

Research Article

Awareness of Final-Year Medical Students of Omdurman Islamic University on Their Career Choices

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Abstract

Background: Medical students undergo a complex process as a student to make a career decision and pursue further specialization. This study explores the factors that influence the career choices of the two genders studying in the final year of medicine at Omdurman Islamic University.

Methods: This institution-based cross-sectional study was conducted on 194 male and female fifth-year medical students studying at Omdurman Islamic University. The questionnaire contains 15 multiple-choice questions to determine the factors affecting students' career choices – lifestyle, income, family impact,...etc. – and the association between gender and the specialties they choose to pursue.

Results: The specialties were preferred in the following order: surgery by 22.9%, internal medicine by 18.3%, obstetric gynecology by 13.8%, and pediatric by 10% (limited to the four major specialties). The least chosen specialties were histopathology, emergency medicine, psychiatry, and anesthesia (all were 0.9%). Family medicine and forensics were not chosen by any participant. Females significantly preferred dermatology, obstetrics and gynecology, otolaryngology, and pediatrics compared to their male counterparts. Whereas, males compared to females significantly preferred orthopedics and surgery. The factors influencing change in students' specialties based on their gender were family views and family obligations. Nearly 80% of students choose a career based on personal interest; lifestyle and financial reward were also seen to play an important role in choosing a specialty. About 91% of participants agreed that there is a need for guidance. A great proportion of final-year students (62%) preferred to specialize abroad and related it to a good lifestyle and financial stability.

Conclusion: This study showed that the students' awareness about specialty choices was limited to certain specialties as seen in the literature. The most preferred specialties were surgery (22.9%), internal medicine (18.3%), obstetrics and gynecology (13.8%), and pediatric (10%). There are many factors influencing the selection of specialties, however, the most common one is personal interest followed by lifestyle issues and financial reward. Additionally, there is a significant gender difference in career-choice decisions.

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1. Introduction

During the 2020 coronavirus outbreak, a global shortage of healthcare workers was witnessed in some specialties and the service focused on controlling the pandemic [1], this led to many facilities putting non-covid cases on halt [2]. This has pointed to the need for certain specialties to prepare themselves to face such disasters. Developing countries, including Sudan, were affected more due to their limited facilities and resources. Therefore, it is not surprising that the career choices of medical students along with the factors involved in making those choices are of great significance for a balanced distribution of doctors in different specialties, as well as planning the workforce of healthcare services [3]. Studies have shown that many factors influence medical student's choices toward certain specialties [4–8]; for instance, intellectual ability, technical abilities, long-term expertise, engagement, or the ability to function in unique situations, which may be ideally matched to specific characteristics, skills, and physical structures [9]. Knowledge about medicine and specialties has become widely available recently [6], and while some students may choose their specialization even before registering for college, others may do it after college and during internships [8]. New studies in other nations have identified several variables linked to selection and desire, such as gender, job prospects, reputation, employment, and role modeling by department staff [10, 11]. Dale and Martha stated that the controllable lifestyle and income of medical students have become more crucial in their career decisions, and the relative impact of these considerations differs significantly between the specialties [12]. Many students do prefer surgery for its high income, although it is considered the lowest in lifestyle [13]. A self-reported survey done by surgical residents in the United States revealed that surgery residents work more hours than their peers in other specialties [14] with high work stress [15]. Females have become a growing part of medical schools in Japan, the United States, and Europe. However, globally, the roles of females appear to have been undervalued. Gender determines not only the preferred specialization but also the reasons for that selection [10, 16, 17]. Prior knowledge about a specialty, which is now readily available, and clinical experience in the study period together with the mentoring effect might give the students a critical view of specialties [18–21].

Therefore, studying career interests can serve to provide essential information to assist in the preparation of educational programs, set goals, and prepare for the availability of appropriate healthcare [7]. This study focuses on final-year medical students

because a higher percentage of medical students settle on their fields of specialty in the final year of their undergraduate medical training [22].

