

COMMUNITY-BASED EDUCATION

Student Nurses' Learning on Community-Based Education in Ethiopia

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ABSTRACT **Context:** At Jimma University educational goals are to apply the concept of community-oriented education through community-based education (CBE) of health students. This study examined the experiences of student nurses on CBE.

Objective: The aims of the study were to identify factors that students considered had helped or hindered their learning on CBE and to ascertain if the stated learning objectives were met.

Methods: A quantitative, descriptive, survey design was adopted, using a single, anonymous questionnaire. Some qualitative data were gained using open questions. A convenience sample of 95 students participated in the research. Participants represented 90% of all students who had completed their CBE placements.

Findings: Participation, mentors' willingness to answer questions and the relevance of the placement were factors that facilitated learning. Factors reported by students that hindered learning were difficulties of self-expression in a group, mentors emphasising mistakes and weakness and the short time-frame due to ongoing lectures during placement. Students said learning objectives most met were socio-demographic assessment, identifying health problems and action planning. Objectives reported to be least met were identifying environmental health problems, planning preventive health interventions and implementing health interventions.

Recommendations: These include the need to develop students' group skills, prepare mentors to facilitate learning, organise CBE in spiral phases, avoid concurrent lectures and improve study facilities.

KEYWORDS Community-based education, student learning.

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Context

Almost two decades have elapsed since the World Health Assembly of the World Health Organisation declared its intent to achieve "Health For All" (HFA). Consequently, governmental and non-governmental bodies declared primary health care (PHC) as the key to attain the global goal of HFA. Educational institutions are one of the means to ensure the implementation of PHC. In Jimma University (JU), Ethiopia, a member of the international network of community-oriented education institutions for health sciences, Community-Based Education (CBE) is used to link the community with students' learning. CBE learning takes place in the community where students are given the opportunity to apply their theoretical knowledge to assess, plan and solve community health problems. Students choose peer group leaders to co-ordinate their efforts. Mentors are assigned to facilitate, supervise, assess and grade students.

Experience has shown that in some educational institutes planning, implementation and evaluation of educational programmes have tended to be haphazard, uncoordinated and ineffective, resulting in poor student motivation (WHO 1987; Neufeld 1989). Student nurses' views of CBE are important, as according to Veitch *et al.* (1997) they can reasonably confirm whether the programme yielded the expected benefit or not. The present study was carried out to identify factors influencing CBE at JU from the student nurses' perspective.

Literature Review

Various elements are involved in the process of learning. In this study aspects examined are those related to the students themselves, mentors and the community-learning environment.

Factors Associated with Students Themselves

In Baillie's (1993) study, students recognised their own approach to placements affected learning, commenting on the importance of showing an interest and taking initiative. They also found the placement role they fulfilled affected their learning, preferring participation to observation. Furthermore, they suggested good mentor communication and organisational skills were good for learning.

According to Sims (1997) students get satisfaction doing things that interest them, which promotes better learning. Consequently, better learning gives higher satisfaction and this cycle continues. One of the main problems in CBE in Indonesia, identified by Coeli (1990), was students' poor participation in a group.

There are a number of studies from Africa showing factors affecting CBE. Students' attitudes have been recognised by Adedoyin (1990); Magzoub and

Hamad (1996); Rono (1997) found dominance of the group by individual students, difficulties of expressing oneself, delay in completing tasks and ineffective co-ordination of the group were detrimental to learning.

Factors Associated with Mentors

The main concern of mentors is organising and providing appropriate learning situations for students. The attributes of mentors are crucial to students' learning. According to Baillie (1993), student nurses perceived mentors' attitudes and knowledge of students and the course, their skills in facilitating learning and mentors' professional credibility facilitated their learning on community placements. Wong (1979) identified qualities of mentors which student nurses found helpful. These are demonstrating a willingness to answer questions and offer explanations, being interested in students and respecting them, encouraging and praising students, informing of progress, giving appropriate supervision and displaying confidence in themselves and their students. On the other hand, Wong (1979) found mentors acting in a superior manner, belittling students, correcting students in the presence of others, and emphasising mistakes and weakness hinders learning. Mackenzie (1992) indicates positive qualities of mentors as awareness of students' previous experience, demonstrating practice, enabling students to practice, reassuring, encouraging and supporting students, monitoring students' work and assisting students' progress. Alderman (1998) asserts the need for more contact between mentors and students during placements.

