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Brain Drain of Academic Pharmacists: An Assessment of Pharmacy Schools in South-Eastern Nigeria

Chijioke Maxwell Ofomata [1,*] and Okafor Winnifred Kaodimma [2]

[1] *Department of Forensic Sciences. Faculty of Pharmaceutical Sciences. Nnamdi Azikiwe University. Awka. Anambra State, Nigeria.*

[2] *Department of Clinical Pharmacy and Pharmacy Management. Faculty of Pharmaceutical Sciences. Nnamdi Azikiwe University. Awka. Anambra State, Nigeria.*

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Abstract

The emigration of Pharmacist professionals in Nigeria has been on the increase in recent years and may have affected all aspects of Pharmacy practice, including academia, which is the most crucial aspect of Pharmacy practice that ensures the fostering of the Pharmacy profession. The study assessed the level of brain drain among Academic Pharmacists in South East Nigeria, to determine the cause of their emigration and to identify possible solutions to reduce the emigration of Academic Pharmacists in Nigeria. The study was a cross-sectional survey of Pharmacist lecturers of Nnamdi Azikiwe University and the University of Nigeria, Nsukka. An English-based research questionnaire was used to assess their knowledge of emigrated Academic Pharmacists and the emigration intent in 103 Pharmacist lecturers, and was analyzed using the Statistical Package for Social Sciences (SPSS version 21.0). The emigration intent of Pharmacists in academia to more developed countries was observed in 57.3% of respondents. It identified poor remuneration (88.4%), better career opportunities (88.4%), general insecurity issues (86.4%), poor educational system (78.6%), need for current research tools (82.0%), poor economy (91.3%), and low policy considerations (86.4%), as factors that cause brain drain among these professionals. The study showed the need to upgrade remuneration to a globally competitive level, the need to review Pharmacy policies to suit Academic Pharmacists, and also for the government to equip Pharmacy Education in Nigeria with the necessary facilities and funds.

Keywords: Brain Drain; Health Professionals; Academic Pharmacists; Emigration; Migration; Push and Pull Factors

1. Introduction

In recent years, there has been a high degree of migration of health professionals from developing countries to already developed countries of the world. This has become a public health problem as it has negatively influenced the health system and security of these nations (Breitman et al, 2019). It was estimated that the migration of health professionals is highest in Sub-Saharan Africa, South East Asia, and Latin America, with Australia, Canada, the United States of America and the United Kingdom being their common destination countries (Ahmad, 2004; Bhargava et al., 2011; Breitman et al., 2019). Brain drain in low-resourced countries is brain gain in high-resourced countries, leading to inequality in the human resources needed for national development. This occurs when a large number of skilled and competent health workers seek entry into a country, causing a brain drain in their country of origin. Nigeria is reported to be the highest workforce exporting country in Africa. According to WHO, about half of all skilled workforce loss in the country is from the healthcare sector (Ike O Samuel, 2007). In a national report published by the United Kingdom government in August 2022, the statistics showed that healthcare professionals who left Nigeria for the United Kingdom between 2021 and 2022 were 13,609, which ranked second after India with 42,966 (Lawal et al., 2022). The World Health Organization (2023) recorded that fifty-five countries, including Nigeria, are facing the most pressing health workforce challenges

* Corresponding author: Chijioke Maxwell Ofomata

relating to Universal Health Coverage. As health care professional migration contributes to human capital in the developed countries, the overall brain drain decreases the health human resources available in the developing countries and also broadens inequalities among these countries (Pang et al., 2002).

Medical brain drain is particularly destructive because developing countries like Sub-Saharan Africa have a very low physician-to-population ratio, resulting in a significant lack of healthcare professionals and a worsening in the population's health (Bredtmann et al., 2019). Pharmacists are also not left out in the event of brain drain, as a total of 1,255 letters of good standing were issued to some Pharmacists who have emigrated from Nigeria between 2021 and 2022 (Oladejo, 2023). Pharmacists play a crucial role in ensuring that medications are used appropriately and that people have access to vital healthcare services, as they are the stewards of medicines and medical products. A persistent fall in the number of pharmacists in nations with high emigration rates, like Nigeria, worsens the severity of the current labor shortages and makes it more difficult to achieve the aim of universal health coverage (Amorha et al., 2022). The need for healthcare personnel is expanding in high-income countries, mostly in the northern hemisphere, as the population is aging and medical care becomes more advanced. Additionally, a lack of planning and funding for the education of health workers has resulted in high-income countries having a shortage of health workers relative to demand (WHO, 2006).