2. Methods

This study is a descriptive prospective cross-sectional, institution-based study. It was conducted from November 3rd to 22nd, 2020 at the Faculty of Medicine and Health Sciences of Omdurman Islamic University, Khartoum, Sudan. A self-administered, semi-structured questionnaire was designed by researchers based on relevant literature reviews to collect demographic information and future specialties preferences as well as factors that influence those decisions [1, 9, 15, 16]. A medical education expert validated the questionnaire, which was then pretested on a random sample of students to ensure that the questions were understandable. It was distributed to 194 male and female fifth-year students recruited for the study. The sample was computed using EPI INFO version 7 with a total population of 391, an expected frequency of 50%, a margin of error of 5%, a design effect of 1, and a confidence level of 95% resulting in a sample size of 194. Sampling was done using a nonprobability convenience technique. The questionnaires were administered using Google form to a telegram group of 384 final-year medical students; the responses stopped when the desired sample had been collected, thus, the first responders were included in the study. The questionnaire contained 15 multiple-choice questions. The variables included awareness toward career choosing, factors influencing the choices, gender, age, and socioeconomic status. Data were analyzed using the statistical package for social science SPSS v22, and the *P*-value was considered significant if <0.05. The descriptive frequency analysis was done for all variables. The chi-square test was used to assess the association between gender and specialty preference.

3. Results

A total of 194 students were included in this study – 112 females (58%) and 82 males (42%). The mean age of the participants was 24 ± 2 years.

3.1. Stage of career decision

About 53% of students had determined what specialty they wanted to pursue after graduation – of them, 73% had decided their specialty before medical school, 15%

preclinical, and 12% during clinical rotation. However, 47% had not decided yet because of the lack of knowledge (19%), the lack of interest (12%), and the lack of workshops (10%) and role models (6%).

3.2. The preferred specialties

For both genders, the most preferred specialties were limited to the four major specialties of surgery (22.9%), internal medicine (18.3%), obstetrics and gynecology (13.8%), and pediatrics (10.0%). The least chosen specialties were emergency medicine, histopathology, and radiology (all 00.9%; Table 1).

3.3. Gender and career choices

A significant association was seen between the students' gender and their career choices (P -value < 0.05). Females preferred dermatology, obstetrics and gynecology, otolaryngology, and pediatrics, while males preferred orthopedics and surgery (Table 2). The most influential factor was the family view (59%) and responsibility toward families (41%).

3.4. Rating of the motivational factors for specialty preference

Nearly 80% of students decided to choose a career based on personal interest. They also indicated that lifestyle (63%) and financial rewards (52%) play an important role in choosing a specialty. Other factors that were considered significant by at least half of the respondents related to future job opportunities (42%), social factors (30%), and role modeling (10%).

3.5. Guidance preference among final students

About 91% of participants agreed that there is a need for guidance during medical school. The most preferred form of guidance was workshops (67%), followed by lectures from the college curriculum (61%), and conferences (60%).

TABLE 1: The preferred specialties among students (male vs female).

Ratio			Specialty
Total (%)	Females	Males	
22.9%	08.2%	14.7%	Surgery
18.3%	11.9%	06.4%	Internal Medicine
13.8%	11.9%	01.9%	Obstetrics and Gynecology
10.0%	08.2%	01.8%	Pediatric
09.1%	08.2%	00.9%	Dermatology
07.3%	04.5%	02.7%	Ophthalmology
07.3%	00.9%	06.4%	Orthopedic
05.5%	04.5%	01.0%	Otolaryngology
01.8%	00.0%	01.8%	Anesthesia
01.8%	00.0%	01.8%	Neurosurgery
00.9%	00.9%	00.0%	Emergency Medicine
00.9%	00.9%	00.0%	Histopathology
00.9%	00.9%	00.0%	Radiology
00.9%	00.9%	00.0%	Psychiatry
00.9%	00.9%	00.0%	Cardiac Surgery

4. Discussion

This survey showed that for both the male and female students, the most preferred specialties were limited to the four major ones. This is similar to another study where general practitioners/family medicine was the most preferred specialty (18.8%), followed by surgery (9.5%), pediatrics (7.6%), internal medicine (7.1%), emergency medicine (4.6%), orthopedics (3.8%), and urology (3.3%) [8]. These findings could be mainly because of the lack of knowledge about certain specialties, the substantial representation of the faculty curriculum in our medical schools, as well as the role modeling by a large number of consultants in these major specialties.

Moreover, the lack of clear guidance during medical rotation made most of the students decide on their specialty before medical school; while the other half (47%) had no choice because of the lack of knowledge and the lack of interest. In addition, other surveys concluded that 10% of the students did not decide due to a lack of knowledge, while the majority of students who choose their specialties decided during clinical rotation [3, 22].

TABLE 2: Gender preferences for each specialty.

