THE INFLUENCE OF CLINICAL NURSE INSTRUCTOR PRACTICES ON CLINICAL PERFORMANCE AMONG BACHELOR OF SCIENCE IN NURSING (BSCN) STUDENTS IN KENYA

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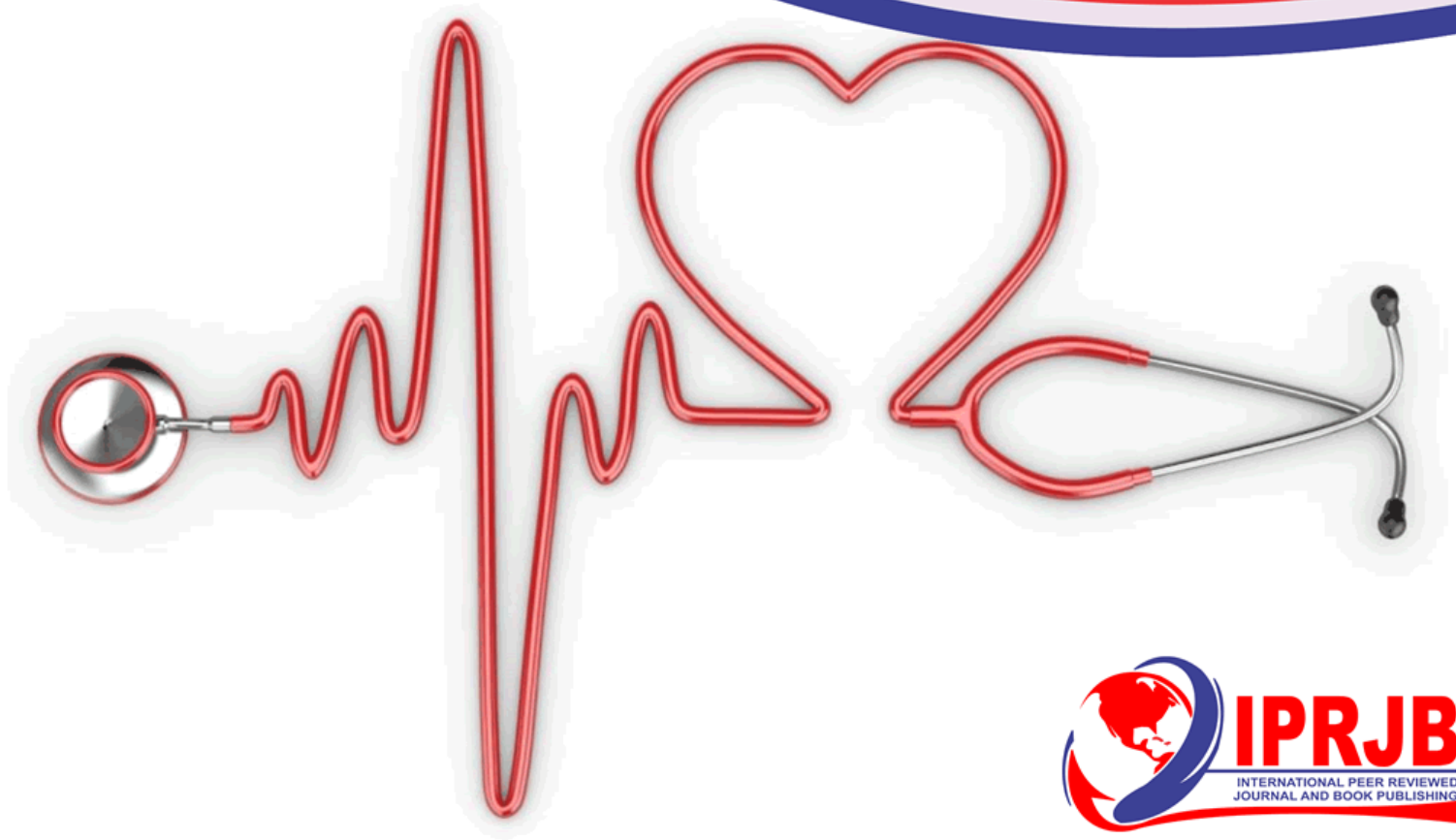
THE INFLUENCE OF CLINICAL NURSE INSTRUCTOR PRACTICES ON CLINICAL PERFORMANCE AMONG BACHELOR OF SCIENCE IN NURSING (BSCN) STUDENTS IN KENYA

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Abstract

Purpose: The study sought to assess the influence of clinical nurse instructor practices on clinical performance among BScN students in Kenya. It examined the influence of clinical instruction strategies and clinical assessment tools on students' clinical performance.

