POST-GRADUATION MIGRATION INTENTIONS OF MEDICAL STUDENTS IN THE FACULTY OF MEDICINE, UNIVERSITY OF KHARTOUM

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ABSTRACT

Background: The objectives of this study were to determine the medical students’ post-graduation migration intentions, the intention of return to the country and the preferred destination of migration.

Methods: This was a cross-sectional study conducted in the Faculty of Medicine, University of Khartoum. The sample size was 384. The data was collected by questionnaire and analyzed by SPSS.

Results: Of the 384 respondents, 325 (84.6%) intended to migrate after graduation. The most preferred destinations for migration were Saudi Arabia 112 (29%) and United Arab Emirates 77(20%). The most common reasons behind migration was to achieve better financial conditions (81.8%) and a better professional advancement (77.9%).

Conclusion: An alarming percentage of medical students of Faculty of Medicine, University of Khartoum intend to migrate after graduation, mainly to Saudi Arabia, United Arab Emirates, United States of America and the United Kingdom. The migration intention is associated with having a family member abroad.
KEYWORDS: post-graduation, migration intentions, medical students.

INTRODUCTION
Throughout the 20th century, there have been a substantial number of highly skilled and educated professionals emigrating from their home countries in search for better economic and social opportunities in other countries. An international migration of workers, mainly from developing to more developed countries, a phenomenon known as "brain drain" is gaining great concern nowadays. Brain drain is the movement of people from one area to another for varying period of time and varying reasons.\[1\] Understanding the reasons for migration from the source country is critical to understanding how to effectively deal with the resultant issues. These issues have been called the “push” factors that promote the migration of health workers from developing nations. Additional factors are said to “pull” workers to developed countries such as higher wages, better quality of life, safer working conditions and greater opportunities to improve their education and expertise.\[2\] The World Health Report of WHO 2000 underlined that human resources are "the most important of the health system's inputs".\[3\] The health sector is a major employer, and human resources account for a high proportion of national budgets assigned to health.\[4\]

Indeed, 23 to 28% of physicians practicing in the four major recipient countries (i.e., the United States, the United Kingdom, Canada, and Australia) are international medical graduates. The source countries for 40 to 75% of these international graduates are lower income.\[5\]

On a global level, the migration of health care workers undermines all of the international efforts to reach the Millennium Development Goals by 2020 because it reduces the medical staff of developing nations to a point where their own health care systems are not able to treat their own population.\[4\]

Some sub-Saharan countries lose a larger proportion of their physicians because of migration. For example, Ghana has 1210 practicing physician inside the country and 478 graduates of Ghanaian medical schools are practicing in USA. Without even considering those who have migrated to other countries, these 478 Ghanaian in the USA represent 30% of Ghana's potential medical workforce.\[5\]
In Sudan twenty two thousand doctors are registered in Sudan medical council. However, 60% of them are working abroad. The remainder doctors can't provide adequate health services to the community beside the fact that there is mal-distribution of health services and health personnel between the rural and urban areas. Brain drain is one of the major factors that are responsible for the deterioration of health services in Sudan. As the world health organization (WHO) recommends a minimum of 23 health workers (doctors, nurses, and midwives) for every 10,000 people in order to achieve millennium developmental goals, in 2012 Sudan had only 2.9 per 100,000, which is far below the recommended target. Despite that Sudan exported 6000 doctors to Saudi Arabia in the period between 2009-2012 and 950 to Libya in 2012. This research aimed to determine the post-graduation migration intentions, the preferred destinations and the reasons behind migration of medical students in the Faculty of Medicine, University of Khartoum; and to determine their intension of return to the country.

MATERIALS AND METHOD
This was a cross-sectional study of medical students’ post-graduation migration intentions. The study was conducted at the Faculty of Medicine, University of Khartoum. The Faculty is the oldest school of medicine in Sudan, established on 29th February 1924 as Kitchener Medical School by Sir Lee Stack. After independence in 1956, Khartoum University College was upgraded to Khartoum University and Kitchener Medical School has become the Faculty of Medicine and started offering the M.B.B.S. Out of 1095 students in the 4th, 5th, and 6th grades who performed the sampling frame for this study, 384 students were selected according to the following formula.

\[ n = \frac{Z^2 \times pq}{d^2} \]

n= sample size
Z: standard normal deviate =1.96
p (the prevalence) =0.5
q=1- p= 0.5
d: error accepted=0.05
The sample size= 384
Stratified random sampling was used to select the sample from different batches.
The students were divided into three strata: the first, second and the third strata were students from 4th, 5th and 6th years. Strata size was determined according to population size. So, 4th, 5th and 6th year represented by 115 (30%), 131 (34%) and 138 (36%) of the sample respectively.

Data were collected by self-administered and structured questionnaire after obtaining ethical approval from the college and informed consent from the students. The reliability of our study questionnaire was (Cronbach’s alpha = 0.751). Data was cleaned, edited and entered into the computer and analyzed by Statistical Package for Social Science (SPSS), version 20 (SPSS, Chicago, Illinois USA). Descriptive statistics were used. Comparisons between qualitative variables were made using the person’s chi-square to test significance; p < 0.05 was considered significant.

RESULTS

Table (1) shows post-graduation migration intentions of the medical students in the Faculty of Medicine, University of Khartoum. Of the 384 respondents, 325 (84.6%) intended to migrate after graduation, 34 (8.9%) not intended to migrate and 25 (6.5%) haven’t decided yet. One hundred and ninety two students (59%) of those who intended to migrate were intended to return to Sudan after migration, 80 (25%) would not like to return while, 53 (16%) didn’t know if they will return or not.

The destination of the medical students will be Saudi Arabia, USA, United Arab Emirate, United Kingdom and Qatar constituted 29%, 20%, 19%, 17% and 10% respectively. Other destination constituted 5% as shown in figure 1.

