

Nursing and midwifery students' satisfaction with the acquisition of clinical skills during internship in Fako Division, Cameroon

Abstract

Background: The clinical setting is one of the most valuable educational resources available to nursing and midwifery students. It is a vital element to the successful preparation of nurses and midwives.

Objectives: This study aimed at assessing nursing and midwifery student's satisfaction in the acquisition of clinical skills during internship in Fako Division.

Materials and methods: This study adopted a cross-sectional descriptive study design. Purposive and simple random sampling techniques were used to select the study sites and enroll participants respectively. The study was conducted in five health institutions which train nursing students. The participants were nursing and midwifery students in their final year of study, who gave their consent to participate in the study. Data was collected using a well-structured, self-administered questionnaire made up of both open and closed-ended questions. Data was coded, entered into an Excel 2010 spreadsheet and analyzed using SPSS Version 23. Chi squared test was used to test for association between variables at 95% confidence interval. A p-value of less than or equal to 0.05 was deemed statistically significant.

Results: The sample was made up of 346 nursing and midwifery students. Almost all [(90.2%)] of the nurses and midwives had good knowledge regarding expectation on the acquisition of clinical skills. The satisfaction of interns with the acquisition of clinical skills was good (67.9%). Also, there was a significant association between programmes and number of clinical rotations (p-value of 0.038 and 0.024 respectively). More than half [(58.1%)] of the students were not satisfied with the clinical learning environment. The main factors limiting the acquisition of clinical skills by students were too many interns (75.1%), patients' refusal to be attended to by interns (70.2%), being sent out during certain procedures (63.6%) and lack of follow up from training school (60.1%).

Conclusion: The knowledge of nurses/midwives on the acquisition of clinical skills was good. The satisfaction of interns with the acquisition of clinical skills was good. More than half of the participants were not satisfied with the clinical learning environment. The main factors that limited the acquisition of clinical skills by student nurses and midwives were too many interns, patient refusal to be attended to by interns, and being sent out during certain procedures among others.

Keywords: clinical skills, satisfaction, clinical-environment, student nurses/midwives.

Volume 10 Issue 3 - 2024

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Received: September 02, 2024 | **Published:** September 24, 2024

Introduction

The clinical setting is one of the most valuable educational resources available to nursing and Midwifery schools.¹ It is an essential element to the successful preparation of nurses and Midwives.²⁻⁵ The clinical experiences gained at these clinical settings provide nursing and midwifery students with the opportunity to combine cognitive, psychomotor and affective skills.⁶ It enhances students' professional responsibility; assist students with self-directed learning and acquiring decision making and problem solving skills.⁷ In clinical placement, students are able to transfer knowledge from classroom to real-life situations and apply theory into practice. Additionally, students distinguish between different settings, internalize learning and develop self-monitoring skills.⁸ Hence, it is in the clinical learning environment that novices are transformed to competent practitioners.⁹

The challenges confronting nurses and midwives in today's rapidly changing health care environments have highlighted the necessity for

graduating students to feel both competent and prepared for practice. This necessity has in turn highlighted the increasing significance of the nature and quality of student clinical learning experiences.^{10,11} Therefore, nurse educators are expected to provide clinical placements that offer a positive learning environment to support the achievement of clinical learning outcomes.^{12,13} Learning in the clinical environment needs to be a positive and valuable experience;¹⁴⁻¹⁸ an environment which is conducive for learning in order to promote students' personal and professional growth. Exposure to positive clinical learning experience has an influence on nursing and midwifery students' knowledge, skills, attitudes, and interest to continue in nursing and midwifery profession. Moreover, supportive clinical placements nurture meaningful learning experiences. Additionally, research findings suggest that nursing and midwifery graduates are more likely to seek employment in clinical settings in which they had positive experiences as students.¹⁹⁻²³ However, the training of nurses involves both theory and practical teaching, and both components are important

