

Factors and challenges influencing the acquisition of clinical skills by student nurses during internship in Buea Health District, Cameroon

Abstract

Background: Clinical learning is an important component of nursing education, which enhances the transfer of theoretical knowledge into practice enhancing the provision of quality nursing care.

Objective: This study was aimed at identifying factors and challenges that influence the acquisition of clinical skills by student nurses during internship in the Buea Health District.

Methods: The study employed a cross-sectional design. Purposive and simple random sampling techniques were used to select the study site and enroll participants to the study respectively. The study was conducted in four health facilities in the Buea Health District in Fako Division, South West Region of Cameroon. The participants were made up of 2nd, 3rd, 4th year student nurses on internship. Respondents who met the inclusion criteria and gave their consent to participate in the study were selected. Data was collected using a pretested semi-structured questionnaire made up of closed-ended questions. Data was collected on the factors and challenges that influence the acquisition of clinical skills by student nurses. The data collected was entered into Microsoft Excel and finally into Statistical Package for Social Science 22 versions. Data was analyzed using quantitative method, and Chi square test at a confidence interval of 95% was used to conduct bivariate analysis.

Results: A total of 212 respondents participated in the study. The study revealed that 118 (40.59%) respondents acquired communication skill and 164 (18.81%) leadership skills. Factors that influenced the types of clinical skills acquired by respondents were age (COR: 0.031), level of preparedness to enter a clinical setting (COR: 0.355), source of motivation (COR: 0.753). Limited time (25.25%), lack of support and supervision (24.26%) from health personnel were the most frequent challenges that hindered the acquisition of clinical skills by student nurses on internship in the Buea Health District.

Conclusion: The study concluded that even though the participants acquired communication and leadership skills, there is need to enhance the acquisition of decision making skill in order to promote the provision of prompt and quality nursing care. Also, health institutions and health facilities should minimize challenges faced by student nurses in the acquisition of clinical skills.

Keywords: factors, clinical practice, skills acquisition, student nurses, challenges.

Volume 10 Issue 4 - 2024

Eta VEA,¹ Njie IE,¹ Njeodo V,² Ngala E,¹ Nsagha DS,³ Achidi AE²

¹Department of Nursing, Faculty of Health Sciences University of Buea, Cameroon

²Faculty of Science University of Buea, Cameroon

³Department of Public Health & Hygiene, Faculty of Health Sciences University of Buea, Cameroon, Faculty of Sciences University of Buea, Cameroon

Correspondence: Eta VEA, Department of Nursing, Faculty of Health Sciences, University of Buea, BP63 Buea, Cameroon, Email ayambaenow@yahoo.com

Received: September 15, 2024 | **Published:** October 01, 2024

Abbreviations

AOR, adjusted odds ratio; BSI, body substance isolation; BSc, bachelor of science degree; COR, crude odds ratio; CI, confidence interval; ECG, electrocardiograph; HND, higher national diploma; HIV, human immuno deficiency; MKO, more knowledgeable others; SRN, state registered nurse; WHO, world health organization; ZPD, zone of proximal development;

Introduction

Nursing education comprises both theory and practical training, in which the application of theory is within the clinical environment where the students learn the art of nursing. It encompasses a variety of knowledge, skills, concepts and practices which revolve around the unique concepts of nursing.¹⁻³ Clinical placement is an essential educational component to undergraduate nursing students' development. It provides an invaluable opportunity where students learn in the clinical environment and acquire knowledge and develop clinical reasoning skills, and are transformed from novices

to professional nurses. During clinical placements or internships students are expected to interact with the clinical environment which includes clinical wards, nurses, physicians, patients and their families as well as the clinical instructors.⁴⁻⁶ Therefore, the clinical environment enhances the transfer of theoretical knowledge into practice and ultimately improves provision of quality health care. The knowledge gained makes it easier for the students to provide care adequately according to their level of competencies. In areas with limited or not available simulation learning takes place in the real environment.⁷ For nursing students to be able to function within the scope of professional practice, they need to be supported and guided so that they can become responsible, accountable and independent professionals.⁸⁻¹⁰ Clinical training provides opportunity for students to apply their theoretical knowledge into actual health care provision,^{11,12} develop psychomotor skills, observe and adapt to the professional role. The clinical environment should be carefully selected, accepted by nurse tutors and prearranged to be capable of transforming nursing students into competent nursing practitioners.¹³ The accreditation of student nurses occurs during clinical learning in a complex and