2. Causes of Brain drain among the Health workforce

The causes of brain drain are described as pull and push factors. The pull factors are those factors that attract skilled professionals to their country of destination, while the push factors are the factors that cause them to leave their country of origin. The push factors can include: low economy, political instability, poor remuneration, insecurity, lack of better research facilities, and unfavorable policies in the country. The pull factors can include: advanced technology, greater opportunities, and better educational systems in the developed countries. The main contributors to the brain drain appear to be the expansion of globalization and the professional labor markets (Ghani et al., 2010). Kana (2010) asserts that these push forces in the countries of origin and pull factors in the countries of destination combine to cause emigration and that scientific researchers do not return home after receiving their training abroad due to reasons such as; a lack of research funding; subpar research facilities; constrained career paths; inadequate intellectual stimulation; violence threats; a lack of quality education for children back home; and a lack of an evidence-based decision-making culture, which results in an underappreciation of the potential contribution of researchers to the advancement of national health.

2.1. Statement of problem

The Pharmaceutical Society of Nigeria (PSN) reported that there are approximately 25,000 Pharmacists in Nigeria, which is not enough to meet the WHO requirement of one pharmacist for every 2,000 patients. The President of the PSN, Prof. Cyril Osifo, stated in a conference that up to 5,208 Pharmacists have emigrated from Nigeria in the past 5 years to other countries in search of greener pastures (Senate et al., 2022).

There are various aspects of pharmacy practice, including hospital pharmacy, Industrial Pharmacy, Community Pharmacy, and Academic Pharmacy, to name a few. The report only showed the number of all Pharmacists who have migrated, but not the aspect of Pharmacy from where these Pharmacists practiced. With the increasing number of emigration of Pharmacists, chances are that some of these Pharmacy professionals are from academia, and no sufficient reports have shown the statistics of the Academic Pharmacists leaving Nigeria.

2.2. Aim and objectives

This study aims to ascertain the level of brain drain among pharmacists in academia in South East Nigeria, using the Pharmacy schools in Nnamdi Azikiwe University in Anambra state and the University of Nigeria, Nsukka in Enugu state

Objectives of Study

- To determine the causes/factors that cause brain drain among Academic Pharmacists in Nigeria, using Federal Government-owned Schools of Pharmacy in South-Eastern Nigeria as a case study.
- To identify the peculiarities in the countries that attract Nigerian Academic Pharmacist professionals
- To proffer ways to reduce the level of brain drain among Academic Pharmacists in Nigeria.

2.3. Justification of the study

This study will show, from the Academic Pharmacists' point of view, the need to restructure the system and reduce the rate of emigration among these professionals. It will serve as a tool for policymakers to put the interest of Academic Pharmacists into consideration while making policies that concerns health professionals.

3. Methods

3.1. Study Design

A cross-sectional study was carried out in two pharmacy schools in South East Nigeria, Nnamdi Azikiwe University (UNIZIK) in Anambra State and University of Nigeria Nsukka (UNN) in Enugu State. The lecturers assessed were academic Pharmacists from the Faculty of Pharmaceutical Sciences in the two Universities. One hundred and thirty-nine questionnaires were distributed among the lecturers. A brief introduction of the purpose of the study was stated and there was no form of identification.

3.2. Study Population/Sample Size

- All Pharmacists lecturers in UNIZIK AND UNN were assessed
- Nnamdi Azikiwe university = 70 Pharmacists
- University of Nigeria, Nsukka = 80 Pharmacists
- Total = 150 Pharmacists

3.3. Data Collection/Research Tool

A structured English-based questionnaire, which consisted of different sections of relevant questions about the research study's specific objectives, was used as the data collection tool. The questionnaire was self-administered and distributed to all academic Pharmacists in the two federal government-owned Pharmacy schools.

3.4. Data Analysis

The data collated from the research were analyzed using the Statistical Package for the social Sciences (SPSS version 21.0).

4. Results

About 139 questionnaires were administered and 103 returned filled giving a response rate of 74.1%. Out of the 103 respondents, 49 (47.6%) were from Nnamdi Azikiwe University and 54 (52.4%) were from the University of Nigeria, Nsukka.

According to the result, there were more male respondents, 56 (54.5%), than female respondents, 45 (43.7%). The age of the respondents ranged from 20 to above 50 years, and the majority of the respondents fell within 41 - 45 years, 21 (20.4%). Nearly all of the respondents are Igbos (99%) and Christians (96.1%), this is because the universities are located in South East Nigeria. The majority of the respondents are married (74.8%), about one-third of the respondents have practiced in academia for less than 5 years (35.0%), and a few for more than 25 years (2.9%). Results of the research showed that nearly half of the respondents were PhD holders (47.6%), some were Lecturer 1 (27.2%), and a few were Associate Professors (10.7%) and Graduate assistants (10.7%).

