

Career preferences of final-year medical students in south-west Nigeria.

Preferências de carreira entre graduandos de medicina no sudoeste da Nigéria

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Abstract

Medical students have many different options of academic and professional undertakings after graduation. The aim of this study is to determine the career preferences of students in their final year of medical school and to determine the factors that contributed for such decision. This is a descriptive cross-sectional study involving the final-year medical students of Afe Babalola University, Ekiti State, Nigeria. A well-structured questionnaire was used for data collection. The data was analysed using the Statistical Package for the Social Sciences (SPSS) version 21.0. Descriptive statistics included frequency tables, charts, means and standard deviations. A total number of 100 final-year medical students participated in the study, out of which 29 (29.0%) were males and 71 (71.0%) were females, with a male to female ratio of 0.4 to 1. The age range of the respondents was 21 to 30 years, with a mean(SD) of 23.5(1.4). 72% of the respondents planned to pursue a postgraduate academic qualification after graduating from medical school, mostly in the United Kingdom, and a Master of Public Health was the most sought qualification. Similarly, 76% of the respondents planned to pursue a postgraduate medical fellowship after medical school, also mostly in the United Kingdom. The specialty most sought-after is Obstetrics and Gynaecology (43%), followed by Surgery (40%), Family Medicine (34%), Community Medicine (33%), Paediatrics (25%), and Internal Medicine (23%) while the least sought-after specialty is Chemical pathology (28%), followed by Medical Microbiology (27%) and Morbid Anatomy (24%). The most important factor considered by the respondents in choosing a particular specialty is their personal interest in that specialty,

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followed by financial prospects, comfortable lifestyle, and flexible working hours. Master of Public Health degree and postgraduate fellowship in Obstetrics and Gynaecology specialty are the career preferences for most of the final-year medical students in this study, and this is largely informed by their personal interest in these fields.

Key words: Medical students; Final year; Career preferences; Post-graduation; Nigeria.

Resumo

Estudantes de medicina possuem diferentes opções de trajetórias acadêmicas ou profissionais após a graduação. Este estudo busca determinar as preferências de carreira entre graduandos de medicina e os fatores que contribuem para tal decisão. Pesquisa descritiva e transversal foi realizada com graduandos de medicina da Afe Babalola University, localizada em Ekiti State, Nigéria. Dados foram coletados por um questionário bem estruturado e analisados usando SPSS versão 21.0. A estatística descritiva inclui tabelas de frequência, gráficos, médias e desvios padrão. Um total de 100 graduandos participaram do estudo, dos quais 29 (29,0%) homens e 71 (71,0%) mulheres, com relação homem/mulher de 0,4 para 1. A faixa etária dos participantes foi de 21 a 30 anos, com média (\pm SD) de 23,5 (\pm 1,4). Do total de participantes, 72% planejavam ingressar na pós-graduação após a faculdade de medicina, a maioria no Reino Unido, sendo o mestrado em Saúde Pública a qualificação de maior interesse. Da mesma forma, 76% dos entrevistados planejavam buscar uma bolsa de pós-graduação após a faculdade, também em sua maioria no Reino Unido. A especialidade mais procurada é Obstetrícia e Ginecologia (43%), seguida por Cirurgia (40%), Medicina de Família (34%), Medicina Comunitária (33%), Pediatria (25%) e Medicina Interna (23%), enquanto a especialidade menos procurada é Patologia Química (28%), seguida por Microbiologia Médica (27%) e Anatomia Mórbita (24%). O principal fator considerado para esta escolha é o interesse pessoal pela especialidade, seguido por perspectivas financeiras, estilo de vida confortável e horário de trabalho flexível. Mestrado em Saúde Pública e especialização em Obstetrícia e Ginecologia

são as carreiras mais buscadas por graduandos de medicina, escolha majoritariamente pautada em seus interesses pessoais.

Palavras-chave: Estudantes de medicina; Último ano; Preferências de carreira; Pós-graduação; Nigéria.

Introduction

Medical students have many different options for academic and professional undertakings after graduation. These options can be loosely categorized into two paths. The first option is the postgraduate academic qualification, while the second option is the postgraduate specialist qualification. According to Kaur et al. (2014) and Burkhardt, Desjardins, and Gruppen (2021) it is also possible to pursue both qualifications in succession or simultaneously. The choice of which path to follow is entirely that of the students, although they can be guided into making that choice.