dynamic learning environment. Student nurses often experience challenges like shortage of clinical staffs and clinical instructors, lack of support supervision and interpersonal relationship, shortage of materials, lack of role models, short practice time, and knowledge-theory gap.¹⁴ Clinical learning is challenging, unpredictable, stressful and constantly changing. Negative clinical experiences affect trust, attitude, and student learning. They can waste a great deal of time and energy, impose heavy financial burden on education system, mental tension, and cause students unable to handle or finish the course in the required time.¹⁵

In Sub Saharan African settings, clinical practice is challenged by multitude of factors which can affect learning adversely. Some factors reported to influence students' learning in clinical area act at different levels, namely individual level (student factors), hospital environment, socio economic factors and nurse tutors factors. Studies have revealed that lack of adequate supervision of students in the clinical area, inexperienced teachers in schools, unconducive environment in the clinical areas and lack of students' involvement in planning their programs hinder clinical nursing skill acquisition.¹⁶ Constructive criticism improves clinical skills acquisition in the clinical setting while negative criticism is an obstacle for effective clinical skills acquisition. The sources of stress during clinical practice have been observed by many researchers and include new environment, lack of assessment before supervision, poor clinical orientation and shortage of nurses.¹⁷

In Cameroon, nursing education training programs offer theoretical and practical training for general nursing and midwifery students. The structure of nurse training programs shows that students spend a number of weeks, months at each level in placement settings with hospital facilitators. Therefore, it is imperative to find out whether the competencies that need to be acquired by these students in these three domains of cognitive, psychomotor and affective are satisfactory or are hampered by some factors. Thus, this study investigated factors and challenges that influenced the acquisition of clinical skills by student nurses during internship in the Buea Health District. Specifically, we identified skills acquired by students, factors that influenced skills acquisition and challenges faced in acquisition of skills by nursing students. Findings from this study may provide a framework which could serve as a guide for clinical teaching and learning as well as pre-placement orientation.

Methodology

This was a cross-sectional study conducted in some selected health facilities located in the Buea Health District from 13th March to 15th October, 2022. Buea is the capital of the South West Region of Cameroon. This city is located on the eastern slopes of Mount Cameroon in Fako Division. Buea Health District has seven health areas which are Bokwango, Bova, Buea Road, Buea Town, Molyko, Muea and Tole with several villages such as Bomaka, Bova, Bonjongo, Bokwai and Likombe among others. There are health facilities in these health areas that serve as clinical sites for students during internship. For the purpose of this study, the Buea Town Health Center, Buea-road (PMI),

Buea Regional Hospital and CMA Muea were purposively selected for the study. These hospitals have a high number of student nurses on internship and a good number of beds and high patient in flow. These health facilities render integrated health services to the population and as such are suitable for student nurses to learn, acquire and develop clinical skills. A questionnaire made-up of closed ended questions was used to collect data. The target population was all the second, third, and fourth year nursing students in the clinical sites. A simple random technique was used to select the participants, which gave each student an equal chance to participate in the study. The sample size for this study was 212 participants, which was calculated using the Yamen's formula; A minimum sample size of 212 participants was calculated using the Yamen's formula:

$$n = N \div 1 + N(e)2$$

Where

n = expected sample size to be determined

N = estimated number of 2nd, 3rd, 4th year nursing students on internship within the selected health facilities of the Buea Health District

e = precision level, having a confidence level of 95% (1.96) and 0.05 error margin. Substituting these values in the formula:

$$n = 250 / 1 + 250(0.05)^2 n = 211.8$$

Thus, a total of 212 student nurses were recruited in this study.

