
**CONTRIBUTION OF GOVERNMENT-SPONSORED OVERSEAS POSTGRADUATE
MEDICAL SCHOLARSHIP SCHEME ON HUMAN RESOURCE CAPACITY
BUILDING IN HEALTH SECTOR OF KANO STATE**

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Abstract

Manpower deficit has been identified as one of the major problems affecting health sector of Kano state. Efforts have been made over the past decades with a view to addressing the problem through overseas scholarship scheme. The paper examined the contributions of Government-sponsored Overseas Postgraduate Medical Scholarship (OPMS) on human resource capacity building in health sector of Kano state. Data was obtained from both primary and secondary sources which include questionnaire administration and interview with the actual beneficiaries of the scheme as well as implementation agencies. Relevant secondary sources were also used. The study has a total population of 909 but Krejcie and Morgan table for determining sample size was used to draw a sample of 274. Data was presented in tables and charts while the hypothesis was tested using regression analysis. Among the finding from the study revealed that overseas Postgraduate Medical Scholarship (OPMS) has significant effect on human resource capacity building (HRCB) in health sector of Kano state. Also, the finding from the study shows that OPMS has played a strategic role in not only enhancing the knowledge, skills, abilities, and experiences of the beneficiaries, but also had significantly helped in addressing the gap in the availability of health care personnel working in various hospitals in Kano state. Undergraduate medical scholarship (OUMS) has 0.903 (90.3%) effect on HRCB in health sector of Kano state. It was recommended that in view of the significant contributions of OPMS to the health sector, the Kano state government should develop additional clinical practice roles that are considered a key component of contemporary workforce planning. Additional clinical practice role is central to enabling the overseas medical returnees to transform service delivery and better use the experiences acquired through overseas to provide quality patients' care in a diverse clinical settings to meet local health needs of the people.

Key words: overseas scholarship, human resource, capacity building, medical scholarship, Health care

Introduction

Human resource capacity building has been recognized as one of the most important strategies for national development. Indeed, a nation develops in relation to the development of its human capital. According to Gonzalez and Kuenzi, (2012), and Varghese (2008) the primary rationale behind human capacity building policies and programmes everywhere in the world relies on their perceived impact on building strong manpower, and through it, national economic competitiveness and national security will be enhanced.

Around the globe, the demand for technical and scientific education has expanded dramatically over the past decades as a result of population increase, scientific and technological advancement and expansion of bureaucratic and political institutions (Beall and Lemmens 2014). For a country to remain relevant in a competitive world economy driven by science and technology, there is therefore need to devote huge investment in scientific and technical education and training, (Olagunju, 2019).

There is a general consensus among scholars that investment in education is the most potent instrument for human capital development and the overall development of any nation, (Salako, Omotilewa & Sotunde, 2010; Dessel 2013; Olagunju 2019). There can be no productive human capital without a functional education, hence Van Den-Berg (2001) opined that countries that are at the forefront of technological advancement equally have the most educated population. This assumption is probably borne out of the view that the purpose of quality education is to create critical thinking that brings about the development of new technologies and new methods of production in line with the demand of the new dispensation.

Over the past 20 years, overseas Postgraduate medical scholarship has been recognized as one of the most important instrument of human resource capacity building especially in health sectors of many countries across the global spectrum. This had subsequently enhanced the performance of medical doctors, nurses, pharmacists, physiotherapists and physicians in general, yielding positive results in the development of important skills, including diagnostic, clinical, therapeutic, critical as well as emergency care skills, (Boyer, 2020). According to Wooster, Wooster & Maniate (2021) overseas medical scholarship programmes were offered “in a continuum of undergraduate and postgraduate medical education and continuing professional development”, mostly based on undergraduate Medical scholarship and Postgraduate Medical Scholarship programmes. The believe is that, medical education scholarship contribute to bridging the gaps and preparing the health-care system to meet the growing challenges through progressive and innovative ideas, greater efficiency and effectiveness, and a positive impact on cost-effectiveness on the investments already being made, (Wooster, Wooster & Maniate 2021). National governments that sponsor international scholarship programmes assume that the benefits of attending a higher education institution outside the home nation are

different from the benefits that result from attending a domestic institution (Messer and Wolter, 2007).

