

Perception of Postgraduate Medical Trainers and Trainees on Residency Training Program in a Developing Country and its Influence on Brain Drain

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Abstract

Background: Nigeria has been faced with the challenge of massive efflux of senior trainees and young consultants. It is commonly believed that the emigration is for economic reasons. **Aim:** We studied the trainer's and trainee's perception of residency in Nigeria and its influence on brain drain. **Materials and Methods:** This cross-sectional study was carried out using an online survey platform. Invitation to complete the survey was sent out through closed social media groups (Facebook, WhatsApp, and Telegram) and e-mail. These groups were specifically for doctors who had their basic medical education in Nigeria and presently working in Nigeria or outside the borders of Nigeria. **Results:** Most respondents were in training and were between 25 and 44 years old. The top reason for emigration for trainees already abroad was to improve the quality of their training while the top reason for trainees planning to emigrate was to get better training. There was a discordance between the mentorship methods employed by trainers and preferences of trainees. While majority of the trainees already abroad were unlikely to return, most of the trainees considering emigration were willing to stay if training improved. **Conclusion:** Nigerian trainers and trainees have similar perceptions about residency training, and the brain drain being experienced presently may be reversible with improvement in training in the country.

Keywords: Brain drain, doctor's migration, human capital flight, residency training, trainee perception, trainer's perception

INTRODUCTION

The migration of health workers from lower income countries to more developed higher income countries (brain drain) in Africa started during the postcolonial era.^[1] The migration of these highly skilled hands causes a shortage of workforce in critical areas of development like health care.^[2] It is estimated that the cost of educating a single medical doctor from primary school to the completion of medical education is over 65,000 United States Dollars (USD), most of which are paid for by the government.^[3] In economic terms, the country loses about \$1,800,000 per fully trained medical doctor, which amounts to the value they would have added to the country's economy during their lifetime.^[3]

Various reasons have been advanced for doctors' emigration. These include poor intellectual stimulation, lack of career path of choice, and good educational and research facilities among

others.^[4] There are debates about the etiology of brain drain in the health sector. Reversing this trend will depend on the understanding of the pull factor.^[2]

Postgraduate medical education in Nigeria is supervised by the National Postgraduate Medical College of Nigeria (NPMCN) and the West African Postgraduate Medical Colleges.^[5] While these colleges are responsible for maintaining standards, local institutions are directly responsible for training.^[6]

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The quality of postgraduate medical training in Nigeria has been a subject of research with several studies identifying areas of improvement.^[7-9] Surgical residents in Southeastern Nigeria, in a study by Anyaehie *et al.*, believed their postgraduate residency training was inadequate with 69.6% of them having less than one hour allocated for teaching per week.^[8] Prioritization of service provision over education and research and a large workload coupled with great levels of psychological stress are other factors that have been proposed.^[10] The role played by the quality of postgraduate training in encouraging brain drain in Nigeria is, however, unknown.

It is necessary to understand the perception of trainers and trainees of Nigerian origin (both local and abroad) about the postgraduate medical residency training in Nigeria and how this drives the brain drain as these individuals have direct experience of the situation and their perspectives will be useful in understanding the relationship between doctor’s emigration and medical training. They will also be able to propose possible solutions to this problem, thereby advancing medical training. Only a few studies have looked at the perspectives of local

trainers and trainees (both home and abroad) on postgraduate medical training in Nigeria and the role this plays in the ongoing brain drain.

This study aims to understand the perception of trainers and trainees about residency training in Nigeria and its influence on brain drain. Specifically, we sought to analyze the perception of trainers and trainees about postgraduate medical training in Nigeria as well as determine the factors driving the brain drain while suggesting possible solutions.

MATERIALS AND METHODS

Study design

This study was conducted using pretested online (survey monkey) anonymous questionnaires sent across social media platforms – WhatsApp, Facebook groups, and e-mails. These were closed groups comprising doctors of Nigerian origin practicing both in Nigeria and other countries of the world.

Survey questions included demographic data such as age, sex, year of graduation, specialty of choice, and country of practice. We also sought to know if respondents were trainees or trainers and asked about their perception of training in Nigeria. Questions about the reasons behind the decision to relocate abroad and the country of choice were also asked.