The probability proportionate to size sampling was used to determine the number of participants for each site (Table 1). Data was collected on the types of clinical skills acquired, factors influencing the acquisition of skills and the challenges faced by students in acquiring clinical skills during internship within the Buea Health District. Before administering the questionnaire, it was pre-tested by administering 10 copies to ten students who were not part of the study population. Their responses confirmed the clarity and validity of the questions. Copies of the questionnaire were then administered to the study participants who completed the various sections of the questionnaire. This study was authorized by the Department of Nursing, Faculty of Health Sciences, University of Buea, Cameroon. Administrative authorization was first obtained from the Regional Delegation of Public Health (No. 691/526) and then from the heads of the various health facilities. Before responding to the questionnaire each respondent gave their consent by signing the consent form. Data collected was entered into Microsoft Excel and finally into Statistical Package for Social Science 22 version. Data was analysed using the quantitative method. Data was presented using frequency table and charts. With the use of a descriptive statistical approach, calculation of mean, standard deviation and percentile was done. Frequency and percentage was used for categorical variables like gender, age, bivariate analysis was done using Chi square test and the level of significance was established.

Table 1 Distribution of participants according to health facilities in Buea Health District 2022

SN	Name of health facility	Total number of nursing students on internship	Probability of selecting nursing students on internship	Number of nursing students on internship selected
1	Buea regional hospital	300	0.448	95
2	Muea health center	190	0.284	60
3	Buea town health center	110	0.164	35
4	Buea road health center	70	0.104	22
	Total	670	1	212

Results

All 212 students enrolled, participated in the study giving a response rate of 100%. The majority of the students nurses on internship in Buea Health District were females 174 (86.1%), 178 (88.1%) younger than 30, and 142 (70.3%) of them were single. One hundred& twenty-nine (63.9%) were pursuing a Higher National Diploma with 119 (58.9%) being in their second year (Table 2). Communication 86 (40.6%) and leadership 40 (18.8%) were the two main skills acquired by students during clinical internships in the Buea Health District. The least acquired skill among students was decision making 11 (5.4%) as depicted on (Figure 1). Majority of the students acquired the communication 69 (32.7%) and leadership 42 (19.8%) skills in their third year of training (Figure 2). The bivariate logistic regression analysis revealed that, the acquisition of communication skill by student nurses in the Buea Health District during internship was influenced by age (COR: 0.031; 95% CI: 0.158-0.915; $p = 0.031$), level of preparedness to enter a clinical setting (COR: 0.355; 95% CI: 0.198-0.639; $p = 0.001$), source of motivation for learning during clinical practice (COR: 0.753; 95% CI: 0.572-0.993; $p = 0.044$) and frequency of teachers' hospital visits (COR: 2.779; 95% CI: 1.810-4.266; $p < 0.001$) as shown by their association in (Table 3). Similarly, this also showed that the acquisition of leadership skill by student nurses in the Buea Health District during internship was influenced by the level of preparedness to enter a clinical setting (COR: 3.484; 95% CI: 1.387-

8.754; $p = 0.008$) and source of motivation for learning during clinical practice (COR: 2.252; 95% CI: 1.351-3.858; $p = 0.003$) as shown in Table 4. Few of the student nurses on internship in the Buea Health District most frequently faced challenges such as limited time 54 (25.2%) and lacked support and supervision 51 (24.3%) from health personnel (Figure 3).

Table 2 Distribution of participants' characteristics in Buea Health District, 2022

Parameter	n (%)
Gender	Male 28 (13.9)
	Female 174 (86.1)
Age (years)	< 30 178 (88.1)
	≥ 30 24 (11.9)
Marital status	Single 142 (70.3)
	Married 50 (24.8)
	Divorced 10 (5.0)
Study program	HND 129 (63.9)
	SRN 19 (9.4)
	BSc 54 (26.7)
Present year	Year 2 77 (38.1)
	Year 3 119 (58.9)
	Year 4 6 (3.0)

Table 3 Analysis of factors influencing the acquisition of communication skill by student nurses during internship in Buea Health District, 2022

Parameter	No acquisition of communication skill (n = 118)	Acquisition of Communication skill (n = 84)	COR	95% CI	P-Value
Gender	Male 19	9	0.625	0.268- 1.46	0.278
	Female 99	75			
Age (years)	< 30 109	69	0.38	0.158- 0.915	0.031
	≥ 30 15	9			
Level of preparedness to enter a clinical setting	Fully prepared 89	42	0.355	0.198- 0.639	0.001
	Partially prepared 28	42			
	Not prepared 1	0			
Right kind of clinical supervisors	No 33	28	1.288	0.702-2.316	0.413
	Yes 85	56			
Source of motivation for learning during clinical practice	Support from hospital staff 67	24	0.753	0.572-0.993	0.044
	Use of different learning styles 28	46			
	Presence of available materials 15	1			
	Talented clinical instructors 3	13			
	All of the above 5	0			
Method that facilitates learning during clinical practice	Demonstration 42	24	0.883	0.715-1.092	0.251
	Observation 33	21			
	Lectures 3	3			
	Hands-on practice 35	36			
	All of the above 5	0			

Table 3 Continued..

