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Communities' Awareness, Perception and Participation in the Community-Based Medical Education of the University of Maiduguri

B. A. OMOTARA, S. J. YAHYA, U. SHEHU, H. S. BELLO & A. P. BASSI

Department of Community Medicine, College of Medical Sciences, University of Maiduguri, Maiduguri, Nigeria

ABSTRACT **Background:** *Community-based medical education (CBME) is no longer a new innovation in medical education since the establishment of The Network: Towards Unity for Health (The Network: TUFH) 25 years ago. The CBME of the University of Maiduguri medical college is 14 years old and has never been assessed in terms of the population it serves. The study was conducted to determine the level of awareness, perception, and participation of the communities in CBME.*
Methods: *A cross-sectional survey was carried out in 11 village units of three Local Government Areas (LGAs) using a 14-item structured questionnaire administered to adults in randomly selected households. The questionnaire was based on guide questions used for focus group discussions held earlier with community leaders.*
Results: *Awareness of students' visits among respondents was 73.7%. Knowledge of the frequency of presence of the students in the communities was 72.2%. ''To examine and treat'' (33.6%) and ''to ask questions'' (16.6%) were the most prominent reasons given for the visits. The majority of respondents perceived the visits as beneficial (72.2%). More frequent visits were requested by 54.4% of the respondents. The communities were willing to be more accessible and felt that the LGAs should provide more logistic support to the program.*
Discussion: *This study revealed that communities were aware of students' visits and knew reasons for the visits, thought visits were beneficial, and were willing to provide more support for these visits.*

KEYWORDS *Awareness, perception and participation in CBME.*

Author for correspondence: Professor B. A. Omotara, Department of Community Medicine, College of Medical Sciences, University of Maiduguri, Maiduguri, Nigeria. Tel: 234 76 236102, 234 80 36142120, Fax: 234 76 23466. E-mail: atunjeba@yahoo.com

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Introduction

The University of Maiduguri College of Medical Sciences was established in 1978, three years after the opening of the University. The first group of 21 medical students graduated in October 1983. However; the Community-Based Medical Education (CBME) curriculum was not started until 1986 when 41 final year medical students were assigned to Song, a predominantly rural Local Government Area (LGA) about 400 kilometers away from Maiduguri. This experience took place over a period of 8 weeks for clinical and primary health care exposure as well as to conduct a community health survey in 10 Basic Health Centres spread across the LGA. This practice was discontinued in 1989 when it became apparent that the Song (LGA) was too far from Maiduguri, coupled with the dearth of staff in the Department of Community Medicine, the host department.

Alternative strategies were considered and a partnership was consequently established between three local government areas (Konduga, Bama, and Gwoza). There was an understanding that the University, through the College of Medical Sciences, the local government authorities and the communities would own the program. The farthest away is Gwoza, which is approximately 145 km, while the nearest is Konduga, 25 km.

The three LGAs are predominantly rural with most of the villages lacking such amenities as potable water and electricity, with roads that are rendered impassable during the rainy season. Health care facilities are not available in most of the villages which are scattered in the areas. The few available Primary Health Care (PHC) centres are poorly staffed and equipped. Most inhabitants are illiterate and engage in subsistence farming with earnings below 20 US dollars per annum.

The overall objective of CBME is to produce highly qualified doctors in sufficient numbers to meet the health needs of the nation at community and hospital levels. The aim 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 complementary 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 for whom most illness is due to social, economic and political factors which are 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; Syme, 1986; Minkler, 1986; Syme, 2004).

In the current program, medical students undertake an eight-week residential posting in their final year in the LGAs. Details of the posting including its objectives, activities, supervision and method of assessment of students have been described by Omotara *et al.* (1992a). While the impact of the posting on medical students (Omotara *et al.*, 1992b) and the perspectives of

community leaders (Omotara *et al*., 2004) have been reported, no assessment has been carried out on the awareness, perception, and the level of participation of the communities on this posting since its inception over a decade ago. 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 of the community. The objective of this study was to assess the communities' awareness, perception and participation in the CBME program of the University of Maiduguri medical school.

