Specialty Career Preferences among Final Year Medical Students at School of Medicine, Makerere University College of Health Sciences, Uganda

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Abstract

Background: Uganda has an imbalanced distribution of the health workforce, which may be influenced by the specialty career preferences of medical students. In spite of this, there is inadequate literature concerning the factors influencing specialty career preferences. We aimed to determine the specialty career preferences and the factors influencing the preferences among fifth year medical students in the School of Medicine, Makerere University College of Health Sciences (MakCHS).

Methods: A sequential explanatory mixed methods study design with a descriptive cross-sectional study followed by a qualitative study was used. A total of 135 final year medical students in MakCHS were recruited using consecutive sampling. Self-administered questionnaires and three focus group discussions were conducted. Quantitative data was analysed in STATA version 13 (StataCorp, College Station, Tx, USA) using descriptive statistics, chi-square tests and logistic regression. Qualitative data was analysed in NVIVO version 12 (QRS International, Cambridge, MA) using content analysis.

Results: Of 135 students 91 (67.4%) were male and their median age was 24 years (IQR: 24, 26). As a first choice, the most preferred specialty career was obstetrics and gynecology (34/135, 25.2%), followed by surgery (27/135, 20.0%), pediatrics (18/135, 13.3%) and internal medicine (17/135, 12.6%). Non-established specialties such as anesthesia and Ear Nose and Throat (ENT) were not selected as a first choice by any student. Female students had 63% less odds of selecting surgical related specialties compared to males (aOR=0.37, 95%CI: 0.17-0.84). The focus group discussions highlighted controlled lifestyle, assurance of a good life through better financial remuneration and inspirational specialists as facilitators for specialty preference. Bad

experience during the clinical rotations, lack of career guidance plus perceived poor and miserable specialists were highlighted as barriers to specialty preference.

Conclusion. Obstetrics and Gynecology, Surgery, Pediatrics and Internal Medicine are well-established disciplines, which were dominantly preferred. Females were less likely to select surgical disciplines given the perceived effects on lifestyle by these disciplines for example interruption of family life. Therefore, a need to formulate career guidance and mentorship programs is required, to attract students to the neglected disciplines.

Key words: career, medical, preferences, specialty, student

Background

The World Health Organization (WHO) recommends a doctor to patient ratio of 2.3 doctors per 1000 people for adequate health care services (1). In spite of this, Africa has a doctor patient ratio at 2.5:10,000 which is low when compared to the WHO standard (2). This has resulted into uneven distribution of the health workforce within the various medical specialties (2). In Uganda, this uneven distribution of health workers can be demonstrated by the number of specialist doctors registered by the Uganda Medical and Dental Practitioners Council. Among the 2012 registered specialists by 2019, 386 (19.2%) were public health specialists, 376 (18.7%) were Pediatricians, 287 (14.3%) were Obstetrics and gynecology specialists, 230 (11.4%) were Internal medicine specialists and 185 (9.2%) were General surgeons (3). There are specialties that had less than 20 (1%) specialists including ENT, Emergency medicine, and Nutrition. It has been reported that the uneven distribution of the health workforce may occur as a result of specialty career preferences of medical students and their eventual choices of professional training (2, 4). Studies conducted in Asia showed that students usually preferred already established clinical specialties like Pediatrics, General Surgery, Internal Medicine and Obstetrics and Gynecology (5, 6). This pattern of preference can also be observed among medical graduates in Uganda as reflected in the admissions for post graduate programs in the past 10 years (7). This imbalance in the health workforce may potentially lead to inadequate services offered in health care delivery (4). Therefore, there is a need to attract medical students to the specialties with inadequate number of personnel so as to improve overall health care (2, 8, 9). The medical students' preferences for a particular clinical specialty is likely to be influenced by both individual and contextual factors (10). An understanding of the career preferences of medical undergraduates can perhaps help to provide important information that can be utilized

when planning educational programs. In addition, it can help to set priorities so as to foster the provision of adequate health care through training a wide range of specialists (10). However, there is insufficient literature concerning the factors that influence specialty career preferences of medical students not only in Uganda, but also in many resource-constrained countries. Therefore, this study was designed to determine specialty career preferences and the factors that influence these preferences among final year medical students at Makerere University College of Health Sciences (MaKCHS). Our study could provide important information to be used in setting priorities and planning educational programs so as to attract students to the less preferred specialties.