Parameter		No acquisition of communication skill (n = 118)	Acquisition of Communication skill (n = 84)	COR	95% CI	P-Value
Frequency of follow-up of objectives	No	0	0	1.405	NA	0.017
	Yes	118	84			
Frequency of school teachers' hospital visit	Regularly	12	27	2.779	1.810-4.266	< 0.001
	Sometimes	48	40			
	Never	58	17			

COR, crude odds ratio; CI, confidence interval

Table 4 Analysis of factors influencing the acquisition of leadership skill by student nurses during internship in Buea Health District, 2022

Parameter		No acquisition of Leadership skill (n = 164)	Acquisition of Leadership skill (n = 38)	COR	95% CI	P-Value
Gender	Male	26	2	0.295	0.067-1.301	0.107
	Female	138	36			
Age (years)	< 30	144	34	1.181	0.379-3.679	0.775
	≥ 30	20	4			
Level of preparedness to enter a clinical setting	Fully prepared	99	32	3.484	1.387-8.754	0.008
	Partially prepared	64	6			
	Not prepared	1	0			
Right kind of clinical supervisors	No	51	10	0.791	0.358-1.751	0.563
	Yes	113	28			
Source of motivation for learning during clinical practice	Support from hospital staff	60	31	2.252	1.351-3.858	0.003
	Use of different learning styles	71	3			
	Presence of available materials	16	0			
	Talented clinical instructors	12	4			
	All of the above	5	0			
Method that facilitates learning during clinical practice	Demonstration	56	10	1.043	0.798-1.363	0.76
	Observation	39	15			
	Lectures	6	0			
	Hands-on practice	58	13			
	All of the above	5	0			
Frequency of follow-up of objectives	No	0	0	4.316	NA	< 0.001
	Yes	164	38			
Frequency of school teachers' hospital visit	Regularly	31	8	1.048	0.647-1.697	0.849
	Sometimes	72	16			
	Never	61	14			

COR, crude odds ratio; CI, confidence interval

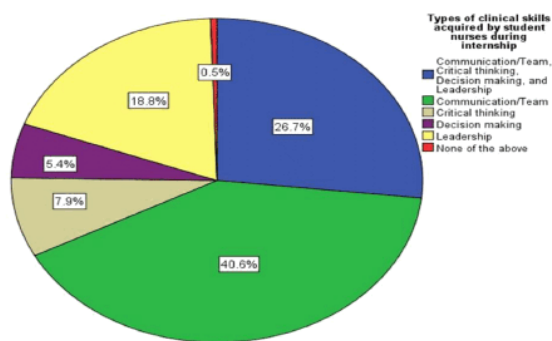


Figure 1 Proportion of student nurses that acquired specific clinical skills during internship in Buea Health District, 2022.

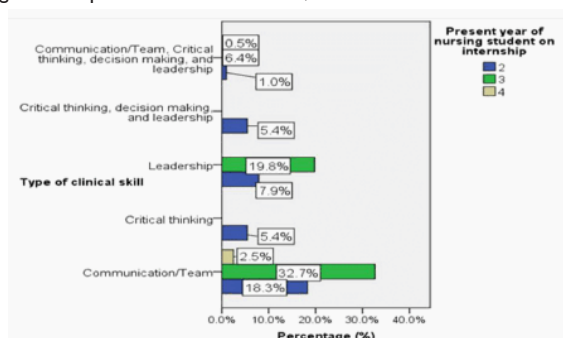


Figure 2 Clinical skills acquired by nursing students on internship based on current year of studies in Buea Health District, 2022.

