



BRIEF COMMUNICATION

Students' Evaluation of a Traditional and an Innovative Family Medicine Course in Saudi Arabia

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ABSTRACT *This study compares students' evaluation of a traditional and an innovative undergraduate family medicine (FM) courses. The old curriculum was traditional and teacher-centered. Changes in-line with the innovative learning concepts were introduced. While innovative course (IC) students had significant improvement in both their attitude towards innovative learning methods and self-assessment of knowledge, traditional course students had improvement only in self-assessment of knowledge. Students in both courses did not show post-cycle improvement in perception of their own skills and were dissatisfied with the Health Center (HC) tutors' training. The need to recruit trained family physicians at the affiliated HC became evident. IC students valued the exercise of adding their generated learning needs as part of the curriculum. Other lessons learned were presented. We hope that findings of this study would encourage medical colleges in the region to critically review their FM courses.*

Introduction

Although there is international recognition of the economic necessity for shifting the base of patient care from hospitals into the community, in Saudi Arabia there is a shortage of the human resources needed for such a move. Over 90% of primary health care (PHC) doctors are expatriates who have not received appropriate training for such work (Ministry of Health, 1994).

The lack of interest in family medicine (FM) as a career among Saudi medical students is a problem for future development of this county's health services (Al-Faris *et al.*, 1997). Earlier research has shown that clinical training in FM is associated with increased numbers of graduates choosing generalist careers (Campos-Outcalt *et al.*, 1995). Unfortunately, some of the curricula in Saudi medical colleges still do not include an FM attachment and in others the attachment is sub-optimal (Al-Faris *et al.*, 1997).

This is a report of a small study of an effort to help improve this situation by revising the FM attachment at our school. We divided the class, teaching one group of students by our old (traditional) methods and another by a new (innovative) approach. To the best of our knowledge, this is the first comparison of a traditional with an innovative FM course in the Middle East region. The aim of this study is to compare students' self-assessments of their knowledge, skills and attitudes, and their evaluations of aspects of the curriculum in both courses.

Course Description

During the last two years of their studies, King Saud University (KSU) medical students undertake six clinical rotations, including a six-week attachment in FM. The FM course is presented six times per year for groups of about 25 students each. Students spend five clinical sessions per week at KSU affiliated health clinics (HC), which is their only exposure to community-based training. The rest of their week is spent in lectures, tutorials and small group discussions.

In 1992, the teaching staff of the Department of Family and Community Medicine at KSU undertook a critical evaluation of the attachment and found that it was more traditional than we desired, and we also uncovered some logistic difficulties. In 1994, we introduced changes in the old course. Instructional methods were shifted from mainly lecture format to a mixture of group discussions and interactive lectures. The student assessments became more comprehensive by introducing new areas, such as critical appraisal of a journal article. The allocation of scores was changed in favor of appraising students' performance in the HC rather than knowledge assessment. Furthermore, a one-day pre-course discussion with the HC tutors was introduced.

The content and the assessment of the new course were designed to better reflect the course's stated goals and objectives. For example, one course goal is "to introduce students to the skills of being self-directed, lifelong learners." We also emphasize cooperation between students and staff. To meet these objectives, each student is asked to identify his learning needs by the end of the second week of the attachment. A tutor runs a group discussion on how these needs might best be met. Each group of four to five students chooses one topic related to their learning needs to present two weeks later. Selected topics are included in the final examination. The winning group presentation (based on students' votes) is awarded a prize.

Study Design

To ensure unbiased distribution of the students, they were randomly divided into two groups. At the start and end of the attachment the students were asked to complete a five-point Likert scale questionnaire (1 = strongly disagree or very bad; 5 = strongly agree or very good) covering their self-assessments of their

Table 1. Comparison of students' self-assessment of their knowledge and skills and of their attitude towards innovative learning methods at the start and at the end of the attachment as measured by the Median Test