Methods

This study employed a sequential explanatory mixed study design (Quantitative followed by qualitative) so as to triangulate the sources of information. A quantitative cross-sectional study was conducted to determine the specialty career preferences while a qualitative study was conducted to determine the factors influencing these preferences. The study was conducted among final year medical students who had given written informed consent. Medical students in their final year were selected because they had adequate experience through medical school with satisfactory clinical experience. These students were also on the verge of entering the professional practice and had perhaps started reflecting upon the issue of specialty career preferences.

Quantitative component of the study

Regarding sample size determination, the entire population of 178 final year medical students was considered for the study, therefore, there was no need of sampling. Permission was obtained to access the list of registered fifth year medical students during the study period from the Principal of the College of Health Sciences, on submission of the ethical approval letter. The principal investigator (PI) worked with research assistants and class representatives to mobilize all the fifth years to participate in the research. The mobilization was done through messages, phone calls and verbal announcements to the various class groups. The students were gathered in a lecture room where a self-administered structured questionnaire was used to collect data from them regarding their specialty career preferences. The students were given 30 minutes to complete the questionnaires and hand them back to the research assistants.

The structured questionnaire included questions on the demographics of the participants, their specialty career preferences (first, second and third choices), willingness to practice medicine

and career guidance. The data was entered using Epidata and analysis done using STATA Version 13 (StataCorp, College Station, Tx, USA). Specialty career preferences were presented using frequencies, percentages and bar graphs. The first choice for specialty career preference was reported and compared across the socio-demographic variables using chi-square /Fisher's exact tests in order to determine if there is an effect of these variables on the preferences. Thereafter, odds of selection of surgical versus nonsurgical discipline for first choice were obtained using multivariable logistic regression.

Qualitative study component of the study

Following the quantitative arm of the study, the qualitative arm was carried out to explore the factors influencing specialty career preferences of medical students. The data collection and analysis was guided by the grounded theory. There were three Focus Group Discussions (FGDs) that were conducted in total. Two of these were homogenous groups (male and female) that comprised of direct entrants. Direct entrants are students who join medical school direct from their high school. Each of these two FGDs had 10 participants. The third FGD comprised of mature entrants who numbered 11 in total (6 males and 5 females). Mature entrants are students who join medical school to upgrade their qualifications from a Diploma to a degree. Participants for these FGDs were selected using purposive sampling and mobilized to a quiet place on the college premises where the study objectives and procedure were explained to them face-to-face. Written informed consent was obtained from the participants before commencement of the discussions. Permission to record the discussions using both audio and written means was also obtained from the participants.

The discussions were conducted by JK and DM who have expertise in qualitative methods and they lasted approximately one hour each. The discussions were conducted using pretested FGD guides that had semi-structured questions. The questions in the FGD guide aimed at obtaining data on the demographics of the participants, their experiences in the different specialty rotations, their most preferred specialty and the reasons that influenced this preference. There were no other students enrolled for the FGDs since data saturation had been attained by the third discussion. The audio-recorded responses were transcribed and analysed using Nvivo version 12 (QRS International, Cambridge, MA). Content analysis was subsequently carried out where data was coded by JK and DM after familiarization, followed by development of an index or conceptual framework of themes and sub-themes. JK then sorted the data by themes and synthesized to provide descriptive and explanatory summaries.

Permission to conduct this study was granted by the Research and Ethics Committee, School of Medicine, Makerere University (Protocol No: #REC REF 2019-045.). All participants provided written informed consent and anonymity of participants including their responses were ensured.

Results

The study was conducted between April and May 2019. There were 178 students registered final year medical students. However, 33 of these were not available at the university during the study period. Therefore, 145 medical students were eventually recruited into the study (Figure 1). Out of these, 135 students returned their questionnaires giving a response rate of 93%.