in equipping students with the knowledge and attitude in relation to clinical skills in order to bring about competencies to provide quality care. Considering the important role clinical learning environment plays in the acquisition of skills, we conducted this study to determine nursing and midwifery students' satisfaction in the acquisition of clinical skills during internship in Fako Division. Specifically, we sought to evaluate student nurses and midwives knowledge on skills acquisition, assess their satisfaction with the acquisition of clinical skills and clinical learning environment, and identified barriers they faced in acquiring clinical skills. The findings from this study might guide the designing and implementation of a framework to upgrade the clinical learning environment and make it conducive for effective clinical learning and acquisition of skills.

Materials and methods

A cross-sectional study design with a quantitative approach was used to conduct the study from the 10th of February to the 1st of June 2023. This study was conducted in five Nursing and Midwifery Schools in Fako Division in the South West Region of Cameroon. These were Faculty of Health Sciences, University of Buea (FHS, UB), Redemption Higher Institute of Biomedical and Management Sciences Buea (RHIBMS), Biaka University Institute of Buea (BUIB), MAFLEKUMEN Institute of Health Sciences (MAFLEKUMEN) and Training School for Health Personnel, State Registered Nursing Limbe (SRN). Fako Division is one of the six divisions of the South West Region of the Republic of Cameroon. Some of the major towns of Fako Division are Buea, Limbe, Tiko and Muyuka. The Division has the most reputed schools where Nursing and Midwifery students can be trained including the University of Buea which mentors a good number of them. Purposive and simple random sampling techniques were used to select the health institutions and enrolled participants to the study respectively. The schools were selected based on the fact that they had existed for over five years and had a large number of nursing and midwifery students. The target population was made up of all final year nursing and midwifery students who had completed a minimum of three to four clinical rotation experience. The sample size was calculated using the Cochran's formula as follows:²⁴

$$n = \frac{(z)^2 p (1-p)}{(d)^2}$$

Where

n = the desired sample size

z = the standard normal deviation usually set at 1.96

p = the proportion in the target population to have a specific characteristics = 65.6% OR (0.656) (9)

q = 1-p

d = absolute precision or accuracy set at 0.05

Hence calculating the sample size;

$$n = \frac{(1.96)^2 * 0.656 * 0.344}{(0.05)^2} = 346 \text{ participants}$$

The minimum sample size for this study being 346 students. Probability proportionate to size sampling method was used to get the number of participants required per school as shown in Table 1.

Table 1 Proportionate samples for each training school in Fako Division 2023

Category	Population size	Proportion (%)	Sample of size
FHS, UB	80	6.7	23
Biaka	800	67.9	235
RHIBMS Buea	150	12.7	44
Maflekumen Tiko	98	8.3	29
SRN Limbe	50	4.3	15
Total	1178	100	346

Data was collected on participants' knowledge regarding expectations on skills acquisition (procedures to be performed), their satisfaction with the acquisition of the clinical skills and clinical learning environment, and the barriers students faced in acquiring clinical skills. A structured questionnaire was used to collect data from the respondents; the section for knowledge had 8 questions; a positive response (Yes) for each question was given a point and was considered as good (adequate) knowledge. A negative response (No) was given 0 and was considered as poor (inadequate) knowledge. The overall score for knowledge was obtained by summing participants' score on all 8 items, divide by the total number of participants, and then multiply by 100.²⁵ Student's satisfaction with the clinical learning environment was measured using a 20-item scale drawn from Clinical Learning Environment Inventory and Nurse Teacher Evaluation Scale by Johansson et al. The main dependent variables; clinical rotation experience and clinical learning environment were primarily measured at ordinal level on Likert Scale of 1-strongly disagree, 2-disagree, 3-neutral, 4-agree, and 5-strongly agree. The level of respondents' satisfaction with their clinical rotation experience and the clinical learning environment was determined by taking an average of their total satisfaction scores to determine whether they scored very low (1 to 27), low (28 to 54), high (55 to 81), or very high (82 to 100). It is worth stating that very low and low were considered as poor while very high and high were considered as good.

