Original Article

Nursing Students' Perception of the Clinical Learning Environment: A Correlational Study

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Abstract - *This study explored the practicum and supervision factors that influence nursing students' perception of and satisfaction in the clinical learning environment. A cross-sectional descriptive design was used. We used a convenient sample of 270 students recruited from four public nurse training institutions. The Clinical Learning Environment (CLE) Supervision + Nurse Teacher scale was used. A hierarchical multiple regression analysis was conducted. After controlling for demographic variables, practicum and supervision factors were inserted into the model in the second step, and changes in adjusted R^2 were noted. Nursing students' perception of the CLE was 3.56 ± 0.78 and satisfaction 3.56±1.12. The leadership style of the ward manager was the sub-dimension with the highest perception score. Supervision and practicum factors were the most influential factors in nursing students' perception of and satisfaction with their CLE. After controlling for age and place of practicum, the intensity of supervision was the largest significant predictor of nursing students' perception of and satisfaction with the CLE. Conclusion: Nurse educators can improve students' perception of and satisfaction with their clinical learning environment by improving how students are supervised during clinical placements.*

Keywords - *Clinical Learning Environment, Nursing Student, Perception, Satisfaction.*

I. INTRODUCTION

Clinical education is a vital component of nursing education. Quality clinical placements provide the link between theoretical knowledge and practical application and are vital for developing professional identity and competence [1]. (Henderson, Cooke, Creedy, and Walker (2012). Specifically, nurses are often trained to provide safe, effective, patient-centered, timely, efficient, and equitable health care in the clinical setting(Boehm, Stolldorf, & Jeffery, 2020) [2]. Therefore, nursing implementation science plays a key role in adopting and integrating evidence-based practices to improve the quality of care(Boehm, Stolldorf, & Jeffery, 2020) [2]; the internship during the nursing student period can reduce the gap between knowledge and application in clinical. From an educational perspective, clinical placement is where skills, knowledge, and attitudes developed in the theoretical part of the curriculum are applied, developed, and integrated [3]. The clinical learning environment (CLE) is defined as "an interactive network of forces within the clinical setting that influence the students' learning outcomes" [4]. It includes the various people student nurses encounter (i.e., patients, physicians, nursing staff, nurse mentors, and nurse tutors) [5].

Clinical education plays a vital role in professional nursing education, covering about half of the nursing education curriculum [6]. The close relationship between clinical competency and concepts of quality has a unique place in nursing as a practice profession [7]. According to [8], creating meaningful and robust learning experiences in nursing education can bring benefits students' performance in clinical practice.

However, being in the clinical learning environment is a complex context that requires joining knowledge and clinical care [9], forcing students to learn how to integrate theory to practice [10]. This can sometimes lead to stress and dissatisfaction among students.

Students from three universities emphasized the importance of having adequate time to settle in to familiarize themselves with the personnel, culture, and practices of each unit or ward they were assigned to. This study found the duration and structure of clinical placements to be one of the most important factors affecting students' belongingness [11] and satisfaction with the CLE. Levett-Jones [11] also stated that a consolidated period of practice for students to 'settle in' and establish collegial relationships is an important influence on their experience of belonging and a necessary precursor to their active and participative learning. Warne [12] reported that individualized mentorship of students has a relationship with satisfaction, with students who underwent individualized supervision having higher satisfaction levels than those who had a group supervisor. Antohe[15] also reported similar findings with the students' eliciting that satisfaction with their clinical placements reached a high level and strongly correlated with the supervisory model.

Previous studies on nursing students' perception of and or satisfaction with the clinical learning environment mostly centered on bachelor students only. Findings from such studies also indicate that factors such as age [13]、[14], nursing college [12], supervision model [15], frequency of supervision [16]、[17], the place of practicum [18]、[19], the duration of practicum [12] and the number of clinical placements [14] are related to nursing students perception of or satisfaction with their CLE.

II. OBJECTIVE

No single study attempted to collectively address the practicum and supervision factors that influence nursing students' perception of and satisfaction with the CLE. This study explores the practicum and supervision factors that influence nursing students' perception of and satisfaction in the CLE. We hypothesized that practicum and supervision factors significantly influence nursing students' perception of and satisfaction with their CLE.

