Determinants of Brain Drain among Health Workers in Public Teaching Hospitals in Ekiti State, Nigeria

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Abstract

This study examined the determinants of brain drain among health workers in public teaching hospitals in Ekiti state. The research design adopted for this study was descriptive survey research design. The population for this study covers all the 3274 staff of public hospitals in Ekiti State. The sample size of the study was 356 staff of public hospitals in Ekiti State gotten by using Taro Yamane formula. The data related to the research work was analyzed using the hierarchical multiple regression. The study revealed that career development has a positive significant effect on brain-drain among health workers in public teaching hospitals in Ekiti State. Also, it was revealed that autonomy has a positive significant effect on brain-drain among health workers in public teaching hospitals in Ekiti State. It was unveiled that, low wages and salaries have a positive significant effect on brain-drain among health workers in public teaching hospitals in Ekiti State. Finally, it was revealed that political instability has a positive significant effect on brain-drain among health workers in public teaching hospitals in Ekiti State. It was therefore recommended that, government should ensure adequate infrastructures and facilities to aid career development in the health sectors. Also, the government should subsidize the cost of schooling for health workers in Nigeria to reduce the rate at which health professional travel out of the country for career and personal development.

Keywords: brain drain, wages and salary, health workers, autonomy, career development

1.1 Introduction

During the recent years, the effect of globalization and industrialization has made the universe witness a drastic economic growth and development. For each nation, economic growth and development is significant as it not only indicates its employment rate but also its wealth and healthy standard of living. However, there is a growing recognition worldwide that public health is a vital part of sustaining socio-economic development efforts. The health sector development in place of public teaching hospital is the most basic issue in any country development agenda whether it is for developed or developing. According to Andrew and Baomin (2015), for any country to meet the demand of the society on health, there must be continuous development of capable doctors and nurses.

Developing capable, motivated and supported health workers is essential for overcoming bottle necks to achieve national and global health goals (Zuhair, Ameerah, Edward, Kevin & James 2016). To achieve this, there should be optimum number and professional mix of human resource for the effective coverage and quality of the intended services. Throughout the 20th century, there have been a substantial number of highly skilled and educatedhealth workers emigrating from their home countries in search of better economic and socialopportunities in other countries. In the 1960s the term brain drain was coined in response to thelarge number of trained health workers leavingdeveloping countries for the developed nations.

Eyerusalem (2016) described brain drain as the movement of health workers in search of better standard of living and life quality, higher salaries, access to advanced technology and more stable political conditions in different places worldwide. Brain drain is looked upon as a mass emigration of individuals with technical skills or knowledge, generally due to lack of prospect, political instability, conflict or health issues and risk factors (Terry &Zubair, 2017). The migration of highly skilled workers from less-developed nations to industrialized nations is an inevitable part of the process of globalization and has positive and negative aspects.

Consequently, Nigerian professionals in diverse fields, especially in health and education sectors are regularly leaving the shores of the country for developed countries in the world in search of greener pasture (Adetayo&Bakare, 2018). Industrialized countries like USA, Canada, Dubai, China and UK often became recipient or destination countries for Registered Health Workers which undermine the optimal functioning of health systems and educationists in the developing countries. Of recent, it was reported that no fewer than 5,405 Nigerian trained doctors and nurses are currently working with the National Health Service (NHS) in the United Kingdom. Similarly, the figure released by the British Government revealed that Nigerian health workers constitute 4% of the 137,000 foreign staff of 202 nationalities working alongside British doctors and Nurses (Saheed, 2019).

Trained health professionals are needed in everypart of the world. However, better standards of living and quality of life, higher salaries, access toadvanced technology and more stable political conditions in the developed countries attract talentfrom less developed areas. The majority of migration is from developing to developed countries. Thisis of growing concern worldwide because of its impact on the health systems in developing nations (Adetayo&Bakare, 2018). Same is application to Nigeria as a whole. According to Migration Policy Institute (2015), Nigerians account for the largest African migrants' population in the United States.