Methodology: This was a descriptive cross- sectional survey design. The total population of BScN students (direct entry) in the sampled universities was one hundred and eighty four (184). Study sample for students was obtained using Krejcie & Morgan table (1970). Study sample consisted of 160 third year BScN students and 10 clinical nurse instructors from five selected universities in Kenya. Data collection done using structured interview guide and self- administered questionnaires. Nursing students filled the questionnaire, nurse instructors were interviewed. Data was analyzed using descriptive and inferential statistics. Chi- square test, multiple regression and correlation models were used to test association and relationships significance of the variables at 95% confidence level. Findings presented in tables and figures.

Findings: The findings of the study revealed 149 (93.1%) students experienced demonstration strategy, 44 (27%) experienced Problem- solving strategy, 57 (35.6%) clinical conferencing and 38 (23.7%) experienced clinical portfolios in clinical placements. Qualitative data findings revealed 10 (100%) Nurse instructors applied demonstration strategy, 8 (80%) clinical conferencing, 3 (30%) problem- solving and 2 (20%) clinical portfolios in clinical teaching. Therefore demonstration was the most preferred clinical teaching strategy in Kenyan universities with 95% response rate. Pertaining clinical assessment tools, quantitative data results showed 131 (84%) agreed tools measured clinical competencies (knowledge, Attitude & Practical skills) while qualitative findings showed only 4 (40%) instructors agreed tools measured competencies (KAP). Nursing procedure manual and student training file required review. Chi-Square test findings revealed Students who did not experience problem- based strategy obtained higher scores compared to those who had problem- based learning. This was statistically significant (χ^2=8.618, df=1, *p*=0.003). Multiple regression model findings showed clinical conferencing, institution, and clinical portfolios statistically significantly predicted student clinical assessment scores (P=0.001, p=0.007, p= 0.030) respectively. Correlation analysis showed positive relationship between independent and dependent variables, F (11, 46) =4.261, *p*< 0.001.

Unique contribution to theory, practice and policy: Experiential theory by David Kolb was used in the study, found applicable and it is recommended for future nursing studies. Author recommends use of clinical conferencing, problem based strategy and portfolios in clinical training of BScN students. Nurse instructors require update on use of conferencing and portfolios in clinical teaching. Evaluation of BScN clinical learning and assessment tools

Keywords: *BScN students, Clinical teaching strategies, Clinical assessment tools, clinical performance*

1.0 INTRODUCTION

Globally nursing is recognized as a practice- based profession and effective clinical instruction is a major component of nursing education Alando, (2016). Clinical nurse instructors are charged with the task of helping nursing students to transfer classroom knowledge into the clinical setting. They play an important role in preparing nursing students into becoming competent nurses in any country. Studies have shown clinical nursing instructors as people who combine interpersonal skills, professional skill and teaching abilities in order to produce competent and caring nurses Niederriter et al., (2017).

In Kenya, BScN training is done in two levels; Direct Entry level and BScN upgrade level(Kenya education guide,2019). Direct entry learners join University nursing training after Kenya Certificate of Secondary Education (KCSE)as reported by Andae, (2019) while BScN upgrades are Diploma certificate nurses. The study focused on BScN students direct entry whose training takes five years with two and half years in clinical placements according to Kenya education guide.com (2019). Pertaining clinical training, students are expected to translate classroom knowledge in to practice, develop professional skills to enable them practice safe patient care (Hezaveh et al., (2013). Studies done globally, regionally and locally have shown emerging gap in BScN - D.E clinical training. Concerns raised touch on the level of competence of newly graduated BScN- D.E nurses regarding translation of classroom knowledge into clinical practice (Hezaveh et al., 2013).

A study by Wachira, (2017) Kenya on the competence of newly qualified BScN nurses, identified gaps in clinical judgment abilities (competence).The study found out that BScN nurses required support on" hands on" training. A training gap is evident in the Kenyan health institutions having nurses deficient in practical skills needed in patient care as cited by (Priscah et al., 2016). According to Song and McCreary, (2020) USA newly graduate nurses are often equipped with theoretical knowledge and lack practical skills referred to as "soft skills" which are key in job retention. Song and McCreary found BScN nurses had deficiencies in communication, working together, critical thinking and expertise. Expertise in communication, teamwork and communication are important aspects in nursing practice. Therefore the knowledge gap identified is in clinical (practical) skills. The current study assessed influence of nursing teaching strategies and clinical assessment tools on BScN student clinical performance in Kenya.