Methods

A cross-sectional survey was carried out using a structured questionnaire administered to 453 adults, selected from a total of 11 village units in three LGAs. Village units were selected from clusters of villages in each LGA using cluster sampling. Households were then selected using simple random sampling based on the existing Primary Health Care (PHC) house numbering system and the sample size was taken in proportion to the size of the villages. One adult was randomly selected for an interview in the household by balloting, with no incentive given to respondents.

The questionnaire consisted of 14 statements/questions (both open and close-ended) regarding the individual's awareness, perception, and participation in the CBME programme of the University of Maiduguri. ''Awareness'' simply means having knowledge of the presence of medical students in the community, while ''perception'' means the individual's view of the reason for the visits, and ''participation'' refers to what the individual contributes or is willing to contribute to facilitate the visits.

Information obtained from analysis and results of qualitative data preceding this study (Omotara *et al*., 2004) served as a guide for the validation of the questionnaire. All the questionnaires were administered by trained research assistants. Completed questionnaires were classified and analysed using the Epi Info 2002 software. Results are presented in frequency tables and percentages by local government areas and variables related to awareness, perception, and participation in the medical students' posting.

Results

A 100% response rate was obtained from 453 adults between the ages of 25 and 60 years, with 55% males and 45% females.

Table 1 presents the level of awareness and perception of students' visits by members of the various communities. Overall, the majority (73.7%) of the

Table 1. Awareness and perception of students' visits by communities

Items	Local Government Area			Total
	Konduga $n=150$ (%)	Bama $n=153$ (%)	Gwoza $n=150$ (%)	$n=453$ (%)
Awareness in LGA	150(100)	79(51.6)	105(70.0)	334(73.7)
Awareness in community	149(99.3)	76(49.7)	102(68.0)	327(72.2)
Frequency of Visits*	146(97.3)	26(17.0)	58(38.7)	230(50.8)
Duration	0(0)	32(21.3)	7(4.7)	39(8.6)
Purpose of visit				
To ask questions	2(1.3)	27(17.6)	46(30.7)	75(16.6)
To examine and treat	144(96.0)	9(5.9)	1(0.06)	154(33.6)
To examine, treat, ask questions & give drugs	0(0)	2(1.3)	0(0)	2(0.2)
To ask questions & give drugs	0(0)	0(0)	17(11.3)	17(3.6)
To give drugs	0(0)	8(5.2)	29(19.3)	37(8.2)
Are the visits beneficial? Yes	*148(98.7)*	*77(50.3)*	*102(68.0)*	*327(72.2)*
*Perceived benefit***				
Create health awareness	10(6.8)	4(5.2)	19(18.6)	33(10.1)
Educate the people	1(0.7)	10(13.0)	29(28.4)	40(12.2)
Improve peoples' health	130(87.8)	53(68.8)	51(50.0)	234(71.6)
Give drugs	4(2.7)	4(5.2)	3(2.9)	11(3.4)
Do not know	3(2.0)	6(7.8)	0(0)	9(2.7)

*Number of visits per year and the total number of years of visits.
**Percentages based on the number of those who perceived the visit as beneficial.

respondents were aware of the students' yearly visits, with the highest level indicated in the Konduga LGA. Respondents in Konduga were also more knowledgeable about how often students were in the community than those in the other two local government areas.

The major purposes of the students' visits, as perceived by the respondents, were ''to examine and treat'' in Konduga (96%) and ''to ask questions'' in Bama and Gwoza (17.6% and 30.7%, respectively). Other reported reasons for visits included ''asking questions and giving drugs'' and simply ''to give drugs''.

The majority of those who were aware of the students' visits perceived them to be beneficial (Konduga 98.7%; Bama 97.5%; Gwoza 97.1%). Overall, improvement of peoples' health was the most highly perceived benefit by communities in the LGAs, while creation of awareness and health education were also considered to be of benefit.

Table 2 presents the respondents' perceptions of what the local government areas should provide students with to continue their visits. Financial support (62.2%) ranked highest, while food and accommodation, transportation and logistics were also indicated (48.6% and 41.8% respectively).

