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Brain Drain in the Health Sector: A Medical Students Perspective

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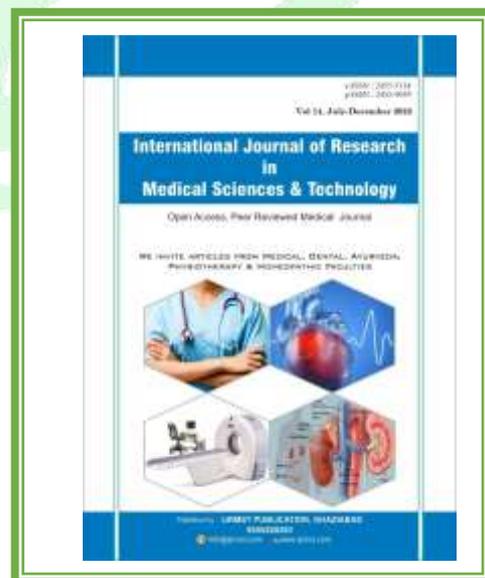
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ABSTRACT

Background: The migration of health professionals to other countries for various reasons call for concerted attention because of the attendant negative effects on the healthcare system especially of developing nations as it creates inequity among vulnerable populations. This worrying trend exacerbates an already deteriorating health system.

Aims and Objectives: The aim is to ascertain the thoughts and beliefs of medical students in a Nigerian University while the Objectives is to determine the factors that promote brain drain in the health sector as well as evaluate the relationship between brain drain in the health sector and social circumstances like gender, finance and background.

Methodology: A cross-sectional study.

Results: Principal among factors that promote brain drain in the medical sector were poor salaries, poor infrastructure and poor leadership. There was found a statistically significant relationship between socio-demographics of respondents (level of training of respondents) and their attitude to brain drain.

Conclusion: The issue of brain drain poses a great and significant threat to the health system of developing nations.

Recommendations: Need for government to put in motion all machineries in place to improving standard of living thereby fostering a stable economy while accommodating the upper, middle and lower class

Keywords: *Brain drain; Health sector; Medical students.*

INTRODUCTION

In recent times, the migration of highly skilled workers from developing to developed countries was done voluntarily due to circumstances presented in the developing countries of origin such as low wages, poor working conditions,

inadequate or poor resources, and inadequate governance.^{1,2,3}

Currently, there are many Nigerians outside of the country. It was estimated that as of 2020, there were 1.2 million Nigerians in the diaspora.⁴ While the actual number of Nigerians in the United States cannot currently be accurately

appraised, a 2015 report from the Migration Policy Institute prepared for the Rockefeller Foundation-Aspen Institute Diaspora Program showed that as of 2015 there were “approximately 376,000 Nigerian immigrants and their children” in the United States.⁵

A study in 2016 stated that brain drain leaves Nigeria behind without healthcare practitioners who have the ability to help shape public policies to rebuild the crumbling to almost non-existent healthcare infrastructure.⁶ The American Medical Association reported that over 17,000 of the medical doctors practicing in the United States were born or trained in Africa.⁷ Another study in 2017 expressed that WHO identified 56 countries with shortage of healthcare workers, of these 56 countries, the African continent was home to 64% of those (36 of the 56 countries cited by WHO).⁷ In the Nigerian context, the international and internal migration of Medical Doctors (MDs) has created an excellent challenge for public health systems; it worsens already weak healthcare systems, which widens the health inequalities gap worldwide.⁸

Between 2015 and 2021, about 4,528 Nigerian-trained doctors had migrated to the United Kingdom (UK).⁹ Even with the

pandemic and existing health burdens in Nigeria, the migration of doctors has increased. This worrying trend exacerbates an already deteriorating health system, and it is unlikely to stop, as Nigerian doctors continue to seek better working conditions abroad.⁹

Emigration was very clearly on the minds of students as they contemplated life after graduation. Satisfaction levels with economic and social conditions at home were very low, and most felt that they would only get worse. They don't only think a great deal about leaving, it is likely that they will actually do.¹⁰

Atop the factors responsible for migration of doctors from developing countries such as Nigeria to more developed countries is the factor of poor remuneration. Poor wages and remuneration were seen to be a major push factor for migration of doctors.

