

Critical Analysis of Education in Medicine and Health Sciences in the Sudan 2010-2014

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Received: 16 March 2018; Accepted: 30 June 2018; Published: 07 July 2018

Abstract

Methods: Six indicators were used to analyze the quality of education in Schools of Medicine and Health Sciences (SMHS) established by the Ministry of Higher Education and Scientific Research (MoHESR) in Sudan: (1) presence of a parent university outside the capital city Khartoum, (2) distribution of parent universities by region, population weight and type, (3) distribution of existing and deserved parent universities by region (4) Female/male ratio of students, (5) Ratio of students to academic staff, (6) Ratio of different categories of academic staff to each other.

Results: Eleven private universities and seven public universities were located outside the capital city Khartoum. There was an obvious disparity between existing and deserved SMHS by region, notably in Darfur Region; while it was the opposite in the capital city Khartoum. Female/male ratio of students showed a preponderance of female students over males. The overall ratio of students to academic staff was 88 students per qualified permanent academic staff member. Ratio of different categories of academic staff to each other revealed that for every professor, there was less than 3 associate professors, less than 4 assistant professors and about 7 lecturers.

Conclusions: The findings of this study showed that the MoHESR is missing critical elements in all indicators. The study also showed that Sudan Medical Council (SMC), Sudan Medical Specialization Board (SMSB), Federal Ministry of Health (FMOH) and Sudan Doctors Union (SDU) need to be involved in setting standard relevant criteria for establishing new schools and restoring academic traditions enriching links between generations.

Introduction

Both Sudan health care system (SHCS) and Sudan medical education system (SMES) are well documented in the annals of scientific research. Since its inception in 1904, and as early as the 1920s, SHCS based on the qualifications of its British medical staff was, as justly maintained by Squires [1]:

“...The most highly qualified service in the world.”

Kitchener School of Medicine (KSM) was the first medical school in Africa south of the Sahara, established in 1924 by SHCS. This pioneering medical school became on the eve of independence in 1951 the precursor of the Faculty of Medicine of the University College of Khartoum which became the University of Khartoum (U of K) on the morrow of independence in 1958 [2]. This smooth transfer of medical education from the jurisdiction of health care to that of higher education was an outstanding experience un-paralleled in the annals of medical history.

Recognition of the Royal Colleges of the United Kingdom was imparted on SHCS and KSM in the early phases of their development due to their outstanding performance, notably the discovery by Dr. Christopherson of *tartar emetic* (Pentostam) as treatment for *bilharzia*

in Khartoum Civil Hospital (KCH) in 1919 [3]. According to Squires [1]:

“...This was probably the most significant contribution to medicine made by a member of SHCS...”

The renowned KSM and its successors in the U of K had continually shouldered the burden of teaching medicine and the health sciences in the country singlehanded until 1975. The achievement of this noble goal involved a complex chain of concepts, techniques, decisions and events that reach from the reservoir of biomedical knowledge to the people in need. If critical elements in that chain are missing the need will not be met. In the 1990s the so-called Higher Education Revolution (HER) was launched. Universities and SMHSs mushroomed haphazardly. This article subjects this ever since haphazard growth of education in medicine and the health sciences to critical analysis.

1. Objectives

Hence, the twofold objectives of the study are to:

- A) Analyze the expansion policy of the MoHESR.
- B) Recommend alternative policies to restore to higher education its lost renown.

2. Methodology

Six indicators were used to analyze the quality of higher education in the Sudan:

- A) Geographical location of a parent university
- B) Distribution of parent universities by region, population weight and type
- C) Distribution of existing and deserved parent universities by region
- D) Female/male ratio of students
- E) Ratio of students to staff
- F) Ratio of different categories of academic staff to each other.

Results

Geographical location of a parent university

Eleven private universities each encompassing a SMHS, are all located outside the capital city Khartoum; while seven public universities each encompassing a SMHS all started inside Khartoum and continued to linger there for varying phases in their development (Table 1).

Table 1: Distribution of parent universities by region, population weight and type.

No.	Region	Population	University/SMHS			SMHSs /m. pop.
			Public	Private	Total	
1.	Central	9,240,315	5	0	5	9
2.	Darfur	8,654,871	3	0	3	9
3.	Eastern	5,436,796	4	0	4	5
4.	Khartoum	6,809,046	7	11	18	7
5.	Kordofan	4,966,949	3	0	3	5
6.	Northern	2,181,431	3	0	3	2
	Sudan	37,289,408	25	11	36	37

Distribution of parent universities by region, population weight and type

Table 1 shows the distribution of universities by region, population weight and type. Not a single parent private university is outside Khartoum.

Distribution of existing and deserved SMHSs by region

Figure 1 depicts an obvious disparity between existing and deserved SMHS by region, notably in Darfur Region (3 existing, 9 deserved) and Central Region (5 existing, 9 deserved); while it is the opposite in the capital city Khartoum (18 existing, 7 deserved).

Female/male ratio of students

Table 2 shows the female male ratio of SMHSs students' intake 2009-2014. There is a preponderance of female students over males throughout the period of study 2009-2014. The female male ratio ranges between 2.2-2.5 with an average of 2.4.

