Original article

Attrition rates among student nurses at the Gondar college of medical sciences

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Abstract: A retrospective analysis of academic performance of nursing students was done. From the 402 students admitted from 1984 to 1991, 267 (66.4%) graduated. The attrition rate showed an increase from 15.2% to 45.4%. Higher attrition rate (51.3%) was reported for females as compared to males (21.9%). No correlation between ESLCE result and academic performance was detected (r = 0.01) .The use of multiple admission criteria, increasing the duration of training and improving the learning environment are some of the recommendations suggested based on the study. [Ethiop. J. Health Dev. 1995;9(1):87-90]

Introduction

In Ethiopia, nurses are the second largest group of human resource for health. They comprise 21% of the total workforce (1). Nurses have played and are expected to play an important role in the provision of health

care. In recent times, there have been reports on the decline in the quality of nursing care provided at different levels of. the health care system (2). Although there are many reasons, improper and inadequate training is considered an important contributing factor . Observation at the Nursing Department of the Gondar College of Medical Sciences (GCMS) indicated an increase in the number of students who have been academically dismissed. But so far , no study was done to investigate the causes of the problems. Thus, the purpose of this study was first to determine trends in attrition rates; second, to compare if there was ,- -any gender difference in attrition rates; and third to identify those learning barriers contributing to students' dismissals. Such a study is believed to be essential in improving nurse education in the country .

The study was done at the GCMS, where training of nurses lasts for two and a half years. This length of years of attendance is different from training schools run by the Ministry of Health (MOH) which conduct a three-year program. At the GCMS, students are admitted on the basis of their scores of the Ethiopian School Leaving Certificate Examination (ESLCE).

Methods

The study was done from September 1993 to February 1994. Examination records and ESLCE results of 402 nursing students who graduated between 1984/85 and 1990/91 were analyzed retrospectively. The data were

collected from the records of all the student1 available at the Registrar's Office. Information on sex, ESLCE scores, Cumulative Grade Point Average (CGPA)

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academic dismissals and dropouts were obtained. Since the Nursing School at the GCMS is part of Addis Ababa University (AAU), it uses the CGPA grading system to assess academic performance. For a student to
graduate, he or she must have at least a CGPA of 2.00 A student with CGPA of 3.25 or more graduates with distinction (3). In our study, the explanatory variable was the ESLCE score and the response variable was the CGPA. The Pearson's product moment correlation coefficient (r) was used to measure the strength of the association. To avoid bias was calculated for each year and the mean was taken. For comparing the performance of groups, the t- test was used. To investigate causes of student attrition, structured questionnaires were distributed to 62 students and 9 instructors. All instructors and students were included in the study. EPI Info Version 5.01a was used to analyses the data.

Results

Among the 402 nursing students admitted to the GCMS from 1984/85 to 1990/91, 242 (60.2%) were males and 160 (39.8%) were females. Of these, 267 (66.4%) graduated. The attrition rate was 33.6%. A steady increase in attrition rate from 27.1 % in 1984/84 to slightly over 45% was observed in 1989/90 and 1990/91 (Table I). The attrition rate among females is two and a half times higher than among males. Attrition rate because of academic dismissals is also more evident in females than in males. In addition, males performed better (x = 2.80, SD .:t 0.03) than females (x = 2.60, SD $\pm$ 0.02) and the difference was statistically significant (p<0.05). Moreover, no association between ESLCE score and CGPA was noted (r = 0.01, SD .:t 0.16).

High failure rates due to academic deficiency is seen among those who scored 2.8 and above in ESLCE as compared to those with an average grade point of 2.6 or less. Table 2 shows of the total classroom lecture hours where 46.2% is allocated to subjects related to nursing as a profession. The non- professional subjects accounted for 1 7.4 % of

Table 1: Attrition rates among 242 male and 160 female nursing students in Gondar College of Medical Sciences, Gondar, Ethiopia 1984-1991. Valiable Number (percent) " Year
Table 1:**Attrition rates among 242 male and 160 female nursing students in Gondar College of Medical Sciences, Gondar, Ethiopia 1984-1991.**

Valiable	Number	(percent)
Year		
1984/85	16	(27.1)
1985/86	10	(22.7)
1986/87	7	(15.2)