The majority of the respondents were aware of the emigration of their colleagues in academia, and they knew at least one emigrated Pharmacist in academia. Most of them know at least five Academic Pharmacists who have left Nigeria, and very few could not place a number as to how many have migrated. From the study, their destination countries were mainly Canada, the United Kingdom, the United States of America and Germany with very few of them in Australia, Sweden and South Africa. This is in line with the idea that emigrating professionals migrate to countries that are more developed than their country of origin (Bredtmann et al., 2019). The reason for the emigration of these Pharmacists were, most of the time, the need for better opportunities, higher pay, Nigeria's economy, professional development, and insecurity issues in Nigeria. This is similar to the study by Osigbesan (2012) where poor remuneration, poor economy, and lack of funding from the government were stated by participants as a complaint about practicing in Nigerian healthcare. In consideration of emigration, most of the respondents have considered leaving Nigeria to work abroad with their major country of choice being Canada and USA. This is similar to the result of the study by Amorha et al. (2021) and Naqvi et al. (2017) where Canada and USA were the highest nations of choice. From the result, Academic

Pharmacists in Nigeria immigrate to high-resourced countries for higher salaries, better opportunities, more educational qualifications, and to have access to advanced technology. In line with this, Amorha et al., (2021) revealed that better renumeration, better standard of living, access to advanced technology, better opportunity for their family members and opportunity for professional development were the reasons for the emigration of respondents.

Table 1 Why respondents would not emigrate

REASONS	Strongly agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly disagree (1)	TOTAL	Mean Likert
I would emigrate for better salary because I am being underpaid here in Nigeria	51(49.5)	19(18.4)	11(10.7)	13(12.6)	6(5.8)	100(97.1)	4.16
There are a lot of opportunities for me in developed countries than in Nigeria	42(40.8)	30(29.1)	12(11.7)	9(8.7)	7(6.8)	100(97.1)	3.91
I would emigrate to acquire more educational qualifications	50(48.5)	28(27.2)	16(15.5)	3(2.9)	3(2.9)	100(97.1)	4.19
I must not practice in the academia but I just want to leave the country	15(14.6)	15(14.6)	33(32.0)	12(11.7)	23(22.3)	98(95.1)	2.87
I would emigrate in order to have access to advanced technology	51(49.5)	23(22.3)	17(16.5)	1(1.0)	8(7.8)	100(97.1)	4.08
I can take online courses than emigrate from Nigeria	22(21.4)	22(21.4)	33(32.0)	15(14.6)	7(6.8)	99(96.1)	3.37
I am being over-worked more than I am being paid	33(32.0)	27(26.2)	28(27.2)	3(2.9)	7(6.8)	98(95.1)	3.78
The policy in my practice is fairly favorable	11(10.7)	20(19.4)	35(34.0)	22(21.4)	11(10.7)	99(96.1)	2.98

A study by Nguyen et al., (2008) in Uganda reported that the highest push factor for the emigration of Nursing students was the dissatisfaction with financial remuneration. Similarly, Chinelo et al., (2022) identified that their respondents expressed a great deal of dissatisfaction with the monthly remuneration and working conditions of Pharmacy practice in Nigeria. From the findings of our study, family constraints like having a spouse and children, lack of finance, cultural barriers and having friends in Nigeria, do not hinder the emigration of Academic Pharmacists in Nigeria. General insecurity issues in Nigeria and poor remuneration were factors that caused the emigration of Academic Pharmacists in Nigeria. This is consistent with a study by Nguyen et al., (2008). Ogaboh et al., (2020) which reveals a significant connection between workers' safety and exodus of health practitioners. It demonstrated that health professionals visit nations where workers' safety is highly valued. The study also asserts that insufficient pay drives medical professionals to migrate, and that they receive greater pay in industrialized nations than their Nigerian counterparts. Other push and pull factors identified from the study include; poor educational system, poor economy that leads to low standard of living for Pharmacist professionals, low policy considerations/negligence for Academic Pharmacists, politics among healthcare professionals, better career opportunities, access to current research tools, better grant opportunities, and better academic environment for one's family. This is similar to the findings in a study by Ike O Samuel, (2007), where poor living conditions, lack of research facilities, inadequate research funds, political conflicts, declining quality of the educational system, better working conditions, career opportunities and professional developments are among the push and pull factors respectively. The majority of the respondents, who intend to emigrate from Nigeria, would want to travel to countries like Canada, USA, Germany, and UK because these countries provide better professional training, have great funding for research, provide better conditions for academic activities, provide better security, stable economy and good governance.

Table 2 Factors that generally cause emigration of Academic Pharmacists in Nigeria?

