ORIGINAL RESEARCH

Pre-Clerkship Observerships to Increase Early Exposure to Geriatric Medicine

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ABSTRACT

Background and Purpose

To foster interest in geriatric care, the Queen's Geriatrics Interest Group (QGIG) collaborated with the Division of Geriatric Medicine to arrange a Geriatrics Pre-Clerkship Observership Program.

Methods

Forty-two pre-clerkship medical students participated in the program between October 2013 and May 2014. Participants were paired with a resident and/or attending physician for a four-hour weekend observership on an inpatient geriatric rehabilitation unit. The program was assessed using: (1) internally developed Likert scales assessing student's experiences and interest in geriatric medicine before and after the observership; (2) University of California Los Angeles–Geriatric Attitudes Scale (UCLA-GAS); and (3) narrative feedback.

Results

All participants found the process of setting up the observership easy. Some 72.7% described the observership experience as leading to positive changes in their attitude toward geriatric medicine and 54.5% felt that it stimulated their interest in the specialty. No statistically significant change in UCLA–GAS scores was detected (mean score pre- versus post-observership: 3.5 ± 0.5 versus 3.7 ± 0.4; p=.35). All participants agreed that the program should continue, and 90% stated that they would participate again.

Conclusions

The observership program was positively received by students. Structured pre-clerkship observerships may be a feasible method for increasing exposure to geriatric medicine.

Key words: geriatrics, undergraduate medical education, attitude, intervention

INTRODUCTION

Currently, those aged 65 years and older constitute the fastest growing segment of the Canadian population.(1) In 2012, there were only 230–242 specialists in geriatric medicine in Canada; to meet the health-care needs of the elderly population, an increase in the number of physicians specialized in geriatric care is needed.(1,2)

Career intentions are strongly influenced by exposure to role models in a particular clinical field and early patient contact.(3) However, many Canadian medical students make career choices early, often without much exposure to the field of geriatric medicine.(4) In addition, clerkship rotations in geriatric medicine are only mandated in seven Canadian undergraduate medical programs. Thus, many students do not have any exposure to geriatric medicine throughout their entire undergraduate medical career.(5)

Pre-clerkship medical students have noted that a lack of clinical exposure to certain specialties precluded them from making informed career decisions.(6) Previous interventions involving early clinical exposure to Emergency Medicine and Infectious Diseases have been shown to increase interest in those specialties.(6,7) Furthermore, interventions involving clinical contact with the elderly have also demonstrated an increase in positive attitudes towards caring for geriatric patients.(3,8)

The Queen's Geriatrics Interest Group (QGIG) is a student-run initiative at the Queen's University School of Medicine and was developed to foster interest in the field of geriatric medicine. A new QGIG initiative, the Geriatrics Pre-Clerkship Observership Program, was developed in collaboration with the Division of Geriatric Medicine at Providence Care–St. Mary's of the Lake Hospital in Kingston, Ontario.

The purpose of this study was to evaluate the impact of pre-clerkship observerships on student experiences and attitudes towards geriatric medicine.

METHODS

The QGIG and the Division of Geriatric Medicine at St. Mary's of the Lake Hospital partnered to create a centralized sign-up system for geriatric medicine observerships. All first and second year Queen's medical students (*N*=201) were eligible to sign up on a first-come-first-served basis. The study was approved by the Queen's University Health Sciences Research Ethics Board.

Each observership time slot was scheduled as a four-hour weekend morning shift at St. Mary's of the Lake Hospital. The observerships coincided with weekend on-call rounds for the inpatient geriatric rehabilitation unit. This unit offers clinical assessment, treatment, and rehabilitation for frail seniors with complex health needs. During the observership, participants were paired with a resident with oversight from the attending staff physician on-call, who was either a geriatrician or physician with training in care of the elderly. Residents were trainees in Family Medicine, Internal Medicine or Psychiatry, completing their geriatric medicine rotations, or PGY3 residents in Family Medicine Care of the Elderly programs. During their observership, students performed tasks such as reviewing patient charts and medication lists, taking a patient history and conducting parts of the physical exam.