Table (2) shows the reasons behind migration. The first reason behind migration was financial 266 (81.8%). Other reasons were professional advancement 253 (77.9%), better working conditions 251 (77.1%) and political reasons 117 (35.9%).

Table (3) shows the relation between graduation intensions and some social factors. Regarding gender 85.5% of the males and 80.4% of the females were intending to migrate after graduation. However, the relation between migration intensions and gender is not significant (p=0.337). The medical students who had a relative abroad have a higher tendency to migrate compared to those who had no relative abroad (89.5% and 70.1%). The relation between intension to migrate and having a relative abroad is significant (p= 0.001).
Table (1): Medical students’ post-graduation migration intentions and intention to return

<table>
<thead>
<tr>
<th>Intention</th>
<th>Yes</th>
<th>No</th>
<th>Not decided</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>Intention to migrate</td>
<td>325</td>
<td>84.6%</td>
<td>34</td>
<td>8.9%</td>
</tr>
<tr>
<td>Intention to return</td>
<td>192</td>
<td>59%</td>
<td>80</td>
<td>25%</td>
</tr>
</tbody>
</table>

Fig. (1): Destination countries for migration

Table (2): Reasons behind medical students’ post-graduation migration intention n=325

<table>
<thead>
<tr>
<th>Reason behind migration</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial reasons</td>
<td>266</td>
<td>81.8</td>
</tr>
<tr>
<td>Professional advancement</td>
<td>253</td>
<td>77.9</td>
</tr>
<tr>
<td>Better working condition</td>
<td>251</td>
<td>77.1</td>
</tr>
<tr>
<td>Political reasons</td>
<td>117</td>
<td>35.9</td>
</tr>
</tbody>
</table>

Table (3): Medical students’ post-graduation migration intentions in relation to social factors

<table>
<thead>
<tr>
<th>Social factor</th>
<th>Migration intention</th>
<th>Total</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>65 (85.5%)</td>
<td>11 (14.5%)</td>
<td>76 (19.8%)</td>
</tr>
<tr>
<td>Female</td>
<td>260 (80.4%)</td>
<td>48 (19.6%)</td>
<td>308 (80.2%)</td>
</tr>
<tr>
<td>Total</td>
<td>325 (84.6%)</td>
<td>59 (15.4%)</td>
<td>384 (100%)</td>
</tr>
<tr>
<td>Family member abroad</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>257 (89.5%)</td>
<td>30 (10.5%)</td>
<td>287 (74.7%)</td>
</tr>
<tr>
<td>No</td>
<td>68 (70.1%)</td>
<td>29 (29.9%)</td>
<td>97 (25.3%)</td>
</tr>
<tr>
<td>Total</td>
<td>325 (84.6%)</td>
<td>59 (15.4%)</td>
<td>384 (100%)</td>
</tr>
</tbody>
</table>
DISCUSSION

Out of the 384 respondents enrolled in the study, 325 (84.6%) intended to migrate after graduation. This is considered as a high rate. However it is less than reports from Lebanon in which 95.5% of the medical students intended to migrate. This finding is higher than Asian and sub-Saharan countries which showed a lower rate of desire to migrate 21% and 26% respectively.\[10\] This high migration intension will lead to drain the country from its health resources; Sudan is a big country and lack of physicians especially in the rural areas.\[6\] In our study one quarter of those who intended to migrate were not intending to return to the country. This is in consistent with a study conducted in Lebanon where (25.1%) of the respondents intended to return to Lebanon in the future.\[11\]

Saudi Arabia, UAE, USA and UK were the most preferred destination for the students. This is not in line with studies conducted in Pakistan, Lebanon and Serbia where the preferable destinations were USA and England.\[12, 13, 14\] The top four destination countries for the Lebanese medical students were France, the United Kingdom and Canada respectively.\[11\] This may be due to the fact that Sudanese medical students intend to migrate mainly for financial reasons, so they intended to go to Saudi Arabia in the first place. Pakistani, Serbian and Lebanese medical students tended to migrate to study abroad so they preferred the countries where training opportunities are better.

In the current study, the most common reasons that drive the medical student to migrate were to achieve better financial conditions, to seek opportunities for professional advancement and to work in better working conditions. In Pakistan the reasons for migration intension is more or less the same but the first was better working conditions, improve quality of life , financial reasons and more opportunities for professional advancement.\[14\] In a study conducted in Serbia, the first reason was seeking educational opportunities abroad.\[15\] Financial conditions being a cause for migration, is consistent with some African and Asian countries.\[10\] The Salary of medical doctors in Sudan for instance is around one hundred dollars compared to 717 USD, 374 USD and 242 USD in Nigeria, Ghana and Zambia respectively.\[16\] In Sudan the health sector is underfinanced which reflects its effect on human resource including wages, training, equipment and the working environment.\[6\]

The medical students who had a relative abroad have a higher tendency to migrate compared to those who had no relative abroad.\[14\] The intention for migration is highly associated with having family members living abroad (p=0.001). Medical students having a
relative working abroad encouraged them to migrate. Males have higher tendency to migrate than females. However, the relation between migration intension and gender is not significant (p=0.337).[14]

ACKNOWLEDGEMENT
The authors would like to acknowledge the medical students of Faculty of Medicine, University of Khartoum who participated in this work.

CONCLUSION
The findings of this study are alarming in terms of the future migration of Sudanese medical students and will have implications for both policy making and health delivery throughout the country. The medical students intend to migrate after graduation, mainly to Saudi Arabia, United Arab Emirates, United States of America, the United Kingdom and Qatar. The reasons behind medical students’ migration intention were financial, professional advancement and better working conditions. The migration intention is associated with having a family member abroad.

REFERENCES


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