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

Ahmed Bayoumi, MBBS, DPH, MD, FFPH, FACTM
Medical Research and Consultancy Centre, Khartoum North, Sudan
*Corresponding author: Ahmed Bayoumi, E-mail: prof.bayoumi.mrc@gmail.com
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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>
<thead>
<tr>
<th>No.</th>
<th>Region</th>
<th>Population</th>
<th>University/SMHS</th>
<th>SMHSs/m. pop.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Central</td>
<td>9,240,315</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>2.</td>
<td>Darfur</td>
<td>8,654,871</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>3.</td>
<td>Eastern</td>
<td>5,436,796</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>4.</td>
<td>Khartoum</td>
<td>6,809,046</td>
<td>7</td>
<td>11</td>
</tr>
<tr>
<td>5.</td>
<td>Kordofan</td>
<td>4,966,949</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>6.</td>
<td>Northern</td>
<td>2,181,431</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Sudan</td>
<td>37,289,408</td>
<td>25</td>
<td>11</td>
<td>36</td>
</tr>
</tbody>
</table>

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

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

<table>
<thead>
<tr>
<th>No.</th>
<th>Academic year</th>
<th>No. of Students</th>
<th>Females</th>
<th>Males</th>
<th>F/M</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2009-2010</td>
<td>42,433</td>
<td>29,316</td>
<td>13,207</td>
<td>2.2</td>
</tr>
<tr>
<td>2.</td>
<td>2010-2011</td>
<td>49,951</td>
<td>35,746</td>
<td>14,205</td>
<td>2.5</td>
</tr>
<tr>
<td>3.</td>
<td>2011-2012</td>
<td>49,951</td>
<td>35,746</td>
<td>14,205</td>
<td>2.5</td>
</tr>
<tr>
<td>4.</td>
<td>2012-2013</td>
<td>53,511</td>
<td>38,366</td>
<td>15,145</td>
<td>2.5</td>
</tr>
<tr>
<td>5.</td>
<td>2013-2014</td>
<td>59,297</td>
<td>40,649</td>
<td>18,648</td>
<td>2.2</td>
</tr>
<tr>
<td></td>
<td>2009-2014</td>
<td>255,053</td>
<td>179,823</td>
<td>75,410</td>
<td>2.4</td>
</tr>
</tbody>
</table>

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

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

Citation: Bayoumi A. Critical Analysis of Education in Medicine and Health Sciences in the Sudan 2010-2014. J Medic Educ Training 2018; 2:037.
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

**References**

3. Bayoumi A. the History of Sudan Health Services. 1979; Nairobi, KLB.
5. Bayoumi A. Research from A-Z. Chapter: Bright Spots of Sudan Health Care System Khartoum. 2018; KUPP.