Inclusion and exclusion criteria

The only inclusion criteria were qualified medical doctors of Nigerian origin who had completed their basic medical degree in Nigeria and practicing either in Nigeria or abroad. Doctors

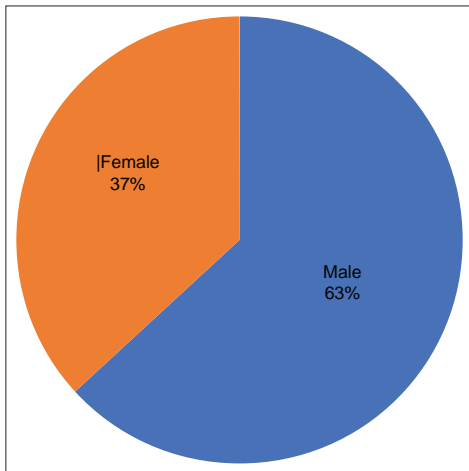


Figure 1: Gender distribution

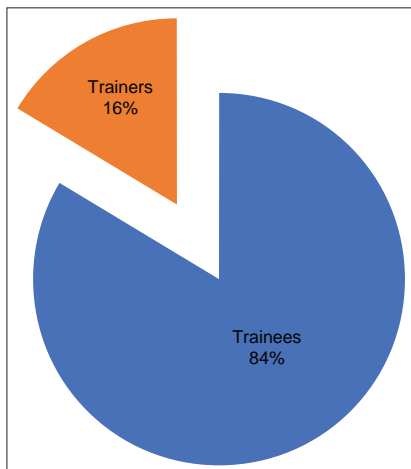


Figure 3: Proportion of respondents who are trainees/trainees

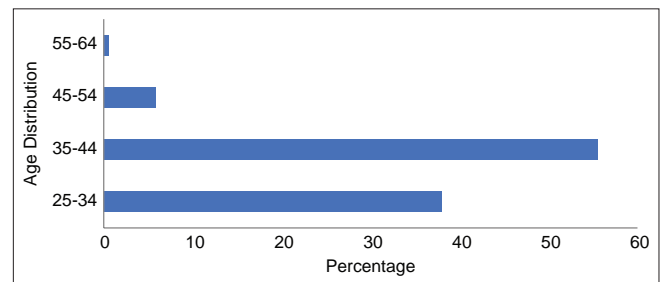


Figure 2: Age distribution

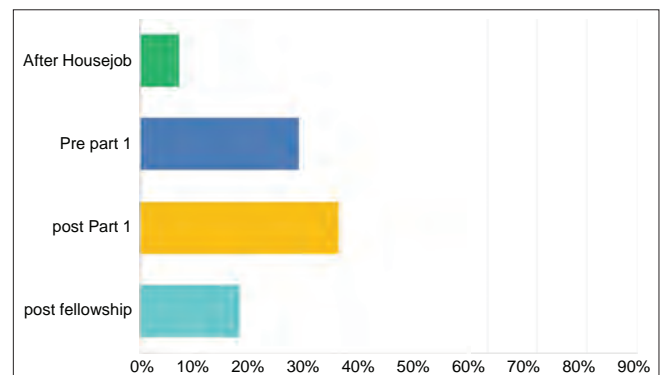


Figure 4: Stage of training at the time of emigration

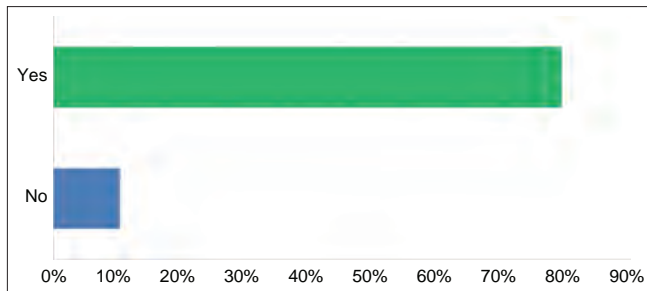


Figure 5: Proportion of respondents (trainees) who have considered leaving the country

without access to social media platforms were excluded from the study.

Data analysis

Responses were pooled and analyzed for trainers and trainees using simple descriptive statistics.