Pre-clerkship students participating in the observership were emailed surveys created using Google Forms (Google Inc.) the week before and within the week following their clinical experience. All participants were given a unique code to de-identify their responses. The pre- and post-observership surveys collected information using three methods:

1. Two internally developed Likert scale questionnaires to quantitatively assess the students' previous experiences with, interest in, and knowledge of geriatric medicine pre-observership and the students' clinical experience post-observership.
2. The University of California Los Angeles–Geriatric Attitudes Survey (UCLA–GAS), a fourteen-item Likert scale questionnaire originally published in 1998 by Reuben and colleagues,[9] and then evaluated for validity and reproducibility in assessing pre- and post-intervention attitudes towards older patients among health-care professionals (see Table S.1 in the Supplementary Materials file).[10]
3. Narrative feedback of the participant's experience.

Data were analyzed using Excel (Microsoft 2010). Descriptive statistics were used to characterize the participant sample. The mean and total score for each UCLA–GAS statement was calculated, and scores were compared pre- and post-intervention. Statements 2, 3, 5, 6, 8, 10, 11, 12, and 13 of the UCLA–GAS are negatively worded and were reverse scored for these analyses. In the primary analysis, statistical significance was determined using unpaired *t*-tests on all of the pre-observership (*n*=27) and post-observership (*n*=22) responses for each UCLA–GAS statement, as well as the mean total UCLA–GAS scores. A secondary analysis involved conducting paired *t*-tests on the paired pre- and post-observership responses (*n*=18). Two individuals independently reviewed the narrative feedback and conducted a thematic analysis to extract common themes.

RESULTS

Forty-two students participated between October 2013 and May 2014. Twenty-seven participants completed the pre-observership survey (response rate 64%) and 22 completed the post-observership survey (response rate 52%). Eighteen participants completed both surveys ("paired responses").

Internally Developed Pre- and Post-Observership Survey

Characteristics of the participants who completed the pre- and post-observership surveys are summarized in Table 1. Responses to the pre- and post-observership internally developed questionnaires are summarized in Table 2.

UCLA–GAS Results

The primary analysis was conducted using all pre-observership (*n*=27) and post-observership (*n*=22) UCLA–GAS responses. The mean total scores are summarized in Table 3. Figure 1 displays the mean scores of the pre- and post-observership responses to the UCLA–GAS statements. Unpaired *t*-tests conducted on the pre- and post-observership responses to each of the 14 UCLA–GAS statements revealed no statistically significant differences. The unpaired *t*-test conducted on pre- versus post-observership mean total UCLA-GAS scores also failed to detect any statistically significant difference (p=.21).

A secondary analysis was conducted using the paired pre- and post-observership responses (*n*=18). The mean total scores are summarized in Table 3. The paired *t*-tests conducted on the paired responses showed statistically significant differences (p<.05) for two of the 14 statements (Statements

TABLE 1.
Characteristics of participants who completed the pre- and post-observership surveys

	Pre-observership (total N=27) (Number = % of total)	*Post-observership* (total N=22) (Number = % of total)
Gender		
Male	8 (29.6%)	7 (31.8%)
Female	19 (70.4%)	15 (68.2%)
Year		
First	21 (77.8%)	17 (77.3%)
Second	6 (22.2%)	5 (22.7%)

4 and 11). However, as in the primary analysis, the paired *t*-test conducted on the pre- versus post-observership mean total UCLA–GAS scores failed to detect any statistically significant difference (p=.15).

