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Primary health care: comparative study of community-oriented with clinically-based medical school education

Abstract

In this study we compared the performances and attitudes of graduates from medical schools that are emphasizing community-based education against the conventional clinically-based graduates within the context of primary health care. Our goal is to find out what effect would the community-based education have on the graduates' attitudes and performance in relation to the primary health care. Although the two groups are aware of the community problems, the community-based education made those who took it have upper hand in promoting and preventing diseases through preventive aspects in managing patients. The conclusion postulated by this research is that a medical education based on community-oriented teaching and style has a favorable impact on the graduates' attitudes and performances in the primary care health. Moreover, communities need it.

Keywords: primary health care, education, medical school

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Introduction

The Community-based education is the style of achieving education in direct harmony with community needs and, thus implementing a community-based education. The activities will involve the community as an educational base where students, but also professors, community leaders, and members of other constituencies are actively involved in the educational process.[1,2]

Inequity in the distribution of health services is still existing even in developed nations[2,3] because medical graduates have scanty knowledge about the dominant or most prominent community problems and hence are not in favor of locating in rural or sub-urban areas.[4] This led to wide acceptability and understanding of the importance of equity in service delivery, education in service of health, and importance of primary health care. Teaching institutions like colleges and medical schools concerned with health profession education adopted the community-based education approach. Such an approach triggered the establishment of consortium of Community-based teaching Institutions for Health Sciences (Network towards unity for health).[5–7] The Community-based approach offers opportunities for students to be trained not only in urban regions but also in the communities of sub-urban and most importantly the rural regions.[3,8–10]

Community-based education is nowadays an important method in medical education and a critical part of the certification and accreditation of medical schools.[11,12] Most importantly the style contributed to resolving the issue of inequity in health service delivery and improving health systems.[13]

The increasing importance and value of community health issues in medical practice had a real impact on more institutions adopting community-based and problem-oriented education. Some time ago in the nineties, the Sudan Higher Education authorities started about 26 medical schools. Within the process of developing their medical curricula they had to ask which style to adopt between conventional clinical or community-based style for those new schools. The authorities after careful deliberations looked into primary health care through appropriate teaching style, research and service delivery, including promotional and preventive activities, in such a way to address the native's needs better and improve their health status. Graduates of community-based colleges must be better able to respond to the needs of the community after acquiring the essential competence to promote healthy styles. Moreover, they can promote an ability to communicate better with the patients and community decision makers and entice in the community best desired changes. Knowing their community needs allows them to seek what is needed in the primary health arena and be able to take actions in line with the ethics and norms of the community. That way they can hit a balance between the aspirations of their community customers and the industry and society at large. In fact, community-based primary care proved to be effective during the COVID-19 pandemic.[14]

Students of conventional clinic-based colleges receive their training differently and may be devoid of a lot of community relevance. Therefore, they would perform differently than if their training was community-based. Not many published research covers assessment of community-based educational style. The University of Gezira (Sudan) is following a community-based style, and they studied a performance evaluation of its graduating, and a similar study was conducted by the Ilorin University in Nigeria. In the literature, we see some comparative research published but not related to primary health care. Our work aims to evaluate the impact of the community-based education on the graduates' performances and attitudes as opposed to the conventional clinically-based training only within the context of primary health care.

Respondents

We addressed a randomly selected sample size of 60 graduates from the Gezira University medical school which is adopting a community-based style and the conventional Khartoum University medical

graduates. These were selected in Khartoum and Medani as the largest cities in the country and because most of the medical graduates are located in these two large cities and the majority of the graduates were available and easily accessible for study. All respondents' identities were kept confidential and were informed that they can if they wish discontinue their responses. Note that the two schools above at the time of the study graduated about 240 medical students. The sample size required was difficult to determine and is limited by the fact that the total population size of graduates of medicine was depleted by migration and was also reduced the level of responses to the survey. One other problem is the limited number of consultants as supervisors as they are hard to access for many reasons. All that made it very difficult to collect a larger sample size.

Methodology

In our data collection we used surveys and interviews beside internship reports and official data. Five methods were used including interviews of consultants, patients and graduates. We also surveyed the supervisors and used their reports and reports of the internships.