Background Characteristics of Fifth year Medical students at MakCHS

Out of the 135 medical students that participated in the study, 91(67.4%) were males and 44(32.6%) were females, giving a male to female ratio of 2:1. Their ages ranged between 21 years and 47 years, with a median of 24 (IQR: 24, 26). The demographic characteristics of the students are summarized in Tables 1 and 2.

Specialty Career Preferences among final year Medical students at MakCHS

Obstetrics and Gynecology was the most commonly preferred career as a first choice, with 34 (25.2%) students selecting it; followed by careers in Surgery, Internal Medicine and Pediatrics respectively as represented in Figure 2. Careers in Family Medicine, Anesthesia and ENT were not selected by any student. The “others” first choice category consisted of Business, Clinical epidemiology and Biostatistics, Forensic Medicine and voluntary medical work.

Obstetrics and Gynecology was still the most preferred second choice with 27 (20%) students selecting it. The “others” second choice category consisted of Nano medicine/ nuclear medicine and political science/public administration.

Pediatrics was the most preferred third choice with 22 (16.3%) students selecting it. The “others” third choice category consisted of Biogenetics science, health informatics and sports medicine.

The details of the various choices as selected by the students are illustrated in Figure 2.

Comparison of first choice specialty preference across the sociodemographic characteristics

The chi-square test at bivariable analysis demonstrated a relationship between the first choice and sex ($p = 0.04$), marital status ($p < 0.01$), having children ($p < 0.01$) and sponsorship ($p = 0.04$) (Table 3). On adjustment using multivariate logistic regression, sex was the only remaining factor with a statistically significant odds ratio (OR) (OR=0.37; 95%CI (0.17-0.84); $p=0.02$). Therefore, from this study, the female medical students are 63% less likely to select surgical disciplines as a specialty career preference compared to the male medical students. The results for the odds are shown in Table 4.

The female medical students were less likely to select surgical disciplines like Obstetrics and Gynecology and General Surgery when compared to their male counterparts (Figure 3).

Factors influencing specialty career preferences of the medical students

Three FGDs were conducted in May 2019 among 15 males and 16 females whose ages ranged from 21 to 35. The students were well distributed in terms of places of origin and different backgrounds with one foreign student included. Most of the students had a specialty career preference in mind at the time of the study.

Analysis of these FGDs revealed two major themes which are summarized in Table 5 with the key representative quotes from the students.

Theme 1: Facilitators of specialty career preference

The students selected various careers and based their preferences on the following influencing factors.

1. Presence of role models and mentors:

A key facilitator to selecting a specialty career preference among medical students was presence of role models and mentors as illustrated by a participant “... *She is not only a surgeon but also a mother. The way she takes you, she respects you even though you are an undergraduate. She is really good and really motivates you to think about more of surgery. Her surgeries are so clean*” (Mature entrant FGD). Presence of mentors is also very crucial since these mentors offer guidance for the student as they build their careers.

2. Organization in the department

Most of the students in the discussions mentioned that an organized department was a sure facilitator for selection of a career preference. A mature student also highlighted the importance of the organization of the discipline “*If you try to sample, most students will run away from departments like internal medicine and surgery and go to departments like pediatrics and obstetrics. When you look at those two departments, they have a good streamlined program. They try to bring out their lectures very well, associate with students very well, and evaluate well when compared to other departments.*” (Mature entrant FGD)

3. Controlled lifestyle:

Ability to have a controlled lifestyle also motivated students to select certain specialties. This controlled lifestyle means that one is able to balance between work, family, leisure and any other activities. A male student reflected this as “*I feel like psychiatrists have better working hours, surgeons are called in at 2am because a patient has gone into cardiac arrest or a mother has gone into labour.*” (Male FDG).

Other facilitators highlighted in the discussions included a positive or good experience during

clinical rotation, attitudes of the specialists in the discipline, assurance of a good life due to better financial remuneration, availability of job opportunities, family influence, media, and peer influence.