¹¹ There is significant gap in financial remuneration of doctors when compared with developed countries. Evidence suggest wages are a strong predictor of physician migration.¹² Differentials in wages between rich and poor countries offer a pull towards the developed nations.

¹³ Poor wages for healthcare practitioners in Low and Middle-Income Countries is

the most common factor influencing migration of physicians.¹⁴

The Objective of the study is to ascertain the thoughts and beliefs of University of Nigeria medical students towards brain drain in the medical sector while specifically attempting to ascertain the level of knowledge of brain drain in the medical sector among the medical students, attitude of the students towards the effect of brain drain in the medical sector and as well determine factors that promote brain drain in the medical sector. Specific objectives also remained to evaluate the relationship between brain drain in the medical sector and socio-demographic characteristics of the respondents.

MATERIALS AND METHODS

Study Area

The study was carried out in Enugu, Enugu State.

University of Nigeria, Enugu campus is a federal owned tertiary institution within Enugu State. It is an extension of University of Nigeria, Nsukka; the Nigerian premier University.¹⁵

Study Population

Study respondents were students of the University of Nigeria, Enugu Campus. It included students from 200-600 levels.

Study Design

A descriptive cross-sectional study.

Inclusion Criteria

Medical students of the University of Nigeria of the 200 to 600 level who were available and willing to participate in the study.

Exclusion Criteria

Non-Medical Students and first year students of the University of Nigeria who were unavailable or unwilling to participate in the study.

Sample size determination

The sample size is calculated and determined using the formula.¹⁶

$$N = \frac{Z_{\alpha}^2 \times P \times Q}{D^2}$$

where: n = the minimum sample size required

z = the standard normal deviate corresponding to 95% confidence level: 1.96,

p = the prevalence rate from a study on Physician Migration at its roots: Emigration Intentions and Preferences among Medical Students of a Nigerian University in the Niger Delta Region) in 2019: 92.2% or 0.922

d = the degree of accuracy desired: 0.05

Substituting the values in the formula gave a sample size of 120.

Making 10% provision for attrition,

10% of 120 = 12

120+12= 132

N= 132

A sample size of 223 was used.

Sampling Technique

Stratified sampling method was applied dividing the classes into a strata of 5 classes. Questionnaires were distributed among the classes until sample size achieved.

Study Instruments

A pre-tested, structured and self-administered questionnaire was utilized for data collection.

Data analysis

This was done using Statistical Package for the Social Sciences (SPSS) version 23.0. Data was presented in tables and figures. Summary statistics such as mean, frequency and proportion was used to represent data.

Data was equally analyzed inferentially using Chi-square. Probability value less than 0.05 was considered statistically significant.

Ethical Considerations

Written informed consent was obtained from the participants after the participants were duly participants were duly updated of confidentiality. Furthermore, participants were clarified they were free to pull out at any point during the study with no consequences.

RESULTS AND DISCUSSION

Table 1: Respondents were more of the 20 to 24 years age bracket 145 (65.0%) with 500 Level Class strata more represented 122 (54.7%).

Table 2: Captures the factors that promote brain drain in the medical sector in Nigeria with poor salaries principal among the factors. Others include poor infrastructural

facilities, poor leadership and mass poverty.

TABLE 3: Reveals a statistically significant relationship between level of training of respondents and their attitude to brain drain.

Fig. 1 captures the level of knowledge of brain drain among medical students.

DISCUSSION

Principal among factors for which the students were tilted to emigration after study were poor salaries and poor infrastructure in the hospitals. This is similar to findings in a study where factors with which the participants were most dissatisfied and motivated the desire to emigrate were financial, such as inadequate salary for the working hours.¹⁷ Correspondingly higher salary in target countries stood out as the major reason for intention to emigrate after graduation with 75% of the study participants in another similar study.¹⁸

Though the general idea about the phenomenon of brain drain is about a search for greener pastures, studies over the years have found that there are a number of factors at play when the decision to emigrate is being considered.¹³

These factors are referred to as the “push” and “pull” factors. For the purpose of this study, “push factors” are those factors that occur within the country of origin. Motivating professionals to leave. While “pull” factors are the unintended or deliberate actions that attract health professionals originating from the recipient country.¹³

