

Career Choices and Determining Factors among Final Year Medical Students in Lagos Nigeria

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Abstract

Background: Identifying the factors that influence the choices medical students make regarding their careers can prove invaluable in the management of healthcare manpower. **Aim:** The aim of this study was to determine the career choices and the determining factors for these choices among final year medical students at the Lagos State University College of Medicine, Nigeria. **Materials and Methods:** This study is a cross-sectional survey of two consecutive final year classes with a total of 141 students surveyed in February 2014 and February 2015. **Results:** A total of 141 students were surveyed. 75.2% intended to specialise, the most common specialties being: Surgery (29.2%), Paediatrics (14.2%), Obstetrics and Gynaecology (13.2%) and Internal medicine (13.2%). More men preferred surgery (43.5% vs 18.3%; $p = 0.005$) and more women paediatrics (20% vs 6.5%; $p = 0.011$). 24.8% did not want to specialise. The reasons included: rigours of residency (48.6%), unacceptable hours of practice (34.3%), difficulty getting placements (28.6%) and family requirements (22.9%). 48.1% of the respondents chose to do their residency abroad, 27.4% chose to stay at home and 24.5% were undecided. The main factors influencing choice of residency abroad were better exposure (88.2%), improved standards of living (82.4%), avoiding incessant strike actions (80.4%) and better financial rewards (72.5%). **Conclusion:** Most students showed a preference for the core clinical specialties with significant gender disparity in specialty preference. The potential for continuous 'brain drain' is also identified. Appropriate steps should be taken to mitigate the factors identified that influenced these choices, to protect the future medical workforce.

Keywords: Career choice, factors, Lagos, medical specialty, medical students, Nigeria, residency, specialty choice

INTRODUCTION

The quantity and distribution of workforce in the health workforce plays a significant role in the welfare of a nation. A direct link has been shown between the number of healthcare workers in a country and its ability to achieve positive health outcomes.^[1,2]

In 2018, data from the World Health Organization showed that the ratio of physicians to the general population in Nigeria was 4–10,000.^[3] In the face of an increasing disease burden globally and nationally, there is a need to develop strategies for reinforcing the Nigerian healthcare system.

The decisions that medical students make regarding their career paths have a direct effect on the future medical workforce of a country. Their choice of specialty determines the specialty distribution of that country's medical workforce and its ability to deliver specialised healthcare services.^[4] Medical school students

are exposed to different areas of the profession and usually develop a preference for certain specialties during this time.^[5]

One of the significant decisions for medical students is the location of their residency training. This decision often foreshadows their career prospects. Nigeria is already experiencing an alarming rate of brain drain among health-care professionals, including medical doctors.^[6] It is therefore important to gain an understanding of the factors that influence the choice to leave the country.

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There is a paucity of information in Nigeria regarding the career choices of medical students and the factors that determine these choices.^[7-9] This knowledge is required so that measures can be taken by policymakers to forestall the negative impacts of a lean, skewed, and under-specialised workforce. The aim of this study was to determine the career choices and their determining factors among final year medical students in our college of Medicine.

MATERIALS AND METHODS

Design

This was a descriptive cross-sectional survey of final year medical students in a single institution in South West Nigeria. Two consecutive sets of final year Medical students were surveyed. The study was conducted between February 2014 and February 2015.

Setting

Our institution where the study was carried out is located in a city in Southwest Nigeria with a fairly diverse population of students. Medicine is 6-year course, which can be offered as a first degree in Nigeria. Final year Medical students are usually above the age of consent and they are expected to be making career-defining decisions in a matter of months.

Eligibility criteria

All consenting final-year medical students during the study period were eligible for inclusion in the study.

Sampling

We had a finite study population, so we opted for a total sampling. A total of 141 students consented and participated in the study.

Data collection tools

A structured questionnaire was used to collect data from the study participants. This was adapted from a survey conducted at the University of Nairobi, Kenya, for a similar study.^[10] The questions were modified to capture factors pertinent to the Nigerian setting. After design, the questionnaire was pretested among 20 fourth year medical students who did not form part of the final group that participated in the survey. Having confirmed that the questions were clear and allowed capture of the required information, printed questionnaires were distributed in class between February 2014 and February 2015. The questionnaires took about 10 min to fill and were collected immediately on completion. Information collected included: Age, gender, religion, tribe, marital status, whether intending to practice medicine after medical school, whether intending to specialise, specialty choice, reasons for not wanting to practice, reasons for not wanting to specialise, factors influencing choice of specialty, factors that would change choice area of specialisation, where the student would want to undergo residency training, factors that influenced the choice to train at home and factors that influenced choice of residency training abroad. These factors were based on similar published studies.^[5,11-14]

Choice of specialties included surgery, internal medicine, paediatrics, Obstetrics and gynaecology, public health, psychiatry, radiology, anaesthesiology, pathology, microbiology, chemical pathology, haematology, and sports medicine. The participants were allowed to choose only one specialty. For the questions about factors affecting choice of practicing, specialising and choice of where to practice multiple choices were allowed and the participant was asked to rate their choice on a Likert scale from 1 to 5 (1-No influence, 2-Slight influence, 3-Moderate influence, 4-Strong influence, and 5-Very strong influence).