Theme 2: Barriers to selection of specialty career preference

1. Perceived poor and miserable specialists

The students' perception of the specialists to be poor and miserable is a major barrier to the selection of certain specialties "*...if I look at certain specialty and to me all the doctors look poor and miserable, the residents are broke and suffering...I am not inspired by all that knowledge they have.*" (Female FGD). Therefore most students tend to avoid specialties where it is assumed that there is a weight of challenges and financial difficulties attached.

The prolonged amount of time spent in training within a certain specialty compared to others is also a barrier. This was especially among female students who had a concern about settling and starting a family before they are too old as shown in this quote "*...well we have a biological clock to worry about...I will always go for shorter courses mainly in research with more money.*" (Mature entrant FGD).

2. Uncontrollable lifestyle attached to a career

The uncontrollable lifestyle of a specialty career is also a barrier in selection of certain careers since students want to be able to balance between life and work. There are some careers that are very demanding (especially surgical-related careers) and may not allow time for any other activities or for family "*Given the kind of mother I would like to be I may not be able to do emergency medicine; maybe because I have not got guidance from a successful emergency medicine specialist. But from what we see on TV, clearly you cannot take care of your kids and be an emergency medicine specialist.*" (Female FGD)

3. *Inadequate exposure during clinical rotations*

Inadequate exposure to a specialty during the clinical years may also be a barrier since a student may not be able to appreciate the various aspects of the discipline *“I think the challenge there is the duration we spend or the duration we are given. You cannot tell me to go to anesthesia for one week yet it is a 5 credit unit. I have to learn and understand because we are going to manage human beings.”* (Mature entrant FGD)

Other barriers to selection of specialty career preference include: Inadequate training methods used in delivering the curriculum, perceived high risk for mitigation cases, strict assessments given in a rotation, lack of career guidance, students' negative experience during clinical rotations.

Discussion

The purpose of this study was to determine the specialty career preferences among final year medical students at MaKCHS as well as to explore factors that influence career preferences.

From the findings of this study, Obstetrics and Gynecology, Surgery, Pediatrics and Internal Medicine were the major first choices selected by the students. This pattern was indeed reflected in the distribution of specialists among the medical personnel registered by the UMDPC (3).

These specialty careers have been shown to dominate students' choices within most medical schools (11). The findings are similar to those reported in other studies carried out in low resource countries (12, 13). However, they differ slightly from the findings reported in Japan where internal medicine was the most preferred specialty career (14).

Obstetrics and gynecology was the most preferred specialty career overall across the three choices selected by the students which can be explained by various factors highlighted during the

FDGs. The Obstetrics and Gynecology department had an extremely organized learning environment with very inspirational and motivating specialists who were willing to work with the students most of the time. The department also had lecturers who were willing to teach and ensure that the students were learning and attaining the stated outcomes.

Surgery and Internal medicine were selected by students due to the perceived financial rewards attached to these careers that leads to assurance of living a good life. These careers could have also been selected by students who are driven by passion (15) or are motivated by the prestige attached to these specialties (16). In spite of the fact that these two careers were selected among the top four, some students were strongly against selecting them as a preference. This was due to the inadequate organization and unsatisfactory teaching styles used by these departments.

There was a media influence in selection of internal medicine as a preferred career. Watching certain medical series on television like *House* inspired some of the students to become internal medicine specialists. *House* is an American medical drama whose main character leads a team of diagnosticians at a fictional hospital in New Jersey. Internal medicine may also be preferred due to the complex intellectual content required in the process of diagnosis(16).

