

Comparison between the Academic Performance of the National and Regional Intake Medical Students at the University of Kordofan, Western Sudan.

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Abstract:

Background: Admission of students to medical schools in Sudan depends mainly upon the student academic achievement in the Sudan School Certificate Examination (SSCE). The Faculty of Medicine & Health Sciences at the University of Kordofan (FMHS-UK) adopts a six-year curriculum. It accepts students with two different academic standards; the national intake students from the free competition pool and regional intake students solely from the states of Kordofan with (lower grades) in the same class.

Objectives: The study objective was to determine the academic performance and achievement of the regional intake medical students at the FMHS-UK and compare it to the performance of the national intake students.

Methodology: This prospective study was conducted at the FMHS-UK. It included close follow up of all national intake and regional intake medical students admitted to the faculty in the period between 1991 and 2001. Their academic performances and achievements from admission to graduation were analysed and studied. The placement of the graduates from the regional intake was followed in the local health delivery system.

Results: The study included 854 national intake and 220 regional intake students from ten student batches. 769 (90.04%) national intake students had completed the course and graduated compared to 199 (90.45%) regional intake students; during the study period. The study showed that 62.3% of the regional students had graduated in six years compared to 65.0% of the national students. 29.7% of the regional students graduated within 7- 8 years, compared to 28.8% of the national students. 5.0% of the regional students graduated within 9-10 years, compared to 4.8% of the national students and 2.0% of the regional students graduated within 11-12 years compared to 1.3% of the national students. The dropout rate was 5.9% among the regional students compared to 8.9% among the national students.

Conclusions: The academic performance of the national intake medical students was better than the regional intake students, but the difference was not statistically significant, (P value > 0.5). This policy of admitting regional students with lower grades to serve their local community is reasonable as 92% of them had completed the medical school in a reasonable time (6-8 years) compared to 93.8% of the national intake students. However, for various reasons only 60% of the graduates stayed within the regional health delivery system as initially proposed.

Key words: Admission, score, MBBS, Kordofan University.

The Faculty of Medicine & Health Sciences, University of Kordofan (FMHS-UK) was inaugurated in 1991, at El Obeid town, Northern Kordofan State, Western Sudan. The University admission policy enrolls 80% of students from the national students' pool by free competition and 20% from a region pool,

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Kordofan states, with lower academic standards. The regional intake students must pass Sudan School Certificate Examination (SSCE) and have a percentage not more than 7% to 14% lower than their classmates from the national pool. They sign contracts to serve the local state for at least five years in-order to improve the local health facilities. All students study in the same program. This regional enrollment policy started with 20% of the students' intake in 1991; the number

had increased to 30% in the 1998 and later to 50% in 2001.

FMHS-UK adopts a six-year medical curriculum with continuous assessment and stop examinations at the end of each year. The examinations are witnessed by external examiners from other universities and supervised by assessors from the Sudan Medical Council.

The study objective was to determine the performance and achievement of the regional intake medical students compared to the national intake students. We had also looked into the placement of the graduates, whether they had honored the signed contracts and subsequently stayed within the regional health delivery system for the specified period of time.

Material and Methods: This prospective study was conducted at the FMHS-UK. It included close follow up of all national and regional intake medical students admitted to the college in the period between 1991 and 2001. The study included 1074 students (220 regional intake and 854 national intake) from ten batches, the last of whom was graduated in September 2007. Their academic records were monitored, their academic performances

and achievements from admission to graduation were analysed and studied.

The final cumulative performance of the medical students at the end of graduation versus the time each candidate spent till graduation was the main dependent variable analyzed. Appropriate descriptive statistical tests (McNamara's test and student's t test) for significance were used to analyze the collected data using SPSS Software version 11 (SPSS Inc., Chicago, IL, USA). The P value for significance was set at 0.05.

Results: The total number of students admitted to the medical course at FMHS during the study period, ten batches, was 1074 of them 220 (20.5%) were regional intake students.

One hundred and ninety nine (90.45%) regional intake students had completed the course and graduated, compared to 769 (90.04%) national intake students. The success rate in males was 87.3% and in females was 95.3%. The performance of female students was significantly better (P value < 0.05). The time needed for graduates to complete the study syllabus and graduation for national intake and regional intake students was shown in table 1.

Table 1: The time needed for completion of the study syllabus and graduation:

Study Period	6 yrs	7-8 yrs	9-10 yrs	11-12 yrs	> 12 yrs
National Intake % (n =769)	65.0	28.8	04.8	1.3	0.1
Regional Intake % (n=199)	62.3	29.7	05.0	2.0	1.0

The academic grades of the regional students compared to the national students at graduation were shown in table 2.

Table 2: Comparison Between Academic Grades Achieved at Graduation (Final Year) by National Students (NS) versus Regional Students (RS).

Grade	NS% n=769)	RS%(n=199)
Distinction	06.5	06.0
Credit	26.0	22.1
Pass	64.6	67.4
Failure	02.9	04.5

Comparison between the dropout rate among national and regional intake students together with the retained students in each group was shown in table 3.