1.1 Statement of the problem

The problem that prompted this study was presence of BScN nurses in Kenyan hospitals who were not ready for clinical practice. They lacked clinical skills required for patient care probably because this cadre of nurses are trained to take up administration positions (East, et al, 2014) which are few therefore BScN nurses find themselves in clinical practice where practical skills are needed. Employers in Kenya recruit diploma nurses who have practical skills referred to as "hand on" skills (East, et al., 2014). Studies done have shown gaps in university education in Kenya where 51% of graduates were found lacking job market skills (Wesangula, 2015). Nderitu (2016) Kenya noted 2000 BScN nurses had been licensed to practice in Kenya but the ministry of health was reluctant to employ them. Same study showed County government recruitment of BScN nurses was minimal. Novice nurses in Kenya were found lacking practical skills associated with poor clinical supervision as cited by Nyangena et al., (2011). Nyagena study

found out only 18.8%, 34.5% and 67% of clinical nurse instructors were involved in student clinical supervision from three Kenyan Universities thus affecting development of clinical skills in BScN students. A study by Mwangi et al., (2019) revealed knowledge gap and negative attitude towards the utilization of nursing process in Kenyan level 5 hospitals where 78.3% respondents agreed there was a knowledge gap. In Ghana a study by Atakro et al., (2019) findings revealed BScN nurses were referred to as "theory nurses" denoting inadequate practical skills. Studies done locally and globally have shown BScN nurses were well equipped with theoretical knowledge and had deficiencies in "soft" skills a problem which manifests itself after graduation. Song and McCreary 2020) revealed lack of nursing competencies led 20% of graduate nurses to quit their position yearly causing high staff turnovers in hospitals .A study conducted in Kenya by Smith et al, (2016), findings revealed a knowledge gap in treatment and care of HIV patients. Among the nurses trained in management of HIV patients half (50%) expressed incompetence in patient management. A study was necessary to assess the influence of clinical teaching strategies and assessment tools on clinical performance among BScN students in Kenya.

1.2 Specific Objectives

1. To assess the influence of clinical teaching strategies on clinical performance of BScN students in Kenya.
2. To evaluate the influence of clinical assessment tools on clinical performance of BScN students in Kenya.

1.3 Research Questions

1. What is the influence of teaching strategies on clinical performance of BScN students in Kenya?
2. What is the influence of clinical assessment tools on clinical performance of BScN students in Kenya?

2.0 LITERATURE REVIEW

Literature helps us understand the kind of strategies and skills that clinical nurse instructors use to prepare BScN students to become competent and caring nurses. The focus was based on teaching strategies and clinical assessment tools used in nursing clinical learning. Clinical teaching is defines as "an individualized or group teaching of students in the clinical area by the nurse educators, staff nurses and clinical nurse manager" (Adhikari, 2018). Under teaching strategies, the researcher focused on clinical conferences, clinical portfolios demonstration and problem- based strategies in relation to students' clinical performance.

Nursing care conference is a group discussion using problem - based techniques to determine the ways of providing care for the patients/ clients to whom students are assigned as part of their clinical experience (Obregon, 2014). Nursing care conferences have several advantages such as helping students to collect data in a creative and systematic way. Conferences develop team building and problem solving skills in students thus making clinical area an interesting place for learning (Jaikumar, 2018). Students have the opportunity to link theory to nursing practice guided by the clinical instructors. In Kenya, there is limited documented information about clinical conferences in practice institutions. BScN students learn patient conditions through ward

rounds and demonstrations by nursing instructors and clinical nurses. A study by Kibore et al., (2014) Nairobi on students and Consultants decentralized training, findings showed students gain clinical skills by being actively involved in patient care.

A portfolio is a powerful teaching tool where students are actively engaged in their learning and it can promote coaching process (Mollahadi et al, 2018). The concept of portfolio is gaining popularity in the field of teaching in Kenya but not without challenges. According to Priscah et al., (2016) study on portfolio development as a method of learning and assessment identified various challenges such as reluctance of students to engage in self-reflection, lack of writing skills and ethical issues. This was an area that needed to be explored to empower BScN students with self-reflection skills in nursing practice. Therefore this study sought to understand the influence of portfolio in clinical performance among BScN students in Kenya.

Demonstration is an effective traditional method of teaching where students observe the instructor performing a procedure and the students return the demonstration thus developing clinical skills (Devi et al., 2019). A study by Alo, (2017) in Saudi Arabia revealed that practical return demonstration is an effective method of preparing nursing students for clinical practice. Therefore, Alo, (2017) study concluded demonstration is an effective strategy where student nurses acquire knowledge, attitude, skills and values to become competent and excellent nurse practitioners. In Kenya demonstration strategy is used in teaching nursing students both in classroom and clinical teaching.

