

COMMUNITY-BASED FAMILY MEDICINE COURSE: DOES IT HAVE IMPACT ON STUDENTS' LEARNING ACHIEVEMENTS, ATTITUDE AND CAREER CHOICE?

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هدف الدراسة: تهدف الدراسة إلى تقدير أثر دورة طب الأسرة المقدمة لطلاب كلية الطب بجامعة الملك سعود في معرفة مهارات الطلبة السريرية وموقفهم من طرق التعلم الحديثة وكذلك من تخصص طب الأسرة قبل وبعد الدورة.

عينة الدراسة: شارك في الدراسة مائة وسبعة وأربعون طالباً من طلاب السنة الرابعة. **طريقة الدراسة:** دراسة استطلاعية ملأ المشاركون فيها استبانة قبل بدء الدورة وبعدها. اشتملت الاستبانة على تساؤلات حول معرفة الطلبة ومهاراتهم السريرية وكذلك رأيهم في طرق التعليم الحديثة وتخصص طب الأسرة. وقد استخدم تحليل (Likert scale) لهذا الغرض.

نتائج الدراسة: بمقارنة انطباع الطلاب السابق واللاحق للدورة تبين وجود تحسن ذي دلالة إحصائية معنوية في تقدير الطلبة لمستواهم العلمي ($p < 0.0001$) وكذلك لمهاراتهم السريرية ($p = 0.012$). كما لوحظ تحسن كبير في موقفهم من تخصص طب الأسرة ورغبتهم في الالتحاق به مستقبلاً ($p = 0.008$). لم يطرأ تغير يذكر في نظرة الطلبة لطرق التعلم المستخدمة ($p = 0.314$) ولا لموقفهم ونظرتهم لأخلاقيات التعامل مع المرضى ($p = 0.99$). تبين كذلك أن الطلبة أكثر رضاً عن المنهج بسبب مشاركتهم في اختيار محتوياته، بينما لم يكونوا راضين عن مستوى التدريب المقدم في مراكز الرعاية الأولية.

الاستنتاج: هناك حاجة لتطوير مستوى التدريب في المراكز الصحية من خلال توظيف المختصين في هذا المجال وتدريب العاملين فيها للقيام بدور الإشراف والتدريب لطلبة كلية الطب، كما أننا بحاجة إلى إدراج مادة أخلاقيات المهنة وسبل التعامل مع المرضى ضمن مناهج كليات الطب.

الكلمات المرجعية: طب الأسرة - المعرفة - المهارات - التخصص - جامعة الملك سعود.

Objective: To assess the impact of a six-week Family Medicine (FM) course on students' self-assessment of their own knowledge, skills and their attitude towards innovative learning methods and career choice before and after the course, and their evaluation of different aspects of the course curriculum.

Design: An observational study, where the study subjects were requested to fill out a standardized five-point Likert scale questionnaire at the start and at the end of the course. The questionnaire explored their knowledge and attitude in addition to their general evaluation of the course. One hundred forty-seven fourth year medical students who undertook FM clinical rotation were the study subjects. The course had some innovative features. For example, students were involved in the selection of the course content by identifying their learning needs.

Results: A comparison of pre and post-test observations showed a statistically significant improvement in students' assessment of their knowledge ($p < 0.0001$) and clinical skills ($p = 0.012$). A significant positive change was also observed in their choice of FM as a future career ($p = 0.008$). The intervention was not effective (non-significant difference) on (i) students' attitude towards innovative learning methods ($p = 0.314$) and (ii) students' attitude towards patients and certain ethical issues ($p = 0.99$). As the curriculum stemmed

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from collaboration of learners and teachers, the students were satisfied with the content.

Recommendations: *There is a need to improve the training in the HC by recruiting family practitioners (FP) who have had residency training for the specialty and to train the other physicians in how to supervise and guide medical students. Topics on ethical issues should be introduced into the college curriculum.*

Key Words: *Family Medicine, knowledge, skills, attitudes, career, King Saud University.*

INTRODUCTION

In response to the needs of the community, there is a need for medical schools to improve the quality of students' instruction, and increase the time allocated in the medical curriculum for Family Medicine (FM) rotation.¹ It is internationally recognized that it is necessary to shift the base of patient care from hospitals into the community with more community patient care by reducing the number of admissions and shortening patient stay in hospital. The shortage of trained Saudi family physicians (FP)² and low interest in FM as a career among Saudi Medical students are important obstacles in the health system.³

Evaluation of the FM curriculum should be a continuous process for the improvement of the students' instruction. Until 1993, the traditional method of teaching was used in the FM attachment in King Saud University (KSU). When the innovative methods were first introduced into the curriculum, the two groups of students taught by the traditional method and the innovative method in the FM course were compared.¹ While both groups of students had shown a significant improvement in their assessment of their knowledge, only the group taught by the innovative method had an improved attitude towards innovative learning methods. None had improved their assessment of their skills. However, that study used only a small sample of students (53 students).¹

This study included a larger number of students. It examined the impact of the six-week FM course on students' self-assessment of their knowledge and skills and their attitude towards innovative learning methods, certain ethical issues and the choice of FM as a future career.