Before administering the questionnaire it was pretested in some nursing and midwifery schools within Buea, which were Landmark and CHITECMA by administering 10 copies of the questionnaire to check its validity. The participants were able to answer all the questions without any difficulties. Data was analyzed using inferential and descriptive statistics. The descriptive statistics included the use of tables, frequencies, percentages and charts to explain the results. For inferential statistics, the Chi-squared test for independent variable was used where appropriate to test for association, a p-value <0.05 was considered statistically significant.

Ethical approval

This study was authorized by the Department of Nursing, Faculty of Health Sciences, and University of Buea, Cameroon. Administrative authorization (ethical approval) was first obtained from the Institutional Review Board (IRB) of the Faculty of Health Sciences, University of Buea, Cameroon. Also, permission was sought from the authorities of each school. All participants provided written consent before participating in the study by signing the consent form.

Results

A total of 346 students participated in this study; among these participants [289 (83.5%)] were aged 21–35 years old, 276 (79.8%)

were females, 270 (78.0%) were student nurses while 76 (22.0%) were student midwives. A few [46 (13.3%)] of the participants were either married or cohabiting. Most [321 (92.8%)] of the year 3 students had gone for 3 clinical rotations in the course of their programme. The highest number [235(67.9%)] of participants was from BUIB while SRN had the lowest [15(4.3%)] participants (Table 2). Regarding participants' knowledge on procedures expected to be performed (skills to be acquired); all [346 (100%)] of the participants had adequate (good) knowledge on expectations to properly administer drugs, and document patients' information and keep records. The least knowledge score [305 (88.2%)] was recorded in the area of assisting in preoperative and postoperative exercises. Table 3 shows the different scores on knowledge regarding the different procedures the participants knew they are expected to perform (skills to be acquired) (Table 3). The socio-demographic factors of the participants that were associated with good knowledge on expected skills to be acquired were professional programme and number of clinical rotations or internships. Nursing students (92.6%) were more likely to have good knowledge regarding expected clinical skills compared to their counterparts, the midwifery students (81.6%). The results showed that the higher the number of clinical rotations the higher the points on knowledge obtained (Table 4). Talking about the participants' satisfaction with the acquisition of clinical skills; they were most satisfied with the team spirit (3.63±0.04) and satisfactory answers to their questions (3.34±0.03). The least satisfactions were recorded in the area of being send out during certain procedures (2.06±0.04) and lack of motivation (2.23±0.04) (Table 5).

Table 2 Socio-demographic characteristics of the participants in Fako Division, 2023

Variables	Categories	n (%)
Age(in years)	< 21	37(10.7)
	21 – 35	289(83.5)
	36+	20(5.8)
	Total	346(100)
Sex	Male	70(20.2)
	Female	276(79.8)
	Total	346(100)
Professional program	Nursing	270(78.0)
	Midwifery	76(22.0)
	Total	346(100)
Marital status	Married	46(13.3)
	Single	290(83.8)
	Divorced/Widow	10(2.9)
	Total	346(100)
Number of clinical rotation	3	321(92.8)
	4	15(4.3)
	5	10(2.9)
	Total	346(100)
Training school	FHS, UB	23(6.7)
	BUIB	235(67.9)
	RHIBMS	44(12.7)
	SRN Limbe	15(4.3)
	Maflekume	29(8.3)
	Total	346(100)

Table 3 Student nurses and midwives' knowledge on the acquisition of clinical skills in Fako Division, 2023