Narrative Feedback

The majority of students reported little to no exposure to geriatric medicine within a clinical context prior to their

TABLE 2.
Responses to the pre- and post-observership internally-developed questionnaire

Pre-Observership Questionnaire					
Statements were rated on a scale of 1 (Strongly Disagree) to 5 (Strongly Agree).	N (% of total)				
	Strongly Agree	*Agree*	*Neutral*	*Disagree*	*Strongly Disagree*
1. The process of setting up the observership was easy. (*n*=27)	20 (74.0%)	4 (14.8%)	2 (7.4%)	1 (3.7%)	0 (0%)
2. I have had little to no exposure to working with elderly individuals (age > 65 years) in any setting. (*n*=27)	1 (3.7%)	10 (37.0%)	3 (11.1%)	10 (37.0%)	3 (11.1%)
3. I have had positive experiences interacting with elderly individuals (age > 65 years). (*n*=27)	10 (37.0%)	16 (59.3%)	1 (3.7%)	0 (0%)	0 (0%)
4. I have had little to no exposure to geriatric medicine (within a clinical context). (*n*=27)	10 (37.0%)	11 (40.7%)	2 (7.4%)	3 (11.1%)	1 (3.7%)
5. I have little to no knowledge of the role of geriatricians and what geriatric medicine entails. (*n*=27)	6 (22.2%)	10 (37.0%)	6 (22.2%)	5 (18.5%)	0 (0%)
6. I am considering Geriatric Medicine or Care of the Elderly as a career specialty. (*n*=27)	2 (7.4%)	5 (18.5%)	13 (48.1%)	3 (11.1%)	4 (14.8%)
7. Second year medical students only: I feel that there are currently too few curricular opportunities to learn about geriatric medicine during first and second year of medical school. (*n*=6)	0 (0%)	3 (42.9%)	3 (42.9%)	0 (0%)	0 (0%)
Post-Observership Questionnaire					
Statements were rated on a scale of 1 (Strongly disagree) to 5 (Strongly agree).	N (% of total)				
	Strongly Agree	*Agree*	*Neutral*	*Disagree*	*Strongly Disagree*
1. The process of setting up the observership was easy. (*n*=22)	18 (81.8%)	4 (18.2%)	0 (0%)	0 (0%)	0 (0%)
2. I found this observership to be a worthwhile learning opportunity. (*n*=22)	11 (50.0%)	10 (45.5%)	1 (4.5%)	0 (0%)	0 (0%)
3. My preceptor(s) was a good role model. (*n*=22)	14 (63.6%)	8 (36.4%)	0 (0%)	0 (0%)	0 (0%)
4. The patients were accepting of my presence as a learner. (*n*=22)	14 (63.6%)	8 (36.4%)	0 (0%)	0 (0%)	0 (0%)
5. The observership experience has positively changed my attitudes toward geriatric medicine. (*n*=22)	6 (27.3%)	10 (45.5%)	5 (22.7%)	0 (0%)	1 (4.5%)
6. This observership experience stimulated interest in geriatric medicine as a career speciality. (*n*=22)	3 (13.6%)	9 (40.9%)	7 (31.8%)	2 (9.1%)	1 (4.5%)
7. A positive clinical experience in geriatric care early in my training will have a positive impact on interest in caring for frail elderly patients. (*n*=22)	8 (36.4%)	12 (54.5%)	2 (9.1%)	0 (0%)	0 (0%)
8. Would you recommend this program for next year? (Yes/No)	Yes: 22 (100%)				
9. Would you participate in this program again? (Yes/No)	Yes: 20 (90.9%)				

TABLE 3.
Summary of pre- and post-observership UCLA–GAS responses (primary analysis) and paired responses (secondary analysis)

	Primary Analysis		*Secondary Analysis*	
	N	*UCL–GAS Mean Total* Score (/70) ± SD	N	*UCLA–GAS Mean Total* Score (/70) ± SD
Pre-observership	27	50.3±6.3	18	49.4±7.3
Post-observership	22	52.4±5.4	18	51.4±5.2

