

FACTORS AFFECTING THE DECISION OF UNIVERSITY OF NIGERIA MEDICAL STUDENTS TO PRACTICE IN NIGERIA

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ABSTRACT

Aim: This study aimed to investigate the factors influencing the career intentions of clinical medical students at the University of Nigeria, with a particular focus on their likelihood to practice medicine in Nigeria after graduation. The research sought to understand the attitudes, perceived challenges, and aspirations of future medical professionals in the context of Nigeria's healthcare system.

Method: A descriptive cross-sectional study was conducted among 307 fourth, fifth, and final year medical students at the University of Nigeria Teaching Hospital. Data was collected using a structured questionnaire that explored various aspects of students' career intentions, perceptions of the Nigerian healthcare system, and factors influencing their decision to practice in Nigeria or abroad. The study employed a combination of stratified and simple random sampling techniques.

Results: The study revealed that 26.4% of students were unsure about their future plans, while 21.5% expressed an inclination to remain in Nigeria, and 19.5% indicated they were unlikely to stay. Financial instability emerged as a primary concern, with 28.9% identifying it as the main factor influencing their decision. Other significant factors included the quality of healthcare infrastructure, availability of professional development opportunities, and political stability. A substantial majority (79.1%) felt that the government provided inadequate support for the medical profession in Nigeria. The study also uncovered significant dissatisfaction (57.5%) with the current medical training system. Interestingly, 94.7% of students who had participated in international medical programs reported that these experiences positively influenced their perception of overseas opportunities. However, contrary to previous studies, more students in this cohort preferred staying in Nigeria, possibly due to increased costs of emigration and recent improvements in local residency placements.

Conclusion: The findings highlight the complex interplay of factors influencing medical students' career decisions in Nigeria. While there are positive

indications of a preference to stay, significant challenges remain in the areas of healthcare infrastructure, professional development, and government support. The study underscores the need for comprehensive strategies to enhance medical education, improve healthcare facilities, provide financial incentives, and create a supportive policy environment.

INTRODUCTION

1.1 BACKGROUND

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 outcomes¹.

Physician migration from developing countries, including Nigeria and other countries in sub-Saharan Africa to more developed countries, seems to be on the increase in recent years and has become a major cause for concern². The emigration of medical doctors from developing countries to more developed countries is very common and is termed "physician brain-drain" and nicknamed "japa".

This has been associated with personal benefits to the physicians involved, such as higher education and income, but with resultant negative consequences on the health systems of the physicians' home countries³. It has posed serious challenges to the human resources for health in Nigeria. Resident doctors undergoing specialist training in the country's many tertiary hospitals have constituted significant proportion of physicians who had left or have intention to leave Nigeria for other nations of the world. This is also obtainable among the graduate medical doctors (house officers) doing their mandatory 1-year internship in the tertiary hospitals across the nation⁴.

In 2018, data from the World Health Organization showed that the ratio of physicians to the general population in Nigeria was 4 to 10,000⁵. 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 the country's medical workforce and its ability to deliver specialized healthcare services⁶. Medical school students are exposed to different areas of the profession and usually develop a preference for certain specialties during this time⁷.

The massive exodus of physicians from Nigeria has stalled the growth in physician population relative to the growth in the country's population⁸. According to the World Health Organization (WHO) Global Health Workforce of medical doctors, the number of physicians and physician per 10 000 population in Nigeria as of 2018 were 74 543 and 3.8, respectively⁹. These numbers are over-estimations as they include all doctors licensed to practice, including retired ones and those who might have emigrated to other countries. In 2021, the Nigeria Medical Association (NMA) lamented that less than half of the over 80 000 doctors registered with the Medical and Dental Council of Nigeria (MDCN) were practicing in the country, giving the country's doctor-to-population ratio of 1 to between 4 000 and 5 000, against the WHO recommended 1 doctor to 600 people. Early in 2022, the Medical and Dental Consultants Association of Nigeria (MDCAN) bemoaned that over 100 medical consultants left from 17 Nigerian tertiary health institutions in the preceding two years. Few months after, the body conducted a survey among her members which showed that over 500 medical and dental consultants had left Nigeria for developed countries over the preceding 2 years and nine out of every 10 consultants with less than 5 years of experience plan to leave the country for greener pasture¹⁰.