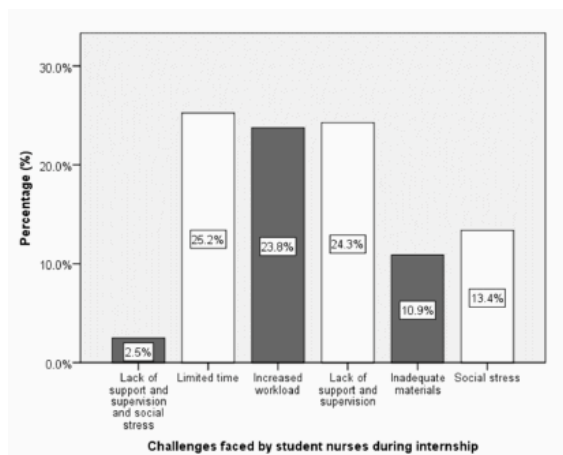


Figure 3 Proportions of student nurses that faced specific challenges upon the acquisition of clinical skills during internship in Buea Health District, 2022.

Discussion

This study aimed at identifying factors and challenges that influence the acquisition of clinical skills by student nurses during internship in the Buea Health District. Findings from this study could serve as a guide for the designing and implementation of specific rules and regulations might enhance clinical teaching and learning and improve on skills acquisition by students in the clinical learning environment.

Participants' characteristics

Findings showed that a total of 212 nursing students on internship from the four selected health facilities within the Buea Health District

participated in this study. Majority of the student nurses were females and were younger than 30 years of age. These findings are similar to the findings of related studies which showed that majority of the student nurses and nurses were females^{18,19} and were below the age of 30 years.^{20,21} About three quarter of the participants was single and more than half were pursuing their HND. Similarly, previous studies conducted by Eta et al.¹⁸, Aslam et al.²² and Habasa²³ found that Diploma nurses were the most represented.

Types of clinical skills acquired by student nurses on internship in the Buea health district

The findings of this study revealed that communication skill was the most identifiable skill acquired by student nurses on internship. This finding is in line with Shukla²⁴ who found that during clinical training students form competence for clinical communication and social competence in their explicit interaction with patients and their relatives. The nature of the clinical training in our setting also imposes mastering of communicative skills. The acquisition of communication skills by nursing students in the clinical environment is paramount, as this leads to an increase in their motivation. Similar to this finding is that of Levay et al.,²⁵ who found that proper communication with students increased their motivation.

Again, the results of this study revealed that the least skill acquired by the participants was decision making. This could be due to the fact that students are not usually exposed to critical clinical situations during theoretical sessions and as a result during internship clinical evaluators do not allow them to decide on the critical situations. This disrupts the process of acquiring the clinical skills because most of the ideal steps are missed, leading to incompetent and unsafe way to practice. This finding is in line with a study conducted by Najafi et al.,²⁶ who concluded that students learn a clinical skill better if they are guided on how to perform that clinical skill. However, our finding is contrary to that of a previous study where more than half of the respondents obtained good leadership and decision making skills.²⁷ The discrepancy in these findings could be due to the fact that nursing students study both theory and practical simultaneously since their institution has a teaching hospital which gives them the opportunities to handle critical clinical conditions under the supervision of their clinical mentors. Also, Camilla et al.,²⁸ stated that supportive relationship of clinical nurses will cause the acceptance of students as a part of the treatment team and help in proper learning. On the other hand, improper communication of clinical nurses with students hinders their learning.²⁹

Factors influencing the types of clinical skills acquisition by student nurses during internship at the Buea health district

For the factors influencing the acquisition of clinical skills by students, the results of this study revealed that the source of motivation for learning during internship was associated with acquisition of clinical skills by student nurses. Students' motivation was observed to be outstanding as far as clinical skill acquisition is concerned. According to Cherry³⁰ motivation gives a drive to a change in behavior by arousing, sustaining and directing it towards the successful attainment of a goal. Again, some students stated that they were motivated to acquire the skills because they had knowledge which they gained from theory, and they wanted to achieve by practicing those skills. This finding is similar to a study conducted by McKenna et al.,³¹ who found that background knowledge of the

nursing profession from family members was what motivated the students to join the career. Therefore, it could be difficult for students to acquire the skills if not interested in the profession. In addition, the authors mentioned that if the teaching methods are monotonous students might be demotivated.