The tenets of the theory were first explored by Ravenstein in 1889. He explained that there are several factors that pushed people out of their home country and there were pull factors that influenced the desire to move to another country where labor is needed to develop industry, commerce or land. As researchers continued to explore the migration patterns of humans, the migration theories evolved into the push-pull theory of migration due to the push and pull factors that form the reason for migration.^{19, 20, 21}

Migration is the result of various “push” and “pull” forces operating; for example, the push to seek better working conditions and escape from hard working situations, and the desire to be near family and relatives and to stay in one’s homeland.²²

It was found in this study a statistically significant relationship between socio-demographic characteristics of respondents

such as level of training of medical student respondents and attitude to brain drain. Interestingly and as expected though, other socio-demographic factors like age, gender did not prove any statistical significance. This is similar to findings in a study where the “Push” factors including lack of or poor post-graduate training opportunities, lack of research facilities, poor and unsatisfactory working conditions, poor remuneration, civil unrest and personal security.^{23, 24} and the “pull” factors; international opportunities for career advancement, greater financial rewards and better working conditions, political stability, civil liberties, and intellectual freedom, amongst others all proved statistically significant. It is important to note that there is a mass exodus of people leaving Nigeria every year and the reasons cited were principally that of poor economy.¹³

Conclusion: The issue of brain drain poses a great and significant threat to the health system of developing nations.

Recommendations: Need for government to put in motion all machineries in place to improving standard of living thereby fostering a stable economy while accommodating the upper, middle and lower class.

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Conflict of Interest: None

REFERENCES

1. Grenier, M. The impact of brain drain in underserved countries: implementing a global ethical leadership approach. *International Journal of Migration, Health and Social Care*, 11(3), 218–222. 2015. <https://doi.org/10.1108/ijmhsc-08-2014-0031>.
2. Hunter, P. Brain drain, brain gain or brain sharing? *European Molecular Biology Organization*, 14(4), 315–318. 2014. <https://doi.org/10.1038/embo.2013.33> Accessed 30/06/2023
3. Jenkins, R. Brain drain. *BJPsych International*, 13(3), 53–55. 2016. <https://www.cambridge.org/core/services/aop-cambridgecore/content/view/DEC7FB41E3A7255A677F53645A0039E7/S2056474000001215a.pdf/div-class-title-brain-drain-div.pdf> Accessed 30/06/23
4. Suleiman, Y., & Mikail, I. K. Investigating the Plights of Nigerians in Diaspora: A Case Study of Nigerians Studying in Malaysian Universities. *Indonesian Research Journal in Education [IRJE]*, 4(1), 223–245. 2020. <https://onlinejournal.unja.ac.id/irje/article/view/7555>. Accessed 30/06/2023
5. Migration Policy Institute. The Nigeria Diaspora in the United States. 2015. <https://www.migrationpolicy.org/sites/default/files/publications/RAD-Nigeria.pdf> Accessed 30/06/23
6. Rubagumya, F., Hardy, M., Uwase, M. A., Kamanzi, B., Kyamanywa, P., Petroze, R., & Calland, J. F. Physician Brain Drain in sub-Saharan Africa: the Career Plans of Rwandas future doctors. *Rwanda Medical Journal*, 73(1), 510. 2016.
7. Olutayo, A. O. Money drain, the diaspora remittance issues and higher education in Nigeria. *Journal of International Mobility*, 5(1), 1342. 2017.

