.^[5,5] The planned implementation of a National Health Insurance (NHI) scheme in SA is dependent on primary care providers' ability to deliver quality health services to all, including elderly patients. However, it is unclear whether medical graduates possess an appropriate level of knowledge and positive attitudes towards caring for older patients.

A recent systematic review indicated that medical students have little interest in geriatric medicine.^[6] This field of medicine, which focuses on healthcare of the elderly, is a relatively new and neglected area in medical education, and is often perceived as unimportant by medical students.^[7] The pensionable age in SA is 60 years, and geriatric medicine is therefore directed at people aged ≥ 60 years.^[8] There is a scarcity of geriatric teaching faculty in SA, often resulting in limited geriatric teaching in the undergraduate (UG) medical curriculum.^[9] Lack of exposure to geriatric teaching may contribute to students' lack of interest in caring for older patients. Furthermore, due to a lack of interest, student learning in geriatrics may be poor.^[10]

Apart from the formal curriculum, students' geriatric knowledge and attitudes towards their elderly patients are influenced by cultural factors, experiences with older adults and the hidden curriculum.^[11] Meiboom *et al.*'s^[6] investigation into the hidden curriculum in the Netherlands revealed that medical students were influenced by negative attitudes of their role models towards caring for elderly patients. This finding is supported by evidence indicating that students' attitudes towards the care for older people became increasingly negative as they progressed through medical school.^[12] This phenomenon could also be due to students' exposure to high levels of morbidity and mortality among geriatric patients, resulting in their perceived futility of caring for the aged. While most studies indicate that medical students possess negative attitudes towards the elderly and their care, a study from Malawi demonstrated positive attitudes among medical and nursing students.^[13] This positive finding may be attributed to cultural factors and exposure to community-based education. In most traditional African societies, the elderly are revered and respected. It is likely that these traditional values and attitudes may persist during UG training if supported by ongoing engagement with the community.

Given that health professions educators are being increasingly challenged to prepare medical graduates to care for ageing populations, the current study was conducted to explore the knowledge and attitudes of final-year medical students towards caring for the elderly. The information on student geriatric knowledge and attitudes will inform the design of educational interventions targeted at improving student preparedness to care for older patients.

Aim

Our aim was to explore and describe final-year medical students' knowledge of and attitudes towards the care of elderly people.

Objectives

Our objectives were:

- to evaluate medical student knowledge of medical care for elderly patients
- to evaluate medical student attitudes towards care for elderly patients
- to investigate factors influencing student knowledge of and attitudes towards caring for elderly patients.

Methods

This cross-sectional, descriptive study was conducted at the University of KwaZulu-Natal (UKZN) between September and November 2019. The UG medical programme spans 6 years and uses a problem-based learning approach. Teaching and assessment of geriatric topics are integrated into other modules across most years of the academic programme.

The study population comprised all UG medical students registered for the final (6th) year of the medical programme at UKZN ($N=219$). A research assistant distributed a self-administered questionnaire to all eligible participants at the end of teaching sessions.

Data collection tools

The self-administered questionnaire included questions on demographic characteristics, prior qualifications, exposure to older adults outside the curriculum and assessment of geriatric knowledge and attitudes. The knowledge and attitude assessment instruments have been used globally, with good internal reliability. Minor modifications were made to reflect the SA context. The tool was piloted before data collection.

Students' geriatric knowledge was assessed using Palmore's Facts on Aging Quiz.^[14] This survey consisted of 50 true/false questions to assess factual knowledge on ageing and geriatric care. Correct responses scored 1 and incorrect responses 0. The total scores were converted to a percentage. Higher scores indicate a greater knowledge of ageing and geriatric care.

The University of California at Los Angeles geriatric attitudes scale (UCLA-GAS) is a 14-item survey assessing attitudes towards the aged and has previously been used among

medical students.^[15] The survey uses Likert-scale responses to indicate whether the respondent agrees or disagrees with the statement.

Data management and analysis

Data were exported to the statistical software package Stata version 15 (StataCorp., USA) for analysis. One outlier was noted and included in the statistical analyses. The latter were performed using analysis of variance (ANOVA) to compare mean student knowledge and attitude scores among variables (age, prior qualifications, exposure to older adults). Spearman's correlation examined the relationship between knowledge and attitude scores. A p -value of 0.05 was set for statistical significance.