The survey questionnaire was filled by our trained interviewers who happened to be physicians or medical students. The questions and format of the survey were designed by a statistician and a computer data-entry practitioner. The supervisors' report was filled by each graduates' consultant in charge during the interview time, and was a version of an evaluation form extracted from a study team in Maastricht. The consultants were informed and the aim of the study was explained to them together with a leaflet attached to the supervisor's report explaining how to complete the report. The report mainly emphasizes the performance rate of each graduate based on the evaluation of 20 points in each form for assessing each of the graduates. The points addressed the personal skills characteristics, clinical ways, communication, conduct with customers and peers, and diagnosis, manipulative and record keeping capabilities.

A pilot survey was performed to test, edit and redesign the survey instrument, and five medical doctors were trained on how to interview the respondents. Consultants who in their supervision role were not able to prepare reports were interviewed instead to get the specific data. Generally, data not collected was completed by more questioning, interviews and discussions. That allowed us to compare the two universities' graduates in the competence and performance and the work attitude in primary health care units.

On the other hand, a sample of patients were approached with permission from their consultants, with the objective of assessing and comparing the graduates' communication and interpersonal skills within the two groups. Structured interviews were conducted to obtain standardized and objective responses for the evaluation of the graduates.

Some few graduates who were missed in the questionnaire interviewing process were also approached again to collect more data relating to their attitudes and knowledge of the primary health care.

Another set of data collection comes from analyzing the official Ministry of Health reports routinely prepared by the consultants on the graduates as interns, covering many medical disciplines that the graduate rotates between. These records contain personal information, character, suitability for further education and overall evaluation, in a structured standardized format which facilitated the work for this research. We used the performance and overall evaluation and classification. Rates averages were compared to the reports by the consultants in charge. Informed consent was obtained from all participants.

Research findings

The samples of the two study groups of medical graduates were, 33 from the University of Khartoum and 27 were from the University of Gezira schools of medicine. In this study, more than one tool was used to compare variables and age at graduation was analyzed and the majority (32 graduates or 52.7%) graduated at the age of 25 years. The ages ranged from 22 to 36 years with no difference among the two categories. Graduates are then categorized along their original geographical locations. Table 1 shows that the majority were from Khartoum State (31 graduates (51.7%) followed by Northern State (13 graduates (21.7%). That is natural as there is a larger number of medical facilities in Khartoum region.

Table 1 Origins of surveyed graduates of the two schools

State	Gezira school	Khartoum school	Total	Percentage
Khartoum	11	20	31	51.70%
North	6	7	13	21.70%
Central	5	2	7	11.70%
East	3	1	4	6.70%
Kordofan	2	0	2	3.3
Darfur	0	1	1	1.70%
South	0	2	2	3.30%
Total	27(45%)	33(55%)	60(100%)	100%

It is also clear that the highest percentage of graduates of Khartoum State enrolled at the University of Khartoum for comfort reasons. In evaluating knowledge of primary health care, eight of the Gezira's graduates scored the highest compared to only one graduate from Khartoum. The results also showed that both groups agreed that the concept of primary health care and its suitability is excellent, 21 from Khartoum versus 22 from Gezira, while 9 from Khartoum versus 5 from Gezira thought it was a good idea. From Khartoum only three graduates had no response.

As in Table 2, It was also found that 75.8% (n=25) of Khartoum graduates reported that it is not important to work in community health settings, while 100% of Gezira graduates (n=27) believe that it is necessary. In addition, 74.1% of Gezira graduates (n=20) were familiar with different types of research related to primary health care and society versus 33.3% of Khartoum graduates (n=11). It was evident that all respondents participated in conducting research as this was part of the curriculum in both universities. It was found that 90.9% of Khartoum graduates were not aware of the importance of conducting research into community health problems, while 81.5% of Gezira graduates stated that conducting such research is necessary for good medical practice.