Saheed (2019) opined that basically the determinants of brain drain are grouped into pull and push factors. He went further to explain push factors as factors triggered by the home (source) country of the health workers which encourages the health workers to leave their country or location of work. Such factors include low wage compensation, limited educational opportunity, poor job satisfaction, political instability and understaffing. On the contrary, pull factors are the conditions of the recipient countries that attract and facilitate the movement of the health workers towards that country (Chiamaka& Caleb, 2020). According to Omoluabi (2014), higher wages and better employment opportunities and technologies in developed countries create incentives

for skilled workers from developing countries to migrate such nurses. The pull factors include job availability, career advancement, conducive working environment and autonomy. However, in the contest of this study, career advancement, autonomy, low wages and salaries and political instability shall be covered as the determinants of the brain drain of health workers in Nigeria.
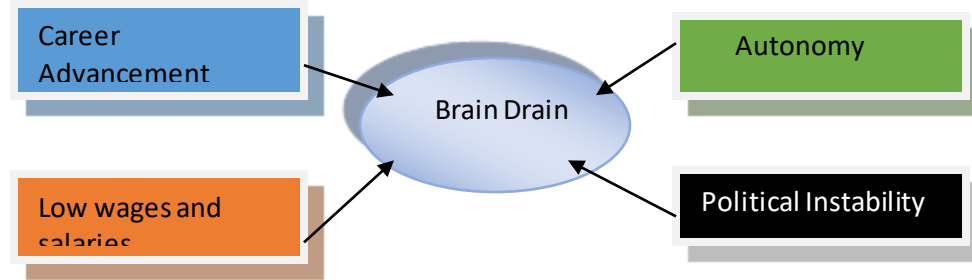
2.0　　Conceptual Framework

Figure 1.1 Determinants of brain drain
Source: Author's Compilation

3.0　　Methodology

Research Design

The study adopted a descriptive survey design. According to Pilot and Hurgler (2015), the descriptive survey aims predominantly at observing, describing and documenting aspects of a situation as it naturally occurs rather than explaining them. The design has the advantage of producing a good amount of responses from a wide range of people. At the same time, it provides a more accurate picture of events at a point in time.

Population of the Study

In the opinion of Agyedu, Donkor and Obeng (2009), the population of a study refers to a complete set of individuals (subjects), objects or events having common observable characteristics in which the researcher is interested. They further stressed that; population constitutes the target of a study and must be clearly defined and identified. The population for this study covers all the 3274 staff of public hospitals in Ekiti State.

Sample size

To study the target population or the whole population and arrive at generalizations would be impracticable, for reasons such as a change in the characteristics of the population to be measured, cost, time-space and the reliability of the measurements. It is noted that analysis is best when conducted on samples that are still fresh (Sarantakos, 2005). Therefore, sampling will be used to select a portion of the population to represent the entire population. Using Taro Yamane formula (1967), the sample size for this study will cover 356 small and medium scale enterprises in all the sampled local governments. The Yamane model (1964) formula is given as:

$$n = \frac{N}{1 + N(e)^2}$$

Where:

n = sample size

N = the population size

e = level of significance

For the population of 3274, the sample size based on the formula is:

$$n = \frac{3274}{1 + 3274\,(0.05)^2} = 356$$

Method of Data Analysis

Hierarchical multiple regressions was used to analysis the formulated hypothesis. The estimation techniques are R-square, F-statistics and P-value. The regression model is given thus:
Model One
BRD = f(CAA)…………………………………………. 1.1
Model Two
BRD = f(AUT)…………………………….…………. 1.2
Model Three
BRD = f(LWS)…………………………………………. 1.3
Model Four
BRD = f(POI)…………………………………………. 1.4
Where:
BRD = Brian Drain
CAA = Career Advancement
AUT = Autonomy
LWS = Low Wages and Salaries
POI = Political Instability
f = functional relation
The regression equations are given below:
BRD = $\alpha_0 + \alpha_1$CAA + U_t………..………. 1.5
BRD = $\alpha_0 + \alpha_1$AUT + U_t………..………. 1.5
BRD = $\alpha_0 + \alpha_1$LWS + U_t………..………. 1.5
BRD = $\alpha_0 + \alpha_1$POI + U_t………..………. 1.5
Where:
α_0 = Intercept
α_1 = Coefficient of independent variables
U_t = Error term

4.0   Results

Hierarchical Multiple Regression Analysis for the determinants of brain drain among health workers in public teaching hospitals in Ekiti state.

Table 1.1: Model Summary and ANOVA Test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig
1	.254[a]	.104	.010	2.52701	5.730	0.009
2	.318[b]	.247	.020	2.51413	8.739	0.003
3	.367[c]	.272	.031	2.49988	9.772	0.001
4	.566[d]	.317	.171	2.31251	14.712	0.000

a. Predictors: (Constant), Career_development
b. Predictors: (Constant), Career_development, Autonomy
c. Predictors: (Constant), Career_development, Autonomy, Low_Wages_Salary
 d.   Predictors: (Constant),   Career_development,   Autonomy,   Low_Wages_Salary, political_Instability
Source: Analysis Result, 2021.

