

ASSESSMENT/EVALUATION

Assessment of the Impact of Community-Based Medical Education of the University of Maiduguri on Communities in Three Local Government Areas of Borno State, Nigeria: Community Leaders' Perspectives

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ABSTRACT Background: *The community-based training of the University of Maiduguri Medical College was expanded in 1990 to cover three rural local government areas (LGAs) located between 25 and 145 km from the University. This study was conducted between March and May 2000 to assess the impact and level of awareness of the training in the three LGAs in promoting the ideals of Primary Health Care (PHC) and community-based medical education, as perceived by community leaders.*

Method: *Focus group discussions (FGDs) were held with community leaders of each of the communities.*

Results: *Consistency in the recollection of what time in the year and for how long the students were in the various communities indicates awareness in all the community leaders. They also indicated that the programme has had a positive impact on their community's health, they would like the students to focus on specific endemic diseases, such as guinea-worm, hypertension, etc, and intensify community outreach programmes, such as home visits and health education. Most participants indicated that their communities participated in the programme by providing accommodation, feeding and other logistics on an ad hoc basis. Community leaders mobilized the communities for health education and other related activities carried out by the students.*

Conclusion: *The community-based medical training of the University of Maiduguri has increased community awareness of preventive aspects for various communicable and non-communicable diseases. In addition it has helped to encourage the communities to participate actively in supporting PHC activities.*

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Introduction

The University of Maiduguri medical school was established in 1978, 3 years after the establishment of the University. Students are admitted to the medical school through the Joint Admissions Matriculations Board (JAMB), Direct Entry (DE), and the Remedial Year Programme (RYP). The duration of the course is between 5 and 7 years depending on the point of entry. Community medicine is taught from years 2–6.

The overall objective of Community-Based Medical Education (CBME) is to produce sufficient numbers of highly qualified doctors to meet the health needs of the nation at the community and hospital levels. The goal is to produce community-oriented doctors who are able and willing to serve their communities and deal effectively with health problems at primary, secondary and tertiary levels (Hamad, 1991). The success of community-oriented innovations in medical education is dependent on the degree to which they are linked with complimentary innovations in community health services delivery (Urbina & Kaufman, 1991). The traditional biomedical approach to illness in individuals has little impact on the health of whole communities where most illness is due to social, economic and political factors linked to unhealthy behaviours and adverse environmental factors, including poverty, social dysfunction, air and water pollution, smoking, lack of exercise, and alcohol and drug abuse (US Department of Health, Education and Welfare, 1979; Minkler, 1986; Syme, 1986).

In 1990, the college began the community-based training in three of the 27 local government areas (LGAs) in Borno state (Konduga, Bama and Gwoza), the immediate host of the University. In addition, the University serves five other states in the northeast region of Nigeria. The selection of the local governments was based on proximity, their rural nature and willingness to participate. They are located between 25 and 145 km southeast of Maiduguri town from Maiduguri. The three LGAs are predominantly rural and most of the villages lack social amenities, such as potable water, electricity and roads which are rendered impassable during the rainy season. Villages are scattered throughout the area and most do not have health care facilities. The few available PHC are poorly staffed and equipped. Most inhabitants are engaged in subsistence farming with earnings below 20 US dollars per annum.

In their final year our medical students undertake an 8-week residential posting in these LGAs. Details of the posting, including its objectives, activities, supervision and method of students assessment have been described by Omotara *et al.* (1992a). However, no assessment has been

carried out on the perception of the communities on this posting since its inception over a decade ago, whereas its impact on the medical students has been reported (Omotara *et al.*, 1992b). A report of the World Health Organization (1993) showed that the evaluation of innovations in the education of health professionals has commonly concentrated on the effects on students and teachers, with less attention paid to the effect of education on practice patterns and very little attention to the effect on health in the community. The objective of this paper was to assess the level of awareness and impact of the community-based medical training of the University of Maiduguri on the health of the community in promoting the ideals of Primary Health Care (PHC) and Community-Based Medical Education (CBME) as perceived by the community leaders in the various communities.