Ratio of students to staff

Table 3 shows ranges of ratios of students to permanent academic staff in universities with SMHSs in the academic year 2013-2014. The overwhelming majority (75.0%) have ratios of up to 99 students per staff. About 14 percent have ratios from 100 and up to 199 and about 11 percent from 200 to more than 300.

Table 4 shows the overall number of students to qualified permanent academic staff, 2013-2014. The overall number is 88; while the internationally accepted number is 6-10 students.

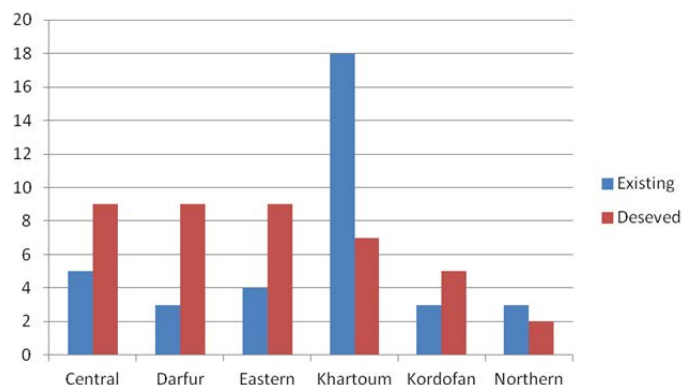


Figure 1: Distribution of existing and deserved SMHSs by region.

Table 2: Female male ratio of SMHSs students' intake 2009-2014.

No.	Academic year	No. of Students	Females	Males	F/M
1.	2009-2010	42,343	29,316	13,207	2.2
2.	2010-2011	49,951	35,746	14,205	2.5
3.	2011-2012	49,951	35,746	14,205	2.5
4.	2012-2013	53,511	38,366	15,145	2.5
5.	2013-2014	59,297	40,649	18,648	2.2
	2009-2014	255,053	179,823	75,410	2.4

Table 3: Distribution of ranges of ratios of students to staff, 2013-2014.

No.	Ranges of ratios of students to staff	No. of schools	Percent
1.	0-99	27	75.0
2.	100-199	5	13.9
3.	200-299	3	8.3
4.	300 and more	1	2.8
Total number of universities with SMHSs		36	100.0

Table 4: Number of students to qualified permanent academic staff, 2013-2014.

No.	Variable	Number
1.	Total number of students	255053
2.	Total number of qualified permanent academic staff	3036
3.	Overall number of students to qualified permanent academic staff	88
4.	Internationally accepted number	6-10

Table 5: Ratio of different categories of academic staff to each other, 2013-2014.

Academic Staff	Number	Ratio
Professor	275	1
Associate Professor	757	2.8
Assistant Professor	958	3.5
Lecturer	1,989	7.2

Ratio of different categories of academic staff to each other

Table 5 shows the ratio of different categories of qualified permanent academic staff to each other, 2013-2014. For every professor, there is less than 3 associate professors, less than 4 assistant professors and about 7 lecturers.

Discussion

It was evident from this critical analysis that not a single private university with a SMHS was outside Khartoum until 2014, which proves that the MoHESR had been paying lip service to the issue of regionalization and equitable distribution of higher education facilities. It was equally clear that all public universities outside the capital city Khartoum remained in Khartoum for varying phases of their life span because of lack of suitable trainers and training facilities, which is further proof that they were established in a haphazard fashion without in depth studies and adequate preparation. Paradoxically, Sudan Medical Council (SMC) has no authority over the opening of new schools though has the subsequent authority of approving curricula and imparting accreditation.

Acceptable international criteria restrict the establishment of a school of medicine to serve at least a population of one million, and 5 schools to serve as satellites for one school of public health (SPH). Applying this yardstick to Sudan shows departure of policy from norms.

The study revealed that the number of students to qualified permanent academic staff is inflated to a degree that is jeopardizing the quality of medical education in this country and the future of graduates of SMHSs is at stake. Early warning signs have emanated from postgraduate medical education institutions indicating poor quality standards.

There was a preponderance of female students in SMHSs compared to males which has adverse planning consequences as females are more apt to abandon the profession due to the pressing reasons of marriage and raising a family. Moreover, females prefer certain specialties and refrain from working in rural and hardship areas.

The relationship by ratio of different categories of qualified permanent academic staff in the SMHSs seems to be reasonable, but one would doubt this as the MoHESR statistics usually include part-timers and there is the haphazard granting of professorial titles has become a phenomenon.

In many present-day SMHSs professors no longer follow the tradition of their predecessors of holding weekly grand rounds, thus increasing the gap hindering professional links between generations.

Almost all private SMHSs do not adopt the tradition of appointing outstanding graduates as teaching assistants and sending them on

scholarships to subsequently join their academic staff, but rely heavily on part-timers.

Conclusions

The findings of this study show that the MoHESR is missing critical elements in all indicators. The study also showed that Sudan Medical Council (SMC), Sudan Medical Specialization Board (SMSB), Federal Ministry of Health (FMoH) and Sudan Doctors Union (SDU) are stakeholders who must be involved in setting standard relevant criteria for establishing new SMHSs and restoring academic traditions enriching links between generations.

Recommendations

1. Political willingness to ensure quality of SMHSs.
2. Involvement of all stakeholders: MoHESR, SMC, SMSB, FMoH and SDU.

3. Setting standard relevant criteria for establishing new SMHSs
4. Restoration of academic traditions enriching links between generations

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