Rono (1997) identified mentor bias towards individual students who dominate the group, domination of the group by mentors and lack of prior knowledge of students hindered learning. Das *et al.* (1996) highlighted problems of observing and evaluating students in the community setting.

Factors Associated with the Community-learning Environment

Student and mentor-associated factors cannot be considered in isolation. Rather, it is appropriate to include the community environment where the learners are placed. Alderman (1998) suggests the majority of students receive little orientation to their clinical placements. Baillie (1993) found important factors for learning were the relevance of the placement as perceived by the student, the experiences available and practical implications of the placements. Students considered being able to gain broad experience was good for learning. They commented on tiredness from travelling and difficulties getting to the library, which they felt adversely affected their learning (Baillie, 1993).

Orr and Hallett (1991) state placements should be longer to develop practical skills. Guilbert (1996) supports this saying sufficient time for students' interaction with the population is an important factor that facilitates CBE. In Nigeria one of the factors contributing to the success of CBE was agreement of students and mentors on prioritising identified health and social problems (Adedoyin, 1990).

Assessment of students' learning in relation to learning objectives is essential. Studies by Martin (1994); O'Neill (1996) suggest the need for community placements that are linked to the desired learning objectives. Das *et al.* (1996) assert students' evaluations can provide useful feedback on quality, and the validity and accuracy of their opinions correlates with instructors' "objective measurement".

Methods

A quantitative, descriptive survey design was used in this study. However, qualitative data were gained from open questions. A survey was chosen, as it is relatively quick, cheap and easy to carry out. All final year students in Bachelor Degree and Diploma nursing programmes, who had been on CBE, were included in the study ($n = 105$). Participants numbered 95, a response rate of 90%. The questionnaire used five point Likert type scales to gain responses (Polit & Hungler, 1995) and was divided into four sections: factors related to students themselves, mentors, the community-learning environment and objectives of CBE.

Questionnaire validity was assured by consulting four CBE specialists who commented on questions' readability and relevance. Analysis was made using the SPSS computer package. The Mann-Whitney *U*-test (MWU) was used to identify differences between the two diploma groups and the Kruskal Wallis test (KW) for differences among the three categories of nursing students. To examine correlation between different variables and scores on Likert scales, the Spearman's Rho test (SR) was used. Also, a chi-square test (CS) was used to examine association between socio-demographic variables. An alpha (p) value of 0.05 was used for all statistical tests to determine statistical significance.

Ethical principles for conducting nursing research were followed by giving students the right to refuse to participate. Also, students were told not to give their name on the questionnaire and were assured of the complete confidentiality and anonymity of their responses.

Findings

Student Related Factors

The demographic characteristics of students are detailed in Table 1. Most helpful and hindering aspects of CBE reported by and related to students are reported in Table 2. Male students ($n = 50$) were more likely to feel they participated than females ($n = 19$) (CS, $p = 0.05$). Students who said they participated actively in their training were more likely to report interest in CBE (SR, $p = 0.00$) and were also likely to feel their peer group leaders were effective (SR, $p = 0.00$).

Table 1. Demographic characteristics of students

		N	%
Sex	Male	64	67
	Female	31	33
Age	18–22	65	68
	23–27	5	5
	28–32	11	12
	33–37	12	13
	38 and above	2	2
Category	BSc	24	25
	Clinical	37	39
	Public Health	34	36
Home Area	Urban	52	55
	Suburban	15	16
	Rural	28	29

Table 2. Reported helpful and hindering factors related to students

Factor	BSc	Public Health	Clinical	Total	Percent	P value
<i>Helpful Factors</i>						
Participation	20	27	22	69	73	0.02
Interest	19	27	20	66	70	ns
Peer Group Leaders	13	22	24	59	62	ns
<i>Hindering Factors</i>						
Difficult self-expression	12	16	14	42	45	0.04
Disagreement with mentors	8	21	23	52	55	ns
Domination by individuals	11	23	18	49	34	ns

The issue of participation was further explored using an open question as illustrated in the following statement:

“working with different individuals of different background and sharing knowledge and skill with each other was the most helpful aspect from CBE” [74].

In relation to hindering factors students who reported difficulties in self-expression were more likely to feel dominated by individual students (KW, $p=0.03$).

