

## Attitudes of First-year Medical Students in Singapore Towards Older People and Willingness to Consider a Career in Geriatric Medicine

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### Abstract

**Introduction:** Training of future physicians in the care of elderly patients will need to evolve in accordance with the exponential increase of elderly patients, but some may have preconceived attitudes affecting their management. This study determined medical students' attitudes towards older people and their willingness to consider a career in Geriatric Medicine. **Materials and Methods:** All 250 first-year medical students, prior to any formal clinical exposure at the National University of Singapore School of Medicine, were asked to participate voluntarily in the study based on the UCLA Geriatrics Attitudes Scale. The 14-item questionnaire consisted of a mixture of positively and negatively worded questions answered on a 5-point Likert scale. A fifteenth question enquired about their willingness to consider Geriatric Medicine as a potential career choice. **Results:** The mean UCLA attitudes score was 3.58 [ $\pm$ standard deviation (SD), 0.41] suggesting a generally positive attitude. There was a strong association between attitude scores and willingness to consider Geriatric Medicine as a career ( $R = 0.48, P < 0.001$ ). However, only one third of the cohort was willing to consider a career in Geriatric Medicine. There was no difference in attitude scores between male and female students, but females were significantly more likely to consider Geriatric Medicine as a potential career choice. **Conclusion:** First-year medical students in Singapore have a generally positive attitude towards older people, although only 1 in 3 persons was willing to consider a career in Geriatric Medicine. Higher attitude scores and female gender were the main predictors of willingness to consider a career in Geriatric Medicine.

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**Key words:** Attitudes, Career, Education, Medical students, Older people

### Introduction

With the exponential increase in the elderly population in Singapore,<sup>1,2</sup> the training of young physicians of tomorrow in the care of elderly patients will need to change accordingly. A potential way to fulfill this need is to increase the number of specialists proportionately to manage elderly patients effectively. However, it is also pertinent that all doctors should ideally improve their knowledge, attitudes and skills with regard to the management of elderly patients, as they will increasingly encounter elderly patients.

Therefore, it is important that the medical students of today are prepared for these demographic changes of tomorrow. However, some of these future physicians have

negative pre-conceived attitudes and ideas about the care of the elderly.<sup>3</sup> These negative attitudes derive from their belief that elderly patients' conditions are chronic and untreatable, with an eventual natural decline. Unfortunately, these attitudes probably affect their eventual management of patients, and therefore should be addressed to help generate more "elderly-friendly" physicians. Healthcare systems will also need to prepare their primary healthcare personnel as well as all other levels of healthcare staff for this massive demographic and societal change. The different aspects of ageing need to be more fully incorporated into the training curriculum of all health professions. Disciplines like geriatrics and gerontology should be further developed and strengthened in medical education.<sup>4</sup>

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The career aspirations of Singapore medical students have never been studied. There are many factors governing the career aspirations of medical students. Several factors have been identified as potential influences on career aspirations, including medical school characteristics,<sup>5</sup> personal experiences<sup>6</sup> and, in particular, lifestyle preferences,<sup>7</sup> e.g. expected income level and prestige. Some studies have shown that career preference at the time of entering medical school may be a significant predictor of students' eventual career choice.<sup>8</sup>

A feasibility and pilot study of first- and fourth-year medical students in the University of Aberdeen found that attitude towards the elderly was the main factor independently associated with a willingness to consider a career in Geriatric Medicine (GRM).<sup>9</sup>

This study aimed to find out if Singaporean medical students are similarly influenced by specific attitudes, and if these attitudes correlated with their potential career choice.

## Materials and Methods

### Subjects

All 250 first-year medical students, prior to any formal clinical exposure in the National University of Singapore (NUS) Yong Loo Lin School of Medicine, were invited to participate voluntarily in the study. The study enquired about their attitudes towards elderly people and their willingness to consider GRM as a potential career choice. An information sheet was provided detailing the purposes of the questionnaire and the plans to prospectively monitor their attitudes throughout their training. Students were also invited to provide identifiable data and a corresponding study number was accorded to each consenting participant. All students were reassured that the results of their responses were confidential and unknown to the both investigators and the NUS School of Medicine.