FACTORS	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	TOTAL	Mean Likert
Poor educational system	57(55.3)	24(23.3)	9(8.7)	3(2.9)	5(4.9)	98(95.1)	4.28
Low policy consideration \ negligence for Academic pharmacists	59(57.3)	30(29.1)	6(5.8)	0(0.0)	5(4.9)	100(97.1)	4.38
Autonomy\ politics among healthcare professionals	46(44.7)	29(28.2)	20(19.4)	5(4.9)	0(0.00	100(97.1)	4.16
Poor economy that leads to low standard of living for a pharmacist professional	56(54.4)	38(36.9)	3(2.9)	2(1.9)	2(1.9)	101(98.1)	4.45
General insecurity in Nigeria	71(68.9)	18(17.5)	6(5.8)	3(2.9)	2(1.9)	100(97.1)	4.53
Poor remuneration for Pharmacist lecturers	70(68.0)	21(20.4)	6(5.8)	2(1.9)	2(1.9)	101(98.1)	4.53
Better career opportunities outside Nigeria	52(50.5)	39(37.9)	1(1.0)	2(1.9)	4(3.9)	98(95.1)	4.27
More current research tools/ opportunities outside Nigeria	52(50.5)	33(32.0)	11(10.7)	4(3.9)	1(1.0)	101(98.1)	4.30
Better grant opportunities for research work	39(37.9)	33(32.0)	19(18.4)	7(6.8)	2(1.9)	100(97.1)	4.00
Greater opportunity to be the best outside Nigeria	42(40.8)	34(33.0)	13(12.6)	5(4.9)	5(4.9)	100(97.1)	4.00
Better academic environment for the family	47(45.6)	35(34.0)	13(12.6)	4(3.9)	2(1.9)	101(98.1)	4.20
An opportunity to improve one's family's GDP	35(34.0)	37(35.9)	24(23.3)	2(1.9)	2(1.9)	100(97.1)	4.00
A greater opportunity to give back to the country (Nigeria)	29(28.2)	20(19.4)	33(32.0)	11(10.7)	7(6.8)	100(97.1)	3.53

Some of the respondents expressed that their choice of country for emigration was due to the fact that they are already familiar with the place and some asserted that their colleagues in those countries are doing better. This study identified some of the policies that are not favorable in the Academic Pharmacy practice, among these policies includes; lack of professional allowance/poor remuneration of Academic Pharmacists, restrictions to the use of one license for one aspect of Pharmacy practice, restricted provision of grants for research work and license renewed policies. These policies are propelling brain drain of these Pharmacy professionals, especially those whose career aspiration cannot be achieved in Nigeria. The level of emigration among these professionals can be reduced by upgrading remuneration to levels competitive with global average, ensuring prudent management of resources by university administration. Serour in 2009 opined that brain drain of health workforce can be reduced by Improving wages, health resources, and working conditions. The study also identified that creating more favorable learning environment by building standard research laboratories and equipping teaching hospitals to improve clinical practice, can reduce brain drain of Academic Pharmacists. According to Ghani et al., (2010), possible solution to Pharmacy teaching and practice problems can be the provision of funds and training to institutions in developing countries in order to improve their research, clinical, and educational infrastructure by emulating those of affluent nations.

Limitations of the Study

The reason for the emigration of Academic Pharmacists was assessed among Pharmacist Lecturers who are still in Nigeria. Those emigrated Pharmacist Lecturers could not be accessed to tell us the factors responsible for their emigration, out of the country to other nations of the world.

This study was conducted only in two federal universities that run Pharmacy degrees in South-Eastern Nigeria, which were used as representative samples for other universities in other parts of the country, Nigeria.

5. Conclusion

The study assessed the level of brain drain among Academic Pharmacists and there is a high emigration intent of Pharmacists in academia to more developed nations. It identified poor remuneration, better career opportunities, insecurity issues, a poor educational system, a need for professional development, to have access to advanced technology/current research tools, a poor economy, and low policy considerations as factors that cause brain drain among these professionals.

The study identified that most of the developed countries that attract Academic Pharmacists provide better professional training, have great funding for research, provide better conditions for academic activities, and provide better security, stable economy, and good governance.

The study also identified some of the ways to reduce emigration of Academic Pharmacists, like upgrading remuneration to levels competitive with the global average, ensuring prudent management of resources by university administration, creating a more favorable learning environment by building standard research laboratories, and equipping teaching hospitals to improve clinical practice.

Recommendations

The policy of Pharmacy practice should be reviewed, and areas that concern Academic Pharmacy should be addressed to suit the Pharmacists in that aspect. The government should adequately equip Pharmacy schools with the necessary provisions and funds in order to promote both undergraduate and post-graduate Pharmacy education.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of informed consent

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

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