Mentor Related Factors

Reported helpful and hindering factors related to mentors are detailed in Table 3. Students who felt encouraged were more likely to perceive mentors’

Table 3. Reported helpful and hindering factors related to mentors

Factor	BSc	Public Health	Clinical	Total	Percent	P value
<i>Helpful Factors</i>						
Answering Questions	17	15	17	49	52	ns
Preparation to Facilitate CBE	9	20	20	49	52	ns
Encouraging Praising	7	22	16	45	48	ns
<i>Hindering Factors</i>						
Emphasising Mistakes	19	15	19	53	56	ns
Irregular Contact	3	24	20	47	50	0.00
Grading	9	15	21	45	48	0.03

willingness to answer questions (SR, $p=0.00$). Also, students who felt their mentors were adequately prepared to facilitate CBE were more likely to be impressed by mentors' willingness to answer questions (SR, $p=0.00$), and were also more likely to perceive that they were encouraged and praised by their mentors (SR, $p=0.00$). Whereas, students who complained of mentors' grading systems were more likely to complain of lack of contact with them (SR, $p=0.00$).

The Community-learning Environment

Table 4 shows the reported helpful and hindering factors related to the community-learning environment. Students with rural backgrounds were more positive about the relevance of CBE experience than those from urban or suburban areas ($n=24, 29, 14$, KW, $p=0.01$). Results from an open question show the "realness" of the experience was valuable, as one student said:

"CBE has given me a chance to practice in the real community where I am going to work and help me see their real health status" [94].

Furthermore, another open-ended question revealed the steps to be followed during CBE were an important facilitating aspect of the training. One student reflected:

"the phases we passed through (data collection, summarisation, analysing and interpretation) helped me get experience in an organised way" [84].

Another student said:

"as CBE was going on with other education, it was not continuous throughout the week and my attention to the training was disturbed and also I was in shortage of time to study for other courses" [85].

Urban students were more likely to report inadequate facilities compared to students from suburban and rural areas ($n = 32, 9, 11$, KW, $p = 0.00$).

The Level to Which the CBE Objectives Were Met

Students' views on their most and least likely achieved objectives are displayed in Table 5. Students who reported being able to identify socio-demographic characteristics of the community were more likely to feel they identified community health problems (SR, $p = 0.00$) and also were more likely to report drawing up an action plan (SR, $p = 0.00$). Conversely students who perceive identification of environmental health aspects was least met were also likely to feel implementation of health intervention programmes was problematic (SR, $p = 0.00$). Furthermore, in an open question students commented on the poor implementation and evaluation of interventions. This is reflected in the following comments:

“the implementation and evaluation part was poor as the emphasis was only on data collection and analysis” [90]. “We only gathered information and analysed but didn't work on it” [19].

Table 4. Reported helpful and hindering factors related to the community-learning environment

Factor	BSc	Public Health	Clinical	Total	Percent	P value
<i>Helpful Factors</i>						
Relevance to Future Work	18	27	23	68	72	ns
Orientation	13	28	26	67	71	ns
Learning Opportunities	20	24	17	61	62	0.00
Ongoing Lectures	21	18	18	57	60	0.00
<i>Hindering Factors</i>						
Dearth of Study Facilities	18	13	23	54	57	0.03
Low Credit Rating	15	19	16	50	52	ns
Lack of Books/Journals	14	17	17	47	50	ns

Table 5. Reported level to which CBE objectives were achieved

Learning objective	Public			Total	Percent	p value
	BSc	Health	Clinical			
Identifying Socio-demography	24	34	28	88	95	0.01
Drawing Action Plan	23	29	26	78	82	ns
Identifying Community Health Problems	23	27	23	73	77	ns
Identifying Environmental Aspects	21	21	22	64	68	ns
PHC Intervention	17	20	21	58	61	ns
Preventive Health Intervention	16	17	18	51	54	ns

Discussion

Student Related Factors

In this study the reported most helpful aspects centring on students were their participation, interest and the effectiveness of peer group leaders. Other researchers suggest active participation in client care will help students develop, practice and gain confidence in nursing skills (Baillie, 1993; O'Neill, 1996). Students require time and opportunity to apply classroom learning to practice. The provision of CBE placements, which are of sufficient length to facilitate the development of relationships and nursing skills, is a key issue, which needs to be addressed by programme planners. Baillie (1993) also found participation and interest were essential elements for student learning in the community. While Rono (1997) suggests the major factor in successful group learning is effective leaders.