Table 2. Perception of type of support the Local Government Authority should provide to ensure continuation of students' visits*

Type of support	Local Government Area			Total
	Konduga $n=150$ (%)	Bama $n=72$ (%)	Gwoza $n=103$ (%)	$n=325$ (%)
Provision of transportation/ logistics	67(44.7)	48(66.7)	21(20.4)	136(41.8)
Educational material/ mobilization	2(1.3)	3(4.2)	1(0.9)	6(1.8)
Food and accommodation	103(68.7)	41(56.9)	14(13.6)	158(48.6)
Financial support	101(67.3)	33(45.8)	68(66.0)	202(62.2)
Provision of drugs	1(0.6)	5(6.9)	10(9.7)	16(4.9)

*Multiple responses allowed.

Discussion

The CBME of the University of Maiduguri was initiated in 1990 in three rural local government areas of Borno state in northeastern Nigeria. The majority of the respondents in the present study were aware of the students' annual visits to their LGA and communities. Awareness means that the respondents had some form of contact with the students, either in the clinic, dispensary or in their home. Knowledge of the frequency of visits of the students (number of visits per year and the total number of years of visits) was highest in Konduga and lowest in Bama. Of the three LGAs, Konduga is where the posting has received its greatest support in terms of logistics, mobilization and cooperation. It is therefore, not surprising that the majority of the respondents from this LGA were knowledgeable of the frequency of students' visits. It is also the closest to the university and the local government Chairman gave the program good support.

The community's perception of the students' visits varied from one LGA to another. In Konduga, it was ''to examine and treat'' while in Bama and Gwoza it was ''to ask questions and give drugs''. The majority of the respondents from the three LGAs perceived the greatest benefit of the students' visits as being to improve health, while creation of health awareness and health education were also perceived as benefits from the visits. These views were corroborated in an earlier study of community leaders' perspectives on medical students' presence (Omotara *et al*., 2004).

The role of the community in health professions education has been documented by Ezzat (1995). The community, through its active involvement in the solution of problems, contributes to its own development. Awareness as well as leadership capabilities in health and health-related matters are promoted, with possibilities for community empowerment, self-reliance and

sustainable development. Result of the present study revealed that over one-half of respondents provided one form of encouragement or incentive to the students – in particular, cooperating with and providing hospitality to the students, with some respondents willing to provide accommodations. Additionally, community leaders help to mobilize the community for the students' visits (Omotara *et al.*, 2004). It is important that the community be fully involved as partners in visit development and not see the activity as just a recurring, sometimes routine, student learning exercise without any material benefit to the community. ''Using the community'' is an unfortunate situation which should be dropped with no regrets (Hamad, 2000). In the present study, the communities perceived the students' visits as beneficial both in terms of creating awareness in health education, information received and in contributing to the general improvement of health.

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 in becoming partners in problem-solving (Waddell & Davidson, 2000). It is often difficult to estimate the level of changes that have contributed to the well-being of these communities and the following questions need to be asked: Are the services offered by the students really what the community needs? Are the services offered by the students accepted by the community, or can they result in a loss of community time, resources and efforts during the process of learning? The results of this study generally point to a positive influence of student involvement.

The measurement of impact of community-based education in the community is important for several reasons. First, demonstrating an impact can reinforce students' enthusiasm, as students often feel embarrassed that they may not be providing services equal to what the community offers them. In this regard, students' responses in a previous study indicated that the visits provided them with the opportunity for the kind of service-learning that the teaching hospital setting does not provide (Omotara *et al.*, 1992b). Second, CBME programs in many universities are supported by external funds. Establishing an impact on the surrounding community may be helpful in continuing to attract support for these programs. Third, measuring impact will help in refining objectives and improving decision-making concerning program implementation. Finally, and most importantly, measuring impact will serve as feedback to the community, which is expected to strengthen the partnership between the university and the community (Magzoub *et al.*, 2000). The scarce number of studies in the literature that have attempted to measure the impact of a community reflects its difficulty. Studies of this nature face serious methodological problems in the sense that the pluralistic nature of the health care delivery system in most communities and health outcomes, are very difficult to

