

A comparison of graduates of an innovative medical school and a conventional school in relation to primary health care

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مقارنة بين خريجي كلية طب تجديدية وأخرى تقليدية فيما يتعلق بالرعاية الصحية الأولية
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خلاصة : أجريت دراسة مقارنة حول مواقف المتخرجين من كلية طب تجديدية وأخرى تقليدية وحول مستويات أدائهم فيما يتعلق بالرعاية الصحية الأولية . وكان هدف الدراسة هو معرفة مدى تأثير التعليم الطبي المجتمعي التوجه . ولقد أظهرت النتائج أن كلا الفريقين كانا على علم بالرعاية الصحية الأولية ، ولكن المتخرجين من الكلية التجديدية تلقوا تدريباً عملياً في مراكز الرعاية الصحية الأولية ، واكتسبوا مهارات في محاولة حل مشاكل المجتمع . كما أنهم يولون الاهتمام الكافي للجوانب تعزيز الصحة والوقاية في التعامل مع المرضى . وانتهت الدراسة إلى أن التعليم الطبي المجتمعي التوجه أكثر ملاءمة لتلبية احتياجات المجتمع .

ABSTRACT A comparative study of the attitudes and performances of graduates from an innovative medical school and a conventional one in relation to primary health care (PHC) was conducted. The aim was to identify the impact of a community-oriented medical education. The results showed that both groups were aware of PHC but those of the innovative school had received practical training in PHC centres, had skills to approach solving community problems, and gave due emphasis to promotional and preventive aspects of patient management. The study concludes that a community-oriented medical education is more appropriate to community needs.

Diplômés d'une école de médecine novatrice et d'une école de médecine traditionnelle: étude comparative se rapportant aux soins de santé primaires

RESUME Une étude comparative a été réalisée en ce qui concerne les attitudes et la prestation professionnelle des diplômés de deux écoles de médecine, l'une novatrice, l'autre traditionnelle, relativement aux soins de santé primaires. Le but de cette étude était de déterminer l'impact de l'enseignement de la médecine à orientation communautaire. Les résultats ont montré que les deux groupes connaissaient les soins de santé primaires (SSP) mais que ceux qui ont fait leurs études dans l'école novatrice avaient bénéficié d'une formation pratique dans des centres SSP, avaient des compétences pour aborder la résolution des problèmes communautaires et accordaient l'importance voulue aux aspects relatifs à la prévention et à la promotion de la santé dans la prise en charge des patients. La conclusion de cette étude est que l'enseignement de la médecine à orientation communautaire répond mieux aux besoins de la communauté.

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Introduction

The growing emphasis on community health problems has affected the process of medical education resulting in the emergence of a community-oriented and problem-based medical education. Four years ago, the Ministry of Higher Education in the Sudan decided to establish a medical school in each of the 26 state universities. Ten schools started to function two or three years ago. During the process of curriculum development for those schools, questions were raised as to whether to follow the conventional or the innovative style. It is assumed that innovative schools acknowledge the need to increase their contribution to changing the manner of health care delivery through appropriate education, research and service delivery, including preventive and promotional activities, in order to respond better to the people's needs and improve their health status. Graduates of innovative schools should be able to respond better to the needs of the community having acquired the necessary competence to promote healthy lifestyles, and the ability to communicate better with consumers and community leaders and involve them in bringing about the desired changes. They should also be capable of critically applying the latest techniques in health sciences, and making decisions that take into consideration ethical and other multifaceted issues. They need to strike a balance between the expectations of their patients and the society at large.

The training of graduates of these schools should reflect this in their knowledge, skills and attitudes. Graduates of conventional schools are not trained in the same way and therefore are not expected to perform in the same manner. Studies to show whether this is happening should be available but there are few publications on

the evaluation of programmes of innovative schools. The Faculty of Medicine at the University of Gezira (Sudan), which is following an innovative style, conducted a performance assessment of its graduates while the same was done by the University of Ilorin in Nigeria. There are some comparative studies published but none is related to primary health care issues. This study aims to assess this particular issue.

Subjects and methods

A total of 60 medical graduates of Gezira University (innovative) and Khartoum University (conventional) working in Khartoum and Wad Medani cities were randomly selected for the study. These two places were selected because they were the two biggest cities where the majority of the graduates were available and easily accessible for research.