Some specialties were not selected by the students as first choice such as Anesthesia, ENT and Family Medicine. This finding is in resonance with findings in a study conducted in Jordan (17). The possible explanation for this could be seen through the views of the students during the FDGs. The students seemed to allude to the fact that they had limited exposure to some of these disciplines, for instance one week of rotation in anesthesia. The assessment processes in some of these disciplines could also have played out as key factors. For example the students also mentioned that the assessments done were very strict and difficult which left them with low marks that are a barrier to selection of these careers as a first choice. However, these findings are

contrasted by findings in a study conducted in British Columbia where Family Medicine was the most preferred specialty career due ready availability of jobs for these specialists (15). In Uganda, medical students during undergraduate training have limited exposure to the Family Medicine and there are also limited job opportunities within the Uganda Health service Commission (18). Therefore, students are probably not motivated enough to select Family Medicine a first choice specialty career.

Within the specialty careers categorized as others, some students wanted to pursue non-medical careers as a first choice. One of the careers related to starting up a business in order to obtain an income to sustain family and other financial needs. These findings are in agreement with those reported in a study carried out in Kenya where a proportion of the students selected non-medical careers including business, law and music (16).

About 2.5% of the students were not yet decided on the preferred specialty career. This could be due to lack of adequate career guidance, which is supported by the fact that only 51(62.2%) of the students had ever received any form of career guidance. In spite of this, the students in the FGDs showed that there was a need for career guidance and mentorship programs. However, this proportion is low when compared to findings in a study done by Maseghe et al where they found that 15.1% of the students had not yet identified their future specialty career path (16).

There was a significant difference in the way males and females selected their specialty preferences. The most preferred specialty among male students was Obstetrics and Gynecology followed by Surgery, pediatrics and Internal medicine. Among female respondents, both Obstetrics and Gynecology and internal medicine tied for the preferred first choice of specialty, followed by pediatrics which is similar to a study done in Jordan (17). This however is very different from that carried out in Kenya where females chose Pediatrics as their first choice

(40.0%) followed by Surgery (28.0%) (16) and a study in Bangladesh where the internal medicine and pediatrics were top choices among females (10).

For the males in this study, both obstetrics and Gynecology and Surgery were highly chosen for the most preferred first choice of specialty, followed by pediatrics and internal medicine. This is similar to the finding in Kenya where most male students chose Surgery (40.0%) followed by Internal Medicine (15.0%) (16) . The high proportion of males choosing Obstetrics and Gynecology is similar to what was seen in a study in Nigeria (19) where Obstetrics and Gynecology was their top surgical choice by the students. Therefore there is a high tendency for males to select surgical disciplines. This pattern of males being drawn to surgical disciplines and the females being drawn to medical disciplines can be explained by the qualitative findings where most females expressed that they wanted a controllable lifestyle to be able to balance work and other areas of life like family responsibility while the males did not mind having an uncontrolled lifestyle as long as the career came with prestige.

Strengths of the study

This study employed a mixed methods design where the qualitative component was used to complement and explain the quantitative results. This provided a more detailed explanation to the various preferences for specialty careers by the medical students.

This study addressed specialty career preferences among final-year medical students in Uganda and it yielded important findings, which can be used to plan for future, more comprehensive cohort studies following up the students from the medical school to the actual time they choose the specialties. The findings will impact the way in which institutions train their students so as to prepare them for selection of careers to avoid imbalance in the health workforce.

Limitations

The results of this study may be viewed in the context of the following limitations. The specialty career preference was measured at one point in time yet literature suggests that the choice does not remain stable over the course of medical education and medical practice after undergraduate study. The preferences may be refined over the internship period or the time they start practicing as licensed doctors. Some students may not have developed a preference for any specialty by the time of the study and may have given speculative information. However, this was minimized by selecting medical students in their final year who had been exposed to the various specialties during their clinical rotations.

The study was conducted in only one medical school within MakCHS therefore the results may not be generalizable to the entire country since the various universities are in different settings. In spite of this, Makerere University has the biggest intake of medical students compared to other public universities.

Conclusion

The most preferred specialty career among the fifth year medical students was Obstetrics and gynecology. The other top overall careers selected include pediatrics, surgery and internal medicine. There were career options that were not selected as a first choice including anesthesia and ENT due to limited exposure.

