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Rural eye care practice – survey of ophthalmology resident doctors in Nigeria

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尼日利亚乡村住院医师眼保健实践调查

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摘要

目的:评估尼日利亚见习眼科医生对农村实践的影响因素感受。

方法:该横断面调查在尼日利亚眼科住院医师中进行,他们参加了由西非外科医师学会和尼日利亚东南-南部眼科学会联合举办的年度神经眼科课程。为这项研究改编和修改的一份预先测试的封闭式调查表在课程结束时由所有同意参加者自行填写。调查收集了受访者的社会人口统计数据和农村眼保健服务意见。此外,还收集了受访者对乡村实践的感受、在乡村地区实践意愿以及在乡村工作的益处和障碍等信息。使用社会科学统计软件包进行数据分析。描述性分析产生集中趋势的量度,使用 Chi-square 检验各组间差异的统计学意义。在所有比较中,$P<0.05$具有统计学意义。

结果:44 例受访者平均年龄 32.9±0.56 岁。包括 24(54.5%)例女性,20(45.5%)例男性,男女比例为 1:0.8。受访者均对尼日利亚乡村服务的现状感到不满意。大多数(75.0%)受访者不愿意在乡村地区进行眼科实践工作。相较于男性,更多女性愿意在乡村地区工作。受访者在农村地区工作的最普遍潜在利益是"扶贫/服务国家"(37;84%)政策,而所有受访者(44;100%)指出缺乏基础设施是农村眼科实践的缺陷。

结论:调查中所有受访者对尼日利亚乡村眼保健服务的情况不满意,大多数人不愿意在乡村工作。

关键词:尼日利亚;眼科;调查

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Abstract

• AIM: To determine the factors affecting the uptake of rural practice by trainee ophthalmologists in Nigeria.

• METHODS: This cross sectional survey was conducted among Nigerian Ophthalmology resident doctors attending an annual Neuro-ophthalmology course jointly organized by the West African College of Surgeons and the Ophthalmological Society of Nigeria Southeast-South south zone (OSN SESS), preparatory to the part 1 and 2 fellowship examination from 15th to 21st June 2015. A pre-tested closed-ended questionnaire adapted and modified for this study was self-administered at the end of the course to all consenting participants. Data on respondent's socio-demographics and views about rural eye care services were collected. In addition, information was collected on the respondents' perception of rural practice, willingness to practice in the rural area, benefits and barriers to working in the rural area. Data were analyzed using the statistical package for social sciences (SPSS), version 19 (SPSS Inc., Chicago, Illinois, USA). Descriptive analysis yielded measures of central tendency while comparative statistical tests for significance of observed inter-group differences was performed using Chi-square. In all comparisons, the *P*-value for statistical significance was set at $P<0.05$.

• RESULTS: The total number of respondents was 44 aged 32.9±0.56y, comprising of 24 (54.5%) males and 20 females with a male to female ratio of 1:0.8. All the respondents viewed the current state of rural service in Nigeria as unsatisfactory. Majority (75.0%) of the respondents were unwilling to practice Ophthalmology in rural areas. More females than males indicated willingness to work in the rural area. The commonest potential benefit of working in a rural area mentioned by the respondents was "health services for the poor/serving the country" (37; 84%) while all the respondents (44; 100%), noted absence of infrastructure/facilities as drawback to rural ophthalmic practice.

• CONCLUSION: All the respondents in our survey had an unsatisfactory perception of Nigeria's rural eye-care

service and majority were unwilling to work in a rural area.

• KEYWORDS: Nigeria; ophthalmology; survey
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INTRODUCTION

The International Council of Ophthalmology (ICO) in a recent survey estimated that globally there are over 200,000 Ophthalmologists' most of which are in the developed countries[1]. Globally, 32.4 million people were blind in 2010, and 191 million people had moderate to severe visual impairment[2]. About 90% of these live in low income and resource-constrained settings[2]. In Nigeria, 4.25 million adults aged ≥40y are visually impaired or blind[3]. The prevalence of blindness increases with increasing age and it has been suggested that the number of individuals aged ≥60y is increasing approximately twice as fast as the number of ophthalmologists[4]. Research has shown that ophthalmologists are concentrated in the urban areas with the burden of blindness in rural areas[4]. This has grave implications for service delivery among the rural elderly.

Rural residents experience many difficulties in accessing health care services[5]. These difficulties include transportation difficulties, limited health care supply, lack of quality health care, social isolation and financial constraints among others[5]. These difficulties result in higher morbidity and mortality rates compared to those of the urban counterparts.

Access to high quality health care services for rural residents is dependent upon an adequate supply of rural physicians[6]. Despite efforts in some countries to ameliorate this situation, there is still a short fall in the number of rural physicians compared to the population with needs[5-7].

