

ORIGINAL RESEARCH

Are medical students satisfied with rural community posting? A survey among final year students in medical schools of south-east Nigeria

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ABSTRACT

Introduction: The aim of the study was to determine whether final year medical students in medical schools of south-east Nigeria were satisfied with rural community posting.

Methods: A cross-sectional descriptive study design was used. All final year medical students in the six medical schools in south-east Nigeria who had completed their rural community posting and were willing to participate were included in the study. The students were interviewed using a pretested, self-administered questionnaire.

Results: A total of 457 medical students participated in the study, representing a response rate of 86.7%. Only a minor proportion of the students (22.5%) were satisfied with rural community posting. The most common reason for dissatisfaction among the students was lack of interest in rural communities. Most students (68.7%) were of the opinion that a good rural community posting could influence the students to practise in a rural area after graduation. Factors associated with satisfaction with rural community posting included being a student in a federal institution (adjusted odds ratio (AOR)=0.6, 95% confidence interval (CI)=0.4–0.9),



being a male student (AOR=2.4, 95%CI=1.5–3.9) and intention to specialize in community medicine after graduation (AOR=2.7, 95%CI=1.2–6.0).

Conclusions: Most students were dissatisfied with rural community postings and the major reason for dissatisfaction was lack of interest in rural communities. A properly organized rural community posting is capable of changing the negative attitude of the students towards life and medical practice in the rural area. Adequate orientation of the students on the relevance of the posting, good community exposure and enhanced student lecturer interactions during the posting period could ensure satisfaction of the students. There should be a targeted evaluation of the rural community posting at the various medical schools in the country with the aim of strengthening and modifying the posting where necessary so as to ensure its purpose is realized.

Key words: medical schools, medical students, Nigeria, rural community posting, satisfaction.

Introduction

The origin of rural community postings for medical students in Nigeria's university system is the Ibarakpa Community and Primary Healthcare Programme of the University of Ibadan, in Ibadan in western Nigeria, which was initiated in 1963¹. This program, which was initially named the Ibarakpa project², preceded the famous Alma-Ata declaration on Primary Health Care by 15 years³. It has been described as an interdisciplinary training program in community health, development and empowerment². Based on the realization that community-based education has been useful in developing health personnel who are responsive to community needs^{4,5}, this concept has in recent times been regarded as an innovative approach to medical education⁶⁻⁸.

Some specific objectives of the Ibarakpa Community and Primary Healthcare Programme were to teach medical students, through practical work, the principles and practice of community medicine and to build a body of knowledge on the several factors that influence health promotion and disease prevention in rural communities¹. Studies from other regions of the world have revealed a significant relationship between exposure to a rural clinical school and willingness of medical students to practise in rural areas after graduation^{9,10}. It has also been found that exposing medical students to community field works during the period of training

motivates the students to work in rural areas after graduation¹¹.

In Nigeria, no medical school is located in a rural area; however, every medical student undergoes a rural-based medical education by virtue of the rural community posting. The rural community posting is a mandatory and rotational 2–3-month rural community experience by medical students during the period of training. This rural community program is under the supervision of the departments of community medicine of the various institutions and at present is a prerequisite for the accreditation and re-accreditation of any medical school in Nigeria. The National Universities Commission, in adopting the rural community posting as part of the curriculum of medical schools in Nigeria, viewed it as a way of introducing the students to life in rural community settings with the aim of assisting them to develop the skills, attitudes and motivation to work and live in rural communities after graduation¹². Some federal medical centers in Nigeria, which serve as tertiary health facilities, have also adopted this rural community healthcare program, especially if that institution hosts a department of community medicine.

Except for the accreditation programs of the various universities (once every 3–5 years) by the National Universities Commission, there has been no formal evaluation of the rural community program. However, it has been found that there is a significant relationship between satisfaction with rural community posting and willingness of



medical students to practise in rural areas after graduation¹³. Medical practice in rural area is of relevance because a higher proportion of Nigerians reside in rural areas¹⁴, where access to doctors is lower than in urban areas¹⁵ and the health indices are poorer¹⁶. Perhaps all these necessitated the call for the rural community posting to be student oriented and the need to emphasize this rural community experience for doctors in training¹³. Similarly, WHO policy recommendations on how to increase access to health workers in rural areas acknowledged the need for clinical rotations in rural areas during training¹⁷. And from a study in Nepal, medical students were of the opinion that repeated rural exposures and postings in rural hospitals and health centers would adequately prepare them for medical practice in rural areas¹⁸.

The present study was conducted among final year medical students in medical schools of south-east Nigeria to determine their satisfaction with rural community posting.