### Questionnaire

The University of California, Los Angeles (UCLA) Geriatrics Attitudes Scale has been validated for measuring attitudes towards older patients amongst primary care residents in the United States<sup>10</sup> and it has also been validated for use in medical students.<sup>11</sup> However, minor modifications were required to adapt the questionnaire to the local context in 2 questions: “federal government” to “government”, “medicare” to “care of the elderly” and the addition of “I believe” to question 8 as students did not have any prior clinical experience. The Geriatrics Attitude Scale consists of a mixture of 14 positively and negatively worded questions answered on a 5-point Likert scale ranging from “Strongly disagree (1 point)” to “Strongly agree (5 points)” and a rating of 3 points indicating a neutral response.

Scores were tabulated in accordance with Reuben et al's original article, in which scores on negatively worded statements were reversed before being added to scores on positively worded statements to produce a total score. This step produced a mean UCLA questionnaire score. A fifteenth question was included at the end of the questionnaire, which enquired about students' willingness to consider GRM as a potential career choice. Basic demographic details including the students' gender, age, ethnicity, language spoken, and prior experience in caring for older people were also collated. Students were strongly encouraged to provide identifiable data voluntarily to enable the investigators to follow-up the students' ultimate career choices.

### Statistical Analysis

The reliability of the attitudes scale was measured by calculating the statistic, Cronbach coefficient alpha. Univariate linear regression analysis was performed to identify factors associated with attitude scores and willingness to consider GRM as a career. Pearson's correlation coefficient was used to assess the relation between mean UCLA scores and willingness to consider a career in GRM. The independent Student's *t*-test was used to compare the mean scores between genders. Statistical significance was assumed if  $P < 0.05$ . All analyses were carried out using SPSS v12.0.1 (Chicago, Illinois, USA). “Exemption from IRB Review” was obtained from the NUS Institutional Review Board (NUS-IRB).

## Results

A total of 244 questionnaires were returned out of a cohort of 250 first-year medical undergraduates (response rate 97.6%). All the questionnaires were completed appropriately. However, 3 (1.2%) students had chosen to withhold their basic demographical data, which the authors suspect arose from failure to note the additional questions on the next page of the survey. Another 3 students failed to provide their matriculation numbers, which did not affect the results of the analysis at this time, but which complicates an intended matched data analysis at the next data collection in 5 years' time (Table 1).

The internal consistency of the modified UCLA geriatric attitudes scales measured using the Cronbach coefficient alpha was 0.73. The mean UCLA attitudes score [ $\pm$  standard deviation (SD)] was 3.58 ( $\pm$  SD 0.41), which suggests that the cohort had a relatively positive attitude overall. A large proportion of students had a relatively positive attitude towards the elderly (mean UCLA score above 3) but 6.6% (16) had a relatively negative attitude (Fig. 1).

Figure 2 shows the distribution of students' willingness to consider GRM as a potential career choice. Eighty-one (33.2%) of 244 students would consider a career in

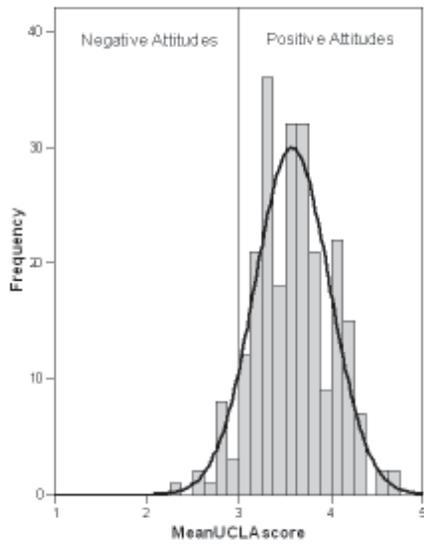


Fig. 1. The distribution of mean UCLA attitude scores of the 244 first-year NUS medical students.

Table 1. Baseline Characteristics of the 244 First-year Medical Students Surveyed

Baseline characteristic		No. (%)
Gender	Male	129 (52.9)
	Female	112 (45.9)
	Missing	3 (1.2)
Age (y)	Less than 20	179 (73.4)
	20-22	60 (24.6)
	23-25	2 (0.8)
	Missing	3 (1.2)
	Ethnicity	Chinese
	Malay	9 (3.7)
	Indian	11 (4.5)
	Others	4 (1.6)
	Missing	3 (1.2)
Significant experience in care of the elderly	Yes	72 (43.6)
	No	87 (52.7)
	Missing	3 (1.2)

Geriatrics, and 25% (61/244) of the students had already decided at this point that they would not consider Geriatrics as a potential career choice. However, a large proportion of students, 41.8% (102/244), were undecided.