Table 2 Results of favorable to "working in community as essential"

	Total	Favorable		Not favorable	
		Number	Percent	Number	Percent
Khartoum Graduates	33	25	75%	8	24.2%
Gezira Graduates	27	27	100%	0	0%
Total	60	52	86.1%	8	13%

With regard to future occupations, the responses showed that an equal number of both groups (86%) would not object to working in rural hospitals. However, the majority of graduates (96.7%) refuse to work in primary health care centers, with no difference between the

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two groups. Of the total respondents, only 20.0% (n=12) have work experience in a primary health care center and all of them are Gezira graduates. The majority (n=50) of graduates (83.3%) wanted to specialize, while only 4 (6.7%) wanted to work as community general practitioners; Two of them are Gezira alumni.

Further analysis showed that the calculated mean performance level of Khartoum graduates was 3.4 versus 3.2 for Gezira graduates on a scale of 1-5. The actual numbers for the two schools in each category are quite similar and when tested statistically there was no significant difference between the two groups (Table 3).

Table 3 Performance ratings

Rating	Number	Percentage
Excellent	20	16.1%
Good	34	27.4%
Average	56	45.2%
Below Average	10	8.1%
Poor	4	3.2%
Total	124	100%

When analyzing specific performance as judged from interviews of primary health care consultants, it was found that Gezira graduates excel in communication skills, willingness to work in primary health care units and the ability to give advice on health education. The average score for Gezira graduates was 4.2 compared to 2.8 for Khartoum graduates. In addition, a group of 38 randomly selected patients were interviewed for their responses regarding physicians' attitudes towards patients using a 1-5 scale. Of the 38 patients, 21 (55.3%) were cared for by graduates of Khartoum and the remainder by graduates of Gezira. The average score for Khartoum graduates was 4.3 compared to 4.6 for Gezira graduates, which is not statistically significant.

Discussion

Within this research we used more than one method to compare the Khartoum and Gezira medical colleges various aspects of their alumni graduates.

This may be an inherent weakness in the objectivity of the results, although every effort has been made to minimize this weakness. Results were compared for each method used separately, except when supervisors' reports were used for this study and compared with supervisors' reports filed within the Sudan Ministry of Health. The results showed that the graduates of the innovative school had better knowledge and attitudes towards primary health care compared to the graduates of the traditional school. These positive outcomes become more significant when compared to the few studies in the literature that attempted to assess the performance of graduates from new programs as reported by Schmidt et al.[12]

The relatively high rating of performance of Gezira graduates with regard to aspects related to primary health care such as knowledge of primary health care, history taking and communication skills is not surprising as the Gezira curriculum is community oriented with students being introduced early to clinical practice. This is also one area where differences between traditional and community-oriented approaches were expected, particularly in interpersonal skills as reported by Freidman.

Training in community health facilities is supposed to create the right kind of doctors with the skills and willingness to work in the community. The results of this study show this fact because 81.8% of traditional school graduates fail to realize that community training is a means of improving the quality, content and relevance of undergraduate medical education and is a stated goal of community-based education.[16,17]

When analyzing specific performance related to primary health care, the result showed that Gezira University graduates excelled in communication skills, readiness to work in primary health care centers and were better at giving advice in health education. Analysis of supervisors' responses showed that 81.5% (n=22) of Gezira graduates obtained excellent grades compared to 12% (n=4) of Khartoum graduates in communication skills, history taking and health education, and this was statistically significant ($P<0.05$). Many previous studies have found that community education motivates students to perform community health care, as do these findings. In addition, the health education activity boosted their motivation.[16-19]

A prominent finding of this research that deserves noting is that there was no significant difference between the two groups in choosing their future career and their desire to work in primary health care facilities. Most of the graduates were not prepared to work in primary health care centers but preferred to work in hospitals and eventually pursue a specialized focus other than just being general practitioner. This is directly an outcome of the administrative structure of the Sudanese health system in which medical promotion and may be the status is dependent on medical specialization.

Conclusion

Our research led to the conclusion the community-based medical education has positive impact on attitudes and performances of graduates towards PCH and it is more appropriate to community needs. In comparison to graduates of conventional medical school programs, graduates of the community-based program excelled in communication skills, health education, and history taking.

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Conflicts of interest

The authors declare that there are no conflicts of interest.

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