Methods

Setting

The study was conducted in medical schools in south-east Nigeria, which is one of the six geo-political zones in Nigeria. It is made up of five states: Abia, Imo, Ebonyi, Anambra and Enugu. It has a population of 16 381 729 people¹⁹, within a total area of 28 987 km²²⁰. The inhabitants are mostly of Igbo ethnic nationality and are predominantly Christians.

The south-east zone of Nigeria has 17 universities, comprising six federal and five state universities, while the remaining six are privately owned. Medicine is accredited for study in six universities in the zone. Two of these universities belong to the Federal Government of Nigeria: Nnamdi Azikiwe University, Awka, and the University of Nigeria, Nsukka, which was established in 1960 and is Nigeria's second oldest university. The state-owned universities that offer the study of medicine are those of Abia, Imo, Ebonyi and Enugu states.

Study design and participants

The study employed a cross-sectional descriptive study design using self-administered questionnaires.

The study population consisted of all final year medical students in medical schools of south-east Nigeria who had completed their rural community posting and also gave consent to participate in the study. The students completed the questionnaire after they had completed the rural community posting.

A total of 457 final year medical students in the six medical schools in south-east Nigeria participated in the study, representing a response rate of 86.7%. The participating medical schools included University of Nigeria, Nsukka (132 medical students, response rate 95%), Nnamdi Azikiwe University, Awka (79 students, response rate 82.3%), Abia State University, Uturu (67 students, response rate 80.7%), Ebonyi State University, Abakaliki (79 students, response rate 90.8%), Enugu State University of Science and Technology, Enugu (37 students, response rate 74%) and Imo State University, Owerri (63 students, response rate 87.5%).

Study instrument

The study instrument was a pretested, semi-structured questionnaire designed by the researchers. The aim of the pretesting was to detect and correct deficiencies or ambiguities of the study instrument. Information was obtained on the socio-demographic characteristics of the students, on whether or not they were satisfied, and why, with the rural community posting, the measures that could be adopted to improve the rural community posting and whether or not a good rural community posting could influence the willingness of the students to practise in a rural area after graduation.

Data analysis

The analysis was performed using STATA statistical software v13 (StataCorp; <http://www.stata.com>). Frequency tables



and cross-tabulations were generated and level of significance was based on $p < 0.05$. Multivariate analysis using binary logistic regression was used to determine the factors predictive of satisfaction of students with rural community posting. Variables with $p < 0.2$ in bivariate analysis were entered into the logistic regression model to determine the predictors of students' satisfaction with their rural community posting. The results were reported using adjusted odds ratio (AOR) and 95% confidence interval (CI).

Ethics approval

Ethical approval for the study was obtained from the Health Research and Ethics Committee of the University of Nigeria Teaching Hospital Ituku-Ozalla, Enugu, with approval number NHREC/05/01/2008B-FWA0002458-IRB00002323. The students were required to sign a written informed consent form before participating in the study. The nature of the study, its relevance and the level of their participation were well explained to them. They were assured that all information that they provided in the questionnaire would be treated confidentially and anonymously. Participation in the study was voluntary and participants were assured that there would be no victimization of anyone who refused to participate or who decided to withdraw from the study after providing consent.

Results

Table 1 shows the socio-demographic characteristics of the students. The mean age of the students was 25.5 ± 2.9 years with the majority (51.6%) within the age group of 25–29 years. A higher proportion of the students (57.1%) were male and the majority of the parents of the students had a tertiary education. Most students had an urban background and had attended secondary schools in urban areas.

Table 2 shows the satisfaction of the students with their rural community posting. A minor proportion of the students (22.5%) were satisfied with their rural community posting. The most common reasons for dissatisfaction among the

students included lack of interest in rural communities (30.5%), poor supervision (24.3%) and inadequate community exposure/experience (21.2%). Suggestions by the students on how to improve the posting were improved interaction with lecturers during the posting period (66.9%), proper rural community posting orientation (38.9%), provision of transport (31.7%) and availability of residential quarters for the students (30.4%). Most of the students (68.7%) were of the opinion that a good rural community posting could influence students to practise in rural area after graduation.

Table 3 shows the factors affecting the satisfaction of the students with their rural community posting. The medical students in federal universities were half as likely to be satisfied with rural community posting as those from state universities (AOR=0.6, 95%CI=0.4–0.9). The male medical students were 2.4 times more likely to be satisfied with rural community posting than were female medical students (AOR=2.4, 95%CI=1.5–3.9). The students whose intention was to specialize in community medicine after graduation were about three times more likely to be satisfied with their rural community posting than those who did not have such an intention (AOR=2.7, 95%CI=1.2–6.0).