Ethical approval

Ethical approval was obtained from the UKZN Biomedical Research Ethics Committee (ref. no. BE479/19) prior to data collection. Participants were assigned a study number, and no personal identifying data were recorded.

Results

The response rate for the survey was 79% ($N=219$). Nearly 60% ($n=103$) of the cohort consisted of female students and the median (interquartile range (IQR)) age was 24 (23 - 24) years. Twenty-four of the respondents (14%) had a higher education qualification in fields of study that included science, finance and optometry. Of all

respondents, 38% had some exposure to geriatric patients outside the formal curriculum.

Geriatric knowledge of medical students

The mean score on Palmore's Facts on Aging Quiz was low (56.8% (standard deviation (SD) 10.4). As indicated in Table 1, students aged ≥ 26 years ($n=24$) had a significantly higher mean score than younger students. The students' knowledge scores did not differ significantly by gender or ethnicity. Possession of a prior higher education qualification was associated with greater geriatric knowledge.

Students' attitudes towards caring for elderly patients

The UCLA-GAS measured attitudes on a scale of 1 - 5, with the scores reversed on the negatively worded statements. Scores >3.5 indicate a mostly positive attitude towards the aged, and a score <3.5 indicates a negative attitude. In this study, participants demonstrated a mean score of 3.67, indicating a slightly positive attitude towards the elderly. Cronbach's α was 0.69.

No factors were identified that contributed to positive or negative student attitudes towards caring for the elderly. Although students aged ≥ 26 years were found to hold a more positive attitude than younger students, this finding was not statistically significant. There were also no significant differences in attitudes between

Table 1. Mean geriatric knowledge percentage scores per variable

Variable	n (%)	Mean (SD)	p-value
Age group, years			0.0004*
<23	56 (32.4)	57.6 (9.6)	
23 - 24	74 (42.8)	54.2 (10.4)	
>24 - 25	16 (9.2)	54.5 (10.5)	
26 - 34	27 (15.6)	63.9 (9.6)	
Gender			0.47
Female	103 (59.5)	57.3 (10.5)	
Male	70 (40.5)	56.1 (10.6)	
Ethnicity			0.05
Black	116 (67.0)	55.4 (10.6)	
Coloured	9 (5.2)	60.6 (6.5)	
Indian	43 (24.9)	59.3 (10.6)	
White	4 (2.3)	64.5 (5.7)	
Not specified	1 (0.6)	56.8 (0)	
Other qualifications			0.01*
Yes	24 (13.9)	62.3 (9.6)	
No	149 (86.1)	56.0 (10.4)	

SD = standard deviation.
* $p < 0.05$.

Table 2. Associations between student attitudes and demographic characteristics

Variable	n (%)	Mean (SD)	p-value
Age group, years			0.11
<23	56 (32.4)	51.4 (5.6)	
23 - 24	74 (42.8)	49.9 (6.7)	
>24 - 25	16 (9.2)	50.8 (8.5)	
26 - 34	27 (15.6)	53.5 (6.5)	
Gender			0.78
Female	103 (59.5)	51.2 (6.4)	
Male	70 (40.5)	50.9 (6.8)	
Ethnicity			0.42
Black	116 (67.0)	51.2 (6.8)	
Coloured	9 (5.2)	53.4 (5.0)	
Indian	43 (24.9)	50.7 (6.4)	
White	4 (2.3)	47.0 (6.7)	
Not specified	1 (0.6)	51.3 (0)	
Other qualifications			0.15
Yes	24 (13.9)	52.9 (7.6)	
No	149 (86.1)	50.8 (6.4)	

SD = standard deviation.

male and female students, nor between those of different ethnicities (Table 2). Respondents with prior higher education qualifications held a more positive attitude, but this finding was not statistically significant. There was no association between previous exposure to older patients and student attitudes.

Student responses to each of the statements were analysed to obtain a deeper understanding of their attitudes towards elderly patients. The numbers of students that agreed, disagreed or were neutral to each statement are summarised in Figs 1 and 2.