Table 1.1 shows the correlation coefficient (R) given to be 0.254. This implies that there is a moderate relationship between career development and brain drain among health workers in public teaching hospitals in Ekiti State. The coefficient of determination R^2 value stood at 0.104. This indicates that 10.4% of the systematic variation on brain drain among health workers in public teaching hospitals in Ekiti State can be explained by career development. An explanation of the remaining 99.896% variation on brain drain among health workers in public teaching hospitals in Ekiti State can be given by other factors not in this model. The statistical significance of the hierarchical regression ($F= 5.730$, $p= 0.009$) shows that the model was significant as $p< 0.05$. The result means that the model is fit.

When autonomy, another predictor is added to the model, the coefficient correlation is given to be 0.318 which sows that there is a moderate relationship between career development, autonomy and brain drain among health workers in public teaching hospitals in Ekiti State. The coefficient of determination R^2 value stood at 0.247. This implies that 25% of the systematic variation on brain drain among health workers in public teaching hospitals in Ekiti State can be explained by career development and autonomy. The statistical significance of the hierarchical

regression ($F=$ 8.739, $p=$ 0.003) shows that the model was significant as $p<$ 0.05. The result implies that the model is fit.

Also, when low wages and salary, another predictor is added to the model, the R^2 value stood at 0.272. This indicates that 27.2% of the systematic variation on brain drain among health workers in public teaching hospitals in Ekiti State can be explained by low wages and salaries.An explanation of the remaining 72.8% variation on brain drain among health workers in public teaching hospitals in Ekiti State can be given by other factors not in this model. The statistical significance of the hierarchical regression ($F=$ 9.772, $p=$ 0.001) shows that the model was significant as $p<$ 0.05. The result implies that the model is fit.

Lastly, when political instability, another predictor is added to the model, the correlation coefficient (R) for the combination of career development, autonomy, low wages and salaries and political instability as the determinants of brain drain among health workers in public teaching hospitals in Ekiti state stood at 0.566. This implies that there is a moderate relationship between the contributions of each of the predictors to brain drain among health workers in public teaching hospitals in Ekiti State. The coefficient of determination R^2 value stood at 0.317. This indicates that 31.7% of the systematic variation on brain drain among health workers in public teaching hospitals in Ekiti State can be explained by career development, autonomy, low wages and salaries and political instability. An explanation of the remaining 68.3% variation on brain drain among health workers in public teaching hospitals in Ekiti State can be given by other factors not used in this model. The statistical significance of the hierarchical regression (F= 14.712, p= 0.000) shows that the model was significant as $p<$ 0.05. The result means that the model is fit.

Table 1.2: Model Summary of simple linear regression analysis (Beta co-efficient) for the for the determinants of brain drain among health workers in public teaching hospitals in Ekiti state.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8.527	1.647		5.178	.000
	Career_development	.285	.111	.154	2.315	.003
2	(Constant)	7.242	1.908		3.796	.000
	Career_development	.156	.042	.130	2.103	.012
	Autonomy	.254	.117	.155	2.315	.001

3	(Constant)	6.844	1.920		3.565	.001
	Career_development	.266	.126	.055	2.019	.036
	Autonomy	.244	.115	.095	2.153	.034
	Low_Wages_Salary	.217	.082	.187	2.342	.004
4	(Constant)	5.584	1.811		3.083	.003
	Career_development	.126	.047	.301	2.178	.044
	Autonomy	.203	.098	-.103	2.030	.037
	Low_Wages_Salary	.213	.070	.183	2.421	.022
	political_Instability	.509	.143	.443	3.554	.001

a. Predictors: (Constant), Career_development
b. Predictors: (Constant), Career_development, Autonomy
c. Predictors: (Constant), Career_development, Autonomy, Low_Wages_Salary
d. Predictors: (Constant), Career_development, Autonomy, Low_Wages_Salary, political_Instability
Source: Analysis Result, 2021.

In table 1.2, the standardized beta co-efficient of career development showed the level of contribution of the independent variable to the dependent variable of brain-drain among health workers in public teaching hospitals in Ekiti State. From the table, career development exert a positive significant effect on brain-drain among health workers in public teaching hospitals in Ekiti State to the tune of 0.285 (p=0.003<0.05). This implies that a 1% increase in career development would engender 28.55 increase in brain-drain among health workers in public teaching hospitals in Ekiti State.

Adding autonomy, another predictor to the model, the result reveled that career development and autonomy have a positive significant effect on brain-drain among health workers in public teaching hospitals in Ekiti State to the tune of 0.156(p=0.012<0.05) and 0.254(p=0.001<0.05) respectively. This implies that a 1% increase in career development and autonomy would breed 15.6% and 25.4% increase in brain-drain among health workers in public teaching hospitals in Ekiti State.