	Maximum score	Median score	Comparison groups	At the start	At the end
				No. (%) of students who had above median score	No. (%) of students who had above median score
Knowledge perception	30	20	Old course	7 (26.9)	16 (66.7)*
			New course	5 (20.5)	16 (59.5)*
Attitudes	50	39	Old course	11 (42.3)	13 (54.2)
			New course	7 (28.0)	17 (62.9)*
Skills perception	40	28	Old course	15 (57.6)	10 (41.7)
			New course	11 (44.0)	12 (44.4)

* $p < 0.05$, using the Median Test.

knowledge and skills and their attitudes toward learning methods. At the end of the course, their evaluation of different aspects of the curriculum was also explored. The Median Test (a non-parametric test) (Daniel, 1995) was used to estimate significance. The scores for both courses' students were put in sequence and the median score for each item or domain was computed (Tables 1 and 2).

Results and Discussion

Fifty-three students signed up for the course in January of 1994. In the first six

Table 2. Comparison of old and new course students' evaluation of different aspects of their curricula as measured by the Median Test

Items	Old course students	New course students	<i>p</i> -value
	No. (%) above median score	No. (%) above median score	
Teaching in form of lectures	6 (26.1)	5 (18.5)	0.76
Teaching in form of group discussion	10 (41.7)	15 (55.6)	0.48
Accessibility and availability of references	8 (33.3)	14 (51.9)	0.29
Curriculum content	7 (29.2)	7 (26.9)	0.89
Competence of health center's tutors	0	2 (7.7)	0.49
Interest of health center's tutors	0	7 (25.9)	0.01*
Assessment in general	2 (8.3)	4 (14.8)	0.78

* p -value < 0.05 using the Median Test.

weeks, 26 students were taught according to the old course, and 27 students followed the new course.

The students' self-assessments of their knowledge showed a significant improvement from start to end in both courses (Table 1). Although FM settings can provide a valuable resource for learning clinical skills (Friedman *et al.*, 1990), our students did not report an improvement in their skills (Table 1). This is an area of program weakness needing improvement. This issue could be related to the absence of trained HC tutors. A long-term solution to this problem will be to recruit graduates of our FM program as staff for the HCs. Furthermore, our students should be given more direct practice of the skills they are expected to learn, such as examining and interviewing patients as well as performing practical procedures (Morrison & Murrar, 1996). As described by Friedman *et al.* (1990), our new course students appeared to have a growing appreciation for innovative learning methods with increasing exposure over time.

About 88% of the old course students and 93% of the new course students had favorable opinions about the lecture format. This may be due to the fact that their previous education was primarily lecture-based. They appear to have become comfortable with this instructional approach (Jason, 1999). Also, teachers in the FM attachment may have adopted less teacher-centered and a more interactive approach when lecturing, which was a goal of our two years of discussions prior to the course change.

Both groups of students were relatively dissatisfied with the competence of the HC tutors. Students in the new course were significantly more satisfied with the tutors' interest (Table 2).

From this small effort we have learned four valuable lessons that could be of benefit to others at other institutions. First, there is great need to improve the training process at the HC using experiential and self-directed learning. The new course students had better appreciation of the HC tutors, probably because of the one-day pre-course workshop. The FM teaching staff and the HC tutors need to review and agree on the course objectives and the process of students' instruction.

Second, the change from the traditional to the innovative ways of teaching was painful and demanding, at least initially (even mimicking a grief reaction). It took about a year of regular meetings with the teaching staff to discuss and evaluate the arguments before the opponents gradually accepted the proposal for change. The transition was helped by the presentation of working models by external visitors to the department.

Third, students appreciated the experience of seeing their self-identified learning needs become part of the curriculum and they enjoyed peer presentations. The opportunity to win a group prize appears to have enhanced the students' motivation and was interesting to the teachers as well. Fourth, as expected, students devoted more effort and time in the HC following the allocation of more marks to the HC tutors' evaluation.

Finally, we acknowledge that the small number of students in both courses

does not allow for any firm conclusions or generalizations. The absence of statistically significant differences does not automatically rule out the possibility of academically significant differences. Further evaluation of the innovative course involving focused interviews with a larger number of students and staff (using qualitative research techniques) is needed to explore this course's strengths and weaknesses further.

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