Ethical consent

This study was performed in accordance with the ethical standards of the national research committee and with the 1964 Helsinki Declaration and its amendment.

RESULTS

The survey had 171 respondents, 63.16% (108) of whom were males and 36.84% (63) were females [Table 1 and Figure 1]. Majority (93.75%) of the respondents were between the age of 25 and 44 years [Table 1 and Figure 2]. Approximately 84.21% were between five and fifteen years postbasic medical degree [Table 1 and 7]. One hundred and forty-three respondents were doctors at various stages of training, whereas 28 respondents were trainers [Figure 3]. Medical specialties accounted for 53.39% of respondents, 43.86% were in surgical specialties, and 1.75% were in nonclinical specialties [Table 1].

About 14.6% of respondents were working abroad at the time of the survey, whereas 85.4% were residents in Nigeria. Seventy-two percent (18) of these doctors working abroad were in training when they left Nigeria, whereas 20% (5) had completed their postgraduate studies [Figure 4]. About 64.4% of respondents residing in Nigeria have considered leaving the country, whereas 57.5% intend to leave; 74.67% within the next two years and 100% within the next five years. The top destinations of choice were the United Kingdom, the United States of America, and Canada [Table 2].

Majority (70.87%) of respondents rated the quality of postgraduate training in Nigeria as either fair or poor while 29.13% of respondents gave a 'good' or 'very good' rating. While 76.9% of trainers who responded felt they were training residents according to NPMCN standard, 84.6% of them did not think this met the global standard. Approximately 85.44% of all respondents felt the supervision of training centers was inadequate.

Table 1: Characteristics of respondents

Variable	Average number of respondents, <i>n</i> (%)
Sex	
Male	108 (63.16)
Female	63 (36.84)
Age	
25-34	65 (38.01)
35-44	95 (55.56)
45-54	10 (5.85)
45-54	10 (5.85)
55-64	1 (0.58)
Number of years since basic medical degree	
<1	1 (0.58)
1-5	10 (5.85)
6-10	77 (45.03)
11-15	67 (39.18)
16-20	10 (5.85)
>21	6 (3.51)
Specialty	
Medical specialties	93 (54.39)
Surgical specialties	34 (19.88)
Nonclinical	3 (1.75)
Others	41 (24)
Professional level	
Intern	7 (4.09)
Registrar	50 (29.24)
Senior registrar	86 (50.29)
Postgraduate fellowship	28 (16.37)
Proportion in training at the time of survey	
Yes	80 (46.78)
No	91 (53.21)

Table 2: Top countries of choice for trainees wishing to emigrate

United Kingdom	58.8%
United states of America	13.8%
Canada	15%
Others	12.5%

Table 3: Top reasons for trainees emigrating

For further training
For improved remuneration
To tackle depression/lack of direction encountered with training here
To leave a poor health-care system
Others high failure rates in exams, no training vacancies despite passing exams, and to transition into the business side of health care

The top reason for emigration for trainees already abroad or planning to emigrate was to improve the quality of their training [Table 3]. There was a discordance between the mentorship methods employed by trainers and preferences of trainees [Tables 4 and 5]. While majority of the trainees already abroad were unlikely to return, most of the trainees considering

Table 4: Top suggestions by respondents (trainers) for improving the Nigerian residency training program

Improved training and mentorship
Exchange programs with institutions abroad
Improved equipment of training centers
Curriculum restructuring
Improved government policy and funding; assessment and training of trainers

Table 5: Top suggestions of respondents (trainees) on ways to improve the Nigerian training program

Improved training and mentorship
Change in teaching methods
Exchange programs with institutions abroad
Better funding and improved government policy
Improved equipment for training centers
Training and retraining of trainers

Table 6: Factors that will make respondents change their mind/reason for migration

Factors	Number of respondents, n (%)
Combination of factors	44 (52.38)
Training collaboration with foreign Institutions	30 (35.71)
Security	24 (28.57)
Pay rise	21 (25.00)
If bullying is eliminated	17 (20.44)
Mind is made up	17 (20.44)
Mentored and supported	16 (19.05)
Total	84 (100)

Table 7: Number of years postmedical degree

Number of years postdegree	Percentage	Number of respondents
<1	0.58	1
1-5	5.85	10
6-10	45.03	77
11-15	39.18	67
16-20	5.85	10
21 and above	3.51	6
Total	100	171

emigration were willing to stay if training improved [Figure 5 and Table 6].