In order to have a clear understanding of the migration trend among physicians, a survey among medical students is important. Medical students are the future medical practitioners, and their emigration intention may give a projection of the medical brain drain trend and may give an indication of the medical work force in a country in the near future. This study aims to identify the factors influencing the decision of medical students to practice medicine in Nigeria after medical school.

METHODOLOGY

Study area and design

The study was carried out in Enugu state. The study site was the University of Nigeria Teaching Hospital (UNTH) Enugu. A descriptive cross-sectional study was employed for this study.

Study population

This study was conducted among fourth, fifth and final year medical students of University of Nigeria Teaching Hospital. Medical students who did not consent to the study were excluded.

Sample size estimation

The sample size for this study was determined using the Cochran's formula and a minimum of 330 participants was required for this study.

Sampling technique

The sampling technique employed in this study was the multistage sampling method. Initially, the clinical classes were stratified into three groups: fourth-year, fifth-year, and final-year medical students.

Once the strata were defined, a simple random sampling method was used within each stratum to select participants for the study.

Study tool and data collection

A pretested structured questionnaire was used to collect data from the students. Data was collected via the questionnaires which were distributed at the various hostels and lodges as explained in the study site. An online questionnaire was also generated and used for the purpose of this study. There was a pretesting of the questionnaires on 5% of the sample size in another population that was not selected for the study. Their responses were not added to this study.

Data analysis

The Data was analyzed electronically using International Business Machines Corporation Statistical Product and Service Solutions (IBM SPSS) software version 26.0. The results obtained were presented using tables, bar charts, and pie charts accordingly. Summary statistics such as mean, frequency, and proportion were used to represent qualitative and quantitative data.

Ethical considerations

Ethical clearance was obtained from the ethics committee of the University of Nigeria Teaching Hospital, Ituku-Ozalla, Enugu state. Participation was voluntary and based on written informed consent. Confidentiality and anonymity of the respondents was ensured.

RESULTS**INTRODUCTION**

Three hundred and seven (307) participants were recruited in the study.

TABLE 1: SOCIO-DEMOGRAPHIC DATA

VARIABLES	FREQUENCY (N=307)	PERCENTAGE (%)	MEAN±SD
AGE			23.67 ± 2.510
<19	0	0	
19-24	189	68.5	
25-30	82	29.7	
31-35	5	1.8	
>35	0	0	
GENDER			
Male	211	68.7	
Female	96	31.3	
TRIBE			
Igbo	279	90.9	
Hausa	6	2.0	
Yoruba	5	1.6	
Others	17	5.5	
MARITAL STATUS			
Married	14	4.6	
Single	292	95.1	
Divorced	1	0.3	
RELIGION			
Christianity	291	94.8	
Islam	6	2.0	
African traditional religion	2	0.7	

The table above shows the baseline socio-demographic details of the participants. Most were aged 19-24 years (68.5%), males (68.7%), of the Igbo tribe (90.9%), single (95.1%) and Christians (94.8%).

LIKELIHOOD OF PRACTICING IN NIGERIA AFTER COMPLETION OF EDUCATION

FIGURE 1: LIKELIHOOD OF PRACTICING IN NIGERIA AFTER COMPLETION OF EDUCATION

This figure illustrates the likelihood of respondents practicing in Nigeria after completion of their education. Most of our respondents are still unsure (26.4%)