measure, since many factors interact to influence the health status of the population (Mosley & Chen, 1984). One approach that has been tried in solving this problem in the context of CBME is to measure consumer satisfaction with the services provided – as satisfaction is a prerequisite to successful and sustainable community participation in the activities undertaken (Magzoub *et al*., 2000). In this study, the participating communities indicated their support for the students' visits by cooperating with them in terms of being available for examination, questioning, health education and treatment. A few provided accommodation when the local government or university authorities were unable to do so, and also mobilized and encouraged other community members who were initially unwilling to work with the students. One expectation was for the students to stay longer or be permanent (meaning either remain in the community or have a continuous posting of medical students there). In one community, some respondents wanted the students to encourage their young ones to become doctors – perhaps indicating that they perceived the students to be role models for their children.

Overall, this study indicates that communities express strong acceptance of the students' visits and look forward to expansion perhaps with the outcome of permanent stay or year-round postings of the students to the community. The communities are willing to improve on their participation in the program and expect the local government authority to partner and step up their involvement in the program.

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References

EZZAT, E.S. (1995). Role of the community in contemporary health professions education. *Medical Education*, *29*(Suppl. 1), 44 – 52.

HAMAD, B. (1991). Community-oriented medical education: what is it? *Medical Education*, *25*, 16 – 22.

HAMAD, B. (2000). What is community-based education? Evolution, definition and rationale. In H. SCHMIDT, M. MAGZOUB, G. FELLETTI, Z. NOOMAN & P. VLUGGEN (Eds), *Handbook of Community-Based Education: Theory and Practices* (pp. 11 – 26). Maastricht, Netherlands: Network Publications.

MAGZOUB, M., SCHMIDT, H., ILYAS, M. & LEWIS, J. (2000). Impact of community-based educational programs (1): effects on the community. In H. SCHMIDT, M. MAGZOUB, G. FELLETTI, Z. NOOMAN & P. VLUGGEN (Eds), *Handbook of Community-Based Education: Theory and Practices* (pp. 11 – 26). Maastricht, Netherlands: Network Publications.

MINKLER, M. (1986). The social component of health. *American Journal of Health Promotion*, *1*, 33–38.

MOSLEY, H. & CHEN, L.C. (1984). An analysis of framework for the study of child survival in developing countries. *Population & Development Review*, *3*, 143–144.

OMOTARA, B.A., PADONU, M.K.O., BASSI, A.P. & AMODU, M.O. (1992a). Attitude to community-based rural posting and specialty preference. *Annals of Community-Oriented Education*, *5*, 33–40.

OMOTARA, B.A., PADONU, M.K.O., BASSI, A.P. & AMODU, M.O. (1992b). Community-based medical education: the University of Maiduguri experience. *Annals of Community-Oriented Education*, *5*, 41–46.

OMOTARA, B.A., PADONU, M.O. & YAHAYA, S.J. (2004). 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. *Education for Health*, *17*, 6–16.

SYME, S.L. (1986). Strategies for health promotion. *Preventive Medicine*, *15*, 492–507.

SYME, S.L. (2004). Social determinants of health: The community as an empowered partnership. *Preventing Chronic Disease*, *1*, 1–5.

URBINA, C. & KAUFMAN, A. (1991). University-community partnership: the needed innovation. *Annals of Community Oriented Education*, *4*, 9–18.

US DEPARTMENT OF HEALTH EDUCATION AND WELFARE (1979). Healthy people: The surgeon general's report on health promotion and disease prevention. *DHEW (PHS) Publication Number 79-55071.* Washington, DC: GPO.

WADDELL, R.F. & DAVIDSON, R.A. (2000). The role of the community in educating medical students: initial impressions from a new program. *Education for Health*, *13*, 69–76.

WORLD HEALTH ORGANIZATION (1993). *The search for relevance: innovation in education of health professionals.* Report of a WHO Study Group, Technical Report Series. Geneva Switzerland: World Health Organization.