Statement of the Problem

The acute shortage of manpower plaguing the health sector of Kano state particularly those relating to inadequate trained medical doctors, nurses, and pharmacists was the main reason that informed the idea of overseas Postgraduate medical scholarship. For example, the latest population figures from the National Bureau of Statistics (NBS) in its demographic statistical bulletin released in May 2020 places Kano state as one of the states characterized with poor health indicators largely caused by manpower challenges in the health sector (National Bureau of Statistics Demographic Bulletin 2020). In a similar report by Nigerian Health Sector Market Study (2020) maintained that Nigerian healthcare sector has been ruined by many challenges chief among which is dearth of competent professional medical personnel, inappropriate training, inadequate medical equipments and poor human resource management policies. This has led to a general loss of confidence in the sector more especially with the current out-break of the Corona Virus Disease (COVID-19) pandemic.

Similarly, a report by the Kano state Strategic Health Development Plan (KSHDP 2010 - 2015), shows that the health sector of Kano state requires 14,452 medical personnel to manage its 1,363 Health Facilities (HF) comprising 3 tertiary, 50 secondary, and 1,310 Primary Health Facilities across the 44 Local Government Areas (LGAs). Of these 58% are health posts which provide mostly preventive services with little or no clinical care due to manpower shortage. The report shows that the state has a deficit of 12,705, which represent 87.9% of what is required in managing the general hospitals, specialist hospitals, specialized hospitals across the forty four (44) local areas of the state. According to a situation analysis conducted by United State Agency for International Development (USAID, 2018) in collaboration with Kano state Ministry of Health (MoH), and National Centre for Disease Control NCDC (2018), it shows that for many years, there has been severe cases of understaffing of medical personnel across the general hospitals, special hospitals and primary health centres in the state. This problem is seen as difficult to solve because of the time it takes to produce extra human resources – as well as the time and investment required in terms of extra training, compensation and retention. The challenges of manpower has over the years rendered the quality of therapeutic clinical, diagnostic, medical and laboratory care to patients insufficient.

In view of that, the state government made an effort to address the challenges through Overseas Postgraduate Medical Scholarship scheme (OPMS). The scheme is targeted at building the knowledge, skills, and capacities of the beneficiaries which ultimately helps in addressing manpower deficits bedeviling the health sector of the state. It is anticipated that the scheme could play a key role in addressing the gap in the availability of manpower in Key Priority Areas (KPAs) of health sector which

include medical doctors, nurses, midwives, pharmacists, paediatricians, gynaecologists and other medical and allied disciplines that are very critical for effective healthcare service provision in the state.

However, the fundamental question is to what extent has OPMS contributed to human resource capacity building in the health sector of Kano state? How has the programme yielded the anticipated outcome?

Objective of the Study

The major objective of this paper therefore is to assess the contribution of OPMS on human resource capacity building in health sector of Kano state. Specifically, the paper assesses how the OPMS contributed in building the knowledge, skills and abilities of the beneficiaries in such a way that they contribute maximally towards effective health care service provision in Kano state.

Hypothesis of the Study

H01 = Overseas Postgraduate Medical Scholarship (OPMS) has no significant contribution on Human Resource Capacity Building (HRCB) in health sector of Kano state.

Literature Review and Theoretical Framework

Government-sponsored Overseas Scholarship

With the advent of globalization, technological innovations and advancement, as well as information explosion, the world now experiences high integration and compression into a single global nation. National boundaries now seem irrelevant because people can access information about other nations with a mere click on the computer or mobile screens, (Adekalu & Oludeyi (2013). This serves as eye-opener and results in wide aspirations for the pursuit of greener pastures across boundaries among citizens of many nations. In recent time, one of the most propelling factor and or purpose of travelling abroad is informed by the quest of education, training, career advancement and capacity building. This term is what is described as Overseas or foreign scholarship.

Peterson (2008) described Government-sponsored Overseas Scholarship as an opportunity, chance, advantage which has to do with grant of aids, bursary, endowment or award of financial aid given or granted by government, to a student in order to further his education in an environment or country different from somebody's own country. It has to do with an opportunity that provides the student with the chance to apply for a very comprehensive scholarship, covering issues like tuition fees, accommodation fees, participation costs, return travel, insurance and living subsistence or upkeep. This is in line with Roberts, Day and Jenkins (2012) submission in their analysis of the impact of Commonwealth Scholarship Commission programme in the United Kingdom. According to them, foreign scholarship a financial aid granted to support talented and able individuals by providing opportunities that might not

otherwise be available for study and research in a country other than one's own, enabling the acquisition of skills and expertise, and facilitating networking and collaboration, leading to enhanced employment prospects and professional development. It is aimed to assist institutional capacity building through providing training and research in key sectors, boosting the human capital and skills base of employing organizations (including higher education institutions) where acquired expertise may be utilized, and through the provision of opportunities for international research collaboration.