Methodology

Focus group discussions (FGDs) were conducted among community leaders in the three LGAs. Two community leaders were invited from each community where medical students have been continuously posted since the inception of the posting in 1990. Each focus group consisted of 8–10 community leaders from the various villages in each of the LGAs. Their ages ranged between 40 and 70 years and all were male. This is the usual age pattern for community leaders in this part of Nigeria. Two FGDs were conducted per LGA, and a total of six were conducted overall between March and May 2000, more than 6 months after the last students' postings. In preparation for the study, consent was sought from the Chair of the LGAs through the PHC coordinators. All those who were recruited were present for the FGDs. They all seemed enthusiastic to participate in the study as demonstrated by their promptness at the venue. Each FGD lasted between 45 to 60 minutes and was conducted by a facilitator and note taker, both of whom were fluent in Kanuri and Hausa languages. The FGDs in Konduga and Bama were conducted in Kanuri, the predominant language in the two LGAs and Hausa in Gwoza because of the area's multi-ethnic composition. All FGDs were conducted using standard procedure (Kitzinger, 1995). The District head's palace in Konduga, secretariat conference room in Bama and PHC Centre in Gwoza were the various venues used.

Guide questions were asked in accordance with the objective of the study (see Appendix). The responses were transcribed and analysed in accordance with qualitative analysis methods using themes in the objective of the study (Bernard, 1988). The responses were compiled into tables according to the themes and the three study areas.

Results

The results of the focus group discussions are presented below. The responses were analysed according to the objective of the study; awareness, felt impact on their health and community participation and involvement. The study enjoyed a good response rate as all the invited community leaders promptly showed up at the study venues. Table 1 shows the response of the community leaders in the three practice areas. They were all aware of the students' activities in their areas and the approximate time the program started.

The initial reaction of the communities' to the medical students' visit was one of uncertainty (as to what impact the students' visit would have on their lives) in Bama and Gwoza while in Konduga communities it was that of happiness. The students covered most of the villages. They were able to identify that the period of the students' posting varied. The major student activities identified were health education, environmental health, immunization and diagnosis and treatment of minor ailments. They all agreed that their initial reaction to the students' visit changed positively with time.

Table 2 shows the perceived impact of the students' visit on the health of the community. All the community leaders liked the students' visits. They commended them for their maturity and good clinical skills. They particularly appreciated their house-to-house visits in Bama and Gwoza LGAs. They had no dislikes about the visits. The continuity of the programme has increased their awareness of good preventive measures and in some cases saved them the cost of transportation to the hospital. They suggested that the period of the visits be extended, more students be posted to their communities and if possible, their stay should be permanent. Emphasis on house-to-house visits was also suggested. They felt that the LGA should provide more incentives for the students in terms of better accommodation and other logistics for more effective coverage of the areas.

Table 3 shows the level of community participation accorded to the programme and the perceived impact of the programme on the health of the community. All the community leaders in the three LGAs said that they helped to mobilize their subjects before the arrival of the students. They mixed freely with the students and invited them to their houses in the evenings. They occasionally provided transport, feeding and accommodation. They also served as interpreters when needed. The programme has generally improved the communities' knowledge of diseases and prevention measures. In addition it has helped the people in Bama to form health cooperatives to assist one another and to exchange ideas on health related matters. A prominent member purchased drugs for the community as a result of the programme. In Gwoza the people have improved on their personal hygiene, sanitation and have become more enlightened in the preparation and administration of oral rehydration therapy.