1987/88	18	(29.0)
1988/89	26	(41.3)
1989/90	30	(45.4)
1990/91	28	(45.2)
Sex		
Male	53	(45.4)
Female	82	(45.2)
Escle Grade		
2.0	15	(26.7)
2.2	36	(25.7)
2.4	40	(22.5)
2.6	83	(16.7)
2.8	157	(36.9)
≥ 3.0	71	(33.8)

the total time. Moreover, of the total 2648 hours allocated for nurses' education, 44.3% was devoted to practical teaching. In Table 3, causes of academic dismissals are listed. Too many credit hours, difficulty in
understanding English during lecture hours and poor education in high school were the main reported reasons. In addition, English was mentioned as the most useful subject among the nonprofessional courses by 54 (87.1 %) students and 9 instructors. However, 24 (38.7%) students and 6 out of 9 instructors reported Maths as the second most important choice. The result showed that 8 out of 9 instructors reported dissatisfaction with their profession. Reasons given were low pay and lack of career development.

Discussion

The findings in this study are limited to the situation existing at the GCMS. The reported attrition rate (33.6 %) is low when compared to that of medical students (41.2%) (4). The steady increase in attrition rate to a level as

Table 2: **Distribution of class-room lecture hours by subject matter**

Course subject	Hours	%
Non professional		
English	96	6.5
Maths	64	4.3
Geography	48	3.3
History	48	3.3
Total	256	17.4
Pre-clinical		
Anatomy & Physiology	144	9.8
Pharmacology	80	5.4
Microbiology	48	3.3
Total	272	18.4
Community Health		
Communicable disease Control	80	5.4
Environmental Health	48	3.2
Health educaton	32	2.2
Health administration	32	2.2
Biostatistics	32	2.2
Nutrition	25	1.7
Epidemiology	16	1.1
Total	265	18.0

Clinical Courses		
Clinical Nursing	304	20.6
Obstetrics & Gynecology	144	9.8
Pediatrics	64	4.3
First Aid	64	4.3
Public Health Nursing	48	3.2
Nursing Service		
Administration	32	2.2
Nursing Ethics	25	1.7
Sub Total	681	46.2
Other Subjects	793	53.8
Total	1474	100

high as 45.4% is a serious one. The high attrition rate (51. 3%) seen among females is similar to that of medical students (4) .The reported rate at long females is quite alarming in view of the MOB's intention that at least 75% of the admissions are to be females (5). If such is the case, its implementation requires the development of a learning strategy that improves the performance of female students. The high attrition rate (33.6%) is caused by a number of factors (Table 5). They are related to the characteristics of the student; the

teacher, the teaching-learning situation and the learning environment. For example, having too many credit hours was stated by the students as a major cause for academic dismissals. In our opinion, this is understandable because they are expected to finish a training program designed for three years within two and a half years. Although further study is recommended, there is a need to increase the training period to three years . And as part of reducing the attrition rate, intensifying and redesigning the English course, provision of active counselling and improving the competence of the teachers are among areas that deserve attention. In addition, there is a need to improve the motivation of instructors to teach. As 8 out of 9 instructors were dissatisfied with their profession. Since all are diploma holders, they are disadvantaged by the university regulation interms of academic rank, salary scale, allowances, accommodation and other incentives provided to degree holder academic staff. In this case, it is difficult to ensure commitment to teaching and to attract competent instructors. Although low pay, low status, few prospects for promotion and education are common in many poor countries, unless the situation improves, it will be difficult to bring fundamental changes in nursing education (6). Parallel to this, there is a need to revise the content of the curriculum in terms of its validity, sequence, learnability and time distribution. Although this issue was raised in several workshops, sufficient weight has not been given for its

implementation so far (7,8). Furthermore, among the non-professional subjects, the relevancy of history and geography courses to the nursing profession should be further studied.

The lack of correlation between ESLCE score and academic performance has also been reported in previous studies (4). The fact that a high number of academic dismissals were observed among those admitted with better ESLCE scores supports the view that the ESLCE may not be a good instrument for

Table 3: **Students and instructors responses to the cause of academic dismissals**

Causes	Students= Reponses N = 62		Instructors= Responses N = 9	
	No.	%	No.	%
Too many credit hours	58	93.5	6	66.7
Defficulty to understand English	47	75.8	8	88.9
Shortage of competent teachers	42	67.7	4	44.4
Lack of counselling	40	64.5	5	55.5
Poor education in hiigh school	39	6.9	9	100.0
Problem of domitories	33	53.2	1	11.1
Shortage of leaming materials	22	35.5	7	77.8

selecting students to study nursing. Finally, as nurses are expected to provide increased coverage of health care, there is an urgent need to re-orient and improve nursing education. And if this challenge is to be met, more research related to the training and practice of nursing is required.

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