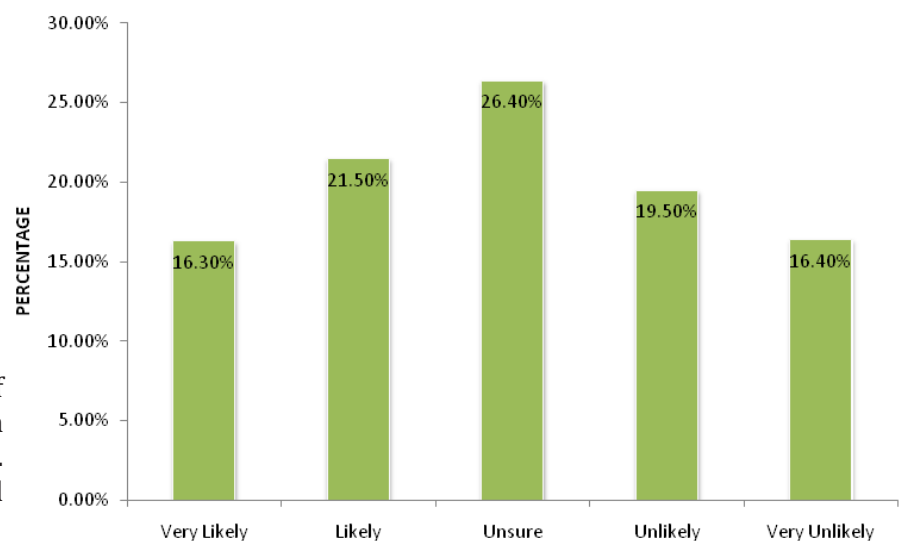


TABLE 2: FACTORS AFFECTING MEDICAL STUDENTS PRACTISING IN NIGERIA

QUESTION	FREQUENCY	PERCENTAGE
What are the primary factors influencing your decision to pursue a medical career in Nigeria? (Select all that apply)		
Prestige/status	68	12.4
Financial stability	159	28.9
Passion for medicine	105	19.1
Family expectations	43	7.8
Opportunities for specialization	90	16.4
Desire to serve the community	73	13.2
Other reasons	12	
How important are the following factors in your decision to practice medicine in Nigeria?		
Quality of health care infrastructure		
Very unimportant	30	2.2
Unimportant	30	10.6
Neutral	44	10.6
Important	72	15.5
Very important	107	25.4
Availability of professional development opportunities		
Very unimportant	25	37.8
Unimportant	24	8.9
Neutral	44	8.5
Important	89	15.7
Very important	99	31.7
Potential earnings/salary		
Very unimportant	35	35.2
Unimportant	21	12.4
Neutral	37	7.4
Important	55	13.1
Very important	135	19.4
Work-life balance		
Very unimportant	27	47.
Unimportant	17	9.4
Neutral	59	5.9
Important	96	20.6
Very important	87	33.6
Political stability/security		
Very unimportant	35	30.4
Unimportant	28	12.4
Neutral	50	9.9
Important	67	17.7
Very important	102	23.8
Cultural and social factors		
Very unimportant	32	36.2
Unimportant	44	11.3

Neutral	88	15.5
Important	75	31.0
Very important	45	26.4
Opportunities for research and innovation		
Very unimportant	37	15.8
Unimportant	26	12.1
Neutral	70	8.5
Important	75	22.8
Very important	74	24.4
What factors are most important to you when considering your future medical career? (Select all that apply)		
Salary and financial incentives	245	80.3
Work-life balance	230	75.4
Career advancement opportunities	234	76.7
Opportunities for personal and professional growth	227	74.4
Prestige and reputation of the institution	130	42.6
Impact on patient care and public health	209	68.5
Other reasons	0	0
How much influence do government policies have on your decision to pursue international practice opportunities?		
Strongly Influential	144	47.2
Moderately Influential	72	23.6
Neutral	60	19.7
Slightly Influential	14	4.6
Not Influential at all	15	4.9

Findings from the above table shows that the primary factor influencing the students decision to pursue a medical career in Nigeria was majorly financial instability (28.9%). Majority of our respondents agreed that quality of healthcare infrastructure (37.8%), availability of professional development opportunities (35.2%), potential earnings/salary (47.7%) and political stability/security(36.2%) are important factors in their decision to practice medicine in Nigeria.

