Introducing geriatric health in medical training in Ajman, United Arab Emirates: A co-curricular approach

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RESEARCH

Please cite this article as: Mathew, E; Shaikh, RB; Al Sharbatti, S; Sreedharan J. Introducing geriatric health in medical training in Ajman, United Arab Emirates: A co-curricular approach. AMJ 2011, 4, 6, 346-353
http://doi.org/10.21767/AMJ.2011.825

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Abstract

Background
Medical students' knowledge and understanding of the elderly will affect the quality of care to the rising population of older adults which points to a need to identify geriatric health training methods appropriate for the region and curriculum. Therefore the study assessed the effect of a co-curricular introductory workshop on knowledge regarding geriatric health and attitude towards the elderly among fourth year medical students in a medical university

Method
A quasi-experimental before-after study, with control was conducted at Gulf Medical College among 60 medical students from discipline-based curriculum in year IV during May–June 2010 of whom 16 had opted (attendees) to undergo the introductory course, a five day workshop of 10 hours duration. Pre- and post-testing used self-administered questionnaires for demographic variables: age, gender, nationality, close contact with older people; a quiz on old people's health, and Kogan's Old People Scale (KOPS) for attitude. The difference in scores on quiz and KOPS were compared for the attendees and 26 non-attendees who participated in both pre and post testing.

Results
The attendees group had 38% male and 62% female participants and the non-attendees group had 21% and 79% respectively. The groups were not significantly different in age, sex, nationality and close contact with the elderly. The scores on the quiz and KOPS showed no statistically significant difference between the two groups before or after the workshop. Almost all the participants evaluated the workshop very positively especially the interaction with healthy elderly and inmates of old people's home.

Conclusion
A 10-hour introductory co-curricular workshop made no significant change in the knowledge on geriatric health or attitude of fourth year medical students though they reported it as a very enriching experience. A reflective report may have been a better assessment tool and the impact on their clinical practice cannot be predicted.

Key Words
Fourth year medical students, geriatric health, introductory workshop, knowledge, attitude, before-after study.

What this study adds:

1. It is the first report on the possibility of a co-curricular introduction of geriatric health training for undergraduate medical training in UAE.
2. It highlights the appreciation of informal experiential learning with healthy rather than frail elderly.
3. It suggests the use of qualitative evaluation in experiential learning.

Background

The world's elderly population aged 60 and over is 650 million. By 2050, it is forecasted to reach two billion.[1] With increasing medical knowledge and facilities, not only has life expectancy increased but also the possibility of a better quality of life for the elderly. Although this reflects improving global health, it also poses special challenges for 21st century health providers. The challenge for developing countries is to reorient health sectors toward managing chronic diseases and the special needs of the elderly.[2] One of the guiding principles in 'Towards International consensus on the provision of long-term care of the ageing' is the specialised training and education for formal caregivers and the need to link clinical, social and public health services.[3] The Help Age International in the Madrid Plan Review in 2008[4], and The Arab Plan of Action on Ageing to The Year 2012[5], emphasise the need for professional development for good practice among older people. The Department of Family Medicine, Al Ain reports a 10.3% predicted annual growth rate in the UAE (1999–2025), for those > 65 years.[6] The UAE has already started taking initiatives for specialised geriatric facilities demanding adequate professional support for evidence-based practice.

The MBBS graduates are required to serve the growing population of elderly as geriatric specialty clinics are still rare in the UAE. But there is deficiency felt in undergraduate geriatric training in spite of the longitudinal coverage of most of the content areas. The need for competency in geriatric care is being recognised worldwide. But geriatrics is not getting the status of other core disciplines like paediatrics, internal medicine or obstetrics. The Middle East Academy for Medicine of Ageing[7] conducts a course for professionals, four sessions of four day duration, but no short course for medical students could be found in the region. In the UAE healthcare system, general practitioners (GPs) and all specialists other than paediatricians will be involved in treating the elderly. Since medical graduates in the UAE can join the healthcare workforce as GPs, undergraduates need to be equipped to serve the elderly, and a feasible intervention seems urgent. Western models are available but a locally suitable model is yet to be identified. A study by the investigator in 2008 at Gulf Medical College showed that fifth year medical students had significantly more knowledge about physical health than the first years but not about psychological or social health. Personal discussions with fresh graduates of the Gulf Medical College revealed a perceived incompetence in the area of geriatric medicine. The Heads of Departments also did not feel they were teaching the geriatric component. Analysis of the curriculum found most of the content areas but not as a comprehensive unit or clerkship with an objective to focus on geriatric health at par with paediatrics, internal medicine, obstetrics and other such core areas.[8] The World Federation of Medical Education recommends that while maintaining international standards, regional, national and institutional needs and priorities should also be met in the medical curriculum. Geriatrics is one of their recommendations for the clinical sciences curriculum, depending on local needs, interests and traditions of the region.[9]