- <https://doi.org/10.3917/jim.005.0013>
Accessed 30/06/23
8. Imafidon, Joyce. One Way Traffic: Nigeria's Medical Brain Drain. A Challenge for Maternal Health and Public Health System in Nigeria. UCLA *Electronic Theses and Dissertations*,
<https://escholarship.org/uc/item/5q36r5xq>. 2018. Accessed 30/06/23
 9. Nweke E. W. and Chinere I. Medical Brain Drain in Nigeria and its impact on Sustainable Development Goal 3. <https://southernvoice.org/medical-brain-drain-in-nigeria-and-its-impact-on-sustainable-development-goal-3/> September 20, 2021.
 10. Ravenstein, E. G. (1889). The Laws of Migration. *Journal of the Royal Statistical Society*, 52(2), 241–305. <https://www.jstor.org/stable/2979333>
 11. Manongi R.N., Marchant T.C., Bygbjrb I.C. Improving motivation among primary health care workers in Tanzania: a health worker perspective. *Human Resources for Health* 4(6). 2006. Online available at: <http://www.human-resourceshealth.com/content/4/1/6>. Accessed 30/06/23
 12. Rizvi, F. Rethinking 'Brain Drain' in the Era of Globalisation, *Asia Pacific Journal of Education*, 25(2), 175-192. 2005.
 13. Oluwakemi Osigbesan. Medical brain drain and its effect on the Nigerian healthcare sector. Walden University; *Walden Dissertations and Doctoral Studies Collection*, 4. 2021. https://scholarworks.waldenu.edu/dissertation_s Accessed 30/06/23
 14. <http://www.unn.edu.ng/campuses/unec/>. Retrieved 7 March 2023.
 15. <https://guardian.ng/news/nigeria-resident-doctors-call-off-strike/>
 16. Jonathan Crush, Wade Pendleton. The brain drain potential of students in the African health and nonhealth sectors. *International Journal of Population Research*, Vol 2012, Article ID 274305. DOI: 10.1155/2012/274305. Hindawi Publishing Corporation, 2012.
 17. E. Adovor, M. Czaika, F. Docquier, Y. Moullan. Medical Brain Drain: How many, where and why? *Journal of Health Economics* 76 (2021) 102409
 18. Samuel Kizito, David Mukunya, Joyce Nakitende, Stella Nambasa, Adrian Nampogo, Robert Kalyesubula, Achilles Katamba, Nelson Sewankambo. Career intentions of final year medical students in Uganda after graduating: the burden of brain drain. *BMC Medical Education* 15:122 2015. DOI 10.1186/s12909-015-0396-0.
 19. Samuel O. Ike. The Health Workforce Crisis: The Brain Drain Scourge. *Nigerian Journal of Medicine*, Vol 16., No. 3, July – September 2007.
 20. Sumit Oberoi, Vivian Lin. Brain Drain of Doctors from Southern Africa: Brain Gain for Australia. *Australian Health Review*. *Australian Health Review Vol 30, No 1, February 2006*.
 21. Nazish Imran, Zahra Azeem, Imran Ijaz Haider, Muhammad Riaz Bhatti. Brain Drain: A Harsh Reality. International Migration of Pakistani Medical Graduates. *Journal of Postgraduate Medical Institute Vol. 26 Issue 1, 2012, p67-72*.
 22. E. Adovor, M. Czaika, F. Docquier, Y. Moullan. Medical Brain Drain: How many, where and why? *Journal of Health Economics* 76 (2021) 102409
 23. Adebimpe Wasiu Olalekan, Owolade Oladepo, Adeniran Adebimpe Muiidat Adebukola. Health Care Providers Migration and Brain Drain Phenomenon: Perception of Health Care workers in Lagos State in Southwestern Nigeria. *Continental Journal of Tropical Medicine* 5 (1), 24, 2011.
 24. Manongi R.N., Marchant T.C., Bygbjrb I.C. Improving motivation among primary health care workers in Tanzania: a health worker perspective. *Human Resources for Health* 4(6). 2006. Online available at: <http://www.human-resourceshealth.com/content/4/1/6>. Accessed 30/06/23.

DECLARATIONS

Ethics approval and consent to participate

Written informed consent was obtained from the participants after the participants were duly participants were duly updated of confidentiality.

Furthermore, participants were clarified they were free to pull out at any point during the study with no consequences.

Consent for publication

The Authors duly grant consent for publication.

Availability of data and material

The materials and data for this study is available and retrievable.

Competing interests

There are no competing interests.

Funding

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Authors' contributions

Chinedu Idoko supervised the study and intellectual input, Ikechukwu Chidolue was involved in editing and intellectual corrections of the work, Ikechukwu Orakwue made intellectual input to the work while Charles Odike, Omfee Odurukwe-Senator, Ebubechukwu

Oduwegwu and Ogbeche Emmanuel were all involved in data collection and analysis of the data.

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