Adekalu and Oludeyi (2013) describes foreign to be synonymous with overseas scholarship in which students, researchers, academicians and scholars alike, travel to a location other than their own abode with a view to engaging in learning experience and gaining academic intellectual exposures. Beall and Lemmens (2014) in their analysis of the rationale for sponsoring students to undertake international study defines overseas scholarship as an international student mobility design for the internationalization of education, enriching the lives of ambitious talented young people from across the globe to undertake further learning in disciplines unavailable at home and helping to build capacity and expand participation in tertiary education that will go a long way to support to more inter-culturally aware and employable graduates. The definition of Beall and Lemmens is that, some foreign scholarships were granted not because the courses or disciplines are not available at home universities, but simply because it is an opportunity to travel and explore academic and other exposures in an environment different from somebody's own.

Perna, Orosz & Jumakulov (2015) observed that with an international scholarship programme, a government intervenes in higher education markets in ways that increase the number of students who are studying at or earning degrees from post-secondary educational institutions in a foreign country. Overboard scholarships linked with university-to- university exchanges and those resulting in a recipient earning academic credit, like a non-degree training programme, are also part of foreign scholarship. So, too, are scholarships that use national funding to encourage inward student mobility and scholarships funded entirely by businesses or individual philanthropists.

Government-sponsored foreign scholarships were awarded at different levels, disciplines and professions. However, according to Beall and Lemmens (2014), the most common disciplines and professions were those related to science and technology, particularly medical sciences, pharmaceutical sciences and nursing sciences.

Overseas Postgraduate Medical Scholarship (OPMS):

The international Association of Medical Science Educators (IAMSE 2001) described postgraduate medical scholarship as the type of scholarship interventions granted to students wishing to pursue medical and allied disciplines at postgraduate levels with a

view to increasing their medical and clinical experiences. The aim of PMS is to prepare students to develop the knowledge, understanding and skills necessary to meet the Standards of Proficiency and expertise in medical parlance. OPMS is an integral part of government sponsored overseas scholarships award for the selected indigenes for the purpose of acquiring postgraduate medical and allied certificate that will enable them apply knowledge and skills in providing effective health care service delivery and addressing the gap in the adequacy of manpower in health sector. It include OSS award on MSc gynaecology and obstetrics, OSS award on MSc Public health, OSS award on MSc Critical care Nursing, OSS award on MSc paediatrics, MSC Cardiovascular Biology and MSc Pharmacognosy among others.

Boyer (2020), and Shulman (2021) observed that the purpose of the postgraduate medical scholarships (PMS) is to provide an educational opportunity for working professionals for acquiring, strengthening and deepening knowledge and skills to effectively contribute to strengthening health systems and programmes. The additional qualification is intended to achieve a skilled workforce who are able to assess, plan, implement, manage, monitor and evaluate public health programmes, services or interventions at any level of the health system. Upon achievement of the qualification, a learner will be able to apply public health knowledge, tools, and skills in solving complex problems in healthcare by using a systems approach and evidence-based interventions, (Laskowitz & Drucker, 2010). The public health tools of epidemiology and biostatistics will enable learners to measure the health status of populations, plan appropriate interventions and interpret the outcomes of interventions. Health promotion and primary healthcare knowledge and skills will aid the learner in designing programmes that focus on disease prevention and health promotion while disease control knowledge and skills will ensure that learners are able to use appropriate disease control strategies. An evidence-based approach is strengthened by the learners' opportunity to plan a research project that addresses a gap or need.

While Boyer (2020) was discussing the scholarship of engagement as it relates to higher education as a whole, this is a concept that resonates within medicine and medical education and should be actively considered by medical educators as they pursue their work. Prior to 1970s, no formal definition of Postgraduate medical education scholarship had been advanced in published manuscripts. Usually, when medical education scholarship is examined, the categories proposed by Boyer are those most discussed, (Cook, 2010; Boudreau, Cassell & Abraham 2010; Simpson, Fincher & Hafler 2007).

Overseas Scholarships and Human Resource Capacity Building in Health sector

Globally, health sector has been recognized as one of the key areas that attracted government-sponsored overseas scholarship schemes. This is base on the premise that effective health care service delivery is largely a function of a well trained human

resource for health, which can be achieved through investment in education, training and capacity building. Several national governments have, over the past decades, taken a giant stride in building the capacities of their manpower via the award of foreign scholarship, otherwise called Overseas Scholarship Scheme (OSS) to their deserving citizens, (Campbell & Mawer, 2019; Speybroeck, 2006; Anand & Bärnighausen, 2007).