Furthermore, this study showed that the level of preparedness to enter a clinical setting was associated with the acquisition of clinical skills by nursing interns. This finding is supported by Lee et al.³² who also found that registered nurses rated students lower, and indicated that there was need for the students to be well prepared, unlike the nurses who generally felt that the students had enough knowledge and there was no need to assist them. This is because it requires a nurse who is knowledgeable about the subject matter to assist the students in the clinical area. This meant that nurses who do not have enough knowledge can almost not transmit necessary skills to the learners. Eta et al.³³ agrees with this by stating that clinical teachers or preceptors may be worried about the theoretical basis of their own practice.

The question that often comes up is whether or not they are up to date with knowledge and their ability to teach and model clinical skills. Similarly, a study by Mirna et al.³⁴ also found that nurses who had low education level felt that student did not need to be assisted as they felt inferior, unlike the nurses who were highly educated who were able to identify the needs of students. In like manner, since the students are assisted by different cadres of different experience and educational level in various hospitals, this could be true in regards to the knowledge gap which exist among these carders that eventually affects the transmission of skills to students.³⁵

Our study results showed that the frequency of teachers' hospital visit influenced the acquisition of the types of clinical skills acquired by student nurses during internship. This finding is similar to that of a related study which revealed that students reported that they want to spend their clinical training with knowledgeable and expert instructors in their field for more effective learning, as instructors may serve as role models,³⁶ who should be available/reachable.³⁷ Clinical teachers should be more involved in meeting students' needs and expectations,³⁸ manage their time well, provide timely individual feedback and make assessments about students' knowledge, skills and professional judgments.³⁹

Challenges faced by student nurses on the acquisition of clinical skills during internship

Concerning the challenges in the acquisition of clinical skills by students on internship, it was revealed that student nurses on internship had limited time, lack support and supervision from health personnel. This is in line with Ameen et al.,⁴⁰ who stated that some of the challenges faced by students in the acquisition of clinical skills during internship are lack of time on the part of nurse educators or the supervising persons due to workload or other commitments. In addition, some of the personnel who are concerned with clinical supervision are not interested in clinical teaching and learning partly due to inappropriate curriculum and reference materials for teachers and students as well as the lack of clearly written standard guidelines and policies on clinical training of student nurses.⁴¹ Similarly, another related study also revealed that learning environment was influencing acquisition of psychomotor skills by students.⁴² Again, it is stated that students were not given enough time to practice skills in the clinical area nor in the skill laboratory.³⁷ Therefore, enough time must be set aside for drilling practical skills and demonstrating their complexity. The lack of support and supervision from health personnel was a challenge of majority of the participants in this study. This finding

is in line with that of a previous study which showed that one of the challenges the students faced in the clinical learning environment was lack of frequent supervision.³⁶

Most student nurses on internship in the Buea Health District had a good safety level in the hospital environment while a few of them had a poor safety level. Therefore, learning environment influenced the acquisition of clinical skills. Most of the student nurses on internship received good treatment with courtesy and respect from nursing personnel while a few of them were poorly treated. More than half of the students said that nurses in the clinical environment were supportive. It is worth stating that good interpersonal relationship between the students and qualified nurses is the beginning of whatever the student is going to be in the future.³⁹ If the tutors or qualified nurses do not create a friendly atmosphere for students, it means that students will not learn effectively due to the lack of trust.³⁸ However, clinical instructors may encounter difficulties with students such as personality conflicts and lack of respect on the part of the students thereby hindering effective learning and the acquisition of skills.⁴¹

Conclusion

Communication and leadership skills were the most skills acquired by student nurses on internship in the Buea Health District, while the least acquired skill among the student nurses was decision making skill. Age, level of preparedness to enter a clinical setting, source of motivation for learning during clinical practice and the frequency of teachers' hospital visits were associated with the acquisition of communication and leadership skills by nursing interns. The student nurses on internship in the Buea Health District had as main challenges, limited time and lack of support and supervision from health personnel. Based on the findings of this study, it can be seen that there is still a need for nurse educators to increase the frequency of visits to the wards when students are on clinical placement. Also, the training hospitals should improve on supervision and monitoring of clinical instructors. Furthermore, health institutions should set standards for clinical instructors and mentors in the training of nurses. This might in turn minimize challenges face, enhance effective teaching and learning, and promote acquisition of clinical skills especially clinical decision making skill. This could lead to the provision of prompt and competent nursing care.