More than 82% ($n=142$) of students agreed that it was interesting to listen to the elderly accounting their past experiences. There were 76% ($n=132$) of students who agreed that elderly patients were pleasant to be with and that they tended to be more appreciative of medical care than younger patients. However, fewer students (53%) reported that they were more sympathetic to older patients than younger ones (53%) and that it was society's responsibility to care for the elderly (45%).

Student responses to negatively worded statements are indicated in Fig. 2.

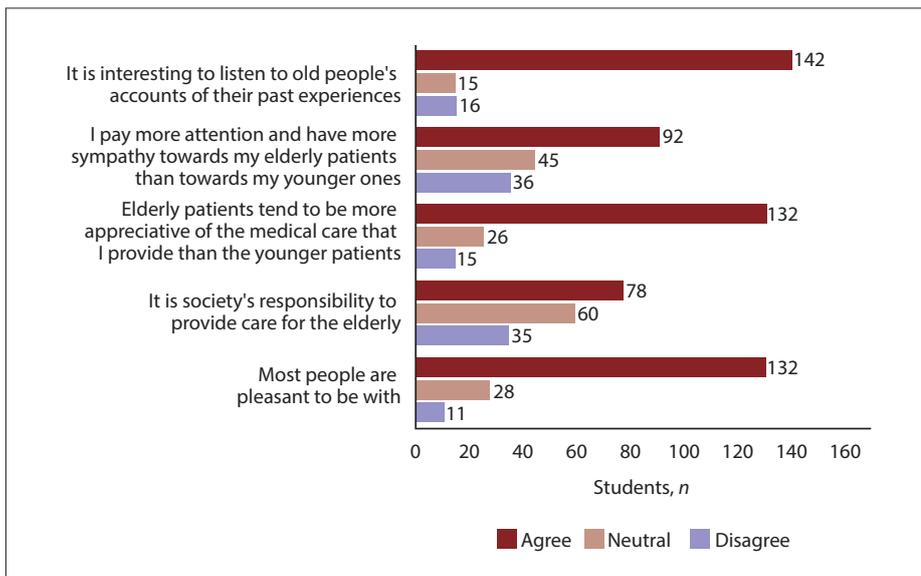


Fig. 1. Geriatric attitudes scale: student responses to positively-worded statements.

More than 79% ($n=137$) of students disagreed with the statement that treatment of chronically ill patients is hopeless. Almost 70% ($n=121$) of students also disagreed with the statement that the elderly do not contribute much to society. However, more students agreed than disagreed that people become more confused as they grow older and that it was laborious to take a medical history from older patients.

Relationship between geriatric knowledge and attitude (total geriatric attitudes scale (GAS) and geriatric knowledge test (GKT) percentage)

As depicted in Fig. 3, there was no correlation between students' knowledge scores and their attitude scores regarding the care of older patients.

Discussion

The current literature suggests that limited knowledge and negative attitudes of health professionals result in the neglect and suboptimal care of geriatric patients.^[16] Health professions educators are challenged to prepare medical graduates who will be able and willing to provide quality medical care for their elderly patients. Despite student perceptions of receiving an adequate level of teaching in geriatrics, they displayed a minimal level of knowledge, with a mean (SD) score of 56.84 (10.42)%.

This finding is concerning, given the inclusion of geriatric topics in almost all years of the UG medical curriculum. It is possible that the lack of sub-minima in the assessment of geriatric content contributed to students' poor learning regarding this discipline.^[17] It is also uncertain how this knowledge is translated into practice. To address medical students' relatively little knowledge of ageing, there should be a greater emphasis on teaching and assessment of geriatric learning objectives in the curriculum. Given the limited time afforded to geriatric teaching, it is crucial to evaluate the efficacy of educational strategies that can improve student learning in this neglected discipline.