TABLE 3: CULTURAL AND SOCIETAL FACTORS

QUESTION	FREQUENCY	PERCENTAGE
To what extent do cultural factors (e.g., language, customs, and traditions) influence your willingness to consider practising medicine in a foreign country?		
Strongly influential	50	16.3
Moderately influential	92	30.0
Neutral	90	29.3
Slightly influential	54	17.6
Not influential at all	21	6.8

Have you participated in any international medical programs? (e.g., volunteer work, medical missions, elective rotations) during your medical education?		
Yes	76	24.8
No	231	75.2
If yes, how did your experiences influence your perception of international practice opportunities?		p
Positively	72	94.7
Negatively	0	0
Neutral	4	5.3

This table shows that most of our respondents have not participated in any international medical training program (75.2%) and majority of those who have participated in an international medical training program agreed that their experiences positively influenced their perception of international practice opportunities (94.7%)

TABLE 4: EFFECT OF GOVERNMENT POLICIES ON THE ATTITUDE OF MEDICAL STUDENT PRACTISING IN NIGERIA

QUESTION	FREQUENCY	PERCENTAGE
How do you feel about the level of support provided to medical practitioners by the government in Nigeria?		
Very supportive	4	1.3
Supportive	16	5.3
Neutral	43	14.2
Not very supportive	139	46.0
Not supportive at all	100	33.1
Do you believe the current incentives provided by the government are sufficient to retain medical practitioners in the country?		
Yes	10	3.3
No	273	90.4
Unsure	19	6.3
How important do you think factors such as salary, working conditions, career advancement opportunities, and access to resources are in retaining medical practitioners in Nigeria?		
Very important	231	75.2
Important	37	12.1
Neutral	24	7.8
Not very important	5	1.6
Not important at all	5	1.6
Do you think addressing issues such as security, political stability, and social amenities would impact your decision to practice medicine in Nigeria?		
Yes	238	79.1
No	28	9.3
Unsure	35	11.6
What role do you think international partnerships and collaborations could play in improving healthcare delivery and retaining medical practitioners in Nigeria?		

Very significant role	112	36.5
Significant role	120	29.1
Neutral	46	15
Minor role	19	6.2
No role at all	5	1.6
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What role do you think professional associations or medical societies should play in retaining medical practitioners in Nigeria?	232	44.4
Advocating for better working conditions	172	32.9
Providing support and resources for practitioners	113	21.6
Lobbying the government for policy changes	6	1.1
Other reasons		

This table shows that most of our respondents feel that the government in Nigeria to medical practitioners in Nigeria (46%). Most of them do not believe that the current incentives provided by the government are sufficient to retain medical practitioners in the country (90.4%) and think that factors such as salary, working conditions, career advancement opportunities, and access to resources are very important in retaining medical practitioners in Nigeria (75.2%).

Most of our respondents think that addressing issues such as security, political stability, and social amenities would impact their decision to practice medicine in Nigeria (79.1%).