Data management

Data collected were analysed using Microsoft Excel 2013. For the questions with a Likert scale choice a response of 3–5 was taken as 1 (positive) to that factor while a response of 1 or 2 was taken as 0 (negative). Results were summarised as frequencies, mean \pm standard deviation, and percentages as appropriate. Pearson's Chi-square test was used to evaluate gender differences for categorical variables. Fischer's exact test was used where the expected value in any 2 by 2 contingency table was <5 . Statistical significance was set at a $P \leq 0.05$.

Ethical consideration

All the participants gave consent and voluntarily filled and returned the questionnaire. We did not include any identifying information in the questionnaire and the data generated had no clinical information and had minimal risk to the participants.

RESULTS

Study demographics

A hundred and forty-one questionnaires were completed and returned. There were 74 males (52.5%) and 67 females (47.5%). The mean age was 25.3 ± 2 years. Religious distribution showed that 87 (61.7%) were Christians and 54 (38.3%) were Muslims. Distribution by tribe showed 127 (90.1%) were Yoruba, 10 (7.1%) were Ibo and 4 (2.8%) were from other tribes. Most students 134 (95%) were single while 7 (5%) were married. Four of the married students were female and 3 were male.

Practice choice and associated factors

Out of the 141 respondents, 112 (79.4%) wanted to practice after medical school, 15 (10.6%) did not want to practice and 14 (9.9%) were not yet decided. The majority of females wanted to practice (89.6% vs. 70.3%; $P = 0.002$) while more men were undecided about wanting to practice (14.9% vs. 6%, $P = 0.05$).

Fifteen students did not want to practice and the reasons were: "family and lifestyle demands" by 8 students (53.3%); "better financial rewards in other sectors" by 7 students (46.7%) and "poor income" by 6 students (40%). There were no significant differences between the genders regarding not practicing and the reasons for not practicing.

Specialty choice and associated factors

Among the 141 participants, 106 (75.2%) wanted to specialise. The specialty choices are shown in Table 1. Significant

Table 1: Choice of specialty (106 respondents)

Specialty	Male, n (%)	Female, n (%)	Total, n (%)	P
Surgery	20 (43.5)	11 (18.3)	31 (29.2)	0.005*
Paediatrics	3 (6.5)	12 (20)	15 (14.2)	0.011*
Internal medicine	4 (8.7)	10 (16.7)	14 (13.2)	0.23
Obstetrics and Gynaecology	8 (17.4)	6 (10)	14 (13.2)	0.27
Haematology	1 (2.2)	7 (11.7)	8 (7.5)	0.07
Public health	4 (8.7)	3 (5)	7 (6.6)	0.45
Anaesthesiology	1 (2.2)	3 (5)	4 (3.8)	0.12
Psychiatry	2 (4.3)	2 (3.3)	4 (3.8)	0.72
Radiology	1 (2.2)	2 (3.3)	3 (2.8)	0.72
Chemical pathology	0 (0)	2 (3.3)	2 (1.9)	0.21
Microbiology	1 (2.2)	0 (0)	1 (0.9)	0.25
Oncology	0 (0)	1 (1.7)	1 (0.9)	0.37
Pathology	1 (2.2)	0 (0)	1 (0.9)	0.25
Sports medicine	0 (0)	1 (1.7)	1 (0.9)	0.37
Total	46	60	107	

*Significant P value

Table 2: Reasons for not wanting to specialise (35 respondents)

Factor	Male (28), n (%)	Female (7), n (%)	Total (35), n (%)	P
Placements hard to get	8 (28.6)	2 (28.6)	10 (28.6)	1
Rigours of residency	13 (46.4)	4 (57.1)	17 (48.6)	0.6
Plans to have family	5 (17.9)	3 (42.9)	8 (22.9)	0.16
Unacceptable hours of practice	8 (28.6)	4 (57.1)	12 (34.3)	0.15
Age not on my side	6 (21.4)	0 (0)	6 (17.1)	0.17
Other reasons	3 (10.7)	1 (14.3)	4 (11.4)	0.79

gender differences were noted, more women wanted to specialise (89.6% vs. 62.2%; $P = 0.002$). "Rigours of residency" (48.6%), "acceptable hours of practice" (34.3%) and "placements being hard to get" (28.6%) were the main reasons for the 35 students that opted out of specialising. Further details are shown in Table 2.