It was encouraging to note that most students had positive attitudes towards working with elderly patients. Similar findings were noted among students in Singapore and Malawi.^[13,18] However, these results conflict with reports of negative attitudes and behaviours of medical professionals towards their elderly patients.^[3] It is possible that, after graduation, student attitudes could be negatively influenced by the organisational culture

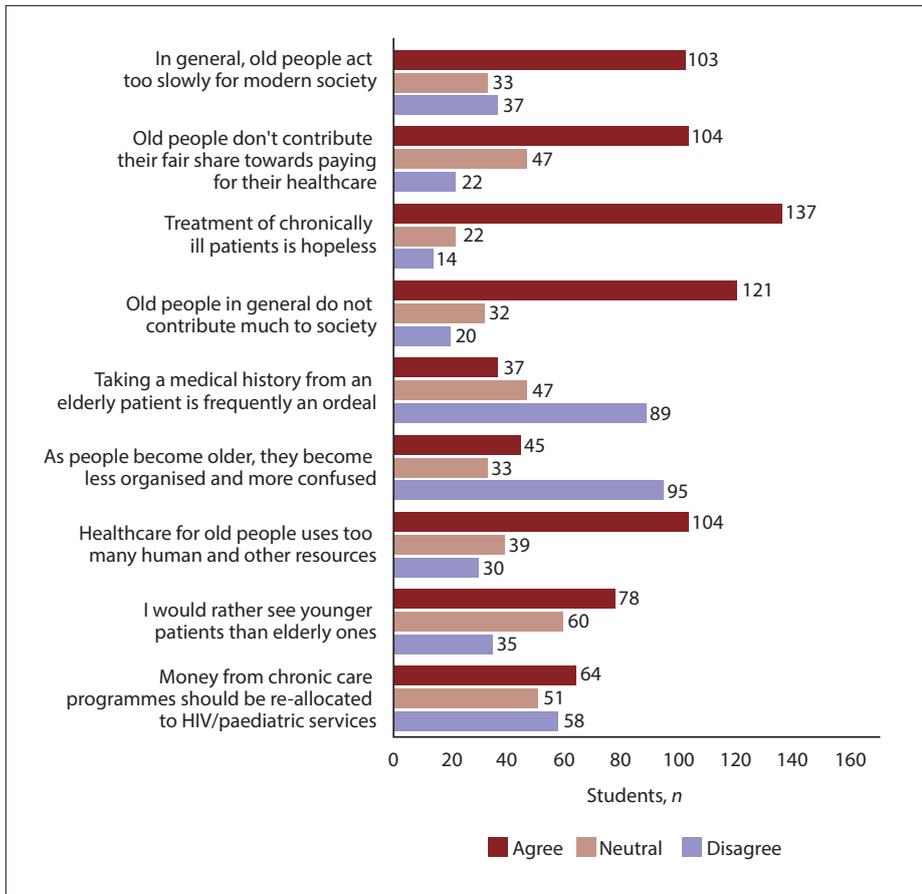


Fig. 2. Geriatric attitudes scale: student responses to negatively-worded statements.

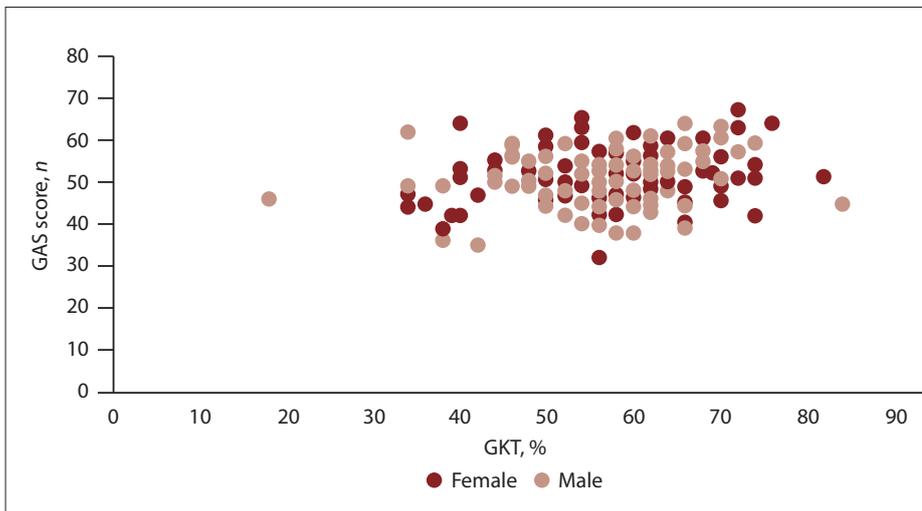


Fig. 3. Relationship between student geriatric attitudes scale (GAS) and geriatric knowledge test (GKT).

in health facilities and by the role models they observe in practice. As this study only examined the attitudes of final-year medical students, it could not be determined if student attitudes towards caring for older patients improved or declined over the course of study. Further investigation is needed

regarding the changes in attitudes at different stages of study and professional practice, and other factors influencing the attitudes of medical professionals towards their elderly patients.