The total number of graduates of both schools for the period of study was 240. The sample size required was difficult to determine because the targeted respondents were not easy to control for several reasons. Firstly, the population size of the medical graduates was not large enough and has been depleted by migration. However, it was fortunate that the remaining population was highly concentrated in Khartoum State. Secondly, the high level of work mobility of all medical graduates and migration reduced the level of completed responses to the questionnaires. Thirdly, came the problem of the committed cooperative consultants as supervisors and assessors. Due to the constraints mentioned, it was extremely difficult to collect a large sample size. Therefore, a more pragmatic approach was adopted whereby 60 graduates were randomly selected for the study.

For data collection three methods were used. These were questionnaires, interviews and analysis of records. In these three methods, five tools were used, which were as follows:

- interviews with consultants
- interviews with patients
- interviews with graduates
- questionnaire to supervisor
- supervisor's report
- internship report

The questionnaire was completed by trained interviewers. A team of experts was involved in the design of the questionnaire including a statistician and a computer expert. The supervisor's report was completed by the graduates' consultant in charge at the time of interviewing. It was an abridged version of an evaluation form designed by a study group in Maastricht. The consultants were approached and the purpose of the study was explained to them. A letter was also attached to the supervisor's report explaining how to complete the report. The supervisor's report was designed to rate the performance of each graduate based on the assessment of 20 items, one form for each graduate. These items covered the following areas:

- personal characteristics
- interpersonal skills
- clinical approach
- communicative skills
- conduct with patients and colleagues
- diagnostic ability
- manipulative ability
- record keeping.

The questionnaire was tested and redesigned. Five physicians were trained to conduct interviews with the graduates as it was easy for them to understand the tech-

nical information and eventually facilitate data collection. Some consultants who supervised graduates but did not participate in completing the supervisor's reports were also interviewed. This was done to collect more information on the graduates of the two schools in order to enrich the study through more questioning and dialogue. It made it possible to make comparisons between the two groups of graduates in two main areas: the level of performance and competence of the graduates and their attitude to working in PHC facilities.

A randomly selected number of patients were interviewed after taking permission from the consultants in charge. The aim was to compare the interpersonal and communicative skills of the graduates of the two schools. The interviews were structured in order to obtain objective answers for the assessment of the graduates.

A number of graduates who were not interviewed through the questionnaire were also interviewed in order to obtain more data about the graduates' knowledge and attitudes towards PHC.

Data were also collected through the analysis of reports on the graduates at the Ministry of Health. These reports were prepared by the consultants on the graduates while working as interns on completion of the rotation in each discipline. The records are well kept and are the basis of promotion of the graduates. Records of 124 interns who completed their internship before July 1994 were analysed. The records contained information regarding the following:

- personal and identification particulars
- performance
- character
- suitability for higher studies
- overall classification.

The rating was done in a standardized way similar to the method of rating used

for this study which made comparison easy. Only the performance and the overall classification were used in this study. The average rates were calculated and compared to those of the supervisors' reports.

Results

Of the 60 graduates selected for the study, 33 were graduates of Khartoum University while 27 were graduates of Gezira University.

The age at graduation was analysed and the majority (32 graduates or 52.7%) graduated at 25 years of age. Their ages ranged from 22 years to 36 years with no significant difference between the two groups. Graduates were then classified according to the geographical location of their families. Table 1 shows that the majority were from Khartoum State (31 graduates or 51.7%) followed by the Northern State (13 graduates or 21.7%). This can be explained by the fact that there are more educational facilities in Khartoum State compared to the other states. The finding that the highest percentage of graduates from Khartoum state joined the University of Khartoum is obvious.

Table 1 Family origin of graduates

State	Gezira	Khartoum	Total
North	6	7	13
Khartoum	11	20	31
Central	5	2	7
East	3	1	4
Kordofan	2	0	2
Darfour	0	1	1
South	0	2	2
Total	27	33	60

When testing for knowledge on PHC, eight graduates of Gezira scored the highest level compared to only one graduate from Khartoum. It also showed that both groups agreed that the concept and suitability of PHC is excellent, 21 from Khartoum compared to 22 from Gezira, while 9 from Khartoum compared to 5 from Gezira thought it is a good idea. Three graduates of Khartoum did not respond.