The American Geriatrics Society's Education Committee has recommended the core competencies for the care of older persons which provides a framework for medical schools to develop suitable comprehensive curricula on ageing.[10] The British Medical Council also emphasises the need for medical graduates to be equipped for the special needs of older people.[11] Moreover, a clearer emphasis, greater empathy and enhanced evidence are emphasised to meet the needs of one of the most vulnerable groups in the community.[12] The International Association for Gerontology and Geriatrics has drawn out the basic content for undergraduate medical students.[13] Medical colleges around the world are evolving curricula that strive to meet the needs of the local community and at the same time cater for the ever-demanding globalisation of healthcare.[14] In 1993 Reuben et al predicted that the US would require two or three times more health professionals to care for the elderly over the next 40 years.[15] Often a gap is observed in

the healthcare providers' knowledge of the unique health challenges and medical needs, to be able to optimally treat older patients. With a rising geriatric population and inadequately trained personnel for comprehensive geriatric care, 'geriatric healthcare professionals' is identified as the need of the century. But in the US, geriatric medicine education was found to be the 'largest education gap in any field' in 2004, for want of educators.[16] Chiang's 1998 report states that in the US the number of physicians opting to be trained and certified as geriatricians is inadequate and during the next 30 years it is projected to decrease.[17] Abyad opines the same situation for Arab countries as well.[2]

From a worldwide study conducted by the World Health Organization (WHO) on ageing issues in the medical curriculum in 72 countries, it was evident that only 41% of the curricula mention geriatrics in some way and only 24% had an independent unit for geriatric medicine. In other medical schools geriatric issues are divided and various directions of geriatric medicine are taught at various departments. Comparing the data of 36 countries, the authors conclude that nations are not prepared for geriatric care even though there is a steep increase in the older population predicted for the next 25 years.[18] The WHO strongly advocates that all future medical doctors need to be well trained in the interdisciplinary care of older persons, since most future doctors will see increasing numbers of older persons in daily practice. Various universities have incorporated geriatric training programmes into undergraduate medical curriculum and improved positive attitude, knowledge, skills and interest in caring for older patients.[19,20] The region has already recognised geriatrics as a 'hot topic' of the time. But in the analysis of the undergraduate medical curricula in 19 medical colleges under GCC, only one reported that geriatrics was a separate required course as one of the 'hot topics', seven did not have it; and eight had it as a part of required course.[14]

Though the UAE currently has a low geriatric population,[21] it is on the rise.[6] Health problems attributed to ageing like non-communicable diseases are now seen earlier in the life span. Abyad points out that health professionals receive little or no training in geriatrics in the region and most do not find it rewarding to work with older people. He emphasises the importance of training for proper care, better outcomes and avoiding negative attitudes and stereotypes.[2]

Considerable variations in the quality of care of older adults may depend on the attitude of the caregivers.[22] Palmore[23] explains that 'ageism' involves prejudice and discrimination, stereotypes and attitudes and thus both cognitive and affective processes and it is quite prevalent.[24] The studies worldwide have found negative attitudes towards the elderly among health professionals.[25- 26]

An increasingly large body of literature suggests that most medical students have little knowledge about ageing, mixed attitudes about older adults and their care, and a low interest in pursuing geriatric medicine as a career. But opinions vary regarding the influence of medical education. Fitzgerald et al[27] state in their review that most medical students have little knowledge and a moderate attitude towards the elderly and have a low interest in geriatric medicine as their career. In their study in Ann Arbor they found that medical students at the entry point had minimal knowledge about ageing and a moderately positive attitude. A better attitude to geriatric medicine was associated with previous experiences of care giving. They suggest the need for meaningful experiences in caring for older adults before and during medical school. An American study[28] found that knowledge about geriatrics improved with increasing levels of medical education. But first year medical students had significantly more favourable attitudes scores than more advanced students and residents; fellows in geriatrics also showed a good attitude. Cankurtaran et al[29] from their study among medical students in class 1, 4 and 6 in Turkey opine that education changed the knowledge but their own experience had more of an effect on the attitude. Therefore a study was undertaken to assess the effect of an

introductory workshop in geriatric health on the comprehensive knowledge, attitude and career preference of the fourth year medical students before they left the GMC hospital for clerkships.