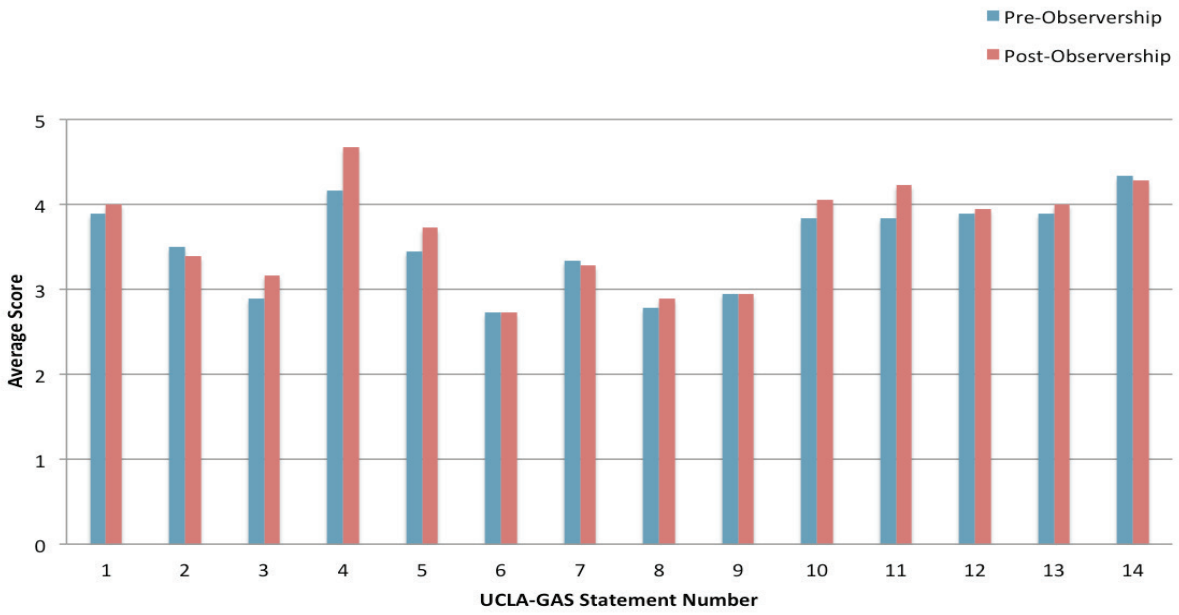

FIGURE 1. Pre-Obervership (n=27) and Post-Observership (n=22) responses to the 14 statements in the UCLA-GAS (1 = strongly disagree, 5 = strongly agree)

involvement in the observership program. Moreover, 85% of students agreed that there are currently too few curricular opportunities to learn about geriatric medicine during pre-clerkship. All of the participants (1) agreed that the observership was a worthwhile learning opportunity, (2) identified their preceptor as a good role model, and (3) recommended the observership program continue.

Narrative responses from the pre-and post-observership surveys underwent thematic analysis to discover common responses to the questions posed of participants (see Tables S.2–S.5) for summary of themes and sample quotes). Prior to the observership, the common objectives were to learn more about geriatric medicine, work with the elderly, try something new, and gain clinical experience. Themes appreciated from the responses realized a desire for insight into the career of a geriatrician, clinical exposure involving elderly patients, and an opportunity to practice clinical skills.

In the post-observership survey, the principal areas of enjoyment with the experience were having a preceptor who was a good role model and teacher, learning about geriatric medicine and the patient population, and practicing clinical skills, along with an increased understanding of the pace of geriatric medicine, and an appreciation of the ease of setting up the observership. Suggested key areas of improvement were offering observerships on weekdays and providing greater patient interaction.

DISCUSSION

The primary analysis of the UCLA–GAS results yielded no statistically significant differences in pre- and post-observership responses. The results of the secondary analysis, paired *t*-tests conducted on the paired responses, showed statistically significant differences only for UCLA–GAS items 4 and 11. These non-significant results from our relatively small study may reflect that we were underpowered to detect modest positive benefits of the geriatrics observership program on pre-clerk student attitudes. The narrative feedback would support this interpretation. Alternatively, however, the statistically significant differences on two items may be a result of chance from multiple comparisons.