The clinical specialties were the most popular specialty choices with surgery (29.2%), paediatrics (14.2%), internal medicine (13.2%), and obstetrics and gynaecology (17.4%). For the males, the popular choices were surgery (43.5%), obstetrics and gynaecology (10.8%), internal medicine (8.7%), and public health (8.7%). The popular choices for female medical students were paediatrics (20%), surgery (18.3%), internal medicine (16.7%), haematology (11.7%), and obstetrics and gynaecology (10%). Significant gender differences were noted with specialty choice with more men choosing surgery (43.5% vs. 18.3%; $P = 0.005$) and more females choosing paediatrics (20% vs. 6.5%; $P = 0.011$).

The factors influencing the choice of specialty were: Enjoyed rotation (62.3%), job opportunities and financial rewards (54.7%), ease of raising a family (50%), and intellectually challenging (49.1%). Although gender

distribution was the least frequent factor influencing choice of specialty (29.2%) it was a significant factor for females compared to males (43.3% vs. 17.4%, $P = 0.001$). Further details are shown in Table 3.

The factors that would influence a decision to change specialty were lack of job satisfaction (57.5%), lack of family time (50.9%), financial stability (50.9%), and opportunity to train abroad (49.1%). Significant gender differences were noted with more women being concerned about lack of job satisfaction (66.7% vs. 45.7%, $P = 0.03$) and lack of family time (63.3% vs. 34.8%, $P = 0.004$). Further details are shown in Table 4.

Choice of where to do residency

Regarding choice of where to do residency, the majority of students (48.1%) wanted to train abroad, 27.4% wanted to train at home in Nigeria and 24.5% were not decided. Significant gender differences were noted with more females wanting to train at home (36.7% vs. 15.2%, $P = 0.01$) and more males wanting to train abroad (60.9% vs. 38.3%, $P = 0.02$). Further details are shown in Table 5.

The factors influencing a decision to train at home included nearness to friends and family (82.8%), familiarity with the medical system (79.3%), opportunities for private practice (65.5%), and opportunities for partner or spouse (62.1%). No significant gender differences were noted. Further details are shown in Table 6.

The decision of students to train abroad was most frequently influenced by the opportunity for better exposure (88.2%), improved standard of living (82.4%), avoiding the incessant strike activities at home (80.4%), and better financial rewards (72.5%). Further details are shown in Table 7.

DISCUSSION

This study looked at the career choices and the influencing factors of these choices, in two cohorts of final year medical students at a University Teaching Hospital. The career choices that were assessed included the decision to practice medicine after completion of studies, the decision to specialise, specialty choice of interest, and preferred location for residency training.

Majority of the students who participated in this study were interested in practicing after qualifying and specialisation. The most popular specialties among the students were surgery, paediatrics, internal medicine, and obstetrics and gynaecology. Surgery was more popular among the male students while female students preferred paediatrics. The most influential factors for specialty choices were; enjoyment of a rotation in that specialty, job opportunities and financial rewards, ease of raising a family. Meanwhile, a significant proportion of students had a desire to specialise abroad. The most frequent factors for preferring to undertake residency training abroad were the opportunity for better exposure, better standards of living, and incessant strike activities in the Nigerian education system.

Table 3: Factors influencing choice of speciality (106 respondents)

Factor	Male (46), n (%)	Female (60), n (%)	Total (106), n (%)	P
Enjoyed rotation	25 (54.3)	41 (68.3)	66 (62.3)	0.16
Job opportunities and financial rewards	30 (65.2)	28 (46.7)	58 (54.7)	0.08
Ease of raising a family	20 (43.5)	33 (55)	53 (50)	0.33
Intellectual challenge	20 (43.5)	32 (53.3)	52 (49.1)	0.33
Prestige of speciality	21 (45.7)	25 (41.7)	46 (43.4)	0.7
Role model in the speciality	17 (37)	28 (46.7)	45 (42.5)	0.33
Ease of entry into residency	16 (34.8)	29 (48.3)	45 (42.5)	0.17
Length of residency	18 (39.1)	26 (43.3)	44 (41.5)	0.7
Academic and research opportunities	21 (45.7)	21 (35)	42 (39.6)	0.32
Lifestyle of residency training and practice	15 (32.6)	23 (38.3)	38 (35.8)	0.22
Less on call	15 (32.6)	23 (38.3)	38 (35.8)	0.22
Gender distribution in speciality	6 (13)	25 (41.7)	31 (29.2)	0.001*