The factors influencing the specialty career preferences include gender where males preferred the surgical disciplines compared to females who preferred the medical disciplines that could allow them to balance work and family life. Other factors facilitating career preferences included controlled lifestyle preference, assurance of good life, inspirational specialists. The barriers for selection of some specialty careers included bad experience in clinical rotations, lack of guidance, perceived poor and miserable specialists.

The findings of this study have several implications on proper distributions of specialists across disciplines thus the following recommendations are suggested. There should be improved planning of the curriculum within all the clinical disciplines to improve students' experiences and foster their exposure to the various specialty career options. Strong programs for career guidance and mentorship should be put in place to ensure that students make a well informed decisions in selection of their preferred careers. Further research is required in form of a follow up study among students from undergraduate through post graduate to post-education phase in order to determine the factors associated with the eventual specialty career choices.

List of Abbreviations

ENT	Ear Nose and Throat
FDG	Focus Group Discussion
DRGT	Directorate of research and graduate training
MakCHS	Makerere University College of Health Sciences
MOH	Ministry of Health
PI	Principal Investigator
UMDC	Uganda Medical and Dental Council
WHO	World Health Organisation

Declarations

Ethics approval and consent to participate

Ethical approval was obtained from the School of Medicine Research and Ethics Committee (SOMREC) with protocol number #REC REF 2019-045. Written informed consent was obtained from all study participants and their willingness to participate was emphasized and they were free to withdraw from the study at any time. All data collected was kept securely in a password protected computer, and the physical data under lock and key. Confidentiality was maintained by restricting access to study data to only the investigators, and not using specific name identifiers in the data sets.

Consent for publication

Not applicable

Availability of data and materials

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

JK, SK, VM, RO, IGM, AGM, MD participated in the conception, study design, data analysis and manuscript preparation. JK and MD participated in data collection including conducting of the FGDs. All authors read and approved the final manuscript.

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Appendix

Table 1. A table showing the socio-demographic characteristics of fifth year medical students in MakCHS during the academic year 2018/2019.

Variable	Frequency (N=135)	Percentage
Age (n=134)		
21-24 years	70	52.2
≥25 years	64	47.8
Sex		
Male	91	67.4
Female	44	32.6
Nationality		
Ugandan	130	96.3
Non Ugandan	5	3.7
Religion (n=134)		
Anglican	41	30.6
Pentecostal	37	27.6
Catholic	37	27.6
Moslem	11	8.2
Others ¹	8	6.0
Place of Origin (n=133)		
Central Uganda	118	88.7
Western Uganda	4	3.0

Eastern Uganda	8	6.0
Northern Uganda	3	2.3
Marital Status		
Single	121	89.6
Married	14	10.4
Have Children		
No	118	87.4
Yes	17	12.6
Sponsorship		
Government	72	53.3
Private	63	46.7

Other religions include: Hindu=1, Seventh day Adventist=3 and No religion=4.

Table 2. A table with a continuation of the socio-demographic characteristics of the MakCHS fifth year medical students during the 2018/2019 academic year

Variable	Frequency(n)	Percentage (%)
Father's level of education		
None	4	3.0
Primary	17	12.6
Secondary	24	17.8
Tertiary	90	66.7
Mother's level of education		
None	9	6.7
Primary	23	17.0

Secondary	33	24.4
Tertiary	70	51.8
Ever received career guidance counseling		
Yes	84	37.8
No	51	62.2
Want a workshop on career or specialty counseling before internship		
Yes	124	91.9
No	11	8.2

Table 3. Specialty career preferences (first choice) based on the demographic characteristics