The students' willingness to consider GRM is correlated with an increasing mean UCLA score (Table 2). There was a strong correlation between mean UCLA score and career scores ( $R = 0.48$ ;  $P < 0.001$ ). There was no significant association between willingness to consider a career in

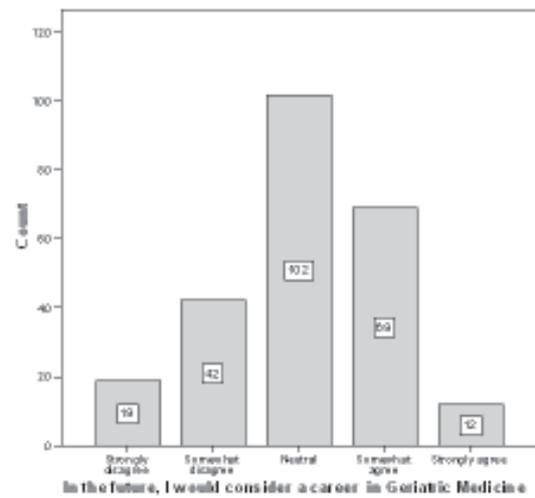


Fig. 2. The distribution of 244 medical students who will consider Geriatrics as a career choice.

Table 2. Mean UCLA Score of 244 Students' Willingness to Consider Geriatric Medicine as a Career

		Mean UCLA score	Standard deviation	Valid N
In the future I would consider a career in geriatric medicine	Strongly disagree	3.13	0.42	19
	Somewhat disagree	3.44	0.33	42
	Neutral	3.53	0.34	102
	Somewhat agree	3.79	0.37	69
	Strongly agree	3.94	0.41	12

GRM and age, ethnicity, or previous experience in caring for older people.

There was no significant difference ( $P = 0.332$ ) in mean UCLA scores between male (3.55; 95% CI, 3.48-3.62) and female students (3.60; 95% CI, 3.53-3.67). However, the male and female students had significantly different mean career scores of 2.91 (95% CI, 2.73-3.10) and 3.22 (95% CI, 3.06-3.39), respectively ( $P = 0.015$ ).

**Discussion**

This survey of first-year medical students in the NUS School of Medicine in Singapore offers some insights into a future cohort of physicians with regard to their attitudes towards older people. The survey shows that the Singaporean first-year medical students have relatively positive attitudes, but a relatively low interest in considering GRM as a career. Only a third of all first-year students will consider GRM as a potential career choice.

A large majority of Singaporean first-year medical students start their medical school with relatively positive attitudes towards elderly patients (mean UCLA attitudes

Table 3. Mean UCLA Scores for Individual Questions of Questionnaire

Questions	Mean	Standard deviation
1 "Most old people are pleasant to be with."	3.75	0.73
2 "The government should reallocate money from care of the elderly to research on AIDS or paediatric diseases."	3.34	0.98
3 "If I have the choice, I would rather see younger patients than elderly ones."	2.65	0.88
4 "It is society's responsibility to provide care for its elderly persons."	4.31	0.76
5 "Medical care for old people uses up too much human and material resources."	3.82	0.85
6 "As people grow older they become less organised and more confused."	2.65	0.95
7 "Elderly patients tend to be more appreciative of the medical care they receive than are younger patients."	3.57	0.94
8 "I believe that taking a medical history from elderly patients will frequently be an ordeal."	3.07	0.92
9 "I tend to pay more attention and have more sympathy towards elderly patients than younger patients."	3.41	0.88
10 "Old people in general do not contribute much to society."	3.91	0.86
11 "Treatment of chronically ill old patients is hopeless."	4.05	0.83
12 "Old people don't contribute their fair share towards paying for their healthcare."	3.84	0.75
13 "In general, old people act too slow for modern society."	3.69	0.88
14 "It is interesting listening to old peoples' accounts of their past experiences."	4.04	0.89