Specialty chosen		Gender		Chi-square tests P-value
		Males	Females	
Surgery	N	16	9	0.001
	%	64%	36%	
Pediatric	N	2	9	
	%	18%	82%	
Dermatology	N	1	9	
	%	10%	90%	
Orthopedic	N	7	1	
	%	88%	13%	
Otolaryngology	N	1	5	
	%	17%	83%	
Internal Medicine	N	7	13	
	%	35%	65%	
Obstetrics and Gynecology	N	2	13	
	%	13%	87%	
Ophthalmology	N	3	5	
	%	38%	63%	
Emergency Medicine	N	0	1	
	%	0%	100%	
Histopathology	N	0	1	
	%	0%	100%	
Anesthesia	N	2	0	
	%	100%	0%	
Radiology	N	0	1	
	%	0%	100%	
Neurosurgery	N	2	0	
	%	100%	0%	
Psychiatry	N	0	1	
	%	0%	100%	
Cardiac Surgery	N	0	1	
	%	0%	100%	

N, number of students.

4.1. The gender and career choices

The results showed a significant association between gender and choice of specialty among medical students. Female students were interested more in dermatology (90%), obstetrics and gynecology (87%), otolaryngology (83%), and pediatrics (82%), while males significantly preferred orthopedics (88%) and surgery (64%); Table 2.

This is similar to another study which demonstrated that while males preferred surgery (14.7%), orthopedics (6.4%), and internal medicine (6.4%), females preferred internal medicine (11.9%) and obstetrics and gynecology (11.9%) equally, followed by pediatrics and dermatology (8.2% for both). This is also comparable to another study which has stated that the most chosen specialty by female students were pediatrics (15.6%), obstetrics and gynecology (12%), and psychiatry (5.7%). For males, the most chosen specialty was surgery (46.4%) and medicine (25.3%) [3].

Furthermore, in a Nigerian study, it was found that male students tended to specialize in obstetrics and gynecology more than female students (18.5% vs 11.9%) [22] compared to 1.9% vs 11.9% in this study.

4.2. Factors affecting career choice

In this study, personal interest (80%) was the most influential factor that contributed to the students' career decisions. This result is consistent with other studies, where the majority of participants chose a career based on personal interest [11, 17, 23]. This similarity could be because of the expanded knowledge about medicine and specialties, mainly from the media.

Lifestyle is another important factor found in 63% of the cases, which is comparable to the 62% found in an Indian study [9]. Similarly, another study showed that the quality of life was an important factor determining students; preference: psychiatry was chosen by 64.5%, social medicine and public health by 46.7%, and surgical specialties by 39.9% [24]. Financial reward was also a considerable factor (52%), as found in other studies [11, 17]. Students from low-income countries aspired to a good lifestyle and high income while choosing their specialty. That is also why many young Sudanese doctors think about working abroad early in their careers [25].

Other factors such as future job opportunities, social factors, and a few years of specialty were: 42%, 30%, and 16% compared to 27.9%, 24.6%, and 27.5% observed in a similar study, respectively [11]. The role model was one of the least rated factors (10% compared to 34.8% and 68.5% in other studies [11, 17]. This could be because of the large number of students in clinical rounds in comparison to the number of consultants and the short duration of clinical courses at Omdurman Islamic University.

5. Conclusion

This study showed that the students' awareness about specialty choices was limited to certain specialties as seen in the literature. The most preferred specialties were surgery, internal medicine, obstetrics and gynecology, and pediatrics for both sexes. Females preferred internal medicine, obstetrics and gynecology, pediatrics, and dermatology. While males preferred surgery, orthopedics, and internal medicine. Family medicine was not selected by any participant, which was unrelated to the literature. The least chosen specialties were emergency medicine, histopathology, and radiology which were exclusively chosen by females. Lack of knowledge was the principal cause of not choosing a future specialty. Of the many factors influencing students' selection of specialties, the most common one was personal interest followed by lifestyle issues and financial reward, and the last one was role modeling.

This study and further comprehensive studies might open the doors for filling the gaps in the curricula of medical schools and help achieve the needs of the community.

Limitations

This study is a single-center study and only included the final-year medical students, hence, some of the findings might not represent the career preference of all medical students in the country.

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None.

Ethical Considerations

Ethical clearance was obtained from the research ethical committee (REC), Faculty of Medicine, Omdurman Islamic University.

Competing Interests

None declared.

Availability of Data and Material

All relevant data of this study are available to any interested researchers upon reasonable request to the corresponding author.

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