PERCEPTION OF OVERALL HEALTHCARE SYSTEM IN NIGERIA

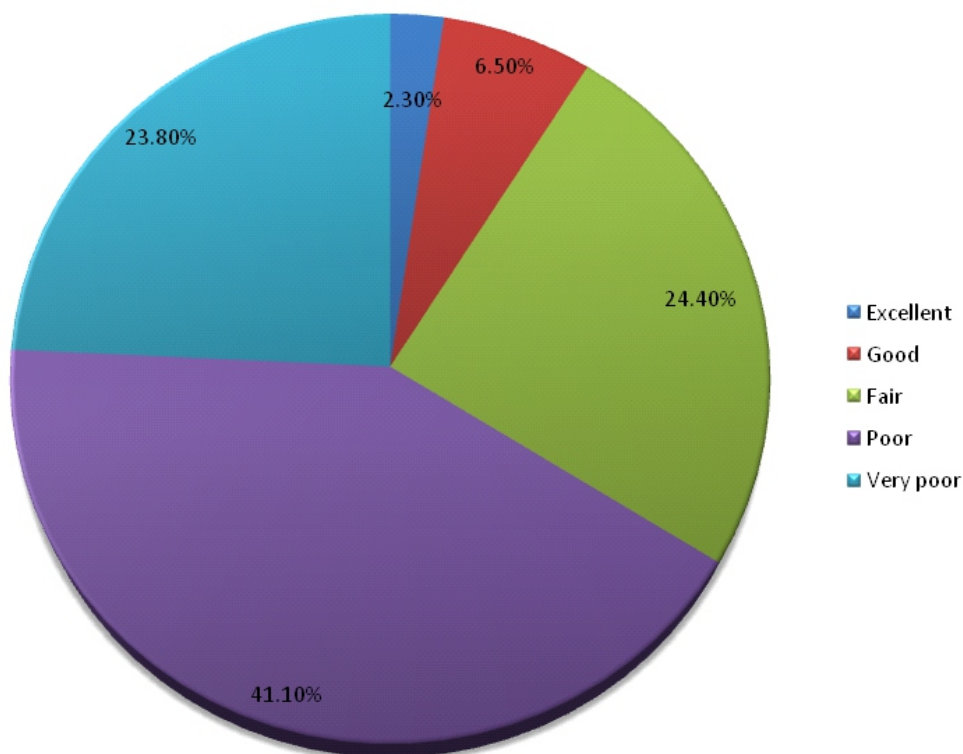


FIGURE 2: PERCEPTION OF OVERALL HEALTHCARE SYSTEM IN NIGERIA

This figure shows the perception of our respondents when considering the overall healthcare system in Nigeria. Most of the respondents perceive that the overall healthcare system in Nigeria is poor (41.1%).

TABLE 5: ROLE OF MENTORSHIP AND GUIDANCE

QUESTION	FREQUENCY	PERCENTAGE
Have you received mentorship or guidance from experienced medical professionals regarding your career path in Nigeria?		
Yes	143	47.4
No	159	52.6
How effective do you think mentorship programs or professional development opportunities would be in retaining medical practitioners?		
Very effective	78	25.9
Effective	123	40.9
Neutral	70	23.3
Not very effective	25	8.3
Not effective at all	5	1.7
How satisfied are you with the current medical education and training system in Nigeria?		
Very satisfied	12	3.9
Satisfied	21	6.9
Neutral	97	31.7
Dissatisfied	124	40.5
Very dissatisfied	52	17.0
In your opinion, what improvements could be made to the medical education and training system to better prepare medical practitioners for practice in Nigeria?		
More practical training opportunities	24	78.5
Curriculum reform	172	56
Better-equipped facilities	247	80.5
Enhanced faculty development programs	70	22.8
Other	19	6.2
How important is the availability of specialized training and professional development opportunities in your decision to practice medicine in Nigeria?		
Very important	151	49.7
Important	82	27
Neutral	57	18.8
Not very important	8	2.6
Not important at all	6	2

This table shows that most of our respondents have not received mentorship or guidance from experienced medical professionals regarding your career path in Nigeria (52.6%), think mentorship programs or professional development opportunities is effective in retaining medical practitioners (40.9%) and are dissatisfied with the current medical education and training system in Nigeria (40.5%).

Most of our respondents believe that better equipped facilities could improve the medical education and training system and better prepare medical practitioners for practice in Nigeria (80.5%). Also, most of respondents believe that the availability of specialized training and professional development opportunities is very important in their decision to practice medicine in Nigeria (49.7%).

TABLE 6: ASSOCIATION BETWEEN SOCIO-DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS AND LIKELIHOOD TO PRACTICE MEDICINE IN NIGERIA

Variable	Very likely (%)	Likely (%)	Unsure (%)	Unlikely (%)	Very likely (%)	X ² test	P value
Age in year						7.533	0.480
19-24	26(13.8)	42(22.2)	56(29.6)	37(18)	28(14.8)		
25-30	17(20.7)	18(22)	16(19.5)	15(18.3)	16(19.5)		
31-35	1(20)	1(20)	1(20)	0(0)	2(40)		
Gender						4.558	0.336
Male	35(16.6)	52(24.6)	52(24.6)	40(19)	32(15.2)		
Female	15(15.6)	14(14.6)	29(30.2)	20(20.8)	18(18.8)		
Tribe						72.077	0.034*
Igbo	42(15.1)	59(21.1)	80(28.7)	53(19)	45(16.1)		
Hausa	4(66.7)	0(0)	0(0)	1(16.7)	1(16.7)		
Yoruba	3(60)	1(20)	0(0)	0(0)	1(20)		
Others	1(5.9)	6(35.3)	1(5.9)	6(35.3)	3(17.6)		
Marital status						10.524	0.230
Married	5(35.7)	0(0)	3(21.4)	3(21.4)	3(21.4)		
Single	45(15.4)	65(22.3)	78(26.7)	57(19.5)	47(16.1)		
Divorced	0(0)	1(100)	0(0)	0(0)	0(0)		
Religion						15.963	0.043*
Christianity	45(15.5)	65(22.3)	78(26.8)	59(20.3)	44(15.1)		
Islam	4(66.6)	0(0)	1(16.7)	0(0)	1(16.7)		
African traditional religion	0(0)	0(0)	0(0)	1(50)	1(50)		
Others	0(0)	0(0)	0(0)	0(0)	0(0)		