Variable	Overall (N=135)	Obs & Gyn (n=34)	Surgery (n=27)	Internal medicine (n=18)	Pediatrics (n=17)	Others (n=39)	Chi- square/Fisher's value
Age (n=134)							
21-24 years	70	12(17.1)	15(21.4)	10(14.3)	9(12.9)	24(34.3)	0.22
≥25 years	64	22(34.4)	12(18.8)	7 (10.9)	8(12.5)	15(23.4)	
Sex							
Male	91	26(28.6)	23(25.3)	10(11.0)	11(12.1)	21(23.1)	0.04*
Female	44	8(18.2)	4(9.1)	8(18.2)	6(13.6)	18(40.9)	
Religion (n=134)							
Anglican	41	11(26.8)	7(17.1)	6(14.6)	6(14.6)	11(26.8)	0.57
Pentecostal	37	7(18.9)	8(21.6)	6(16.2)	5(13.5)	11(29.7)	
Catholic	37	10(27.0)	7(18.9)	6(16.2)	3(8.1)	11(29.7)	
Moslem	11	4(36.4)	-	-	3(27.3)	4(36.4)	
Others ¹	8	2(25.0)	4(50.0)	-	-	2(25.0)	
Place of Origin (n=133)							
Central Uganda	118	29(24.6)	23(19.5)	17(14.4)	14(11.9)	35(29.7)	0.30
Western Uganda	4	2(50.0)	-	1(25.0)	1(25.0)	-	
Eastern Uganda	8	2(25.0)	-	-	2(25.0)	4(50.0)	
Northern Uganda	3	1(33.3)	2(66.7)	-	-	-	
Marital Status							
Single	121	24(19.8)	25(20.7)	18(14.9)	17(14.1)	37(30.6)	<0.01*

Married	14	10(71.4)	2(14.3)	-	-	2(14.3)	
Have Children							
No	118	24(20.3)	23(19.5)	18(15.3)	17(14.4)	36(30.5)	<0.01*
Yes	17	10(58.8)	4(23.5)	-	-	3(17.7)	
Sponsorship							
Government	72	15(20.8)	16(22.2)	11(15.3)	14(19.4)	16(22.2)	0.04*
Private	63	19(30.2)	11(17.5)	7(11.1)	3(4.8)	23(36.5)	

¹ Other religions include: Hindu=1, Seventh day Adventist=3 and No religion=4.

Table 4. A table showing the odds of selecting a surgical discipline (surgery and obstetrics/gynecology) as a first choice preference among the fifth year medical students in MakCHS.

Variable	Specialty career preference N(%)		Adjusted OR	95% CI	p value
	Non-surgical specialty	Surgical specialty			
Sex					
Male	42 (46.15)	49(53.85)	1		
Female	32(72.73)	12(27.27)	0.37	0.17 - 0.84	0.02*
Marital status					
Single	72(59.50)	49(40.50)	1		
Married	2(14.29)	12 (85.71)	3.73	0.58 - 24.00	0.17
Having Children					
No	71(60.17)	47(39.83)	1		
Yes	3(17.65)	14(82.35)	2.87	0.58 - 14.08	0.2

Table 5. Representative quotations of major themes identified from FGDs among the fifth year medical students at MakCHS

Major theme	Sub theme	Representative quote
Facilitators for students' specialty career preferences	1. Controlled lifestyle preference	<i>"I feel like psychiatrists have better working hours, surgeons are called in at 2am because a patient has gone into cardiac arrest or a mother has gone into labour."</i> (Female FGD)
	2. Assurance of a good life	<i>"I think all of us would want to go to those specialties, even the trivial ones. As long as a good life is guaranteed we would like to serve."</i> (Male FGD)
	3. Inspirational specialists	<i>"Dr. Y* makes you feel like you are on the same level with her. If you do not know the answer Y says "Let us google". Dr Y does not make you feel like you are stupid or so inefficient..."</i> (Female FGD)
Barriers to students' specialty career preferences	1. Inadequate exposure	<i>"I think the challenge there is the duration we spend or the duration we are given. You cannot tell me to go to anesthesia for one week yet it has 5 credit units. I have to learn and understand because we are going to manage human beings."</i> (Mature entrant FGD)
	2. Lack of career guidance	<i>"So yes I have never thought of it as a career choice because no one ever put it forth and showed us how good it can be."</i> (Male FGD).

	3. Perceived poor and miserable specialists	<i>“...I could not consider the specialty because according to me, those people do not look happy. The way I see them, I would not want to be like them.” (Males FDG)</i>
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*Name withheld for confidentiality reasons.