When low wages and salaries, another predictor is added to the model, career development, autonomy and low wages and salaries have a positive significant effect on brain-drain among health workers in public teaching hospitals in Ekiti State with the coefficient and probability values of $0.266(p=0.036<0.05)$ for career development, $0.244(p=0.034<0.05)$ for autonomy and $0.217(p=0.004<0.05)$ for low wages and salaries. This implies that a 1% increase in career development, autonomy and low wages and salaries would breed 26.6%, 24.4% and 21.7% increase in brain-drain among health workers in public teaching hospitals in Ekiti State.

Finally, when political instability, another predictor is added to the model, career development, autonomy, low wages and salaries and political instability have a positive significant effect on brain-drain among health workers in public teaching hospitals in Ekiti State to the tune of $0.126(p=0.044<0.05)$, $0.203(p=0.037<0.05)$, $0.213(p=0.022<0.05)$ and $0.509\ (p=0.001<0.05)$ respectively. This implies that a 1% increase in career development, autonomy, low wages and, salaries and political instability would breed 12.6%, 20.3%, 21.3% and 50.9% increase in brain-drain among health workers in public teaching hospitals in Ekiti State.

Discussion of Findings

The study was conducted to investigate the determinants of brain drain among health workers in public teaching hospitals in Ekiti state. The study revealed that career development has a positive significant effect on brain-drain among health workers in public teaching hospitals in Ekiti State. This implies that an increase in the career development would breed an increase in the level of brain drain among health workers in public teaching hospitals in Ekiti state. To ensure sustainability in the health career, one needs to develop him/her self and career. Thereby the health workers tend to travel out of Nigerian to more developing or developed countries with adequate facility in relation to their career. Thereby acquire more knowledge and skills to be productive in their field. This outcome is in tandem with the conclusion of Mamanta and Menuka (2019) that Lack of career opportunities, low salary and poor working condition were main pull factors and push factors intending to brain drain among nurses.

Also, it was revealed that autonomy has a positive significant effect on brain-drain among health workers in public teaching hospitals in Ekiti State. This implies that a rise in autonomy would result to an upsurge in brain-drain among health workers in public teaching hospitals in Ekiti State. Thereby, there is tendency for autonomy to enhance brain drain among health workers in public teaching hospitals in Ekiti state independently. This finding collaborates with the conclusion of Wajahat et al., (2019) that autonomy has a significant impact on the phenomenon of Brain Drain.

In addition, it was unveiled that, low wages and salaries have a positive significant effect on brain-drain among health workers in public teaching hospitals in Ekiti State. This shows that an upsurge in the low wages and salaries would engender a rise in brain-drain among health workers in public teaching hospitals in Ekiti State. This could be attributed to the fact the Nigerian health workers are least paid when compared with their counterparts in the same level in other countries despite spending the highest amount of time with patients in the hospital. Thereby, they tend to move out of Nigeria to neighboring countries that pay them greater

amount. This finding is in agreement with the findings of Terry and Zubair (2017) that salary & compensation and economic situation of the country have positive and significant impact on job related brain drain.

Finally, it was revealed that political instability has a positive significant effect on brain-drain among health workers in public teaching hospitals in Ekiti State. This implies that a rise in the political instability level would breed an increase in brain-drain among health workers in public teaching hospitals in Ekiti State significantly. Its has become a general knowledge that Nigeria is not at peace at present, on daily basis, the raise of insurgency, killings here and there, kidnapping and the likes keeps increase. Hence, the health workers tend to leave the nation for better nations with peaceful and progressing economy compared to Nigeria. This finding agrees with the conclusion of Saheed (2019) that the factors affecting brain drain of young people from Nigeria include; political instability, level of corruption, living standard, job opportunities, political instability, lack of travel opportunities, environment and health.

5.0   Conclusion and Recommendations

Despite immense and capable research discussing about the determinants of brain drain among health workers in Nigeria, there seemed to be a gap to fill on the determinants of brain drain among health workers in Ekiti state. Due to this gap, this study was established, to close up the differences. In lieu of this, it unveiled the determinants of brain drain among health workers in public teaching hospitals in Ekiti state. Through the findings which was carried out in the study, it was concluded that career development, autonomy, low wages and salaries and political instability determines the level of brain drain among health workers in public teaching hospitals in Ekiti state. It is therefore recommended that Government should ensure adequate infrastructures and facilities to aid career development in the health sectors. Also, the government should subsidized the cost involves in health schools in Nigeria to reduce the rate at which health professional travel out of the country for career and personal development. There is need for salaries and wages to be upscale in Nigeria especially among the health worker, to ensure balance with the salary scale of other developing nations. Thereby, keep the health workers motivated to stay back in their nation.

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