*p is significant

This table represents the outcome of association between socio-demographic factors and the likelihood to practice medicine in Nigeria. It shows that there is a significant association between tribe and religion and the likelihood to practice medicine in Nigeria. A higher proportion of Igbos was unsure of if they would practice in Nigeria (0.034) and a higher proportion of respondents who were Muslims were very likely to practice in Nigeria (0.043). No other significant associations were found.

TABLE 7: ASSOCIATION BETWEEN PERCEIVED CHALLENGES AND BARRIERS AND LIKELIHOOD TO PRACTICE MEDICINE IN NIGERIA

Perceived challenges and barriers	Very likely (%)	Likely (%)	Unsure (%)	Unlikely (%)	Very likely (%)	X ² test	
Poor	6	9	11	7	6	5.315	0.723
Moderate	37	52	66	49	41		
Good	5	4	1	3	3		

*= significant p-value

This table represents the outcome of association between perceived challenges and barriers and likelihood to practice medicine in Nigeria. No significant associations were found. (0.043). No other significant associations were found.

The table above shows the baseline socio-demographic details of the participants. Most were aged 21-25 years (72.5%), a slight majority of the participants were females (52.9%) and majority of them were in the department of medicine and surgery (83.0). Most of them resided in the hostel (66.6%). The level of study of participants was fairly evenly distributed among the 300, 400, 500 and 600 levels. Majority were Christians (98.5%), of Igbo ethnicity (90.1%) and single (98.3%).

DISCUSSION

The findings from this study revealed that the rate of emigration is higher among the Igbo ethnic group compared to the Yoruba and Hausa. Our results contradict the study done by Yakubu et al. (2023), who reported that health workers in the Southeast geopolitical zone have the lowest emigration rate¹¹. There are plausible reasons why the south has higher emigration intention rates than the north. It may be that, in totality, the north is more protective and preserving of its culture than the south, hence the idea of "japa" is taken more seriously in the south than in the north. . Northerners may perceive that some of their cultural practices (such as polygyny, adolescent marriage, etc.) may not be allowed in the West, and that may explain why they have lower emigration intention than those in the south¹². We also found no significant influence of gender on emigration intention. This supports the findings of Adeniyi et al. (2022) and testifies to the fact that women are currently migrating as much as men¹³.

There was a significant degree of uncertainty among students about their future plans. While a notable portion remained undecided (26.4%), 21.5% expressed an inclination to remain in Nigeria to

advance their medical careers. In contrast, 19.5% indicated that they were unlikely to continue their careers in Nigeria, preferring to explore opportunities abroad. Overall, the data showed that more students preferred staying in Nigeria than leaving. Interestingly, these findings contrast sharply with those reported by Badru et al. in Sokoto, where a much higher percentage (80.1%) of students indicated an intention to emigrate and work abroad¹⁴. This disparity may be attributed to several factors. One reason may be the high cost of processing travel documents, examination fees, and other expenses related to practicing medicine abroad, which have been exacerbated by the significant depreciation of the naira¹⁵. This depreciation has made the cost of these expenses prohibitively high for many students, potentially discouraging emigration plans. Additionally, the anticipated increase in the minimum wage by the federal government might make staying in Nigeria more financially appealing for medical graduates, although the impact may be limited by the naira's depreciation. The high costs of emigration likely provide a more compelling explanation for the observed difference in student preferences between the studies. Furthermore, changes in the residency placement process in Nigeria could also influence students' decisions. If residency placements have become more accessible or equitable, students may feel more optimistic about their prospects in the local healthcare system. This optimism can play a crucial role in their decision to remain in the country, as the opportunity to gain specialized training and experience is a significant factor in career planning.