Similarly, the recognition of the key role played by higher education, particularly government-sponsored overseas scholarship in tackling the adverse effect of manpower deficits in health sectors of many countries served as critical factor motivating many national governments to offer funding for scholarship and fellowship programmes across the world, (Campbell & Mawer, 2019). National governments that sponsor international scholarship programmes assume that the benefits of attending a higher education institution outside the home nation are different from the benefits that result from attending a domestic institution (Messer & Wolter, 2007). By taking advantage of long-standing, high-quality educational offerings in other nations, this approach may build the international perspectives of the home nation's population, promote knowledge transfer, and develop skills required by employers (Knight, 2006; Varghese, 2008).

The [World Health Organization's](#) (WHO) classification of Health workers adapted from [International Labour Organization, International Standard Classification of Occupations](#), (ISCO 2020) have described **Medical Doctors**, pharmacists, nurses, mid-wives, paediatricians, gynaecologists, and host of others as human resource needed for health which nations across the world provide overseas scholarships to its selected citizens. The award of overseas scholarships plays strategic role in enhancing medical and Para-medical practices, which is concerned with promoting, maintaining or restoring [health](#) through the [study](#), [diagnosis](#), [prognosis](#) and [treatment](#) of [disease](#), [injury](#), and other physical and mental impairments. Physicians may focus their practice on certain disease categories, types of patients, and methods of treatment known as [specialties](#) or they may assume responsibility for the provision of continuing and comprehensive medical care to individuals, families, and communities known as [general practice](#), (ISCO 2020). Medical practice properly requires both a detailed [knowledge](#) of the [academic disciplines](#), such as [anatomy](#) and [physiology](#), [underlying diseases](#) and their treatment the [science](#) of medicine and also a decent [competence](#) in its applied practice the art or [craft](#) of medicine. Both the role of the physician and the meaning of the word itself vary around the world. According to El Dib, Atallah, and Andriolo (2007), degrees and other qualifications vary widely, but there are some common elements, such as [medical ethics](#) requiring that physicians show consideration, compassion, and benevolence for their [patients](#).

Gyang (2011) describes Human Resource Capacity Building (HRCB) as the process of qualitatively and quantitatively increasing the number of people with knowledge,

skills, abilities, potentialities, education, and experiences that are very critical for the socio-economic development of a country so that they can contribute positively to the development of the nation. Human resource is the most important ingredients for achieving organizational goals and objectives. The human elements of the organization are those that are capable of learning, changing, innovating and providing the creative thrust which if properly motivated can ensure the long-term survival of the system.

Globally, there been increasing concern about the gap in the adequacy of human resource for health. Adeyemi, David and Gadanya (2017) have observed that imbalance or mal-distribution in the supply, deployment and composition of human resources for health, leading to inequities in the effective provision of health services, is an issue of social and political concern in many countries. Overseas scholarships has played a central role in building the skills and capacities of human resource for health in many countries. Improved health is a very necessary foundation for successful development and ability of a country to provide effective health care services to its people depends largely on the availability of right mix human resource for health with adequate knowledge, skills, and capacities.

The health workforce all persons involved in activities primarily devoted to enhancing health is an essential block of any functioning health system in any country, in the absence of which clinical and public health services cannot be delivered to the population, (World Health Report, 2019). Experts have actually shown direct links between efficient health system governance and promising health workers outputs, which ultimately have positive effects on overall health outcomes, (WHO, 2019).

Theoretical Framework

This paper adopted Human Capital theory as a framework to guide our understanding on the effect of overseas postgraduate medical scholarship scheme on human resource capacity building in health sector of Kano state. The human capital theory was propounded by Theodore Schultz (1961), Gary Becker (1964), and Jacob Mincer (1974).

Human capital theory assumed that the key to economic growth and continued human survival is tied with the "quality of the population", and the quality of population can only be achieved when there are adequate healthy people in the society, and adequate healthy people can be achieved through investment in education, training and capacity building. In the words of Mincer, (1974), health and education are two closely related human capital components that works together to make the individual more productive. Taking one component as more important than the other is unrealistic. This is because an educated individual who is sick is as inefficient as illiterate. As such, both components are considered as compliments. Thus, this served as reason why health and education are often subsidized in many countries. In some countries, education is free and compulsory for certain minimum length of time.

Schultz, (1961), Becker (1964) and Mincer (1974) contends that “one can invest in human capital (via education, training, medical treatment) and such investment will ultimately yields additional output”. The acquisition of additional skills and talents, by the maintenance of the acquirer (trainee) during his education, study, or apprenticeship, always costs a real expense, which is a capital fixed and realized, as it were, in his person. Schultz (1961), believed that human capital consist of health and of skills and knowledge, which have economic value.