Knowledge indicators	Response		
	Yes n(%)	No n(%)	Total n(%)
Good communication to both patients and patient care givers is an important skill to acquire	325(93.9)	21(6.1)	346(100)
Assist in preoperative and postoperative exercise	305(88.2)	41(11.8)	346(100)
Assist and conduct deliveries under supervision by a senior midwife	330(97.5)	16(2.5)	346(100)
Carry out proper pain management and wound dressing	327(94.5)	19(5.5)	346(100)
Effectively administer drugs	346(100)	0(0)	346(100)
Document patients information and keep records	346(100)	0(0)	346(100)
Properly insert and remove a catheter	325(93.9)	21(6.1)	346(100)
Competence and mastery in all nursing or midwifery procedures	312(90.2)	34(9.8)	346(100)

Table 4 Association between participants' characteristics and knowledge in Fako Division, 2023

Characteristics	Knowledge		X ² -value	p-value
	Yes n(%)	No n(%)		
Age				
<21	33 (89.2)	4 (10.8)	1.658	0.458
21–35	262 (90.7)	27 (9.3)		
36+	17 (85.0)	03 (15.0)		
Gender				
Male	60 (85.7)	10 (14.3)	3.654	0.156
Female	252 (91.3)	24 (8.7)		
Professional program				
Nursing	250 (92.6)	20 (7.3)	7.365	0.038*
Midwifery	62 (81.6)	14 (18.4)		
Number of clinical rotations				
3	288 (89.7)	33 (10.3)	10.678	0.024*
4	14 (93.3)	01 (6.7)		
5	10 (100.0)	0 (0.0)		

Table 5 Participants' satisfaction with the acquisition of clinical skills in Fako Division 2023

Attributes	Satisfaction score	
	Mean score	SD
There was a good relationship between the team and me	3.63	0.04
I was treated as part of the team	3	0.01
My questions were satisfactorily answered	3.34	0.03
The team explained all procedures to me	2.95	0.05
The preceptor encouraged me to ask questions	2.87	0.14
The preceptor showed and gave me opportunities to learn	2.86	0.12
I was often or once in a while sent out during certain procedures	2.06	0.01

Table 5 Continued..

Attributes	Satisfaction score	
	Mean score	SD
The team motivated me positively	2.23	0.03
My opinions were often taken into consideration	2.87	0.02

The mean satisfaction score of all the participants regarding the acquisition of clinical skills was 2.75±0.11. Of the 346 participants sampled, 235 (67.9%) were satisfied with the acquisition of clinical skills (Figure 1). Regarding the participants' satisfaction with the clinical learning environment; the participants were most satisfied with the environment of the health facility (2.23±0.04) and quality of trainers (2.21±0.03). The least satisfactions were recorded in the area of follow up of students during placement (1.50±0.04) and provision of working equipment (1.70±0.04) (Table 6). There was a significant positive correlation between clinical environment and the acquisition of clinical skills by student nurses and midwives (Figure 2).

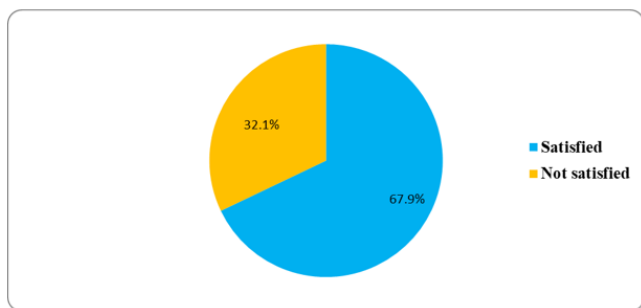


Figure 1 Participants' overall satisfaction the acquisition of clinical skills in Fako Division, 2023.