Table 1. Awareness of the programme

Awareness	Local Government Area		
	Konduga	Bama	Gwoza
Period of year of the posting	Varies	Varies	Varies but generally September or April
Activities of medical students	Diagnosis, Treatment, Health Education on various diseases and Environmental Health	Diagnosis, Treatment and Health Education	Epidemic control (measles) Immunization, Diagnosis, Treatment and Nutritional Education
Change in initial reaction and how	Yes Became more receptive and realized the benefits of their visits.	Yes Found that they are helpful. Our interest grew in their activities.	Yes All our initial fears are allayed. People came to accept even the family planning advice offered as well as other Health Education topics.

Table 2. Impact on the village

Items	Local Government Area		
	Konduga	Bama	Gwoza
Likes and Dislikes of the programme	Like all the programmes so far. Especially: ORT, Control of Hypertension, Immunization, Treatment and preventive measures that have saved them from going to the hospital.	Like all activities. Their patience and matured approach. They are well organized despite their few numbers. They show good skill especially during the episode of two CSM* cases in one particular year. Their good skills in treatment and management attract patients from across the border. House-to-house visits & health education.	They like all activities, especially health education, environmental health and house-to-house visits for diagnosis and treatment.
Reason(s)	Made them more productive, more conscious of prevention. Encourages their health promotion activities.	Home treatment, which saves people transport costs. Health education on Environmental Health specifically latrine care.	The Community Health Education is offered at the village head's house, which attracts more people for a longer period. They also see, examine and treat people on the spot.

*CMS – cervical spondylotic myelopathy.

Table 3. Community participation

Items	Local Government Area		
	Konduga	Bama	Gwoza
Types/Nature of participation	Village head prepares the ground for student's arrival by mobilizing and motivating his community. Helps in interpretation. Mixes with the students freely to make them feel at home. Invites them to their homes, especially on occasions such as marriage ceremonies	Mobilize the community in general to participate. Occasionally provides feeding, accommodation, transportation and social interaction.	Provides accommodation. Occasionally transports them in addition to providing water and food.
Impact	Generally improved their knowledge about diseases and the way they can be prevented. Specifically diarrhoea and vomiting, cholera and hypertension.	Has stimulated their interest in health related activities so much that they are thinking of forming Health Cooperatives to assist one another and to exchange ideas on health related matters. One of the active members in the community purchased drugs for their area as a result of the programme.	The community has become more enlightened in ORS* preparation and administration of water purification, health education on how to keep their environment clean, care of toilets and waste disposal.

*ORS – oral hydration solution.

Discussion

The Community-Based Medical Education (CBME) programme of the University of Maiduguri was initiated in 1990 in three, predominantly rural local government areas. Final year medical students are posted to each of these LGAs for a period of 8 weeks (Omotara *et al.*, 1992a). Even though this is a qualitative study which has mostly relied on the response of community leaders, its strength lies in the fact that they (community leaders) have great influence on their subjects and can competently speak for them. As in all qualitative research, the emphasis is not on quantification of data or on external validity, that is, generalizability of the findings to another context. Rather the emphasis is on understanding specific realities which hypothesis may be generated for further or other quantitative investigations (Bernard, 1988). The attitudes of the medical students towards this posting and community medicine have been reported (Omotara *et al.*, 1992b). There is awareness of the students' visits in the three LGAs, which indicates that the areas are well covered by the students. Most of these communities are underserved by the health care delivery system, and do not have access to any health care centre within 20 km. Regular transportation is almost inexistent in most of the villages as vehicles only ply the route once a week on market days. This inadequacy may have contributed to the eventual acceptance of the visits by medical students.

The 8-week annual posting of the final year medical students to these areas has changed the lives of the people. However, it is difficult to estimate the level of changes that have contributed to the well-being of these communities. Are the services offered by the students really what the community needs? Are the services offered by the students accepted by the community, or do they cause mainly a loss of community time, resources and efforts during the process of learning? The results of this study have answered these questions in the affirmative.