Method

The present study was conducted among fourth year medical students at Gulf Medical University, using a quasi-experimental before-after study design, with control. Self-administered questionnaires were used to collect data as per the objectives, one for personal variables, the others a 'Quiz on Old People's Health'[8] and KOPS[30] for attitude. All the medical students from the discipline-based curriculum in year IV present in the class at the time of data collection were invited into the study after explaining the purpose and obtaining verbal consent. All of them (60) participated in the pre-test. Out of them, 16 voluntarily participated in a five day (10-hour) workshop offered over a week, two hours a day, in May 2010 (attendees). The workshop included five hours of interactive lectures covering socio-demographic aspects of old age, comprehensive geriatric assessment and management, oral health, and prevention of falls and rehabilitation by experts in the respective fields. The other methods of learning included role plays related to care at home, institutions and the health service, and a visit to a Ministry-run old people's home to be familiarised with the national programme for institutional and domiciliary care. The last session of the workshop was an intergenerational meet of healthy ageing adults with the student participants, wherein students as groups of two freely interacted with one older adult each above the age of 60 years and active in their own walk of life. Then all participants gathered together where the students highlighted the strengths of the senior participants which impressed them and identified needs over a cup of coffee and games.

Evaluation feedback on the workshop per se was obtained immediately after the workshop and the post-test was conducted in the second and third week after the workshop for both attendees and no-attendees. Anonymity was maintained by student participants coding and pairing their own questionnaires. All those who had participated both in the pre- and post-tests (40) were included for analysis, 16 attendees of the workshop and 24 non-attendees. The data was entered into an Excel spreadsheet and transferred to PASW 18.0 version for analysis. Frequencies, percentages, Chi square test, Mann Whitney test and Wilcoxon Signed Ranks Test for related sample were used to analyse the data. The scores on the knowledge of the medical students on the health of elderly viz. physical, psychological and social and the negative attitudes were compared between the study groups. The research was approved by the ethical committee of the university.

Results

Among the 16 participants who attended the workshop 37.5% were male and 62.5% female and in the group which did not attend (24), 20.8% and 79.2% respectively. The mean age of those who attended was 23.5 years, SD 2.38 and median 22.0 and non-attendees 22.79 years, SD 1.22 and median 23.0. Arabs made up 50% (8) of the attendees of the workshop and 29.2% (7) of the non-attendees. Whereas 93.8% of the attendees have some form of contact with elderly in their family, this figure was 83.3% among the non-attendees. However this included contact by telephone, email, visits during holidays and constantly living with the elderly.

Table 1 shows the scores on the Quiz on Old People's Health analysed as knowledge on physical health, mental health, social health, and the total score between the two groups before and after the workshop and within the attendees before and after.

A Mann Whitney Test for independent samples showed that the scores for the two study groups were not different before the workshop. By Mann Whitney test for related samples, a significant difference was noted ($p<0.05$) between the scores before and after the workshop for the

total score and the knowledge on physical health among the non attendees. However it was reduction in the score.

Table 1: Mean score of attendees and non-attendees on old people's health quiz before and after the workshop

Workshop attendance	Physical Health		Mental Health	
	Before	After	Before	After
Attendees (N=16)	8.9	8.8	2.7	2.8
Non-attendees (N=26)	9.1	8.0	2.4	2.3
Workshop attendance	Social Health		Total	
	Before	After	Before	After
Attendees	3.8	3.7	15.4	15.3
Non-attendees	3.8	3.3	15.3	13.7

As for attitude our focus was on the reduction of prejudice towards care of the elderly. Therefore attitude was analysed to find a mean for the negative attitude towards older adults on the KOPS before and after the study among the two genders and between the 'attendees' and 'non-attendees' of the workshop (Table 2). The mean negative attitude score for the attendees and non-attendees in the study were 3.1 and 2.9 before, and 3.0 and 3.03 after the workshop from a maximum of five.

Table 2: Mean and standard deviation of mean negative attitude score by gender – before and after the workshop

Workshop attendance	Gender	Mean negative attitude score	
		Before Mean, SD	After Mean, SD
Attendees	Males (N=6)	3.27±1.32	3.2±1.26
	Females (N=10)	3.00 ±0.33	2.86 ± 0.57
	Total	3.1±0.81	3.0 ±0.87
Non attendees	Males (N=5)	2.88 ±0.28	3.01±0.22
	Females (N=19)	2.94 ±0.6	3.03 ±0.9
	Total	2.93 ±0.55	3.03 ±0.8

The Wilcoxon Signed Ranks Test for related sample did not show any significant difference in negative attitude before and after the workshop. However a reduction in negative attitude was seen after the workshop among those who attended. The males had a more negative score before but reduction was seen to be more among females.

Table 3 shows that overall evaluation of the workshop was positive except for three students who were unsure of its relevance to future practice. One student did not attend the evaluation.