Many health workers prefer to work in urban areas due to higher incomes, better living conditions and better educational opportunities for their children[5]. And the converse is true with primary eye care givers unwilling to practice in rural areas due to the absence of such basic amenities[7-8]. Some studies seeking the opinion of students concerning practicing in the rural areas reported that most students with rural background were more inclined to opening a first or second practice in the rural area unlike their counterparts with urban background[8]. In fact in recruitment of health professionals, it has been suggested that two strong predictors for rural practice are the background and specialty of the physician with the family physicians more likely than those with less general training to go into rural practice. Other factors are training at a medical school with a mission to train rural physicians or with a rural rotation[6] - a strategy which has been suggested in India[9].

Ophthalmologists play a key role in community eye health (CEH). They act not only as healthcare providers, but also have an extended role as managers for efficient service delivery through team work, prioritizing local needs, advocacy among policy makers and collaboration with non-governmental organizations (NGOs) that provide resources and infrastructure to accomplish VISION 2020 goals[10].

Several Nigerian survey had reported mal-distribution of eye-care workforce skewed to the urban areas as a major barrier to uptake of eye care services[1,4]. However, to the best of our knowledge, there is no data in Nigeria exploring the factors that affect the decision to practice ophthalmology in a rural setting. The aim of this study is to determine the factors affecting the uptake of rural practice by trainee ophthalmologists in Nigeria. This will provide an insight into the views of future ophthalmologists and may form a baseline for future research that could influence policy on rural ophthalmic practice.

SUBJECTS AND METHODS

This cross sectional survey was conducted among Nigerian Ophthalmology resident doctors attending an annual Neuro-ophthalmology course jointly organized by the West African College of Surgeons and the Ophthalmological Society of Nigeria Southeast - South south zone (OSN SESS), preparatory to the part 1 and 2 fellowship examination from 15th to 21st June 2015. Participants were drawn from 17 of the 24 board-certified eye-care training institutions across the country.

Ethical clearance was obtained from the Ethics Committee of the University of Nigeria Teaching Hospital Ituku-Ozalla, Enugu State while informed consent was obtained from each participant.

A pre-tested closed-ended questionnaire[7] adapted and modified for this study was self-administered at the end of the course to all consenting participants. Data on respondent's socio-demographics and views about rural eye care services were collected. In addition, information was collected on the respondents' perception of rural practice, willingness to practice in the rural area, benefits and barriers to working in the rural area. Data were analyzed using the Statistical Package for Social Sciences (SPSS), version 19 (SPSS Inc., Chicago, Illinois, USA). Descriptive analysis yielded measures of central tendency while comparative statistical tests for significance of observed inter-group differences was performed using Chi-square. In all comparisons, the P-value for statistical significance was set at $P<0.05$.

RESULTS

The total number of respondents was 44, comprising of 24 (54.5%) males and 20, the ratio is 1:0.8. Majority were in the 31-35y age group with a mean age of 32.9±0.56y. The respondents who were in their first and second years of training were evenly distributed and all participated in the study.

Table 1 Differences in the characteristics of the students who expressed willingness to practice in rural areas and those unwilling

n (%)

Characteristics	Willingness to practice in rural areas		*P*
	Yes	No	
Sex			
M	4(36.4)	20(60.6)	0.15
F	7(63.6)	13(39.4)	
Location of residence			
Urban	9(81.8)	24(72.7)	0.84
Rural	2(18.2)	9(27.3)	
Perception of state of rural healthcare system in Nigeria			
Satisfactory	0(0)	0(0)	0.99
Unsatisfactory	11(100)	33(100)	

Thirty three (75.0%) respondents reside in urban areas with their families while 11 (25.0%) live in rural areas. All the respondents viewed the current state of rural service as unsatisfactory.

Majority (75.0%) of the respondents were unwilling to practice ophthalmology in rural areas. The differences noted in the characteristics of respondents were willing and those who were unwilling to practice in rural areas as shown in Table 1. More females than males indicated willingness to work in the rural area (P=0.147) (Table1).

The commonest potential benefit of working in a rural area mentioned by the respondents is "health services for the poor/serving the country" (37; 84%) followed by "gain knowledge about rural people and disease" (29; 65.9%) (Table 2).

In a follow up question about disadvantages of practicing in rural area, all the respondents (44; 100%), noted absence of infrastructure/facilities as drawback to rural ophthalmic practice while limited technology was a major concern for 38 (86.4%) participants (Table 3).