Discussion

A minor proportion of the students (22.5%) were satisfied with their rural community posting. This is not encouraging, bearing in mind the long history of the program and also the recent call that this posting should be student oriented¹³. It may be an indication that the institutions may have lost touch with the values that informed the initiation of the rural community program. This is further supported by the fact that there has been no formal evaluation of this program since its commencement, either at the institutional or national level. This result is at variance with that from a similar study from South Africa where 81% of the students who participated in the study rated their experiences with rural medical education as above average²¹.



Table 1: Socio-demographic characteristics of respondents

Variable	Frequency (n=457)	Percentage
Age group (years) (mean age = 25.5±2.9 years)		
<24	190	41.6
25–29	236	51.6
30–34	23	5.0
>35	8	1.8
Sex		
Male	261	57.1
Female	196	42.9
Ethnic group		
Igbo	438	95.8
Yoruba, minority tribes	19	4.2
Marital status		
Never married	414	90.6
Married	43	9.4
Religion		
Christianity	446	97.8
Islam, traditional African religion	11	2.2
Education of father		
No formal education	15	3.3
Primary education	56	12.3
Secondary education	63	13.8
Tertiary education	323	70.7
Education of mother		
No formal education	13	2.8
Primary education	42	9.2
Secondary education	71	15.5
Tertiary education	331	72.4
Place of family residence		
Urban	404	88.4
Rural	53	11.6
Location of secondary school		
Urban	378	82.7
Rural	79	17.3

The major reason for dissatisfaction with rural community posting among the students was lack of interest in rural areas. This same reason was found to be the major reason why medical students were unwilling to practise in rural areas after graduation¹³. These responses by the students are not surprising since the majority of them live with their families in urban settings and they also had their secondary education in urban areas. This, however, should renew the focus on the relevance of rural community postings. This is because the posting has been viewed as an intervention at the medical curriculum level to reverse the negative attitude of medical

students to life in rural communities and practise in rural area after graduation^{13,22}, hence the conclusion that community-based medical education produces health workers that are better prepared for community service delivery⁶⁻⁸. The emphasis on rural medical practice is justified as the majority of Nigerians reside in rural areas¹⁴, and the health indices are poorer than those of urban areas¹⁶. The National Universities Commission also had this concept in mind while including rural community postings in the curriculum of medical students in Nigeria¹².



Table 2: Satisfaction of students with rural community posting

Variable	Frequency (n=457)	Percentage
Satisfaction with rural community posting		
Satisfied	103	22.5
Not satisfied	354	77.5
Reasons for dissatisfaction with rural community posting (n=354)		
Lack of interest in rural communities	108	30.5
Poor supervision	86	24.3
Inadequate community exposure/experience	75	21.2
Non residential	40	11.3
Inadequate time	21	5.9
No specific reason	24	6.8
Reasons for satisfaction with rural community posting (n=103)		
Adequate community exposure/experience	63	61.2
Good participation	22	21.4
Good accommodation	10	9.7
No specific reason	8	7.8
Suggested measures to improve rural community posting (n=457) [†]		
Improved interaction with lecturers	306	66.9
Proper orientation about posting	178	38.9
Provision of transport	145	31.7
Residential quarters for students	139	30.4
Good community involvement	125	27.4
More time/posting	47	10.3
Allowance for students	31	6.8
Can good rural community posting influence practice in rural area after graduation?		
Yes	314	68.7
No	143	31.3

[†] Multiple responses were encouraged

The other reasons given by the students for their dissatisfaction with their rural community posting present a poor assessment scorecard for the program by the students. Reasons such as poor supervision, inadequate community experience and lack of residential quarters for the students are indications that the conduct of the rural community program in the various medical schools is not in line with the objectives guiding its establishment. The reasons are interrelated: a rural community posting that is non-residential and one in which supervision is adjudged to be poor cannot provide students with the expected community exposures during the period of posting. Also, the absence of residential quarters for the students during rural community posting runs counter to the good plans of the National Universities Commission for the posting.

The suggestions by the students on how to improve rural community postings are very interesting and should be adopted by

the managers of the program in all the medical schools in Nigeria. Apart from the suggestion that monetary allowances be paid to the students for their participation in the posting, the suggestions indicate that the students may be aware of the need and relevance of the rural community posting in today's medical curriculum. Suggestions such as provision of residential quarters for the students, provision of transport and improved student lecturer interactions are a strong basis for improved funding and staffing by the management of the various medical schools. Likewise, on the part of the medical tutors it is a call on the insistence on minimum standards, especially as stipulated by the National Universities Commission, better supervision of the students as well as a proper orientation of the students on the relevance and expectations from the rural community posting. The posting period could also serve as an opportunity for innovative community learning processes like field trips, community outreach and involvement in community assessments.