III. LITERATURE

A. Nursing Education in the Gambia

The origin of nursing in The Gambia was, to some extent, similar to that of the western world. Up to 1963, the training of nurses was hospital-based. The three-year general nursing course was modeled along with the apprenticeship type of training. In 1964, under the auspices of the World Health Organization and United Nations International Children Emergency Fund, the first school of nursing that trains nurses for three years in general nursing at the certificate level in The Gambia was set up [20].

The Gambia, like other developing countries, continues to face serious challenges with her health system, affecting the way nursing students are trained and allocated for clinical placements. The shortage of nurses in The Gambia made the government direct nurse training institutions to increase enrollment [21]. As enrollment of students in various nursing programs increased, the demand for quality clinical placements increased. Currently, there are five public nurse training schools and three different cadres of nurses in the country, namely, Registered Nurses, Enrolled Nurses, and Community Health Nurses. The schools have different entry qualifications, orientation, and course duration except for the enrolled nursing programs [22].

B. Clinical Placements & Supervision of Nursing Students in the Gambia

Since the different schools have different curriculums and course duration, their clinical placements are also different. Enrolled nursing students spend a longer duration of about 8 to 12 consecutive weeks than their bachelor and certificate counterparts, who spend between 2 to 6 weeks on practicals. However, bachelor and certificate program students have more frequent practicums than the enrolled nursing students.

The supervision of all nursing students, regardless of their institution of training, is mainly carried out by the senior nursing staff of the health facility, officer's in-charge, unit heads or ward in-charges, and occasionally by nurse tutors or lecturers from the respective nurse training institutions they are enrolled in. However, unlike other institutions, the Gambia College has additional clinical tutors who also help supervise their students. Still, they are not adequate, and thus the lecturers occasionally step in to support them.

Supervision in this paper refers to guiding, supporting, and assessing student nurses made by clinical staff nurses. Supervision can occur as individual supervision or group (or team) supervision. In this study, the term unit headward in-charge or officer-in-charge refers to the ward, unit, or health facility manager, respectively. Nurse tutors in the Gambia are usually employed by the Ministry of Health and Social welfare to teach in one of the two Enrolled Nurse training institutions. The teaching staff of the college or university are employed by the schools and are referred to as lecturers. The role of the nurse tutors and lecturers includes classroom-based teaching, guidance, supporting, directing, motivating, advocating for students, supervision, assessing, and grading nursing students. The health facilities do not have specially trained preceptors (nurse tutors) to work with the students. Mentoring the students is voluntary, and staff on duty usually do so voluntarily, although a few individuals may be reluctant to do so.

IV. METHODS

A. Design

A cross-sectional descriptive, correlational design was used.

B. Study Setting & Participants

This study was conducted in all four public nursing schools in The Gambia. Participants were nursing students in their second year of study.

C. Sample Size & Sampling

Using the G-power 3.1.9.2 version to calculate the sample size [23], with a p-value set at .05significance, a 10% factor, and the small effect of 0.25 for ANOVA would require two hundred and sixty-nine participants for this study to reach a power of .80. A convenient sample of two hundred and seventy nursing students participated in the study culminating in a 90% response rate.

D. Inclusion & Exclusion Criteria

The inclusion criteria were individuals who must have had at least one clinical placement before data collection. Exclusion criteria included all other student nurses from specialized areas such as midwifery, anesthesia, pediatrics, or ophthalmic nursing. The first-year nursing students were excluded because of their limited clinical education experience.

E. Data Collection & Method

The questionnaire was self-administered. Participants were invited to a classroom where the purpose of the study was explained. Those who consented to participate signed the informed consent form and continued to answer the question. Once the participant answered the questionnaire put the completed questionnaire into an envelope. The data was collected between July – and September 2016.

F. Data Analysis

Data were analyzed using SPSS (version 20). Independent t-tests and ANOVA were used to test the difference in mean values. Next hierarchical multiple regression was conducted with the mean perception and satisfaction scores as a dependent, and independent variables were inserted in three steps. Changes in adjusted R^2 were noted to investigate their contribution to perception. Multicollinearity was assessed by calculating the variance inflation factor (VIF).