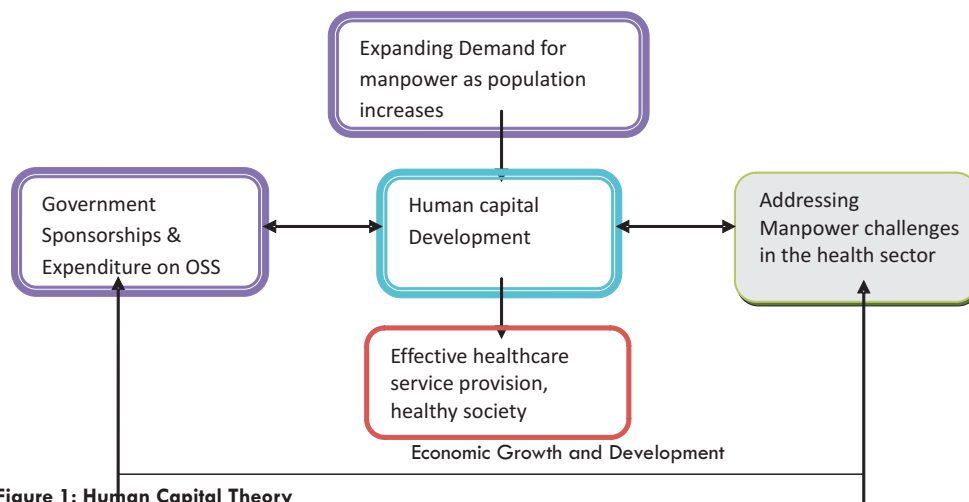


Figure 1: Human Capital Theory
Source: Adapted from Swanson & Holton, (2001).

From the perspective of this theory, overseas postgraduate medical scholarship (OPMS) is a form of human capital investment through education, training and capacity building. Kano state Government-sponsored overseas scholarship programmes will strikingly promote human capital formation in the health sector of the state. This will go a long way in galvanizing state government efforts in providing additional medical doctors, Nurses, pharmacists and other disciplines and professions that are considered very crucial for the development of the state. This is because the medical professionals are expected to return home and reciprocate by working in various general hospitals, specialist hospitals, primary health care centres and other health care provision centres across the states. Thus, the beneficiaries are expected to offer remarkable contributions in providing medical, clinical, diagnostic, laboratory and pharmaceutical services to the people. This will go a long way in ensuring healthy people, and healthy people is an important prerequisite for healthy society, and healthy society is very crucial for rapid socio-economic development as observed by Schultz, (1961), Becker (1964) and Mincer (1974).

Methodology

This study adopted a mixed method research (MMR) design. MMR is research design that incorporates the collection, analysis, interpretation and reporting of qualitative and quantitative data in order to explore diverse perspectives and uncover the relationship that exist between IV and DV, (Creswell, 2015; Mexwell 2016; and Bryman 2012). Data was obtained from both primary and secondary sources. The targeted population of the study stood at 909 beneficiaries of the postgraduate medical scholarship scheme. In determining the sample size of the population for the study, Krejcie and Morgan (1970) table for determining sample size was used. According to the table, a population of 909 has a sample size of 274, (Krejcie & Morgan 1970).

The questionnaire was administered by the researcher with the help of research assistant and it was designed using 5-Point Likert Scale. In order to complement the responses obtained from the questionnaire, interview was also conducted with some selected beneficiaries who were purposively selected. Both descriptive and inferential statistical tools were adopted in data presentation and analysis by use of tables and charts while Regression Analysis was used to test the hypothesis using SPSS version 20 so that we can be able to measure the extent and degree to which the Dependent Variable (DV) could be explained and predicted by the Independent Variable (IV). We use 5% as our level of significance i.e 0.05.

Presentation of Results and Discussion

A total of 274 questionnaires were administered to the respondents. However, in spite of all the effort being made by the researcher to ensure that all the questionnaires were returned, a total of 190 questionnaires which sharply represent 69.3% were subsequently returned. But out of this, a total of 160 which represent 84.2% of the questionnaires administered were duly and correctly completed. Therefore all our subsequent analysis will be based on 160 questionnaires.