Table 3: Factors affecting satisfaction of students with rural community posting

Variable	Satisfaction with rural community posting (n=457) (n(%))		p value on bivariate analysis	AOR/95%CI on multivariate analysis
	Yes	No		
Age (years)				
≤26	71 (22.0)	252 (78.0)	0.658	NA
>26	32 (23.9)	102 (76.1)		
Type of university				
Federal	39 (18.4)	173 (81.6)	0.049	0.6 (0.4–0.9)
State	64 (26.1)	181 (73.9)		
Sex				
Male	73 (28.0)	188 (72.0)	0.001	2.4 (1.5–3.9)
Female	30 (15.3)	166 (84.7)		
Marital status				
Never married	95 (22.9)	319 (77.1)	0.517	NA
Married	8 (18.6)	35 (81.4)		
Education of father				
Primary education or less	12 (16.9)	59 (83.1)	0.216	NA
Secondary education or more	91 (23.6)	295 (76.4)		
Location of secondary school				
Urban	80 (21.2)	298 (78.8)	0.124	0.7 (0.4–1.3)
Rural	23 (29.1)	56 (70.9)		
Place of family residence				
Urban	87 (21.8)	313 (78.2)	0.285	NA
Rural	16 (28.1)	41 (71.9)		
Work experience before entry to medical school				
Yes	22 (24.7)	67 (75.3)	0.583	NA
No	81 (22.0)	287 (78.0)		
Financing of medical education				
Relative, husband, self, scholarship	21 (23.9)	67 (76.1)	0.741	NA
Parents	82 (22.2)	287 (77.8)		
Intention to specialize in community medicine				
Yes	10 (35.7)	18 (64.3)	0.085	2.7 (1.2–6.0)
No	93 (21.7)	336 (78.3)		

AOR, adjusted odds ratio. CI, confidence interval. NA, not applicable

Most students were of the opinion that a good rural community posting could positively influence students to practise in a rural area after graduation. Perhaps the students focused on their various suggestions in coming to this conclusion. A study in Malaysia also revealed that exposing medical students to field works in rural areas during public health postings is capable of influencing the willingness of the students to work in rural areas after graduation²². From a study in Nepal came the suggestion about the need for repeated rural exposures and postings in rural hospitals for medical students¹⁸. This was based on the observation by the

students that their existing medical curriculum does not adequately prepare them for rural medical practice.

Based on the logistic regression results, the students in federal universities were about half as likely to be satisfied with rural community posting than were students in the various state universities. This may be a reflection of the different approaches the various medical schools have adopted in pursuit of the rural community posting. The male students were twice as likely to be satisfied with their rural community posting than were female students. This could be expected based on the fact that the rural community posting



may require certain adjustments by the students since most of them have urban backgrounds. It could be that the male medical students adjusted better and faster than their female counterparts hence were more satisfied with their rural community posting.

The students who intended to specialize in community medicine/public health after graduation were about three times more likely to be satisfied with their rural community posting than were other students who did not have that intention. It has been found that students who had in mind to specialize in community medicine were more willing to practise in rural areas after graduation¹³. In the postgraduate medical training for community medicine/public health in Nigeria, the rural community posting has a very strong placement. It could be that the students were aware of this and were already becoming prepared for the task ahead. Satisfaction with rural community postings could be seen as promoting interest in community medicine and also the willingness of medical students to practise in rural areas after graduation¹³, hence the need to strengthen the program. This could be done by looking into the suggestions by the students on how to improve the posting.

Conclusions

Most of the students in this study were dissatisfied with their rural community posting, and the major reason for dissatisfaction was lack of interest in rural communities. A properly organized rural community posting is capable of changing the negative attitudes of students towards life and medical practice in the rural area. Adequate orientation of the students on the relevance of the posting, good community exposure and enhanced student lecturer interactions during the posting period could ensure satisfaction of the students. There should be a targeted evaluation of the rural community posting at the various medical schools in the country with the aim of strengthening and modifying the posting where necessary so as to ensure its purpose is realized.

Limitations

There was the possibility of a recall bias on the part of the students; this is often the case in any study that involves memory recall on the part of respondents. Also, institutional variability could affect the perception of the students of the rural community posting. The different medical schools conduct their rural community posting at similar stages of the training but under different conditions and arrangements that may affect the judgement of the students. Finally, use of cross-sectional design for the study and the nature of the research question may be limited in exploring the underlying complexities of a concept like satisfaction. The inclusion of a qualitative research method could have complemented the results of this study.

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