G. Tools/Instruments

Questionnaires had two parts, including *the CLES+T evaluation scale* and sociodemographic data.
The Clinical Learning Environment, Supervision + Nurse Teacher (CLES+T) evaluation scale

The CLES+T Scale was developed by Saarikoski, [24]. The scale consists of 34 statements which form 5 sub-dimensions: (1) Pedagogical atmosphere on the ward, (2) Supervisory Relationships, (3) the Leadership Style of Ward Managers, (4) Premises of Nursing, and (5) the Role of the Nurse Teacher. The perception is measured using a five-point Likert scale for each domain. The higher the score in a domain denotes the higher the perception, the higher the perception in the clinical learning environment for that particular student.

In the original instrument validation study, the CLES+T Cronbach's alpha values of the sub-dimensions of the scale ranged from high (0.96) to marginal (0.77). In the study, the reliability coefficient of the scale was 0.94. The reliability coefficients range from high (0.91) to marginal (0.74) for sub-dimensions of the scale.

The practicum factors in this study refer to the practicum place, meaning the hospital or health center that the student was attached to for the practicum, the duration of the practicum, and how long the practicum lasts, measured in weeks. The number of clinical placements refers to the number of times students went for clinical practicum.

And the supervision factors are this study are two; one is the intensity of the supervision, which focuses on the quality of the supervision. This refers to nurse tutors/lecturers' supervision or supervision of nursing staff. And the other factor was the frequency, referring to the number of times a student has unscheduled supervisory visits with a supervisor.

Three items adopted from Antohe's [15] study on assessing nursing students' satisfaction with the clinical learning environment have been added to measure satisfaction. The total mean score for satisfaction is 5. The closer to 5 a student scores, the higher the satisfaction of that particular student in the CLE.

H. Sociodemographic data

Sociodemographic data included age, gender, and type of nursing program.

I. Ethical Consideration

Ethical approval was obtained from the Research and Publication Committee of the University of The Gambia with reference (#R016003).

V. RESULTS

A. Demographic Characteristics and Perception & Satisfaction of Participants about their CLE

The majority of the respondents (61.5%) were female. The mean age was 24.14 years. The mean of clinical placements was 4.48±2.35 (Table 1). However, 59.6% of the participants were not supervised by nurse teachers or clinical staff during their placement.

The mean score of participants' perception of the CLE was 3.56 (SD = 0.78), and the mean score of satisfaction with the CLE was 3.56 (SD = 1.12) (Table2).

Table 1. The distribution of Demographic, Practicum, and Supervision factors (N=270)

Characteristic	N/ Mean	Percentage /S.D
Demographic Factors		
Age (years)	24.14	4.89
Gender		
Male	104	38.5
Female	166	61.5
Type of Nursing Program		
Bachelor	45	16.7
Certificate	124	45.9
Enrolled Nurse	101	37.4
Practicum Factors		
Place of Practicum		
Hospital	144	53.3
Major Health Centre	43	15.9
Minor Health Centre	83	30.7
Duration of practicum (Weeks)	7.17	2.60
Number of clinical placements	4.48	2.35
Supervision Factors		
Intensity of Supervision	1.90	0.48
Frequency of Supervision	1.36	1.95

The mean score of participant's perception of the CLE was 3.56 (*SD* = 0.78), and the mean score of satisfaction with the CLE was 3.56 (*SD* = 1.12) (Table2).

Table 2. Nursing Students' Perception of & Satisfaction with their CLE (N=270)

Variable	Mean ± SD
Perception	3.56 ± 0.78
Pedagogical atmosphere	3.68 ± 0.82
Leadership style of the Ward Manager	4.00 ± 0.89
Nursing Care on the ward	3.53± 1.06
Supervisor relationship	3.33± 1.16
Role of Nurse Teacher	3.45± 1.08
Satisfaction	3.56±1.12
The ward can be regarded as a good learning Environment	4.03±1.25
Overall, I Am satisfied with the supervision I received	3.13±1.50
I am satisfied with the clinical placement that just ended	3.54±1.50

B. Correlation between Perception and Satisfaction with Demographic, Practicum Factors, and Supervision Factors

Table 3 shows that nursing students' perception and satisfaction with the clinical learning environment are statistically correlated (r =.738 p<.01). The supervisory relationship, however, showed higher statistically significant correlations with the perception among the sub-dimensions of the CLES+T scale (r=.839 p<.01), while for satisfaction, being satisfied with the supervision received showed the highest correlation with satisfaction (r=.861 p<.01).