*Significant P value

Table 4: Factors influencing decision to change speciality (106 respondents)

Factor	Male (46), n (%)	Female (60), n (%)	Total (106), n (%)	P
Lack of job satisfaction	21 (45.7)	40 (66.7)	61 (57.5)	0.03*
Lack of family time	16 (34.8)	38 (63.3)	54 (50.9)	0.004*
Financial stability	24 (52.2)	30 (50)	54 (50.9)	0.85
Training abroad	27 (58.7)	25 (41.7)	52 (49.1)	0.12
Available job opportunities	22 (47.8)	27 (45)	49 (46.2)	0.85
Increase in duration of training	20 (43.5)	21 (35)	41 (38.7)	0.42
Spouse demands	15 (32.6)	26 (43.3)	41 (38.7)	0.32
Rating among peers	14 (30.4)	13 (21.7)	27 (25.5)	0.37

*Significant P value

Table 5: Choice of where to do residency (106 respondents)

Location	Male, n (%)	Female, n (%)	Total, n (%)	P
Abroad	28 (60.9)	23 (38.3)	51 (48.1)	0.02*
Home	7 (15.2)	22 (36.7)	29 (27.4)	0.01*
Not decided	11 (23.9)	15 (25)	26 (24.5)	0.90
Total	46	60	106	

*Significant P value

Our findings on the preferred speciality choices of medical students were in line with similar research undertaken in this area in and outside of Nigeria. Other studies^[5,7,8,10] have assessed medical students in the final year of their training and found the most popular specialties to be similar to our findings. The gender disparity in specialty preferences we found was similar to other studies.^[14-16] While our participants were limited to final year medical students, other studies which have assessed medical students at other levels of training^[8,17] and junior doctors on their preferred specialty found similar results.^[15,18-20] This raises the question of why certain specialties are more popular than others among medical students. Hence, our exploration of the factors that influence medical students' preferred specialties.

Personal interest in a specialty has been found to be a highly influential factor in determining career choice.^[7,8,11,15,18]

However, an argument could be made as to whether personal interest is an objective index of influence on medical specialty preference. This is because many of the indexes measured alongside personal interest could also affect personal interest. For example, the opportunities for career progression and raising a family can increase a student's interest in a particular specialty. Seeing as personal interest is such an influential factor for medical students perhaps there is scope for research into the reasons why certain specialties generate more interest than others as this would be of valuable information to policymakers and education providers.

While we did not explicitly offer personal interest as one of the options for participants to pick, we listed "enjoyed rotation." This was the most influential factor for specialty choice among our participant cohort. Enjoyment of a previous rotation has been found to be one of the factors that improve students' interest in a particular specialty.^[13] The medical school curriculum is currently centered on the core clinical specialties, and these are the specialties in which students usually have the longest clinical rotations. Students spent at least three months during clinical rotations in medicine, surgery, paediatrics, obstetrics, and gynaecology. The lowest-ranked specialties in our study were anaesthesia, psychiatry, radiology, chemical pathology, oncology, and microbiology. Clinical rotations in these specialties only last about two weeks to a month. This infers that spending more time in a specialty may influence a

Table 6: Factors influencing training at home (29 respondents)

Factor	Male (7), n (%)	Female (22), n (%)	Total (29), n (%)	P
Nearness to friends and family	5 (71.4)	19 (86.4)	24 (82.8)	0.36
Familiarity with medical system	7 (100)	16 (72.7)	23 (79.3)	0.12
Opportunities for private practice	5 (71.4)	14 (63.6)	19 (65.5)	0.71
Opportunities for partner/spouse	4 (57.1)	14 (63.6)	18 (62.1)	0.76
Less risk of litigation	6 (85.7)	11 (50)	17 (58.6)	0.09
Opportunities for children	4 (57.1)	13 (59.1)	17 (58.6)	0.93
Crime and safety issues	4 (57.1)	10 (45.5)	14 (48.3)	0.59
More money at home	6 (85.7)	4 (18.2)	10 (34.5)	0.001*

*Significant P value

Table 7: Factors influencing training abroad (51 respondents)