Limitations of the study

This study used a questionnaire to collect data; the disadvantage is that it does not produce rich data. To compensate for this limitation, multiple options were provided for each question and copies of the questionnaire were administered on a face-to-face basis. Also, the study used only four selected clinical sites within the Buea health district, thus the results might not be generalized to all settings. A more robust study could be conducted in the Buea Health District for a better understanding of the challenges encountered in skills acquisition.

Authors contribution

All authors participated in different stages 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, revising and approving the final manuscript.

Acknowledgments

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

Conflicts of interest

The authors declare that they have no conflicts of interest.

References

1. Mika F. Nursing competency: definition, structure and development. *Yonaga Acta Med.* 2018;61(1):1–7.
2. Hassan N, Kholy G, Omran A, et al. Nursing students achievement in normal labor: impact of simulation modules. *American J Education Res.* 2018;6(12):1726–1731.
3. Abd EN, Kholy G, Hassan A, et al. Call for activation of simulation modules for nursing students' achievement and satisfaction of normal labor: a quasi-experimental study. *ARC J Nurs Healthcare.* 2018;4(2):24–39.
4. Seyedeh RJ, Ali Z, Mojtaba QQ. The challenges of supporting nursing students in clinical education. *J Educ Health Promot.* 2020;9:216.
5. Abd EN, Kholy G, Omran A, et al. Effect of simulation on students' achievement in normal labor modules. *Menoufia Nursing J.* 2019;4(1):71–84.
6. Zagloul M, Hassan S, Sheha E, et al. Postnatal evidence based nursing practice: effect of an educational guideline on internship student's knowledge and skills. *Egyptian J Health Care.* 2022;13(2):437–447.
7. Ayodele MO. Attitude, self-concept and achievement of junior secondary school students in basic science in Ekiti state, Nigeria. *J Educ Soc Res.* 2016;6(1):167.
8. Zehr SM, Korte R. Student internship experiences: learning about the workplace. *Educat Train.* 2020;62(3):311–324.
9. Hassan H. The impact of evidence-based nursing as the foundation for professional maternity nursing practices. *Open Access J Reproduct System Sexual Disorder.* 2019;2(2):195–197.
10. Hassan H. Evidence-based practice in midwifery and maternity nursing for excellent quality of care outcomes. *American J Nursing Res.* 2020;8(6):606–607.
11. Lauren MT, Nicole MP, Maxine D. Factors influencing nursing student learning during clinical placements: a modified Delphi study. *J Nurs Educ.* 2023;62(6):333–341.
12. Siri VB, Jonas D. The learning environment of student nurses during clinical placement: a qualitative case study of a student-dense ward. *SAGE open Nurs.* 2021.
13. Mary AJ. An update on clinical judgment in nursing and implications for education, practice and regulation. *J Nurs Reg.* 2021;12(3):50–60.
14. Shorey S, Chua C. Nurses and nursing students' experience on pediatric end-of-life care and death: a qualitative systematic review. *Nurse Educ Today.* 2022;112:105332.
15. Lenka M, Elena G, Lenka S. Nursing students' perceived stress and clinical learning experience. *Nurse Educ Pract.* 2022;64: 103457.
16. Semarya B, Tigistu G. Nursing students' challenges towards clinical learning at the school of nursing and midwifery in addis ababa university: a qualitative study. *Int J Africa Nurs Sci.* 2021;15:100378.
17. Burcu A, Yaprak O, Dilek Y. Undergraduate nursing students experience related to their clinical learning environment and factors affecting to their clinical learning process. *Nurs Educ Pract.* 2018;29:127–132.
18. Eta VEA, Akong ER, Bassah N, et al. Nurses practices of input and output monitoring of patients on intravenous fluid therapy within Fako Division. *Universal Library Clinic Nursing.* 2024;1(1):17–28.
19. Hala AES, Manal HM. Effectiveness of structured educational program on knowledge and practice among nurses regarding body fluid balance assessment for critically ill patients. *IOSR J Nursing Health Sci.* 2018;7:74–83.