Mentor Related Factors

Of the factors centring on mentors, students said they were helped by those who were willing to answer questions and give explanations, encouraged and praised them and were prepared to facilitate their training. The role of mentors is a crucial aspect of learning. Indeed, findings in this study are similar to those of Wong (1979) who found displaying confidence in students and encouraging them had a positive effect on learning. Mackenzie (1992) and O'Neill (1996) agree good supervisors need competence in order to support learning. Mentors need to have time to give to students, time to answer their questions, teach and encourage them. This issue requires some thought to "free" staff to facilitate student learning on CBE. Also, mentors who regularly supervise/teach students should have workloads that facilitate rather than hinder the learning process.

The Community-learning Environment

The reported most helpful aspects of CBE related to the community-learning environment were the relevance of CBE to students' future work, their orientation and introduction to the placement and the availability of a wide range of learning opportunities. Alderman (1998) also recognised that the effectiveness of orientation and introduction to students' placements affects students' learning. The WHO (1987) asserts the need to organise learning around the tasks that students are expected to practice in the future. Also, relevant practice while on community placement was recognised as an important learning factor by Baillie (1993).

Student Related Factors

Another aim of the study was to identify factors that hindered students' learning on CBE. Those reported hindering factors, which focused on students, were difficulties in expressing themselves in a group, lack of agreement with mentors in decision-making and domination of the group by individual

students. Rono (1997) also discussed the limitations of group learning, indicating that students had difficulties expressing themselves and feel dominated by individual group members. The WHO (1987) commented success in CBE is achieved by students' and mentors' agreement in decision-making. Perhaps the CBE office might influence such decisions at JU, especially in areas of resource requests. Alternatively students may raise irrelevant problems to be solved.

Mentor Related Factors

Reported hindering factors, which centred on mentors, were emphasising mistakes and weakness, the grading system and lack of regular contact. These factors may seem to contradict the helping factors identified. However, mentors were assigned in teams for a group of students so this can explain the apparent contradiction. One mentor may contribute positively, while the other mentor may reverse this benefit. Wong (1979) states stressing students' weakness hinders the learning process. Further research is needed to ascertain the extent of the time commitment mentors make to student learning on CBE. The irregularity of contact which students complained of, might have further affected their grading system, as both were found to have a positive relationship. Das *et al.* (1996) also suggest irregular contact with students will bias students' grades. They found the accuracy of students' opinions correlates with instructors' 'objective assessment' (Das *et al.* 1996). Therefore, peer assessment should be investigated as an alternative to mentor grading.

The Community-learning Environment

The dearth of study facilities and materials hindered the CBE. O'Neill (1996) highlighted the importance of providing learning materials that assist students to set theoretical knowledge in context. The provision of appropriate and readily accessible learning resources facilitates learning on CBE. Having ongoing lectures during CBE shortened practice time in the community and students felt this hindered their CBE experience by reducing their practice time. Previous studies also found that short placements lead to problems in establishing relationships and the ability to learn and practice nursing skills (Orr & Hallett, 1991; Martin, 1994; O'Neill, 1996). O'Neill (1996) further suggests short placements affect the extent to which students can apply theoretical knowledge to practice. The provision of CBE placements of sufficient length to facilitate the development of relationships and nursing skills is a key issue that needs to be addressed by programme planners.

The Level to Which the CBE Objectives Were Met

The second objective of this study was to investigate the level to which students felt CBE objectives were met. Clinical experience needs to be driven by learning objectives. The overall view of students shows they felt objectives were mostly met. However, there are specific areas that need attention, particularly

planning preventive interventions and implementing interventions according to PHC concepts. Organising CBE in spiral phases with one group performing the assessment, a second group developing action plans, a third group implementing the health intervention, and a fourth group evaluating the whole process may solve this.

Recommendations

A number of recommendations are suggested. These include the need for:

- (1) CBE to be sufficiently long to enable students to be actively involved in the community with no ongoing lectures. Also, organisation of CBE in spiral phases for rolling groups of students.
- (2) Developing group skills, particularly for shy students, and improving the interest of clinical nurse students in CBE.
- (3) Careful selection and preparation of mentors who have the capacity to be supportive and facilitate learning.
- (4) Investigation of peer assessment to minimise grading bias.
- (5) Improved collaboration between students, mentors and the CBE office for better decision-making for identified health problems.
- (6) Provision of readily accessible study facilities and appropriate learning resources, for students on CBE, and finally
- (7) Further research to better understand mentors' and community members' perspectives of CBE in respect of mentors' time commitment and the resource implications of supervising students on CBE.

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