Table3: Dropout and retained students. n=106

	NI		RI	
	N	(%)	N	(%)
Dropout students	76	(8.89)	13	(5.90)
Retained Students	09	(1.05)	08	(3.63)

NI= National intake, RI= Regional intake

The study showed that 119 regional intake graduates (54.1% of the regional intake students) had worked in the state according to the signed contracts. They represent 59.8% of all the successful regional intake graduates.

Discussion:

Medical educators pay a lot of attention to the design of curricula but little to the selection of students¹, although great efforts need to be taken in selecting students from a large pool of qualified applicants. The decision to accept a student to a medical school is not an easy task, as the role of that future doctor in the community must be considered. In modern and accountable medical curricula, appropriate selection of medical students is a fundamental pre requisite of medical schools to produce competent and caring doctors^{2,3}.

The nature of admission to medical schools must reflect the need for human resources in numbers selected and the characteristics of those selected⁴. For almost two decades FMHS-UK enrolled considerable number of regional medical students and hence its admission policy and curriculum should be modeled to address special expected outcomes. Accumulating evidences showed that medical students are most likely to choose a career in primary care after rural-based education and community-based placements⁵. Similar policies addressing special intake of medical students to cope for their local community needs was practiced in different parts of the world⁶.

Effectiveness of medical education programs is most meaningfully measured as performance in medical practice. It was assumed that the best predictor of an optimal academic performance was a high school grade⁶. Also Fadem found significant positive correlation between academic performance and the income of the student's parents⁷. We feel that both factors were deficient in our regional intake students, as they were enrolled with lower academic scores and their majority was from poor socio-economic background. This study showed that 90.5% of the regional intake students successfully graduated in ten batches compared to 90.04% of the national intake students and the academic grades of

the graduates showed normal distribution (table 2). However, only 62.3% of the regional intake medical students got graduated within the allocated scheduled time of the syllabus in six years, compared to 65% of the national intake students; while 13 (5.9%) of the regional students and 76 (8.9%) of the national students were lost. The dropout rate among regional students was due to dismissal attributed to the presence of many disadvantaged students among them³ admitted through quota' selection policy. The high dropout rate among national students was because the majority left the school to other medical institutions at or nearby the capital.

Nevertheless, failure students remain a devastating persistent problem, as 8% of the regional intake students and 6.2% of the national intake students stayed in the medical school from nine to 12 years, of whom some are still retained (3.6% regional students and 1.0% national students). Most of them lack self determination, self confidence and sound knowledge. They get dispatched from their classmates, were isolated and depressed. Regrettably our institution lacks an effective Student Support Unit that may target these deficiencies and may ignite in the students a sense of purpose and confidence, which was the first step to increase the perception that a career in medicine is possible⁸.

Fahal warned that admission of students with lower scores from less developed regions of the Sudan was considered a cause for high intra-curriculum failure rates and perceived fall in standards⁴. However, the number of failure candidates may be minimized by adding non-cognitive, non-academic criteria during the admission process⁹, in consistence with the recommendations of the World Federation of Medical Education¹⁰. This can be done by pre-admission tests and structured interviews conducted by senior expert staff members¹¹. Similar high dropout rates were reported in the United States of America (USA) programs targeting increasing the number of physicians addressing health care needs of underserved populations¹². In the USA the failure students were accommodated in rehabilitation programs in-order to qualify

them for posts like optometry, public health and science¹³.

Multiple factors are operating to solve the rural workforce crisis through a series of linked initiatives such as rural-based and community-oriented medical education¹⁴ and a regional intake policy. Studies performed to compare the academic performance of medical students in rural and urban clinical settings found no significant difference^{14, 15}. Hence, the program adopted by the FMHS-UK may be successful in developing a sustainable, community responsive health workforce for Kordofan States, at Western Sudan.

This study showed that almost 60% of the graduates stayed in the health delivery system of Kordofan States. It is unfortunate that active plans to establish new health delivery infra-structures were not adopted and posts are not always readily available, reflecting lack of co-ordination and integration between the national training policies and the developmental plans of the local health delivery system. More than 40% of the graduates are females not willing to relocate to remote and small villages, where it is difficult to arrange safe accommodation and working environments. There were financial problems like delayed payment of salaries and lack of incentives compared to other regions of the country. Also there was no clear vision regarding the future development of those graduates who stayed in the regional health system.

In conclusion; the academic performance of the national intake medical students was better than the regional intake students, but the difference was not statistically significant, (P value > 0.5). This policy of admitting regional students with lower grades to serve their local community is reasonable as 92% of them had completed the medical school in a reasonable time (6-8 years) compared to 93.8% of the national intake students. .

After almost two decades of its implementation, it is apparent that the regional intake admission policy at FMHS-UK has dramatically increased the number of practicing doctors serving the underserved

communities in the Kordofan States of Western Sudan. This contributed to the social accountability mandate of the school by improving the health care of the people. The program continues to mature but shortcomings are recognized and we need to establish a standard model for its evaluation.

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