Our results are consistent with previous studies looking at structured pre-clerkship clinical experience in various subspecialties such as emergency medicine,[6] general surgery,[11,12] and infectious disease.[7] Our findings are also in keeping with previous literature of geriatric-focused interventions. Historically, short duration interventions (e.g., those lasting hours to days) have not shown significant difference in attitudes towards geriatric patients.[13-15] For instance, Hughes and colleagues[15] examined the effect of an eight-day course in geriatric medicine, which, like our study, did not affect attitudes toward older people but did increase willingness for students to consider geriatric medicine. Moreover, a study assessing the impact of a required palliative care educational intervention found an improvement in knowledge among medical students in addition to career exploration, which may ultimately contribute to better patient outcomes.[16]

The benefits of clinical observerships are manyfold. They allow for students to learn in authentic clinical settings, as well as interact with practicing physicians and trainees in a given field of medicine. Of note, previous studies have identified pre-clerkship clinical experiences as having a positive effect on students' attitudes and interests towards a particular field, as well as helping them make more informed career choices.[6] This study is the first to investigate pre-clerkship students' experiences with structured observerships in geriatric medicine.

The current North American matching process for residency programs pressure medical students to choose a specialty early on, with two-thirds of students entering their last year having already chosen their careers.[17] Early exposures to various clinical fields in pre-clerkship years thus have a great impact in students' career decisions. However, the majority of pre-clerkship students participating in this study have had little to no prior exposure to geriatric medicine. Potential barriers for students looking to set up observerships may include not knowing which physician to contact and difficulty in setting up a mutually agreeable time. This study demonstrates that a structured observership program was easy to establish and popular among medical students. Moreover, the results of this study revealed that all participants found their preceptors to be good role models, with the majority of students noting the experience stimulated their interest in geriatric medicine as a career specialty.

Despite the lack of statistically significant changes in attitude as measured by the UCLA–GAS, our program received otherwise positive narrative feedback. More specifically, all participants noted they would recommend this program to be continued, with 90% of the participants planning on joining the program again. The enthusiasm for more geriatric observerships suggests that an intervention of longer duration may have a positive effect on attitudes and interest towards geriatric medicine. In addition, as students chose to participate in the observership outside of regular curricular time, the observership program highlights an opportunity to increase early exposure to geriatric medicine through extracurricular time. Similar programs may be adopted by other medical schools as an extracurricular means to increase early exposure to geriatric medicine in the pre-clerkship years, especially as many undergraduate medical programs have limited mandatory geriatric medicine exposure.

Further evaluation is needed to determine if there would be a statistically significant difference in the UCLA–GAS given a larger sample size. In addition, the observership program may be used by residents and attending geriatricians to help identify students who are interested in geriatrics early on in their training; this allows for further mentorship during medical student training.

Limitations of this study warrant consideration. Due to the small sample size, the study was likely underpowered to detect important differences in attitudes resulting from the observership experience. In addition, there may have been selection bias, as those who chose to participate in the observership program may have greater interest in geriatric medicine than the average medical student population. The self-report nature of the surveys on attitudes could have influenced participants' answers, resulting in response bias. There was also variability in the intervention, as each participant's experience was dependent on a number of non-modifiable factors, such as number of patients on the ward at the time of their observership and the nature of patient and preceptor interaction. The lack of long-term follow-up data limits the scope of this study from being able to examine whether any change in career choice comes as a result of participation in this program.

CONCLUSIONS

In this study looking at structured pre-clerkship observerships in geriatric medicine with 42 participants, students enjoyed learning about the specialty, working with the preceptor and patients, and having the opportunity to practice clinical skills. Students enjoyed the ease of setting up the observership and the pace of geriatric medicine, which allowed residents the time to teach and in turn helped build meaningful mentorship experiences. With the majority of students having had little to no exposure to geriatric medicine prior to the observership, our study demonstrated that experiences such as pre-clerkship observerships can stimulate interest in geriatric medicine. Despite the lack of a statistically significant difference in pre- and post-observership attitudes per the UCLA–GAS scores, all of the respondents felt the experience to be worthwhile and would like the observership program to continue for next year. Overall, structured pre-clerkship clinical exposure to the field of geriatrics is an easily implementable method of fostering interest and understanding of geriatric medicine and, as such, may serve as an adjunct to the existing medical school curriculum.

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CONFLICT OF INTEREST DISCLOSURES

The authors declare that no conflicts of interest exist.

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