There are many clinical specialties medical students can choose from; they range from specialties in basic medical sciences to clinical sciences, which can be surgical based or non-surgical (medical) based specialties. Compton et al. (2008), states that the major core areas of specialization include Surgery, Internal medicine, Paediatrics, and Obstetrics & Gynaecology, with various areas of sub-specializations.

Querido et al. (2018), Abdulrahman et al. (2016), and Saigal et al. (2007) agreed that several factors can influence medical student's choice in specialty. Medical students might choose a specific specialty due to a genuine interest in that field or due to influence of family members or friends. Alawad et al. (2015), Abdulghani et al. (2015), and Indyk et al. (2011) reported that they can also be influenced by an advice from career counsellors or by an admired mentor.

Saigal et al. (2007) reported that medical career preferences are also linked to the medical school curriculum which differs from country to country. Maiorova et al. (2008) and Chang, Odrobina, and Seltman (2010) stated that the time students spend in various courses or posts within the different departments varies, and there is a tendency for students to be more involved and interested in specialties they spent more time with than those they spent less time. Pawelczyk et al. (2019) and Gennissen et al. (2021)

reported that other factors that may influence medical student's choice in specialty include the attractiveness and societal regard toward the specialty, gender preference, possibility of private practice, and interest in research and teaching.

The decision on a career choice is reached by medical students at different times during their academic pursuit. Oche et al. (2013) observed that some already have a preferences even before applying to study Medicine, but most tend to change their choices during the course of their programme as they pass through the various clinical rotations. Madu et al. (2014) submitted that a final decision is often reached by the medical students in their final year or even during internship.

Medical students are the future physician workforce of a nation; therefore, their specialty preferences will determine the composition of that workforce. Career guidance of medical students, healthcare planning, and policy formulation are measures that can be used to meet the demands of a nation's healthcare.

In resource-poor settings with low doctor-population ratio, there is a need for equitable distribution of the limited healthcare workforce across various specialties. According to the World Health Organization (2008; 2013), in Nigeria, there are 4 doctors per 10,000 people. This is very low when compared with developed countries such as the United Kingdom, which has a ratio of approximately 30 doctors per 10,000 people. the healthcare workforce in Nigeria needs a significant improvement to ensure that specialists are available across a variety of fields.

The aim of this study is to determine the career preferences of final-year medical students and to determine the factors that contribute towards their decision. Understanding the factors that influence the choice in specialty enables workforce planning to meet local and national healthcare demands. There is paucity of data on this subject among Nigerian medical students; thus, the findings from this study will provide the needed information which stakeholders (career counsellors, healthcare workforce employers, and policy makers) can use for professional career guidance and healthcare planning.

Methodology

Study design

This is a descriptive cross-sectional study.

Study location

The study was conducted at the College of Medicine, Afe Babalola University, Ekiti State (FETHI Campus), in south-west Nigeria.

Study population

The study was conducted among the final-year (600 level) medical students of Afe Babalola University, Ekiti State, Nigeria. The study was conducted between October 2021 and November 2021.

Data collection

A well-structured questionnaire was used for the study for data collection. The questionnaire was initially pre-tested; after making the appropriate adjustments and modifications based on the results from the pre-test, the final copy of the adjusted questionnaire was used for this study.

Data Analysis

The data obtained was analysed using the Statistical Package for the Social Sciences (SPSS) version 21.0 computer software package (SPSS Chicago Inc. IL U.S.A). The descriptive statistics used included frequency tables, charts, and means and standard deviations.

Results

In total, 100 final-year (600 level) medical students of Afe Babalola University Ado-Ekiti participated in the study; 29 males (29.0%) and 71 females (71.0%), with a male to female ratio of 0.4 to 1 (Table 1). There were a total of 104 students in that class, but 100 students consented to participate in the study, resulting in a participation rate of 96.1%. The age of the respondents ranged from 21 to 30 years with a mean(\pm SD) of 23.5(\pm 1.4).

Table 1 – Respondents' background information.