Table 3. Pearson Correlation Coefficients between Perception and Satisfaction with Demographic, Practicum Factors, and Supervision Factors (N=270)

	1	2	3	4	5	6	7
Age	1						
Duration of Practicum	.409**	1					
Number of Clinical Placements	.169**	-.288**	1				
Intensity of Supervision	.011	.143**	-.131*	1			
Frequency of Supervision	.141*	.231**	-.083	.261**	1		
Perception	.141*	.218**	-.382**	.270**	.270**	1	
Satisfaction	.176	.288**	-.321**	.370**	.339**	.738**	1

C. Summary of Hierarchical Multiple Regression Analysis Investigating Predictors of Nursing Students Perception& Satisfaction with their CLE.

The background demographic variable *age* and *type of nursing program* explained 18% of the variance observed within the perception score. In the first step of the model, we compared background demographic variables. Using Enrolled Nurse as a reference, the variables of Bachelor and Certificate were the independent predictors of perception (β = -.206, -.461, p < .001). The introduction of practicum factors in the second step significantly increased the variance explained within the perception scores from 18% to 21%, with an adjusted R^2 change of .033 %. During the third step, the introduction of supervision factors increased the variance explained within perception scores from 21% to 32%, with an adjusted R^2 change of .106 %.

Within the fully adjusted model, after controlling for demographic variable, the largest significant unique predictors in CLE scores were duration of practicum (β = -.446, P < .001), intensity of supervision (β = .253, P < .0001), and frequency of supervision (β = .165, P < .001) (Table 4). This result was supported our research hypothesis.

Regarding predictors of nursing students' satisfaction with the clinical learning environment, within the fully adjusted model, after controlling for demographic variables, the largest significant unique predictors in CLE scores were intensity of supervision (β = .261, P < .001) and frequency of supervision (β = .219, P < .001) (Table 5). This result also supported our research hypothesis.

VI. DISCUSSION

This is the first study to look at practicum and supervision factors that contribute to nursing students' perception and satisfaction in their clinical learning environment in West Africa using the CLES+T scale. This study showed that our participants have a moderate perception of their CLE, with a total mean score of 3.56. This finding agrees with what has been observed in previous studies [14]、[16]. According to Skaalvik [19], Ward managers can create a positive ward culture and attitude towards students and their learning needs. Students also state that ward managers gave useful feedback. Students reported belonging, teaching and learning, feedback, confidence, and competence as factors influencing the good CLE [25].

Based on this study, another important finding was that our research participants were generally satisfied with their clinical learning environment, with a mean score of 3.56. This was found to be consistent with Antohe's [15] study conducted in four European countries (Czech Republic, Hungary, Lithuania, and Romania), which showed that the mean score of nursing students' satisfaction with the CLE was (3.87)

Table 4. Summary of Hierarchical Multiple Regression analysis investigating predictors of Nursing Students' Perception in the CLE

(N=270)

	Step 1			Step 2			Step 3		
	B	SE	β	B	SE	β	B	SE	β
Constant	3.944	.262		4.959	.397		4.121	.414	
Age	.001	.010	.005	.008	.010	.047	.009	.009	.054
Type of nursing program [a]									
Bachelor	-.432	.134	-.206***	-1.120	.244	-.533***	-1.079	.228	-.514***
Certificate	-.723	.101	-.461***	-1.177	.168	-.749***	-1.109	.157	-.706***
Duration of Practicum				-.120	.036	-.398***	-.134	.034	-.446***
Intensity of Supervision							.414	.088	.253***
Frequency of Supervision							.066	.022	.165***

Note: [a] Reference: Enrolled; *p<.05; **p<.01; ***p<.001

Table 5. Summary of Hierarchical Multiple Regression analysis investigating predictors of Nursing Students Satisfaction in the CLE (N=270)