An analysis of students' attitudes indicated that communicating with older patients was a

challenge for most students. Greater attention is therefore required in communication skills training, especially regarding older adults with sensory and cognitive impairments. Furthermore, teaching and assessment of communication skills should be integrated with practical skills to provide a more realistic and comprehensive approach to the care of older adults.^[19] Communication skills is also a key educational strategy in developing patient-centred practices in students, which is a key element in quality care for older adults.^[20,21]

Studies report that female students and those who had exposure to the elderly outside the prescribed curriculum were more inclined to have positive attitudes towards the elderly.^[11] However, this was not the case in our study. It is likely that the students were exposed to the same medical curriculum for 6 years, resulting in equal levels of empathy at exit level. Further research is needed to explore the influence of role models and intrinsic factors in students, which could contribute to student attitudes towards caring for older adults. The seemingly better knowledge and attitudes of older students would suggest that intake of mature students into the medical profession could produce graduates better able to provide quality healthcare to elderly patients. Older students may also be more likely to choose to work with older patients.

Of note, our findings showed no association between geriatric knowledge and attitudes towards caring for elderly patients. Other studies have also noted the poor relationship between geriatric knowledge and student attitudes.^[22] Many initiatives in geriatric medical education have been noted to improve student knowledge in geriatrics, but not attitudes.^[23] Hence, simply increasing the geriatric content in the UG medical curriculum is unlikely to develop empathy in students towards caring for elderly patients. Medical educators need to include teaching and assessment approaches that target the attainment of positive attitudinal and behavioural attributes in graduates regarding the care of older adults. The use of critical reflective activities, such as self-reflection journals, would be of particular value, as they assist students to identify and examine their perceptions towards elderly people.

The current literature indicates that educational interventions that involved community engagement and mentorship programmes with the healthy community-dwelling elderly lead to

positive attitudinal changes in students.^[24] Community skills training and interprofessional education are considered to be of particular importance in preparing health professionals to care for older adults. These educational strategies have been shown to help develop patient-centred competencies in students and improve attitudes towards older patients.^[11] Short-term clinical placements, as practised in the current curriculum, were shown to wear down student empathy towards elderly patients.

This study highlights the need to review and enhance the UG medical curriculum regarding teaching, learning and assessment of geriatric competencies. Given the overall poor geriatric knowledge of final-year medical students, there is an evident need for educators to reach consensus on the minimum competencies required by medical graduates for effective geriatric care. Educational interventions are required to stimulate student interest in geriatrics and improve learning in this field. Further studies should address the role of curricula in the development of student attitudes, and identify the reasons for the discordance between student attitude and graduate behaviour towards elderly patients. It is also evident that continuing medical education is required to enhance the limited geriatric knowledge of our graduates, particularly those working with aged patients.

Study limitations

The results of this study have limited generalisability, because the study was carried out at a single academic institution. The questionnaire only provided for binary classification of gender, and did not allow for ethnic classification other than the four groups enrolled at the facility.

Conclusion

SA's growing elderly population needs good-quality medical care. Findings from this study showed that students held mainly positive attitudes towards older patients, but that their knowledge of geriatrics was poor. These findings require an urgent analysis of the UG geriatric curriculum to assist health professions educators to enhance teaching and learning of core geriatric competencies. These could possibly include communication skills training, interprofessional education, greater community engagement and mentorship programmes with healthy community-dwelling elderly. There is also an urgent need to gain consensus on the minimum geriatric care competencies for inclusion in the UG medical curriculum. The poor geriatric knowledge of soon-to-be medical graduates also highlights the importance of continuing medical education in geriatric care for medical professionals who work with aged patients.

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