Characteristic	Frequency (N = 100)	Percentage (%)	p-value
Age (in years)			0.001
21 – 24	87	87.0	
25	13	13.0	
Mean age SD	23.5 ± 1.4		
Age range (min – max)	21 – 30		
Sex			0.001
Male	29	29.0	
Female	71	71.0	
Mode of entry			0.001
Regular	84	84.0	
Change of course	12	12.0	
Direct entry	4	4.0	
Previous qualification			0.001
SSCE	94	94.0	
BSc	5	5.0	
MSc	1	1.0	
Have any relative in the medical field			
Yes	54	54.0	
No	46	46.0	
Relationship of the relative in medical field			
Father	14	14.0	
Cousin	12	12.0	
Mother	9	9.0	
Uncle	9	9.0	
Aunt	4	4.0	
Sister	4	4.0	
Brother	2	2.0	
No one	46	46.0	
Nature of his/her job			
Doctor	40	40.0	
Non-doctor	14	14.0	
None	46	46.0	

Note: BSc: Bachelor of Science; MSc: Master of Science; SD: Standard Deviation; SSCE: Senior School Certificate Examination.

Among the participants, 5% already had a first degree (BSc), while 1% had a second degree (MSc) already before studying medicine. 40% of the respondents have a family member who is a medical doctor, while 14% of the respondents have family members who are healthcare workers but not doctors (Table 1). 72% of the respondents planned to pursue a postgraduate academic qualification after graduating from medical school, mostly in the United Kingdom, and a Master of Public Health was the most sought qualification (Table 2). Similarly, 76% of the respondents planned to pursue a postgraduate medical fellowship after medical school, also mostly in the United Kingdom (Table 3).

The specialty most sought-after is Obstetrics and Gynaecology (43%), followed by Surgery (40%), Family Medicine (34%), Community Medicine (33%), Paediatrics (25%), and Internal Medicine (23%), whereas the least sought-after specialty is Chemical pathology (28%), followed by Microbiology (27%) and Morbid Anatomy (24%) (Tables 4 and 5).

The most important factor considered by the respondents when choosing a particular specialty is their personal interest in that specialty, followed by financial prospects, comfortable lifestyle, and flexible working hours. Having a family member in the same specialty was not considered an important factor when deciding on a specialty (Table 6). Most of the respondents (65.0%) believe that it is at the end of the internship training that an individual would be able to clearly decide on a specialty of interest (Figure 1).

We observed no significant relationship between the respondents' demographics and their plan to pursue a postgraduate academic qualification (Table 7). However, we noticed a significant relationship between the gender of the respondents who intend to pursue a postgraduate medical fellowship; in which males were more likely to choose this path than females ($p = 0.001$). Other demographic variables were not statistically significant (Table 8).

Table 2 – Respondents' plan to do a postgraduate degree after MBBS.

Respondent's postgraduate degree plans	Frequency (N = 100)	Percentage (%)	p-value
Planning to do a postgraduate degree			0.001
Yes	72	72.0	
No	13	13.0	
Not sure	15	15.0	
Preferred place, if YES (n = 72)			
Nigeria	2	2.8	
Abroad	61	84.7	
Not sure	9	12.5	
Preferred country, if abroad (n = 61)			
United Kingdom	31	50.8	
Canada	16	26.2	
United States	6	9.8	
Australia	3	4.9	
Other parts of Europe	3	4.9	
Not sure	2	3.3	
Preferred postgraduate degree, if YES (n = 72)			continua...

Table 2 – Continuação.

Respondent's postgraduate degree plans	Frequency (N = 100)	Percentage (%)	p-value
MPH	31	43.1	
PhD	16	22.2	
MSc	6	8.3	
MBA	4	5.6	
PgD	2	2.8	
Not sure	13	18.1	

Note: MBA: Master of Business Administration; MBBS: Bachelor of Medicine and Bachelor of Surgery; MPH: Master of Public Health; MSc: Master of Science; PgD: Postgraduate Diploma; PhD: Doctor of Philosophy.

Table 3 – Respondents' plan to do a postgraduate residency after MBBS.

Respondent's postgraduate residency plans	Frequency (N = 100)	Percentage (%)	p-value
Planning to do a postgraduate fellowship			0.001
Yes	76	76.0	
No	6	6.0	
Not sure	18	18.0	
Preferred place, if YES (n = 76)			
Nigeria	9	11.8	
Abroad	53	69.7	
Not sure	14	18.5	
Preferred country, if abroad (n = 53)			
United Kingdom	19	35.8	
Canada	17	32.1	
United States	6	11.3	
Australia	4	7.5	
Other parts of Europe	5	9.4	
Not sure	2	3.8	
Reasons, if NO (n = 6)			
Not just interested	3	50.0	
I don't like working in hospital environment	1	16.7	
It is too stressful	1	16.7	
I now see better opportunities	1	16.7	

Note: MBBS: Bachelor of Medicine and Bachelor of Surgery.