Gender of the Respondents

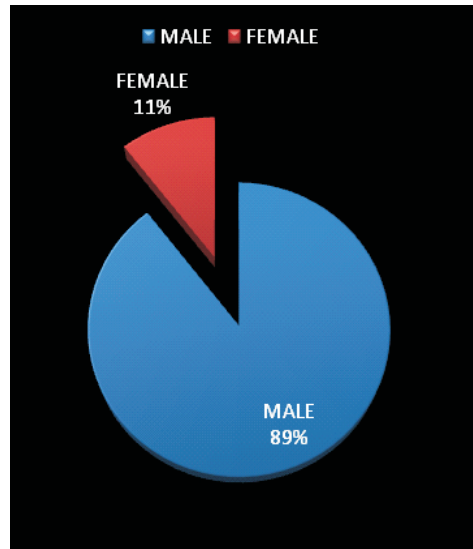


Figure 2: Gender of the Respondents

Source: Researchers Survey (2023)

The table above shows that 89% of the respondents were male while 11% were female. This is because male beneficiaries OPMS constitute the bulk of the respondents.

Table 1: Yearly Award to Overseas PMS in Kano state

Year	Number sponsored	Percentage (%)
2010	60	6.6%
2011	80	8.8%
2012	110	12%
2013	201	22.1%
2014	300	33%
2015	100	11%
2016	20	2.2%
2017	20	2.2%
2018	18	2%
2019	Na	Na
2020	Na	Na
Total	909	100

Source: Department of Planning Research & Statistics, KSSB 2020

From the table above, it can be seen that the overall total award for PMS in Kano was 909. As we can see, the largest award during the period under review was in 2012, 2013 and 2014 in which 110 representing 12%, 201 representing 22.2% and 300

representing 33% of the total award. It can also be observed that no overseas scholarship was awarded in 2019 and 2020. This may as a result of COVID-19 pandemic that disrupted many activities in 2019 and 2020 leading to cancellation of foreign trips, border closures and shift to online teaching.

In the figure below, we try to demonstrate the trends of overseas scholarships awarded specifically to PMS specialties in Kano state in the period under review:

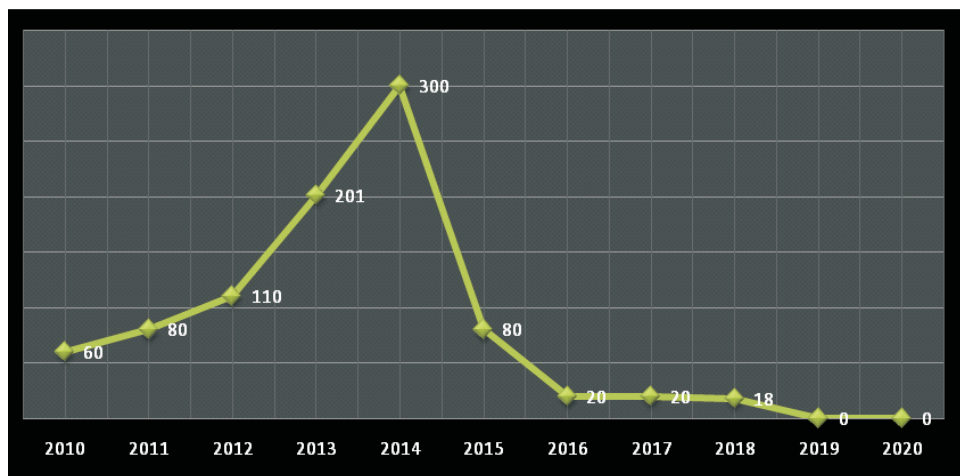


Figure 3: Trends of Overseas PMS in Kano state.

The figure above demonstrates the yearly trends of overseas scholarship awards by Kano state government over the decade. For example, the trend as we can see keeps moving upward over the period of four years from 2011, 2012, 2013, and 2014 (80, 110, 201 and 300) respectively. However, from 2015, the trend slopped down to 80 (8.8%) in 2015 and down to 20 (2.2%) for three consecutive years, and keeps slopping down to 18 (2%) in 2018.

Overseas postgraduate medical scholarship was awarded in various medical, clinical and pharmaceutical specializations as we can see in the table below:

Table 2: Overseas PMS Specialties and Disciplines

OPMS Field	Number sponsored	Percentage (%)
MSc Public Health	112	12.3%
MSc Nutrition & Child care	150	16.5%
MSc Dermatology, & Venerology	30	3.3%
MSc Gynaecology & Obstetrics	212	23.3%
MSc Oncology Nursing	20	2.2%
MSc. Community Nursing	110	12%
MSc Clinical Pharmacy	50	5.5%
MSc Toxicology	30	3.3%
MSc Clinical Neurophysiology	45	4.9%
Msc Critical care Nursing	80	8.8%
Msc Peri-operative Nursing	70	7.7%
Total	909	100

Source: Department of Planning Research & Statistics, KSSB 2020

From the above table, it can be discerned that OPMS scholarship granted by Kano state government covers wide diverse medical specializations. As we can see from the table, courses relating to maternal and child care takes highest percentage of the Overseas PMS in the period under review. Msc Gynaecology 23.3%, Msc Nutrition and Child care 16.5%, Msc public health 12.3%, in Kano and 13.1%, in Katsina. In addition, course like critical care nursing, Msc clinical pharmacy and Msc peri-operative nursing also have big share. Courses like community nursing, oncology nursing and peri-operative nursing also carry a big share of the Overseas PMS scholarship in the period under review.