	Step 1			Step 2			Step 3		
	B	SE	β	B	SE	β	B	SE	β
Constant	3.908	.377		4.566	.581		3.335	.594	
Age	.009	.014	.040	.014	.014	.059	.015	.013	.063
Type of nursing program [a]									
Bachelor	-.748	.193	-.249***	-1.193	.356	-.398***	-1.136	.327	-.378***
Certificate	-.956	.146	-.426***	-1.250	.245	-.557***	- 1.149	.226	-.512***
Duration of practicum				-.078	.052	-.180	-.104	.048	-.241*
Intensity of Supervision							.613	.126	.261***
Frequency of Supervision							.126	.031	.219***

Note: [a] Reference: Enrolled; *p<.05; **p<.01; ***p<.001

Satisfaction with and effectiveness of the components of the CLE are influenced by cognitive, psychomotor, and affective skills and problem-solving abilities among nursing students and the interaction with the nurse teacher. This can be achieved when students feel accepted, have adequate time to settle in, and familiarize themselves with the personnel and practices of each unit or ward they were assigned to.

Highly statistically significant correlations were observed between the CLES+T scale and perception sub-dimensions, with the supervisory relationship showing the highest score. These findings are consistent with D'Souza's [14] study. Positive relationships between instructors and students improve problem-solving skills, increase students' satisfaction in the clinical environment, clinical performance, their motivation for learning, and decrease anxiety [14]、[26]. Being satisfied with the supervision received showed higher correlations with satisfaction in the clinical learning environment. Previous studies have reported that student learning is affected by instructors' skills in providing feedback and by the kind of support and guidance students receive from instructors [26].

Within the hierarchical regression model, we observed that demography, practicum, and supervision factors all resulted in statistically significant increases in variations showed by nursing students' perception of their clinical learning environment. After controlling for age and place of practicum in the fully adjusted model, the variable intensity of supervision was the largest independent predictor of nursing students' perception of their clinical learning environment. These findings are consistent with previous studies [12]、[15] which reported that the intensity of supervision significantly influences nursing students' perception of their clinical learning environment. The individual supervision approach could make it easier for the preceptor and the student to build relationships. There is also considerable evidence that a one-to-one relationship is of prime importance to the students learning and professional development in clinical practice [27].

According to Skaalvik[19], the number of supervision sessions is also an important variable in student nurses' clinical learning. Although most of the participants had a group supervisor in our situation, 59.6% of the respondents were not supervised at all during their placement. This can be attributed to a number of factors, including a shortage of nursing staff, nurses being too busy with many patients, too many students in the practice area and nurse teachers not being able to visit students more frequently due to distance, inadequate teaching staff (faculty) at schools and availability of transport. This situation can be improved by using simulation-based education at schools before the students go out for practicum. Teachers can also use electronic means to communicate with their students while on practicum.

Another important factor that affects the perception of the CLE is practicum issues. During short placements, students barely have enough time to familiarize themselves with the ward culture, patients, and staff and the opportunity to practice. Thus a gap always exists between theory and practice. Unlike their colleagues, those who stay longer have adequate time to familiarize themselves and practice to enhance their skills which increases their motivation and satisfaction. However, we observed that our participants' perception of and satisfaction with their clinical learning environment decreased as their number of clinical placements increased. These findings suggest that our participants prefer longer practicum where they can learn more than shorter but frequent placements.

VII. LIMITATIONS

Limitations of this study include the use of a cross-sectional survey method. Our study participants were only second-year nursing students in public nurse training institutions, making it difficult to imply to all other nursing students.

VIII. RECOMMENDATION

We recommend that their immediate supervisors and faculty staff strengthen student supervision as a first step. Nursing institutions should collaborate with nursing administrators at hospitals to identify competent nurses within their units/ departments, train them as preceptors, and give feedback to the students. Nurse tutors or lecturers should also endeavor to periodically supervise students during clinical placements as many findings suggest that students view the nurse teacher's role as very significant during clinical placements.

CONCLUSION

This is the first study on practicum and supervision factors influencing nursing students' perception of and satisfaction with the clinical learning environment to be conducted in West Africa using the CLES+T scale. We also observed that student demography, practicum, and supervision factors all resulted in statistically significant increases in variations showed by nursing students' perception of and satisfaction with their clinical learning environment. These findings suggest that longer durations of clinical placements, supervision, and positive partnerships with the supervisor promote students' learning in the clinical learning environment.

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