Table 4 – Respondents’ three most preferred choices of medical specialty.

Specialty	Frequency (N = 100)	Percentage (%)
Three specialties you are MOST likely to choose*		
Obstetrics & Gynaecology	43	43.0
Surgery	40	40.0
Family medicine	34	34.0
Community Medicine	33	33.0
Paediatrics	25	25.0
Internal Medicine	23	23.0
Psychiatry	17	17.0
Emergency Medicine	11	11.0
Orthopaedics	10	10.0
Ophthalmology	10	10.0
Anaesthesia	7	7.0
Forensic Medicine	7	7.0
Haematology	6	6.0
ENT (Ear, Nose, and Throat)	4	4.0
Pathology (Morbid Anatomy)	4	4.0
Geriatric medicine	3	3.0
Nuclear medicine	3	3.0
Radiology	2	2.0
Chemical pathology	1	1.0
Medical Microbiology	1	1.0
Radiotherapy	1	1.0
Not sure	15	15.0

*Multiple choices

Table 5 – Respondents’ three least preferred choices of medical specialty.

Specialties	Frequency (N = 100)	Percentage (%)
Three specialties you are LEAST likely to choose		
Chemical pathology	28	28.0
Medical Microbiology	27	27.0
Pathology (Morbid Anatomy)	24	24.0

continua...

Table 5 – Continuação.

Specialties	Frequency (N = 100)	Percentage (%)
ENT (Ear, Nose, and Throat)	20	20.0
Orthopaedics	20	20.0
Internal Medicine	19	19.0
Geriatric medicine	18	18.0
Nuclear medicine	18	18.0
Paediatrics	16	16.0
Radiotherapy	16	16.0
Psychiatry	14	14.0
Obstetrics & Gynaecology	12	12.0
Community Medicine	11	11.0
Forensic Medicine	11	11.0
Surgery	9	9.0
Radiology	8	8.0
Anaesthesia	7	7.0
Haematology	6	6.0
Ophthalmology	6	6.0
Emergency Medicine	4	4.0
Family medicine	3	3.0
Not sure	3	3.0

*Multiple choices

Table 6 – Respondents' three least preferred choices of medical specialty.

Variable	Frequency (N = 100)	Percentage (%)
Three specialties you would LEAST likely choose		
Chemical pathology	28	28.0
Medical Microbiology	27	27.0
Pathology (Morbid Anatomy)	24	24.0
ENT (Ear, Nose & Throat)	20	20.0
Orthopaedics	20	20.0
Internal Medicine	19	19.0
Geriatric medicine	18	18.0

continua...

Table 6 – Continuação.

Variable	Frequency (N = 100)	Percentage (%)
Nuclear medicine	18	18.0
Paediatrics	16	16.0
Radiotherapy	16	16.0
Psychiatry	14	14.0
Obstetrics & Gynaecology	12	12.0
Community Medicine	11	11.0
Forensic Medicine	11	11.0
Surgery	9	9.0
Radiology	8	8.0
Anaesthesia	7	7.0
Haematology	6	6.0
Ophthalmology	6	6.0
Emergency Medicine	4	4.0
Family medicine	3	3.0
Not sure	3	3.0