It can be seen from the above that Nursing and obstetrics constitute the highest percentage of the beneficiaries of OUMS. The figure shows 750 representing 46.9%. This means that the largest OPMS award goes to specializations relating to maternal and child health care. This may be because additional manpower is needed in order to cater for maternal and child health care in the state. This go a long way in reducing Maternal Mortality Rate (MMR), Child Mortality Rate (CMR) as well as Under 5 Mortality Rate U5 (MR) which is one of major causes of deaths in the two states (NHCODE 2020).

Response to Questionnaire

In order to determine the extent which Overseas PMS schemes executed by Kano state government contributed in enhancing manpower capacities of health care personnel, a questionnaire was distributed to sampled respondents. This is very important because the responses enable us to compare and justify whether such investment in human capital Development have helped in producing the expected outcomes as envisaged by the programme. The responses generated are presented in the table below:

Table 4: Response to questionnaires

S/NO	QUESTIONS	SA	A	U	D	SD
1	Overseas PMS has led to increase in medical experience of awardees.	52 (32.5%)	45 (28.1%)	10 (6.3%)	28 (17.5%)	25 (15.6%)
2.	Overseas PMS led to the enhancement in the quality of services provided in the diagnosis, prevention and treatment of diseases.	58 (36.3%)	49 (30.63%)	25 (15.6%)	19 (11.9%)	9 (5.6%)
3	Overseas PMS has led to significant improvement in diagnostic experience of the awardees.	70 (43.8%)	55 (34.4%)	10 (6.3%)	14 (8.8%)	11 (6.9%)
4	Overseas PMS, has led to the improvement in the consultancy services provided by the awardees.	50 (41.7%)	52 (43.3%)	27 (5.8%)	26 (5%)	5 (4.2%)
5	Overseas PMS increased the use of modernized	52 (32.5%)	60 (37.5%)	10 (6.3%)	20 (12.5%)	18 (11.3%)
6.	Overseas PMS helped in addressing the gap in the adequacy of human resource for health in Kano state.	53 (33.1%)	49 (30.6%)	16 (10%)	33 (20.6%)	35 (21.9%)

Source: Researcher's Survey

Analysis from above table established that the overwhelming majority of the respondents were of the view that the OPMS programme has significant impact on human resource capacity building in health sector of Kano state. For example, response to question 1 shows that 52 respondents representing 32.5% have strongly agreed that OPMS has led to considerable increase in the knowledge, skills and abilities of the beneficiaries. In addition, 45 respondents representing 28.1 % have agreed with the idea. On the other hand, 28 respondents representing 17.5% and 25 representing 15.6% have strongly disagreed that overseas PMS led to increase in medical and paramedical experience of the awardees, while 10 respondents representing 6.3% held a neutral view.

With regards to question 2, it can be observed that a total of 107 respondents representing a total of 66.9% have strongly agreed and agreed that OPMS enhanced the quality of medical services provided by the beneficiaries. Almost similar responses were obtained from question 3, 4 and 5 in which 125 (78.2%), 102 (85%), and 112 (70%) have unanimously agreed that OPMS has propound increase in the quality of diagnostic and clinical experience of the beneficiaries and it led to considerable improvement in the use of modernized pathways of patient's clinical care and treatment procedures in the hospitals across the state.

With regards to question 6, it can also be seen that a total of 102 respondents representing 63.7% have agreed that OUMS has helped in addressing the gap in the adequacy of health care personnel in the health sector of Kano state.