Table 2 Potential benefits of working in rural areas (n=44)

Potential benefits	*n*(%)
Health services for the poor/serving the country	37 (84.1)
Gained knowledge about rural people and disease	29 (65.9)
Easy/stress free life	15 (34.1)
Being respected as a doctor	15 (34.1)
Greater career opportunities (less competitive)	10 (22.7)

Table 3 Disadvantages of core rural practice (n=44)

Disadvantages	*n* (%)
Lack of infrastructural facilities	44 (100)
Low standard of living	28 (63.6)
Limited professional experience	26 (59.1)
Inadequate sanitation	19 (43.2)
Lack of educational opportunities for children	35 (79.5)
Limited technology	38 (86.4)
Lack of recreational facilities	27 (61.4)
Absenteeism of support staff	19 (43.2)
Security issues	17 (38.6)
Substandard housing	30 (68.2)
Having to live away from home	27 (61.4)
Possible effect on own health/illness	16 (36.4)

DISCUSSION

More males than females attended the Neuro-ophthalmology course and participated in this survey. Several surveys have reported male dominance in medical-related training and jobs[7,11]. According to the World Health Report in 2006[12], men dominate the medical profession. This trend is however changing especially in high income countries where females constitute up to 70% of medical school intake[13]. In spite of this disparity, more female respondents (55.2%) preferred to work in the rural areas. This may be attributed to the females preferring more relaxed and less demanding practice to enable them balance their roles as mothers, wives and doctors. However, contrary to our finding, other studies[14-15] reported that females prefer urban practice. This preference has also been attributed to the tension experienced by female rural doctors as they seek to balance their family and professional responsibilities[16]. The relationship between gender and willingness to work in a rural practice was however, not statistically significant[3]. In addition, living in a rural area did not significantly influence the choice of the practitioner for a rural practice. This is contrary to the findings in a South African study[8] where students with a rural background were more inclined to open a rural practice unlike their urban counterparts.

Similar to a study in India[7] there was a general perception by all the respondents that rural practice in Nigeria is unsatisfactory. It is therefore not surprising that majority (72.7%) were unwilling to work in a rural practice. This finding was however not statistically significant (P=0.99). The preference for urban practice in spite of the awareness amongst the respondents of the need for doctors in the rural areas while overwhelming, was not due to the lack of empathy for the rural dwellers or loyalty to the country as the respondents identified health services to the poor/serving the country, and gaining knowledge about rural people and diseases as in other studies[17] as some potential benefits of rural practice. This feeling may be pivotal in the willingness of resident doctors to volunteer their services in free medical outreaches in the rural areas where these services are lacking on a regular basis.

The choice for urban practice is might be a consequence of

poor management, planning and mal-distribution of resources characteristic of developing countries. These are reflected in the lack of infrastructure, low standard of living, and poor educational facilities among others identified by the respondents as barriers to rural practice. This is in agreement with findings from other studies in developing countries where unavailability of equipment, drug supplies in rural health facilities and poor educational facilities were cited as limiting factors for doctors (including ophthalmologists) to practice in rural areas[7,18]. This finding however, is not limited to developing countries alone as 90% of the participants in a similar study in Japan felt that rural practice will adversely affect the education of their children[19]. This same opinion was expressed by 79.5% of the respondents in this study contrary to the study in India[17] where only 6.5% of the participants showed concerns about the education of their children. This difference could be attributed to the age and educational status of the respondents. The participants in the Indian study were medical students with an average age of 21y and may have very limited family responsibilities.

Majority (59.1%) of the resident doctors in this study also felt they would have limited professional experience and development if they work in the rural communities. This is similar to the views in earlier studies by Kruk *et al*[11] and Saha *et al*[20] where the participants expressed fears in the areas of career development and progression such as promotions and specialty training opportunities. In Ghana[11], using the discrete choice experiment method, medical students interviewed, valued rural jobs with good infrastructure and equipment that can aid their professional growth[11]. This underscores the importance of creating a good working environment and provision of basic infrastructure in rural communities as a panacea for attracting doctors including Ophthalmologists in rural areas. It also strengthens the fact that rural jobs should come with incentives[11].

These incentives may include substantial salary increment[21], provision of good and decent accommodation, provision of basic infrastructure such as good roads, electricity, and water, opportunities for training and skill acquisition amongst others. These incentives are expensive and will require concerted efforts by government and policy makers in order to reverse the present trend.

The extrapolation of conclusions drawn from this study is limited by its small sample size. Also, information provided by participants is subject to recall bias, which is characteristic of questionnaire based surveys.

This study revealed an unsatisfactory perception of Nigeria's rural eye-care service and majority were unwilling to work in a rural area. For those who indicated willingness to work in a rural area, majority were females. "Health service to the poor" was noted as one of potential benefits of working in a rural eye care setting.

Lack of facilities/infrastructures was the main barrier affecting the uptake of rural practice. Policies to increase job-specific incentives and provision of adequate facilities and infrastructure in rural eye-care facilities is needed urgently to increase rural eye-care work force and optimize services to the rural populace.

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