METHODOLOGY

Subjects

Fourth year medical students from the classes between 1995 to 1997 inclusive participated in the study. They were requested to complete a questionnaire (Table 1) one at the start and another at the end of the six week FM attachment.

Course Description

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

Compared to other courses in the medical college, the FM course is characterized by the following: (i) an attachment to community health centers for five sessions per week (the only chance to have training outside the hospital). (ii) participation in the selection of curriculum content, and assumption of responsibility for their own learning by: (a) identifying their learning needs and being guided on how best to respond to them. Topics emerging from their learning needs are presented by the students themselves and are included in the final examination. (b) participating in lectures and groups discussions. (iii) a more comprehensive students' assessment by the introduction of such areas as critical

Table 1: Outline of family medicine course questionnaire

At the start and the end of the attachment, it included the following headings:

PART A:

Student self-assessment of their knowledge e.g.**

- A1. Features of PHC
- A2. Management of chronic illnesses.
- A3. The consultation.
- A4. Medical Records.
- A5. Psychosocial aspects of disease.

PART B:

Student self-assessment of their skills e.g.**

- B1. Consultation and communication skills.
- B2. Breaking bad news.
- B3. Time management.
- B4. Appropriate use of drugs and investigations.
- B5. Problem solving.
- B6. Literature reading.
- B7. Working as a team-member.

PART C:

Attitude towards innovative learning methods e.g.*

- C1. Students' involvement in the choice of course content is important.
- C2. Study in the form of small groups discussion is a good style of learning.
- C3. Health Centre tutor evaluation of the students is important.
- C4. Prior reading and/or thinking about the discussion topic facilitates learning.

Family Medicine Career Choice*

- C5. I am considering seriously specialization in primary health care or family medicine.

Attitude towards the patient*

- C6. In general, the doctor has the right to disclose his patients' secrets due to his scientific status.(*)
- C7. As students have a short time in the FM course, they have the right to learn even if this is in conflict with the work in the health center.(*)
- C8. The patient has the right to give permission to the student or refuse his attendance with the doctor during the consultation.

(*) As the statement was intentionally wrong, the scoring was reversed.

*The student is requested to select one of five choices ranging from strongly agree (score = 5) to strongly disagree (score = 1). **The choice ranges from very good (score =5) to very bad (score = 1)]

Table 2: Comparison of students' self-assessment of their knowledge, skills and their attitude towards innovative learning methods, career choice and attitude towards patients at two stages (before and after attachment) using Wilcoxon Signed Ranks Test.

Headings	Attachment stage	Mean Rank	Median Rank	Minimum	Maximum	Z Value	p-value
Perceived knowledge	Before	17.8	18.0	6.0	30.0	- 7.28	0.000
	After	21.7	22.0	12.0	30.0		
Perceived skills	Before	27.3	27.0	15.0	39.0	- 2.51	0.012
	After	28.3	28.0	13.0	40.0		
Attitude towards innovative learning	Before	37.6	38.0	27.0	47.0	-1.006	0.314
	After	37.2	37.0	15.0	49.0		
Career choice	Before	3.3	3.0	1.0	5.0	-2.63	0.008
	After	3.5	4.0	1.0	5.0		
Attitude towards patients (Ethical issues)	Before	11.0	11.0	5.0	15.0	-0.14	0.989
	After	10.9	11.0	6.0	15.0		

appraisal of an article in a journal. The allocation of scores was tilted in favor of appraising students' performance in the HC rather than the assessment of recall of knowledge. Furthermore, a one-day pre-course discussion with the HC tutors was introduced. (iv) the content and the assessment of the new course was designed to better reflect the stated goals and objectives. For example, one course goal was "to introduce students to the skills of being self-directed, life-long learners." Cooperation between students and staff was also emphasized. To meet these objectives, each student was asked to identify his learning needs by the end of the second week of the attachment. A tutor run a group discussion on how these needs might best be met. Each group of four or five students chose one topic related to their learning needs to present two weeks later. Selected topics were included in the final examination. The winning group presentation (based on students' votes) was awarded a prize.

Course Evaluation Questionnaire

On the first morning and at the end of the attachment, the students were asked to complete a five-point Likert scale questionnaire (Table 1). For the items exploring students' attitude towards innovative learning methods, they were requested to select one of five choices ranging from strongly agree (score = 5) to strongly disagree (score = 1). The score was reversed for negative statements. Similarly, for items on students' self-assessment of their knowledge and skills, the choice ranged from very good (score = 5) to very bad (score = 1). In addition, students' evaluation of the course was explored at the end of the attachment.