DISCUSSION

The Nigerian health system continues to be threatened by myriads of communicable diseases, continually reduced funding, and shortage of the needed personnel.^[11] This is made worse by the continued migration of health workers, particularly doctors in their prime. In this study, majority (93.75%) of the respondents were between the age of 25 and 44 years. About 84.21% were between five and 15 years postbasic medical degree. These

cohorts are the active group in the medical workforce, and their emigration deprives the country of the multiplier effect of their training and their economic contribution.

According to estimates, for every doctor that leaves a developing country, the country loses over 1.8 million dollars, as the nation on average spends about 65000USD to (in cost has been deleted) train a single medical doctor.^[3] This is because of the government-subsidized cost of education ranging between 21,000 USD and 58,700 USD.^[12] The benefit from this spending, therefore, goes to the receiving nation at little or no cost to (who reaps has been deleted) them.

It is generally believed that migration is mostly for economic reasons, but the result seen from this study showed otherwise. Astor *et al.*^[13] in his study found desire for more income, access to technology, security, and improved prospects for dependents as the major reason for emigration.^[13] In contrast, our study revealed the topmost reasons for emigration were access to further training, professional development, and satisfaction. This is closely followed by improved remuneration and an attempt to escape from the poor health-care system and employment uncertainty. Perception and reasoning do change over time, and this might be responsible for the difference in the result of our study when compared with that of Astor *et al.* carried out 15 years earlier. It is also possible that the perception of the average medical doctor could have changed considering the recent improvement in remuneration of Nigerian doctors.

At the time of this survey, 14.6% of respondents were working abroad, whereas 85.4% were residents in Nigeria, more than half (64.4%) of respondents still residing in Nigeria have considered leaving the country, whereas 57.5% intend to leave, most of these respondents within the next two years and all within the next five years [Figure 5]. These statistics underscore the gravity of the situation and correlate with previous studies.^[14,15] Despite the intention to leave, 79.56% of the doctors, intending to leave will change their mind, if there was an improvement in training such as training collaboration with foreign institutions (35.71%), improved mentorship (19.05%), and elimination of bullying (20.44%). This finding supports earlier studies which identified inadequate training and lack of professional equipment as a problem in Nigerian hospitals.^[8] Bullying breeds resentment which may affect the trainee/trainer relationship and consequently the overall quality of training. Bullying is not only peculiar with the Nigerian health system as this is also a problem in other countries.^[16] Bringing this to the fore as well as adopting measures toward eliminating bullying will be a step in the right direction.

The discordance in training methods adopted by trainers and preference by trainees may reflect inadequate communication, which is essential for a successful trainer/trainee relationship. The Nigerian medical educational system reportedly focuses more on the impartation of knowledge rather than communication and clinical leadership skill, which is

important for the success of the clinical team.^[17] A greater focus on communication skills should improve this problem and encourage synergy among trainees and trainers with the overall aim of identifying teaching and mentorship methods acceptable to both trainees and trainers.

In agreement with a previous study, the top destinations of emigration are the United Kingdom, the United States of America, and Canada.^[18] These are countries with good training facilities, robust health care, adequate clinical governance procedure, and sound economic policies, characteristics which are bound to attract the best of brains world over. Hence, there is a need for a replication of the advantages seen in the destination countries in Nigeria.

CONCLUSION

This study demonstrates the multifactorial nature of brain drain with the need for further training topmost on the list. To the best of our knowledge, this is one of the very few studies directly associating the quality and need for medical training as a reason for brain drain among Nigeria trained doctors. An improved training program with resolutions of concerns raised by trainees, improved mentorship, and better working conditions should hopefully reverse the brain drain. Nigerian trainers and trainees have similar perceptions about residency training, and the ongoing brain drain may be reversible with improvement in training in the country.

Consent to participate

Informed consent was obtained from all individual participants included in the study.

Consent for Publication

Consent for publication was obtained from all study participants.

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Conflicts of interest

There are no conflicts of interest.

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