Factor	Male (28), n (%)	Female (23), n (%)	Total (51), n (%)	P
Better exposure	24 (85.7)	21 (91.3)	45 (88.2)	0.53
Improved standard of living	23 (82.1)	19 (82.6)	42 (82.4)	0.97
Incessant strike activities at home	22 (78.6)	19 (82.6)	41 (80.4)	0.72
Better financial rewards	23 (82.1)	14 (60.9)	37 (72.5)	0.17
Better chances in labour market	20 (71.4)	17 (73.9)	37 (72.5)	0.84
Opportunities for children	11 (39.3)	15 (65.2)	26 (51)	0.07
Opportunities for partner/spouse	8 (28.6)	12 (52.2)	20 (39.2)	0.09
Opportunities for private practice	9 (32.1)	10 (43.5)	19 (37.3)	0.40

student's perception as to how enjoyable they found it. Some studies have been carried out looking into why anaesthesia was losing favour among medical students^[11,21,22] and a common finding was that students had very little exposure to anaesthesia as a specialty during their undergraduate years. This shows that care needs to be taken in the planning of clinical rotations for medical students. We cannot deny that there are time constraints to adequately exposing medical students to all potential specialties during five–six years of medical school. Other methods of exposure such as guest lectures, career fairs, taster weeks, and providing bursaries could be utilised to promote interest.

Job opportunities and financial rewards were the second most influential factor in our study. This can also be referred to as job satisfaction which has been found to be a significant factor

in similar studies.^[8,15] It is interesting to note that there was an earlier study in our institution in the year 2000 which looked at the factors influencing specialty choice in the first set of 1st year students.^[8] A similar percentage wanted to specialise (67%) and the top reasons for wanting to specialise were primary interest, service to humanity, and job satisfaction. Even though these students were in the first year of medical school, job satisfaction was already a significant factor determining their preference. It is important to point out that job satisfaction at the medical students' level refers to the student's perception of job satisfaction in a particular specialty. This could be fed by a generic societal perception or from speaking to senior colleagues while in medical school. Therefore, by improving the job satisfaction of current medical doctors, we can maintain the inflow of doctors into the workforce. This factor is particularly significant as it underpins the current situation of brain drain and recurrent junior doctor strikes in Nigeria.^[23]

It was interesting to note as well that though the ease of raising a family was a significant factor among our cohort, the factors which facilitate raising a family such as fewer on-calls, lifestyle of residency training, and practice were not ranked high. This raises the question of how knowledgeable students are about the day-to-day activities of their preferred specialties. A longitudinal study was carried out which followed up the preferred specialty choices of students 10 years' postgraduation.^[24] It showed that with final year medical students there was a high preference for obstetrics and gynaecology. However, 10 years later among the same cohort there was now a preference for family medicine, internal medicine, radiology, and community medicine. The study concluded that sometimes the preferred specialty choice in medical school may need to give way for a specialty choice that is more practical.

The specialty choices of medical students are important as they give an insight into the future specialist manpower of the Nigerian healthcare system. While the specialty preferences of medical students change over the course of their career, our study along with similar studies^[12,17] reveal that certain specialties, such as anaesthesia, radiology, haematology, pathology, and oncology, are becoming more unattractive to students and will potentially be low in supply in the not-so-distant future.

While the majority of students in our participant cohort intended to practice medicine and specialise, a significant proportion hoped to undertake their specialty training abroad. The most frequent factors for preferring to undertake residency training abroad were the opportunity for better exposure, better standards of living, and incessant strike activities in the Nigerian educational system. This result casts a bleak shadow on the future of the health workforce given the current brain drain crisis in Nigeria.^[6,25,26]

One strength of our study was that we assessed different aspects of medical students' career choices not only focusing on specialty choice as many other studies have done. A potential weakness is that the data used for this study was collected about

seven years ago. This might raise questions about the relevance of our findings. However, the similarity of our findings with the larger body of literature on this topic supports the reliability and relevance of our findings.

The result of our study serves as a call to action for policymakers. Studying the career choices of medical students provides an insight into the future health workforce needs of Nigeria. The factors highlighted in this study could be used to inform the disbursement of funds for medical education and clinical governance. For example, we found that enjoyment of rotations was the most influential factor among our cohort for specialty preferences. This shows that policymakers can work with education providers to improve the medical curriculum and increase exposure to less popular specialties.

CONCLUSION

This study shows that among the students in our cohort choosing to practice, there remains a bias to core clinical specialties, though there seem to be gender disparities in specialty preference. It is of concern that most students want to train abroad as this promotes brain drain. We uncovered a range of factors which influence the career decisions of medical students. These factors show that actions such as making residency more accessible, improving conditions of residency, increasing exposure during rotations, better financial remuneration, and reduction of strike activities would encourage students to undertake residency training in a greater range of specialties and practice medicine in Nigeria. These are actions that would serve to strengthen the Nigerian medical workforce.

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Conflicts of interest

There are no conflicts of interest.

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