*Multiple choices

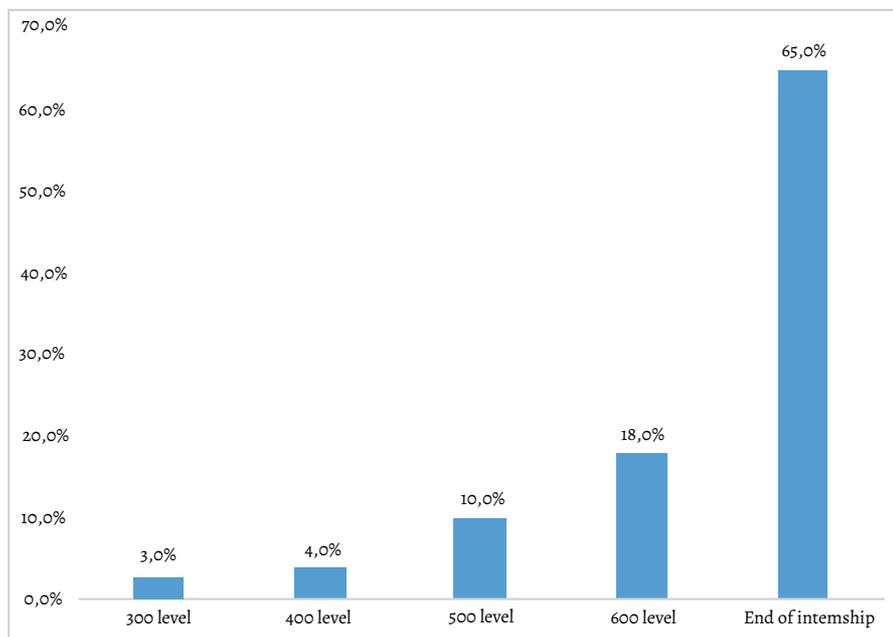


Figure 1 – Respondents' perceived stage that an individual would be able to finally decide on a medical specialty of interest.

Table 7 – Relationship between respondents’ background information and their plan to do a postgraduate degree.

Characteristic	Plan to do a postgraduate degree			
	Yes n (%)	No/Not sure n (%)	Chi square	p-value
Age (in years)				0.277
21 – 24	61 (70.1)	26 (29.9)	1.180	
25	11 (84.6)	2 (15.4)		
Sex				0.666
Male	20 (69.0)	9 (31.0)	0.187	
Female	52 (73.2)	19 (26.8)		
Mode of entry				0.261
Regular	58 (69.0)	26 (31.0)	2.683	
Change of course	11 (91.7)	1 (25.0)		
Direct entry	3 (75.0)	1 (25.0)		
Previous qualification				0.255
SSCE	68 (72.3)	26 (27.7)	2.736	
BSc	4 (80.0)	1 (20.0)		
MSc	0 (0.0)	1 (100.0)		
Relative in the medical field				0.617
Yes	40 (74.1)	14 (25.9)	0.250	
No	32 (69.6)	14 (30.4)		
Nature of their job				0.497
Doctor	28 (70.0)	12 (30.0)	1.400	
Non-doctor	12 (85.7)	2 (14.3)		
None	32 (71.1)	13 (28.9)		

Note: BSc: Bachelor of Science; MSc: Master of Science; SSCE: Senior School Certificate Examination.

Table 8 – Relationships between respondents’ background information and their plan to do a postgraduate fellowship.

Characteristic	Plan to do a postgraduate fellowship			
	Yes n (%)	No/Not sure n (%)	Chi square	p-value
Age (in years)				0.140
21 – 24	64 (73.6)	23 (26.4)	2.179	
25	12 (92.3)	1 (7.7)		

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Table 8 – Continuação.

Characteristic	Plan to do a postgraduate fellowship			p-value
	Yes n (%)	No/Not sure n (%)	Chi square	
Sex				0.010
Male	27 (93.1)	2 (6.9)	6.551	
Female	49 (69.0)	22 (31.0)		
Mode of Entry				0.182
Regular	61 (72.6)	23 (27.4)	3.404	
Change of course	11 (91.7)	1 (8.3)		
Direct entry	4 (100.0)	0 (0.0)		
Previous qualification				0.365
SSCE	70 (74.5)	24 (25.5)	2.016	
BSc	5 (100.0)	0 (0.0)		
MSc	1 (100.0)			
Relative in the medical field				0.985
Yes	41 (75.9)	13 (24.1)	0.000	
No	35 (76.1)	11 (23.9)		
Nature of their job				0.941
Doctor	30 (75.0)	10 (25.0)	0.121	
Non-doctor	11 (78.6)	3 (21.4)		
None	35 (77.8)	10 (22.2)		

Note: BSc: Bachelor of Science; MSc: Master of Science; SSCE: Senior School Certificate Examination.

Discussion

The participation rate in this study was quite high (96.1%) when compared with similar studies in Nigeria and internationally (Ossai et al. 2016; Alawad et al. 2015). In this study, the total number of females in the final-year class was significantly higher than that of males, with a ratio of 1 to 0.4. This is in contrast to other Nigerian medical schools in which males were predominant (Ossai et al. 2016; Asani; Gwarzo; Gambo, 2016).