20. Shumaila A, Muhammad A, Robina K, et al. The assessment of nurses' knowledge and practices about fluid and electrolytes monitoring and administration among cardiac surgery patients: a case of Punjab institute of cardiology. *Int Appl Science Biotechnol.* 2017;5(2):208– 215.
21. Ghada SKM, Asmaa AM, Mosafa SA. The effect of scenario based teaching for critical care nurses and physicians on their knowledge of fluid creep. *J Nursing Education Practice.* 2018.
22. Cathala X, Moorley C. Skills for newly qualified nurses 1: understanding and managing accountability. *Nursing Times.* 2020; 116.
23. Habasa D. *Factors affecting utilization of fluid balance charts by nurses on surgical ward at Kampala international university teaching hospital, Bushenyi district.* 2017.
24. Shukla R. *How to improve effective communication skills in students and be presentable.* 2021.
25. Levay K, Miller T, Down L. *Communicating about students motivation.* 2019.
26. Najafi KM, Jamshidi N. How do nursing students experience the clinical learning environment and respond to their experiences? a qualitative study. *BMJ Open.* 2019;9:e028052.
27. Sanchis GL, Lacomba TL, Prado GV, et al. Attitudes towards communication in nursing students and nurses: are social skills and emotional intelligence important? *Healthcare(Basel).* 2023;11(8):1119.
28. Camilla A, Helen D, Markus H. Nursing students' experiences of applying problem based learning to train the core competence teamwork and collaboration: an interview study. *Nurs Open.* 2021;9(1):569–577.
29. Ngaiyaye P, Ellemes E. Challenges in neonatal nursing clinical teaching to Nurses. *J Nurs Educ.* 2017;2015–2221.
30. Cherry K. *Motivation: the driving force behind our actions.* 2023.
31. McKenna L, Mambu I R, Sommers C L, et al. Nurses and nursing students reasons for entering the profession: content analysis of open ended questions. *BMC Nurs.* 2023;22(1):152.
32. Lee JJ, Clarke CL, Carson MN. Nursing students learning dynamics and influencing factors in clinical contexts. *Nurse Educ Pract.* 2018;29:103–109.
33. Eta VEA, Vibem CV, Nsagha DS. Preceptors experiences and preceptees views regarding the clinical learning environment for nursing in the Buea regional hospital, Cameroon. *J Basic Appl Res Int.* 2022;28(6):8–21.
34. Mirna AF, Ayman MH, Ahmad T. Challenges facing nursing education in the advanced healthcare environment. *Int J Africa Nurs Sci.* 2018;9:1005–1110.
35. Vuckovic V, Karlsson K, Sunnqvist C. Preceptors and nursing students' experiences of peer learning in a psychiatric context: a qualitative study. *Nurse Educ Pract.* 2019.
36. Zhang J, Shields j, Ma, B. et al. The clinical learning environment, supervision and future intention to work as a nurse in nursing students: a cross-sectional and descriptive study. *BMC Med Educ.* 2022;22(548).
37. Berhe S, Gebretensaye T. Nursing students challenges towards clinical learning environment at the school of nursing and midwifery in Addis Ababa university: a qualitative study. *Int J Africa Nursing Sci.* 2021;15(100378).
38. Silén C, Kalén S, Lundh P, et al. Students learning in clinical practice—a scoping review of characteristics of research in the nordic countries. *Med Educ Online.* 2023;28(1):2279347.

39. Camilla O, Ingunn A, Simen AS. Supplementing clinical practice in nursing homes with simulation training: a qualitative study of nursing students experiences. *SAGE Open Nurs.* 2020;6:2377960820981786.
40. Amee A, JungGi M, Sharjeel S, et al. Continued nursing education in low-income and middle-income countries: a narrative synthesis. *BMJ Glob Health.* 2019;5(2). e001981.
41. Lee NPM, Chiang VCL. The mentorship experience of students and nurses in pre-registration nursing education: a thematic synthesis of qualitative studies. *Nurs Health Sci.* 2021;23(1):69–86.
42. Eta VEA, Mbeng B. Improving clinical learning environment: views and expectations of student nurses in Limbe regional hospital, Cameroon. *Afr J Integ Health.* 2020;10(02):18–23.