Table 4. Some Examples of Comments of the Students in the Questionnaire

Examples of free text comments	Mean UCLA score
"I am not particularly interested in treating the diseases of the old as they are more difficult to deal with and have multiple illnesses."	2.57
"Elderly people are more set in their ways and more stubborn when it comes to accepting modern treatments."	2.86
"Not much money potential ... lack of interest and passion in this field."	2.86
"Not much scope for development in my opinion. Not as rewarding or recognised; I am not sure I will have the patience to deal with them."	3.14
"Potentially boring ..."	3.29
"I feel that I'm somewhat too impatient and that a career in GRM might be rather depressing having to deal with deaths on a constant basis."	3.29
"Old patients are very grumpy and don't like to give their full medical history."	3.79

score 3.58). However, the first-year Singaporean students have a lower mean UCLA score than their counterparts in the United Kingdom (3.69)<sup>9</sup> and in the United States (3.90)<sup>11</sup> at a similar stage of their training. Studies have shown that attitude scores towards elderly patients generally decrease over the next years of training as students become more cynical and develop relatively negative attitudes towards elderly patients;<sup>11</sup> though the authors note that this may not be a universal finding.<sup>9</sup> The deterioration in attitude could also be related to minimal emphasis having been placed on GRM and Gerontology in the past.

About a third (33.2%) of the students stated that they would be willing to consider a career in GRM. This group had higher mean UCLA scores compared to those with little or no interest in contemplating GRM as a career choice. The findings in this survey are similar to results in an American study in which 4% expressed a strong interest and 30% expressed a moderate interest in considering GRM as a potential career choice.<sup>12</sup> A large proportion of students in the present study (41%) remained undecided, suggesting that there are potentially some students who might be persuaded to take up GRM as a career.

In other studies, a similar correlation was found between relatively positive attitudes (higher mean UCLA scores) with a willingness to consider GRM as a potential career choice.<sup>9,12</sup> However, following the present cohort of students through their medical school career and charting any changes in their attitudes and their eventual career choice, may provide further insights.

There are several possible explanations for the observed differences between male and female students' mean career scores. Firstly, apart from attitudes towards elderly patients, there are other likely reasons why women are more willing to consider GRM as a potential career choice, compared with their male counterparts, and this will have to be explored. Secondly, comments by various male medical students indicated that they perceive working with elderly patients to be too "slow-paced". Thirdly, GRM may also be perceived to be associated with carefully listening, monitoring, and managing chronic diseases, as opposed to "high-tech, sexy or dramatic interventions".<sup>13</sup> The thought

of sitting down, taking a careful history and making a thorough physical examination may be less appealing to young male doctors in training.

In one report, it was speculated that negative attitudes may be acquired in medical school due to reinforcement of negative stereotypes and the low priority of geriatrics<sup>13</sup> in the curriculum, which leads to a gradual worsening of attitudes towards older people.

Two out of the 14 questions highlight certain preferences and misconceptions of the medical students (Table 3). However, if we increase their exposure to older people both in the community and hospital care setting; we may change their perception and attitudes towards older people. In one study, a 4-hour module introducing the older patient in the first year of medical school, which emphasised the importance of a good history, good communication and ageism in a medical setting, showed that the majority of students (97%) became aware of the potential risks of ageism in the diagnosis and management of older patients.<sup>14</sup> Students exposed to healthy elderly patients showed a positive change in their attitudes towards older people,<sup>15</sup> while early clinical contact had a positive effect on attitudes towards older people.<sup>16</sup>

The free text comments yielded another insight into the attitudes of first-year medical students towards older people (Table 4). Many of the students who wrote comments felt that language was a barrier between the older population and the younger generation and, therefore, a communication “hurdle” in history taking and subsequent management of the patients. Others felt that, unlike other specialties, GRM was either not at the forefront of medical innovation, or that there were limited financial incentives. The authors affirm that, apart from attitudes towards older people, other factors influence career choices.<sup>17</sup>

### Limitations

The modified UCLA scale which we adopted was validated for use in the study of medical students' attitudes at various levels over the continuum of their medical education.<sup>11</sup> However, in this study, a “snapshot” observation of first-year medical students' attitudes was obtained, and should therefore be interpreted with caution. Although a similar scale was used in studies of medical undergraduates in both the USA and the United Kingdom, it has not been validated in a similar cohort of Singaporean medical students. To assess the effects of the Singaporean medical undergraduate curriculum in altering the attitudes towards older people, we are planning a similar subsequent study in this cohort's final year in medical school.

### Conclusions

This study demonstrates that first-year medical students in Singapore have a generally positive attitude to older people, although GRM was not seen as a likely career choice by the majority. Higher attitude scores and female gender were the main predictors of willingness to consider a career in GRM.

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