Table 6 Participants' satisfaction with the clinical learning environment in Fako Division, 2023

Attributes	Satisfaction score	
	Mean score	SD
The clinical placement was boring	2.21	0.04
The clinical teacher talks rather than listens to the students	2.23	0.01
The clinical teacher helps the student who is having trouble with their work	1.97	0.03
The clinical teacher goes out of his or her way to help students	1.8	0.05
The clinical placement was a waste of time	2.12	0.14
The clinical teacher is not interested in students problem	2.2	0.12
The clinical teacher considers students feelings	1.71	0.01
I will like to continue my clinical placement	1.81	0.04
The clinical teacher is unfriendly and inconsiderate towards students	2.21	0.03
Workload allocation in the hospitals are carefully planned	1.98	0.02
The hospital provides all working equipment's like gloves	1.7	0.01
School teachers follow us up in clinical placement	1.5	0.05

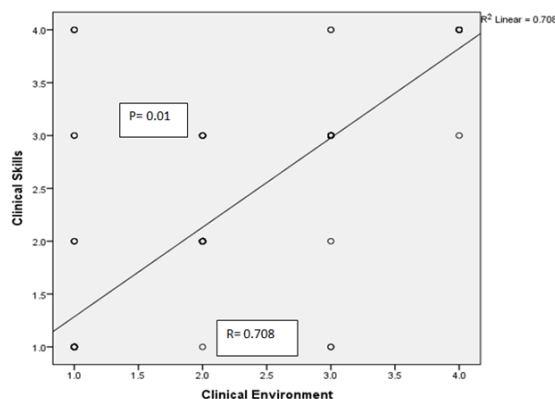


Figure 2 Correlation between the satisfaction with clinical learning environment and the acquisition of clinical skills in Fako Division, 2023.

Correlation is significant at the 0.01 level (2-tailed). There was a significant positive correlation between satisfaction with clinical learning environment and the acquisition of clinical skills (Table 7). Talking about the overall satisfaction with clinical skills and learning environment, 139 (40.2%) of the participants in selected training schools in Fako Division were satisfied with both the clinical environment and acquisition of clinical skills (Figure 3). Concerning the association with demographic characteristics, three socio-demographic factors were associated to the participants' satisfaction with the acquisition of clinical skills; gender, professional programme and number of clinical placements or internships. Males were 2.08 times more likely to be satisfied with the acquisition of clinical skills than their female counterparts (AOR=2.08: 1.23-4.65, p=0.021). Nursing students were 2.01 times more likely to be satisfied with the acquisition of clinical skills compared to their counterparts, the midwifery students (AOR=2.01: 1.02-3.99, p=0.022). The current results showed that the higher the number of clinical placements or rotations the more satisfied the student nurses and midwives were with the acquisition of clinical skills (Table 8). With respect to the barriers faced in the acquisition of clinical skills by student nurses and midwives, the main factors limiting the acquisition of clinical skills by the participants were too many interns 260 (75.1%) and patients' refusal to be attended to by interns 243 (70.2%). Also, being sent out during certain procedures 220 (63.6%) and lack of follow up from training school 208 (60.1%) were mentioned (Figure 4).

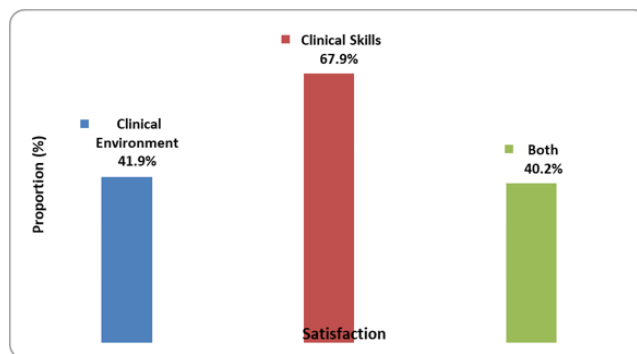


Figure 3 Satisfaction with clinical environment and skills acquisition in Fako Division, 2023.