It was also shown that 75.8% ($n = 25$) of Khartoum graduates stated that it was not important to work in community health settings, while 100% of Gezira graduates ($n = 27$) thought it was essential. In addition, 74.1% of the Gezira graduates ($n = 20$) were aware of the various types of research related to PHC and the community compared to 33.3% of Khartoum graduates ($n = 11$). It was evident that all respondents were involved in conducting research as this was part of the curriculum in both universities. It was shown that 90.9% of Khartoum graduates were not aware of the importance of conducting research in community health problems while 81.5% of Gezira graduates stated that it was essential for good medical practice to conduct such research.

As regards future careers, the responses showed that an equal number of the two groups (86%) would not object to working in rural hospitals. However, the majority (96.7%) of the graduates would refuse to work in PHC centres, with no difference between the two groups. Out of the total respondents, only 20.0% ($n = 12$) had the experience of working in a PHC centre and all of them were Gezira graduates. The majority ($n = 50$) of the graduates (83.3%) wanted to specialize, while only 4 (6.7%) wanted to work as general practitioners in the community; of those, two were Gezira graduates.

Table 2 Supervisors' reports— performance rating

Rating	No.	%
Excellent	20	16.1
Good	34	27.4
Average	56	45.2
Below Average	10	8.1
Poor	4	3.2
Total	124	100

Further analysis illustrated that the calculated average for the performance level of Khartoum graduates was 3.4 compared to 3.2 for the Gezira graduates on the 1–5 scale rating. The actual numbers of the two schools in each category are quite similar and when tested statistically there was no significant difference between them (Table 2).

When analysing specific performances as judged from the consultants' interviews related to PHC, the Gezira graduates were found to excel in communication skills, preparedness to work in PHC units and the ability to give health education advice. The mean score for Gezira graduates was 4.2 compared with 2.8 for Khartoum graduates.

In addition, a group of 38 randomly selected patients were interviewed to find out their responses regarding the doctors' attitudes towards the patients using the 1–5 scale. Out of 38 patients, 21 (55.3%) were looked after by Khartoum graduates and the rest by Gezira graduates. The mean score for Khartoum graduates was 4.3 compared to 4.6 for Gezira graduates, which has no statistical significance.

Discussion

In this study more than one tool has been used to compare the various aspects of the graduates of the two medical schools. This might be an inherent weakness of the objectivity of the results, although every effort has been made to minimize this weakness. For each method used, the results were compared separately, except when using the supervisors' reports of this study and comparing them with the supervisors' reports filed in the Ministry of Health. The results showed that graduates of innovative schools had better knowledge of and attitudes towards PHC when compared with graduates from a conventional school. These positive findings assume more importance when compared with the few studies in the literature which have attempted to evaluate graduates' performance from new programmes as reported by Schmidt et al [1].

The relatively high rating of the performance of Gezira graduates with regard to aspects related to PHC such as knowledge of PHC, history taking and communication skills, is no surprise since the Gezira curriculum is community-oriented with early introduction of students to clinical practice. This is also one of the areas where differences were anticipated to exist between conventional and community-oriented curricula, especially in interpersonal skills as reported by Freidman et al. [2].

Training in community-based health facilities is assumed to create the right type of physicians with the skills and aptitude to work in the community. The results of this study demonstrate this fact since 81.8% of the graduates of the conventional school failed to recognize that community-based training is a means of improving the quality, the content and the appropriateness of un-

dergraduate medical education which is a stated goal of community-oriented education [3].

When analysing specific performances related to PHC, it was apparent that Gezira graduates excelled in communication skills, preparedness to work in PHC centres and were better at giving health education advice. Analysis of the supervisors' responses showed that 81.5% ($n = 22$) of Gezira graduates scored excellent compared to 12% ($n = 4$) of Khartoum graduates in communication skills, history taking and health education, and this was statistically significant ($P < 0.05$).

An important finding of this study that deserves comment is that there was no difference between the two groups in regard

to the choice of their future career and their willingness to work in PHC units. Most of the graduates were not willing to work in PHC centres but preferred to work in hospitals and eventually follow a career of specialization other than general practice. This is the effect of the health system structure in which promotion is based on specialization.

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