Our analysis showed that financial instability is a significant concern for medical students considering their future careers, with 28.9% identifying it as the primary factor influencing their decision to practice medicine in Nigeria. This highlights the economic challenges faced by healthcare professionals in the country. Respondents also highlighted the quality of healthcare infrastructure, availability of professional development opportunities, and political stability as critical factors influencing their career decisions.

These findings are similar to those from a study conducted at the University of Ibadan in 2006¹⁶, indicating that little progress has been made in addressing these issues, and these challenges persist in Nigeria's healthcare sector. A significant majority of students, amounting to 79.1%, expressed the view that the government falls short in providing adequate support for the medical profession in Nigeria. Key issues such as poor working conditions, limited career advancement opportunities, inadequate salaries, and lack of access to resources are significant factors contributing to this sentiment. The lack of government interest is among the primary push factors driving students to seek opportunities abroad.

Most of our respondents have not participated in any international medical training programs. However, of those who have participated, 94.7% reported that their experiences positively influenced their perception of international practice opportunities. This suggests a significant correlation between participation in international medical training programs and a positive outlook on international practice opportunities.

Those who have experienced such programs are more inclined to consider working abroad, likely due to exposure to better resources, training facilities, and professional environments compared to what is available locally. This trend indicates that international training experiences may contribute to the desire among medical professionals to seek opportunities outside Nigeria.

This study also reveals that a considerable majority (57.5%) of students are dissatisfied with the current training system in Nigerian medical schools.

Additionally, nearly half (49.7%) believe that the lack of specialized training opportunities for professional growth is a significant factor driving emigration among medical professionals. The recent increase in residency positions in Nigeria may encourage individuals to pursue their medical careers domestically, offering valuable and cheaper avenues for professional advancement. Despite these improvements, the insufficient medical resources in Nigeria, compared to more developed nations, continue to be a deterrent¹⁴. This lack of resources contributes to the uncertainty that 26.4% of students feel about their decision to practice in Nigeria.

CONCLUSION

This study has provided valuable insights into the factors influencing the career intentions of clinical medical students at the University of Nigeria. The

findings revealed a significant degree of uncertainty and dissatisfaction among students, with notable concerns regarding the quality of medical training, insufficient healthcare infrastructure, and financial instability. In contrast to several other studies, a significant number of students expressed a desire to stay and advance their careers in Nigeria. The reasons behind this trend warrant further research to better understand the factors that influence this decision.

RECOMMENDATIONS

In light of this study, we recommend the following actions for the Nigerian government. These measures are intended to foster a more supportive environment for doctors and healthcare workers, addressing the pressing challenge of brain drain while ensuring the continued development of the nation's healthcare system. The proposed recommendations include:

1. Financial Support and Incentives:

Increasing the salaries of Nigerian healthcare professionals and adding performance-based bonuses, housing allowances, and transportation subsidies will significantly help in reducing brain drain. Additionally, enhancing pension plans and offering better retirement packages will ensure long-term financial security. Professional associations such as the Nigeria Medical Association can help advocate for these.

2. Improvement of the Working Environment:

Ensuring a sufficient number of healthcare workers will help reduce workload and prevent burnout, while establishing strong mental health support and counseling services could be crucial in making healthcare workers feel more comfortable, thereby reducing their desire to migrate.

3. Improved Training and Professional

Development opportunities: By offering advanced training and specialization opportunities within Nigeria, the desire for doctors to seek further education abroad is significantly reduced. This not only helps retain skilled professionals within the country but also plays a crucial role in lowering the overall emigration rate of healthcare workers.

4. Increased Budget Allocation to Healthcare:

We agree with Oseigban's (2021) study on the link between migration and the government's role in addressing brain drain¹⁷. The underfunding of Nigerian health institutions, due to insufficient budget allocation, is a major issue. We recommend that the health budget be increased to meet the WHO's standard of 15% of the total economic budget¹⁸.

5. Good governance

The government's effective allocation of funds, the assurance of life and job security, and the management of corruption are critical in determining whether skilled professionals and valuable citizens choose to stay in the country or not. Good governance is therefore essential for the growth and stability of Nigeria's healthcare system.

By implementing these measures, Nigeria can create a more attractive and sustainable healthcare system that not only retains its medical talent but also offers quality healthcare to its population.

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