Table 3: Evaluation of the workshop (N=15)

Items	Positive	Negative	Not sure
Informed on objectives	14	–	1
Upto expectations	14	1	-
Relevant to future practice	10	1	3
Stimulated learning	14	1	–
Pace	12	1	2
Good way to learn content	14	–	1

Other Comments: What the students appreciated most was the interaction with older adults in the old people's home, the intergenerational meet with the healthy older adults and the role plays which put the students in situations in geriatric life. The participants wanted more time to communicate with the older adults and suggested arranging the workshop at a more appropriate time of the academic year, and not before the examinations.

Discussion

Medical colleges have tried introductory courses of one week's duration, an integrated one-week block, to placements in geriatric medicine. They have used methodologies like geriatric cases as problem-solving exercises, symposia, home visit programmes, teaching and evaluative exercises, standardised patients, simulations, role models and senior mentor interaction at varying points of undergraduate education.[31-38] The results of these studies have been varying but in general showed significant improvement in knowledge. This has formed the basis for the development of this short introductory workshop. The

curricula, methodologies for implementation of training, and assessment have been varied to generalise the effect.

In the present study, the two groups of medical students did not differ significantly in characteristics considered namely, age, gender, nationality and contact with older adults. However there were more males and Arabs among the participants of the workshop than the other group. The scores did not show any significant difference between the group which attended the workshop and those which did not, nor before and after the workshop in the knowledge on mental and social health. However there was a significant decrease in the score the second time in the knowledge on physical health in the group which did not attend. One great limitation with the study was that some members of the group that did not attend the workshop did not show interest in completing the forms a second time but obliged, and so may not have taken it seriously. Another problem was that the second time, some of the students completed the questionnaire in class whereas the others filled it in after a professional examination, the only time when they were available, but they were not in a mental state for answering the questionnaire. These may be the reasons for getting a lower score the second time around. Pack et al[39] did not find any difference in performance in OSCE between the students who had an integrated training in geriatrics or discipline based training. Medical education has been shown to improve the knowledge about geriatric health[19-20,28029], however not analysed by knowledge on physical, mental and social health as in the present study except in the author's previous study which showed good knowledge only regarding physical health.[8] Roscoe et al[37] commented that with scarce time in a medical curriculum, a significant improvement in knowledge and attitude could be obtained and attitude maintained over a two-year follow-up period after a one-week curricular programme in geriatric medicine in third year medical students in Florida. Hughes et al[40] did not find a change in attitude but found more willingness to consider a career in geriatric medicine with an eight day training programme. Significant difference was not obtained in knowledge or attitude in the present study. This was probably because of certain limitations. The workshop was not mandatory, not a part of the curriculum and so not assessed. It was offered to the class and one-quarter of the students utilised the opportunity. The timing was close to examinations which reduced the number of participants. The questionnaires which were completed only on one of the two occasions had to be discarded, making the control group small. Gender is not consistently reported as an influencing factor by different authors; there is no effect on attitude towards the elderly[29] with female students having more positive attitudes.[41] In the present study the trend is that females had a less mean negative score which reduced more with training.

The qualitative feedback was encouraging. Majority of the participants of the workshop evaluated the experience positively but there were three who did not think it was relevant for their future practice as their interests were in other fields. A few of the participants commented that there was not enough time for interaction with old people. Though the lectures were interactive with case discussions, they still preferred the other methods of participatory learning. In personal conversations, there were comments like 'Now I am wondering whether I should take this up as my career', 'It was an eye opener', 'It changed my perception of the old people', ' I want to do my summer posting in the old people home' and so on, which could not be elicited through the Knowledge Quiz or KOPS. Though the impact of the course is not evident on the quiz or KOPS, it suggests an influence on the affective component, and an addition of a reflective writing experience may have complemented as a learning method as well as an evaluation tool as used in the study using 'The Council of Elders'.[42]

Conclusion

The short introductory workshop did not increase the knowledge on old people's health and improved attitudes minimally. The participants evaluated the workshop as a valuable experience which changed their perception of

older adults. The course, if included into the curriculum with a clerkship and evaluated by qualitative methods like reflective reports, may demonstrate the impact better. Its effect on professional practice cannot be predicted now.

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ACKNOWLEDGEMENTS

The authors wish to express their immense gratitude to Prof. Raja Bandaranayake for reviewing the proposal, Dr. Mehzabin Ahmed for planning and conducting the role plays, intergenerational meet and workshop evaluation; the speakers; senior and student participants; Sharjah old people home; the university research division and administration for making the study possible and Ms. Sreemol Danny for the secretarial help.

PEER REVIEW

Not commissioned. Externally peer reviewed

CONFLICTS OF INTEREST

The authors declare that they have no competing interests

ETHICS COMMITTEE APPROVAL

University ethics committee