The mean age of the final-year medical students in this study is much lower than that of other studies (Adeleye; Eze, 2010). This could be due to the fact that this study was conducted among

students attending a private medical school, where the academic calendar and curriculum is strictly followed, without interruptions. Public universities in Nigeria have frequent disruptions in their academic calendar as a result of frequent strikes by university lecturers, mostly due to non-payment of salaries and poor funding of the universities. These frequent disruptions prolong the academic programmes and causes longer stay of students.

The respondents in this study are generally interested in both postgraduate academic qualifications and postgraduate specialist (fellowship) qualifications. This shows that the students are fully aware of the importance and benefits of postgraduate studies to earn additional qualifications for their career progression, access

to greater opportunities, boost their relevance both in academia and medical practice, and to measure up with their peers internationally.

Notably, they prefer to pursue their postgraduate career abroad, with United Kingdom being their country of choice, followed by Canada and the United States (Compton et al. 2008). This could be due to the higher quality of education and training obtainable in these highly developed countries as well as the better job and advanced career opportunities they can offer. The higher preference for the United Kingdom may be due to the fact that the entry requirements into their postgraduate programmes are much more achievable than the others by the Nigerian medical graduates. Other potential factors that may be responsible for their preference in the United Kingdom may be due to the lesser demanding financial requirements and travel requirements, such as obtaining a travel visa, among other possible reasons.

In this study, the top five specialties of interest for most of the respondents are Obstetrics & Gynaecology, Surgery, Family Medicine, Community Medicine, and Paediatrics; whereas the least three specialties of interest are Chemical pathology, Medical Microbiology, and Morbid Anatomy. This suggests that the students are more interested in the core clinical specialties than the non-clinical (laboratory-based) specialties. Furthermore, this results also suggests that the students are more interested in the surgery-based specialties than the medicine-based specialties. The findings from this study are similar to other studies on the subject matter, in Nigeria and internationally.

Ossai et al. (2016) conducted a cross-sectional study on specialty preference among final-year medical students from six medical schools in southeast Nigeria, they reported that the five most preferred specialties among the students were Surgery (24.0%), Paediatrics (18.8%), Obstetrics and Gynaecology (15.6%), Internal Medicine (11.0%), and Community Medicine (6.8%); whereas Pathology (2.0%), Anaesthesia (0.7%), and Ear, Nose, and Throat (0.2%), were the least preferred. Similarly, Asani et al. (2016), in a cross-sectional study of 71 final-year medical students from an institution in northern Nigeria, reported that the core clinical

specialties accounted for 70.3% of the first choice among respondents: Obstetrics and Gynaecology (28.5%), Surgery (20.9%), Internal Medicine (11.9%), and Paediatrics (9%). None of the students chose Pathology, Microbiology, Family Medicine, or Ear, Nose, and Throat as the first choice. The major reasons given for the choice of future career are personal interest and a better outcome for patients. Furthermore, Adeleye and Eze (2010), in a study conducted in the middle-belt region of Nigeria, reported that the specialty preferences of final-year medical students included: Surgery (50.7%), Obstetrics and Gynaecology (43.9%), Paediatrics (20.6%), Community Health (17.6%), and Adult Medicine (14.5%). The major influencing factors were personal interest (67.2%), potential for high income (22.0%) and perceived benefit to the society (14.9%).

Alawad et al. (2015), in Sudan, reported that Surgery, Medicine, Paediatrics, and Obstetrics and Gynaecology were the most selected specialties. The least selected specialty was Anaesthesiology. The most common reason for choosing a specific specialty was "Personal Interest" (39.7%), followed by being "Helpful to the community" (26.6%). Also, Abdulrahman et al. (2016), in a multiyear multicentre survey of medical student career choice conducted in all five medical schools in the United Arab Emirates (UAE), reported that most students (60%) preferred Internal Medicine, Surgery, Emergency Medicine, or Family Medicine. The most common reason given for choosing a particular specialty was personal interest (21%), followed by flexibility of working hours (17%). Additionally, Zarkovic, Child, and Naden (2006), in New Zealand, reported that the most popular career choice was Medicine (44%), followed by Surgery (34%), General Practice (30%), Paediatrics (29%), and Obstetrics and Gynaecology (20%). The choice of a career was mostly based on interest in that specialty.

Most respondents in this study had a family member in the medical field, most of whom are medical doctors, this could have been a factor that influenced the respondents to study medicine in the first place. Nevertheless, we observed in this study that having a family member in a particular specialty did not influence the students to consider a career in that specialty. The respondents considered

other factors to be more important when choosing an area of specialty: particularly interest in a specialty, financial prospects, comfortable lifestyle, flexible working hours, sufficient time for hobbies, and opportunities to settle down in urban areas. Influence of role models and perceived status of the field of specialty in the society were not considered as important factors when deciding on an area of specialization.