The measurement of impact of community-based education in the community is important for several reasons. First, demonstrating an impact reflects on the students' enthusiasm, as they often feel embarrassed that they may not be providing services equal to what the community offers them. Second, CBME programmes in many universities are supported by external funds. Establishing a positive impact on the surrounding community may be helpful in attracting support for these programmes. Third, measuring impact helps to refine objectives and improve decision-making concerning the programme implementation. Finally, and most importantly, measuring impact serves as feedback to the community, which is expected to strengthen the partnership between the university and the community (Magzoub *et al.*, 2000).

There is a dearth of studies in the literature that have attempted to measure the impact on a community because of the difficulty in doing so. Studies of this nature face serious methodological problems because of the pluralistic nature of health care delivery systems in most communities and the difficulty in

measuring health. Many factors interact to influence the health status of the population (Mosley & Chen, 1983). One of the approaches that has been tried to solve this problem in the context of CBME is to measure consumer satisfaction with the services provided, as satisfaction is a prerequisite for successful and sustainable community participation in the activities undertaken (Magzoub *et al.*, 2000). The level of satisfaction expressed by the response of community leaders in this study indicates that the programme had made some impact on their health. The result of our study showed that the students' visits were received with mixed feelings at the initial stage, perhaps because the communities were unsure of what to expect, but became more accommodating when they began to realize the benefits. This type of initial reluctance by the community was reported in the Del Rio project where the area had a history of short-lived social projects (Goodrow & Meyers, 2000).

Community participation is one of the principles of Primary Health Care. In this programme there was a clear demonstration of community participation and involvement, so much so that the communities are calling for the posting of medical students all year round. The communities have been empowered in the areas of good personal hygiene practices, sanitation, and better health seeking behaviour, among others. They have also been motivated to form health cooperatives in some communities and even accept family planning in others.

One of the distinctive features of community-based learning is that colleges and communities work together for mutual benefit through direct student service linked to course work. Home visits to families in the community offer more than a mere act of shared learning. They provide services that meet individual and community needs and facilitate students and the college by becoming partners in problem solving (Waddell & Davidson, 2000). This was observed in this study as the community leaders attested to the benefits they derive from the students' home visits. The visits also expose students to personal travails of the people in a way that cannot be addressed in the traditional settings. This has served as a learning ground for the students as well as fulfilled one of the objectives of the posting.

The posting of medical students over the 10 years of the programme's existence has created awareness about health in the people as evidenced by improved personal hygiene practices and health seeking behaviour. It has encouraged the communities to discuss their health problems more freely with one another. It is envisaged that the programme will enjoy more logistic support from the Local Government Authorities to enable the students to reach more remote areas. In the study of the students' assessment of the posting, 76% indicated that the community's attitude was favourable and conducive to learning, and 72% indicated that 80% of their expectations were met at the end of the posting (Omotara *et al.*, 1992b). In view of the success of this programme (community-based medical education), other LGAs should be included in the programme. Also other medical schools without community-based education in their curriculum are advised to consider doing so.

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Appendix

The following were the guide questions for the conduct of the FGDs.

A. Awareness of Programme

- 1 Are you aware of the programme?
- 2 How long have you been aware?
- 3 What was your initial reaction to the programme?
- 4 Has the programme been active in your village?
- 5 If so, which years have they been active and during which time of the year?
- 6 Can you describe the activities of the medical students during their time with you?
- 7 Has your initial reaction changed since the beginning of the programme?
If yes, in what way(s)?

B. Impact on villages

- 1 Can you tell us what you like and what you don't like about the programme?
- 2 Which aspect(s) of the programme do you think is especially valuable to your community?
- 3 Probe: Why so valuable?
- 4 Is there anything else that you would like to see in this programme to improve the health of the villagers?

C. Community participation

- 1 Has your village done anything to assist those medical students who have come to stay with you?
- 2 Probe: If yes, details of this assistance.
- 3 Has your participation in health related activities risen as a result of your interaction with the medical students?
- 4 Probe: which health activities?