Test and Interpretation of Hypothesis

The hypothesis for this study states that “Overseas Undergraduate Medical Scholarship has no significant effect on Human resource capacity Building in health sector of Kano state”. The result form the test of hypothesis was presented in the table below:

Table 3: Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.903 ^a	.815	.814	.50815

a. Predictors: (Constant), Overseas Postgraduate Medical Scholarship (OPMS)

Source: SPSS 20 Output, 2023

The table 3 above provides the values of R, R-square and adjusted R-square. The R value represents the simple correlation and it is 0.903 (90.3%), which indicates a very high degree of correlation. The R² value (the “R Square” column) indicates how much of the total variation in the dependent variable, “human resource Capacity Building in health sector”, can be explained by the independent variable, “overseas Postgraduate Medical Scholarship”. In this case, 0.815 or 81.5% can be explained, which is statistically significant. The adjusted R² indicates the likelihood of independent variable to cause change in the dependent variable. In this case, it is 0.814 representing 81.4%

predicts the dependent variable of our model) and is shown below:

Table 5: The ANOVA table

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	179.946	1	179.946	696.893	.000 ^b
	Residual	40.798	158	.258		
	Total	220.744	159			

a. Dependent Variable: Human Resource Capacity Building

b. Predictors: (Constant), Overseas PMS

Source: SPSS output, 2023.

In the table 4 above, with $F = 696.893$ and 159 degree of freedom, the test is statistically significant indicating that there is linear relationship between the variables. This means that the IV is significant predictor of DV in our model.

The coefficient table below confirms the result.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	.765	.090		8.526	.000
	Overseas Postgraduate Medical Scholarship (OPMS)	.789	.030	.903	26.399	.000

a. Dependent Variable: Human Resource Capacity Building

Source: SPSS output, 2023.

Table 5 indicates that the regression model predicts the dependent variable significantly well. For the predictor “Overseas Postgraduate medical scholarship scheme”, our regression model is $y = 0.765 + 0.789x$. For the unstandardized β coefficients, the result shows that for each increase in OPMS, there is corresponding 78.9% increase in human resource capacity building in health sector of Kano state. For the standardized β coefficients, the result shows that Overseas Scholarship Scheme has the capacity to cause 90.3% change in manpower capacity building. Here, the P- value = 0.000, which is less than 0.05.

The paper assessed the contribution of overseas postgraduate medical scholarship scheme on human resource capacity building in health sector of Kano state. It can be stated without equivocation that the health workforce is an essential block of any functioning health system, the absence of which clinical and public health services cannot be delivered to the population, (World Health Report, 2019). Experts have actually shown direct links between efficient health system governance and promising health workers outputs, which ultimately have positive effects on overall health outcomes, (WHO, 2019). Based on the data that has been presented here from secondary and primary sources, and based on the result of test of hypothesis, it can be established that Overseas postgraduate Medical Scholarship (OPMS) had offered a significant contribution on human resource capacity building in health sector of Kano state. Specifically, the finding shows that overseas postgraduate Medical scholarship has played a key role in increasing the knowledge, skills, abilities, and experiences of the beneficiaries and this had significantly helped in addressing the gap in the

availability of health care personnel working in various hospitals in Kano state. Statistically, the result shows that with P value = 0.000 and the value of alpha (α 0.05), overseas postgraduate medical scholarship (OPMS) has the capacity to cause 0.903 (90.3%) change on HRCB in health sector of Kano state particularly in the Key Priority Areas (KPAs), of medical sciences, pharmaceutical sciences and nursing sciences. This finding was supported by secondary data presented in table 1 where it has been shown that OPMS had helped in addressing gap in the availability of manpower by 12.1% out of the total deficit of 12,705 health care personnel in the state. This finding was in line with the submission of Human capital Theory espoused by Schultz (1961) Becker (1964) and Mincer (1974) who unanimously agreed that investment in human capital through education, training and capacity building plays significant role in enhancing the health and wellbeing of the population, which are essential prerequisite of attaining highest level of development. Drawing analysis from this theory, it can be inferred that adequacy of trained manpower through overseas medical scholarship is an important prerequisite for enhancing good health, and good health when combined with sound education and training are the ultimate means of raising capacities of human resource, which in turn influences economic activity and social well-being of the people of Kano state.

Recommendations

Considering the significant contributions of overseas postgraduate medical scholarship (OPMS) in building the skills, knowledge and capacities of the beneficiaries and in addressing the gap in the availability of medical doctors, pharmacist and nurses, it is recommended that Kano state government should develop an additional clinical practice roles that are considered a key component of contemporary workforce planning. Additional clinical practice role is central to enabling the overseas medical returnees to transform service delivery and better use the experiences acquired through overseas to provide quality patients' care in a diverse clinical settings to meet local health needs of the people. This can be done by providing enabling working environment and enhanced condition of service within the clinical professions that will increase the performance of beneficiaries, enable them to take an expanded role and scope of practice caring for patients, use modernized pathways of patient's clinical care and treatment procedures from the time they first present, up to the end of medical and clinical treatment in the hospitals across the state.

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