Statistics

As the data were ordinal, the Wilcoxon Signed Ranks and the McNemar nonparametric tests were used and the 0.05 level of significance were used.⁴ There was a consistency in the results of both tests (Wilcoxon and McNemar). However, for the sake of simplicity, only the

results using the Wilcoxon signed rank tests are presented here.

RESULTS

A total of 147 fourth year medical students from the classes of 1995 to 1997 participated in the study. Only three students' questionnaires were excluded because of incomplete data, giving a 98% response rate.

There was a significant improvement on students' self-assessment of their knowledge ($p < 0.0001$) and clinical skills ($p = 0.012$) in favour of the end of the attachment (Table 2). Similarly, there was statistically significant increase in the number of students who had FM as future career choice ($p = 0.008$). However, there was no significant change in students' attitude towards innovative learning methods ($p = 0.314$) and their attitude towards patients and certain ethical issues (0.99).

Table 3: Students' evaluation of different aspects of the curriculum

Items	Favourable responses No. (%)
Teaching in the form of lectures	136 (92.5)
Curriculum content	136 (92.5)
Teaching in the form of group discussion	134 (91.2)
Assessment in general	130 (88.4)
MEQ paper	107 (72.8)
MCQ paper	106 (72.1)
Oral examination paper	101 (68.7)
Accessibility and availability of references	83 (56.5)
Short notes evaluation	82 (55.8)
Interest of health centers' tutors	80 (54.4)
Competence of health centers' tutors	67 (45.6)

A large proportion of students were satisfied with the teaching given by both lectures (92.5%) and group discussion (91.2%), with the curriculum content (92.5%) and assessment in general (88.4%) (Table 3). They were dissatisfied mostly with the competence of the HC tutors (45.6%) and their interest (54.4%) and with the evaluation of the short notes (55.8%).

DISCUSSION

Although students may not be the best judges of their educational needs, their input remains an important element in the design and

evaluation of curricula.⁵ Introducing a community-oriented FM course that puts an emphasis on active student participation requires adjustment and change in learning styles.

There was a significant improvement in student self-assessment of their knowledge. This is consistent with the finding of an earlier study conducted among KSU students.¹ The failure of the course to produce significant improvement of students' attitude towards innovative learning methods is not surprising in a traditional medical school⁽⁶⁾ where students are used to lectures as the main teaching method and are usually assessed on the recall of facts.

This short course, which had some innovative features, may have been insufficient to have a significant impact on students' attitude towards learning. Students who had developed their learning habits and styles over many years may need longer than six weeks to adapt to the new learning strategy and atmosphere. It must be noted here, that although there was no significant impact on attitude towards innovative methods, students liked lectures and small group discussions equally. Since some of the teachers in this attachment were opposed to problem-based learning (PBL), they may have adopted a less teacher-centered and a more interactive style in lectures. This may have contributed to their satisfaction with the lecture format. This finding is consistent with an earlier study of the same attachment.¹

There was a marked improvement in students' attitude towards the FM specialty as a future career choice, which agrees with the finding of a systematic analysis study that one of the two best predictors for FM choice is to allocate a definite time on the medical school curriculum to primary care.⁷ While research has shown that where clinical training in FM is mandatory, there is a significant increase in the number of graduates who choose it as a career,⁸ Some Saudi medical colleges still do not include FM attachment on their curricula, while in others the attachment time is inadequate.³

The lack of improvement of students' attitude towards patients is an indication to course organizers that topics on ethical issues such as confidentiality and patient autonomy must be introduced in the curriculum. The entire college curriculum should be examined in light of this finding. As the curriculum was designed through the collaboration of learners and teachers, the students were satisfied with the content.

Over 90% of PHC doctors are expatriates who did not have appropriate training for the job as family physicians.² Therefore, the low students' satisfaction with the HC tutors' competence and interest is not surprising. It agrees with the finding of an earlier study¹ and affirms the need to recruit trained family physicians for the health centers. Furthermore, as suggested by Morrison and Murray, our students should be given a chance to have practice in those activities in which they are expected to be competent, such as examining and interviewing patients as well as performing practical procedures.⁹

The majority of doctors working in the health centers had no residency training for the job, and they had a deal with patients from a different culture and with different health beliefs. Trained Saudi family physicians (FP) could deliver high-quality care, and enhance the preventive and curative services given to patients. More teaching in the FM setting is necessary in order to provide a valuable resource for learning clinical skills.¹⁰⁻¹² For FP to cope with the wide range of health problems, they should be self-directed learners and problem-oriented clinicians.¹³⁻¹⁸

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