A more critical look at the results from this study shows that the students considered more important factors when deciding on an area of specialty rather than allow the influence or opinion of others dominate their choice of career. Notably, the respondents' personal interest in a particular specialty is the major driving force when choosing a career specialty. This concept of personal interest has long been identified as the major factor in choice of specialties by medical students in many studies both locally and internationally.

Most respondents believe that it is at the end of internship training that an individual would be able to clearly decide on a specialty of interest. This could be due to the fact that an individual would be better informed by this time, since they would have worked as an intern for a reasonable period of time in all the major specialties and some sub-specialties, allowing them to weigh the pros and cons of each and, more importantly, to identify a specialty that aligns with their interest. There is a significant difference between a medical student rotating in different specialties and an intern working in those different specialties. Madu et al. (2014) stated that an intern will undoubtedly know more about those specialties than a medical student and will therefore be able to better take an informed decision on career specialization.

This study highlights a general preference for the core clinical specialties in detriment to laboratory-based specialties; this same trend was observed in other studies both locally and internationally (Oche et al. 2013, Madu et al. 2014, Abdulrahman et al. 2016). The effect of this preference may not be felt in developed nations with a large healthcare workforce but it is very pronounced in developing countries such as Nigeria, where the physician-population ratio is very poor.

Therefore, medical students need to be encouraged to develop interest also in the laboratory-based specialties.

The personal interest of medical students was the most common factor observed when deciding on a specialty of choice; local or national demand for specialists in a particular field was not considered by the students. Thus, the career plans of medical students are not aligned with the healthcare workforce needs of the nation. This trend needs to be addressed by healthcare policy makers and stakeholders.

Regarding the choosing of a specialty, adequate guidance throughout medical school training should be encouraged, as well as giving opportunity to gather work-experience over several specialties. Career education, guidance, and counselling should be included in the medical school curriculum. Mentorship of medical students by senior faculty members should be encouraged. Medical students should also be encouraged to develop interest in those specialties with limited healthcare personnel in the nation. Students can be captivated with the appropriate incentives, such as attractive wages, allowances, job security, insurance, time-offs, and so on. All of these would assist the medical students to achieve their full potentials in the profession by making the right choices and at the same time meeting the demands of the nation's healthcare.

The limitation of this study is the small sample size. A larger multi-centred study involving medical students at different years of their undergraduate study would provide a bigger picture on the study subject.

Final considerations

Most medical students desire further postgraduate qualifications (both academic and specialist) and prefer to have such education and training abroad, mostly in the United Kingdom. The most preferred postgraduate academic qualification is a Master of Public Health (MPH); while the top three most preferred postgraduate specialist qualifications are Obstetrics & Gynaecology, Surgery, and Family Medicine; and the least three preferred postgraduate specialist qualifications are Chemical

Pathology, Medical Microbiology and Morbid Anatomy. Most students chose their preferred specialty mainly based on personal interest. Other factors the students considered when choosing a specialty include financial prospects, comfortable lifestyle, flexible working hours, sufficient time for hobbies, opportunities to settle down in an urban area, among others.

Using the factors that have been identified to influence the career choice of medical students, the students can be appropriately motivated to choose specialties that are scarce within the Nigerian healthcare workforce, thus better serving the nation's health-care system and the nation at large. In a resource-poor setting like Nigeria, there is a need to provide career guidance for students based on the demands of the national healthcare to ensure equitable distribution of doctors across the various specialties.

The Nigerian healthcare system needs to be developed urgently in terms of infrastructural development by providing modern healthcare equipment across the various specialties in all government-owned health institutions, appropriate staff remuneration, capacity-building, international collaboration, public-private partnership in healthcare services, among others, to drastically reduce the current mass exodus of healthcare personnel.

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Authors' contribution

The author Oguntoye conceived and designed the study. Data collection, analysis and interpretation was carried out by the author Oguntoye. The author Oguntoye wrote the first draft of the manuscript and the subsequent critical revision of the article for important intellectual content. Oguntoye is guarantor for this paper, accepts full responsibility for the work and/or the conduct of the study, had access to the data, and controlled the decision to publish. The author Oguntoye approved the final version of the article to be published.

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