Table 7 Correlation between participants' satisfaction with clinical learning environment and acquisition of clinical skills in Fako Division, 2023

		Clinical environment	Clinical skills
Clinical environment	Pearson Correlation	1	.842**
	Sig. (2-tailed)		0.001
	N	346	346
Clinical skills	Pearson Correlation	.842**	1
	Sig. (2-tailed)	0.001	
	N	346	346

Table 8 Association between socio-demographic characteristics and satisfaction in Fako Division

Characteristics	Knowledge		AOR (95%CI)	p-value
	Yes n (%)	No n (%)		
Age				
<21	14 (37.8)	23 (62.2)	1	
21–35	116 (40.1)	170 (59.9)	1.34 (0.91-2.30)	0.211
36+	9 (45.0)	11 (55.0)	1.45 (0.88-2.41)	0.356
Gender				
Female	104 (37.7)	172 (62.3)	1	
Male	35 (50.0)	35 (50.0)	2.08 (1.23-4.65)	0.021*
Professional program				
Midwifery	18 (23.7)	58 (76.3)	1	
Nursing	121 (44.8)	149 (55.2)	2.01 (1.02-3.99)	0.022*
Number of clinical rotations				
3	115 (35.8)	206 (64.2)	1	
4	14 (93.3)	1 (6.7)	3.11 (1.56-5.99)	0.041*
5	10 (100.0)	0 (0.0)	3.20 (1.60-6.10)	0.039*

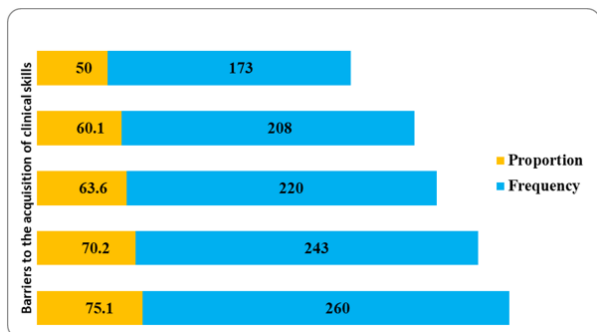


Figure 4 Barriers to the acquisition of clinical skills among student nurses and midwives in Fako Division, 2023.

Discussion

This study aimed at assessing nursing and midwifery student's satisfaction in the acquisition of clinical skills during internship in Fako Division. The findings from this study could help health training facilities as well as nursing and midwifery schools to provide a conducive clinical learning environment to nursing and midwifery students in order to ensure effective learning and acquisition of skills. This might in turn promote the students' satisfaction with their clinical rotation experiences, which might result in the bringing up of highly trained and clinically competent nursing and midwifery workforce.

a) Participants' knowledge on the acquisition of clinical skills

According to the findings of this study, the student nurses and midwives had good knowledge on the acquisition of clinical skills.

All the participants had good knowledge on their expectations to properly administer drugs, and to document patients' information and keep records. This finding could be attributed to the fact that the students were educated on their expectations during internship. Our finding corroborates that reported in Ethiopia where 92.3% of the student nurses had adequate knowledge on their expectations during clinical placement.²⁶ The least knowledge score was recorded in the area of assisting in preoperative and postoperative exercise. Several factors could account for this such as students are often not allowed to participate in operating sessions as well as not allowed to manage critical cases after surgery. In addition, most students who answered the questions had fewer clinical rotations and this could have impacted their knowledge negatively. Our finding is consistent with that of a related study by Awube et al.²⁷ who also found inadequate knowledge of nurses in postoperative care management.

b) Students' satisfaction with the acquisition of clinical skills

Also, this study revealed that overall, more than half of the participants were satisfied with the acquisition of clinical skills. Our finding concurs with that of Vijayan et al.²⁸ who observed that student nurses on internship were generally satisfied. Also, our study revealed that male students were twice more likely to be satisfied with the acquisition of clinical skills than females. This finding supports that of Lamont et al.²⁹ who reported that male interns were more likely to be satisfied with internship. They further explained that differences that existed across demographic and academic characteristics most often were present with the group of interns that had not planned to participate in a clinical healthcare internship. Therefore, students who do not have plans to do a clinical healthcare internship were more likely to be less satisfied than those who were prepared for their clinical learning.³⁰

c) Nurses and midwives' satisfaction with the clinical learning environment

The current study revealed that student nurses and midwives satisfaction with the clinical learning environment was poor. The least satisfaction was recorded in the area of follow up of students during placement and provision of working equipment. These findings are in line with that reported in Turkey where just half of the students were satisfied with the clinical learning environment; the nursing students primarily expected supportive attitudes and active participation in nursing practices.⁸ The two components they were most satisfied with were technical skills and interpersonal caring experiences. The mean scale score for the clinical learning environment perceived by the students was 70.12 (SD = 9.25) (min: 22 max: 110). The students' professional perspective, ability to transfer theory to practice and satisfaction with clinical practice affected their perception of the clinical learning environment. This finding indicates that nursing students expect support and supervision from both the instructor and the clinical staff. The importance of educational and clinical support, which is the most basic needs of students during the learning process, is also clearly seen in the research results. Considering the unbalanced distribution in the instructor-to-student ratio, the importance of clinical mentoring becomes more evident.⁸

d) Barriers to the acquisition of clinical skills among student nurses and midwives

The findings of this study revealed that the main factors limiting the acquisition of clinical skills by student nurses and midwives were too many interns, patient refusal to be attended to by interns, being sent out during certain procedures and lack of follow up from the training schools. Most participants of this study agreed that the fewer the interns the better the chances of acquiring clinical skills. Increasing the number interns per trainer increases their workload and some of them further reported different learning styles of students as challenging. Increased student population reduces learning opportunities. Finding innovative ways to meet the challenges of clinical skill acquisition are some of the most pressing issues when nurse educators try to transform challenges into opportunities in the future. A previous study carried out in Ethiopia found that the higher the number of students the more difficulties clinical teachers faced in teaching the students.³¹ Similarly, in a study conducted in Buea by Eta et al,³² nursing students reported overcrowding as one of the challenges they faced during clinical learning. Therefore, to reduce these challenges faced in the clinical learning environment, the number of supervisee per supervisor could be moderated. The number of students that can be safely handled by a mentor in a nursing unit is a subject of debate between nursing faculty and hospitals.³³ Factors that are relevant in determining the number of students on a clinical nursing unit include the number of clients in the clinical setting, the clients' acuity level, and the ability level of the students. Matching these findings, Lewis et al.³⁴ established amongst other factors; time, staff shortages and work overload as prime in hindering the acquisition of clinical skills among student nurses.³⁵

Conclusion

From the findings of the study, it can be concluded that the knowledge of nurses and midwives on the acquisition of clinical skills was good. The satisfaction of interns with the acquisition of clinical skills was good. More than half of the interns or student nurses and midwives were not satisfied with the clinical learning

environment. Gender, professional programme and number of clinical rotations were significantly associated with satisfaction regarding the acquisition of clinical skills. Some of the factors limiting the acquisition of clinical skills by student nurses and midwives were too many interns, patient refusal to be attended by interns, being sent out during certain procedures and lack of follow up from training school. Based on the findings of this study it is recommended that health facilities should take in to consideration their capacity to manage students on internship and regulate the number of interns taken in per a certain period or duration. This might enhance acquisition of clinical skills and improve satisfaction for all students.

Limitation of the study

The main limitation of this study was the use of only one Division, which might make it difficult to generalize the findings to the entire Region. However, the schools used in this study are among the top five in the Region; findings from this study could have given a clear picture of the situation in the Region.

Author's contribution

All the authors participated in different steps of the study from its commencement to writing. That is, conception and design, acquisition of data, analysis and interpretation of data as well as drafting and or revising, editing and approving the final manuscript.

Acknowledgments

The authors would like to thank all the nursing and midwifery students who participated in this study.

Conflicts of interest

The authors declare that there are no conflicts of interest.

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