Kurt (2020) defines problem- based learning as a student- centered approach where students working as a group attempt to solve a real problem. A study in Turkey by Durmaz et al (2018) showed the students who participated in the study had inadequate problem skills and therefore recommended students to be trained to improve on their problem solving skills. Shahbazi et al., (2018) results revealed that students who possessed problem solving skills manifested emotional intelligence compared to their counterparts. A study by Ngunjiri, (2019) Kenya revealed employers, needed employees who possess problem solving skills in work places especially in handling customers.

An assessment tool is defined as software that helps to set up appraisement and analysis of the outcome (Nelen, 2019). Nursing Council of Kenya BScN core syllabus (2009) lays emphasis on use of student learning and assessment tools. The tools used are Nursing of Council of Kenya procedure manual, student training file, student logbook and training objectives. A study by Skuladottir & Svavarsdottir, (2016) results showed an assessment tool must clarify learning objectives, assessment process and ways of ensuring objective evaluation. A study conducted by Chege et al., (2013) Kenya on effectiveness of Master's student clinical assessment tools; findings showed the tool was found to have nonconformity at 60% indicating a gap in clinical assessment tools. The study recommended urgent revision of the tool.
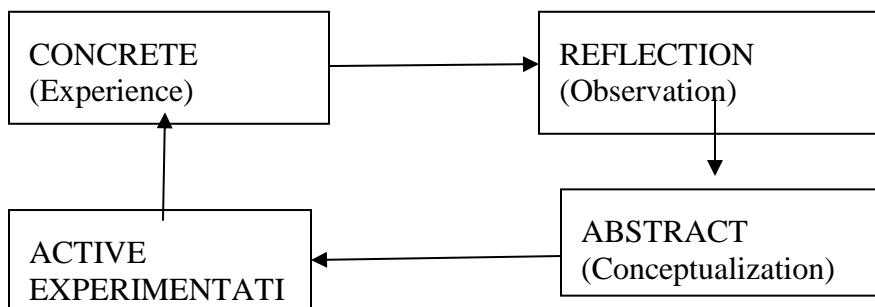
2.1: Theoretical frame work

Figure 1: Experiential theory elements.

2.1.1 Theory

This study was guided by experiential theory by David Kolb 1984.

2.2 Empirical review

Experiential learning is a continuous process of transforming knowledge into experience (Parahakaran, 2017). This makes the theory applicable in education. Experiential theory is composed of four cycles of elements namely; Concrete experience, reflective observation, abstract conceptualization and active experimentation and is concerned about learning from day to day life activities (Chaudhuri, 2016). The theory combines experience, perception, cognition and behavior. According to Murry, (2018) experiential learning is applicable to nursing where students are actively and personally involved in nursing procedures. Kolb's experiential theory is applicable to nursing especially in simulation learning.

A nursing procedure such as Foley catheter insertion can be demonstrated in skills laboratory and the students practice the procedure till they acquire clinical skills. Learning by experience theory looks at concrete experience as learning by feeling and reflection on what one observes and conceptualizing experiences by thinking and actively experimenting what was observed. Nursing students are provided with the opportunity to gain experience from experience of other nurses in nursing practice (Murry, 2018).

According to Kolb and Kolb (2012) USA, Experiential learning theory is ideal for use in higher education in outcome assessment, clinical educators' development, learners' development and curriculum development. Lehman, (2020) found out that experiential learning theory was applicable to learners in vehicle driving schools where, abstract reading, reflection skills, and driving experience are required. The learner may choose to begin by reading the driving instruction booklet, observe others driving or start driving under instruction (Lehman, 2020). Experiential theory is applicable to clinical teaching and in developing confidence and competence in nursing students.

According to Atkinson, (2017) experiential learning theory has the following advantages; It promotes thinking and reflecting skills, problem solving skills and creative thinking. A study by Piscalkiene and lottrup, (2019) showed experiential theory as an effective instruction strategy

that prepares learners to face life challenges through critical thinking and reflection. However Welearnindia (2016) found experiential learning developing teamwork, stimulating learning and motivating learners. Experiential theory was applicable to this study in that nursing students are trained to acquire critical thinking skills, and reflective nursing skills

3.0 METHODS AND MATERIALS

The study employed descriptive cross- sectional survey. Study population from the five universities was 184 students and a sample of 160 third year nursing students (Direct Entry) was recruited using Krejcie & Morgan table. Universities training BScN students were 15 and a sample of five universities was obtained using stratified random sampling. Ten (10) Nurse Instructors were recruited through simple random sampling, two Instructors from each university. Inclusion to the study included those respondents who consented to participate and exclusion of the members who declined to consent or were absent during the interview. Pretesting of tools done and those who participated were excluded from the main study.

Permission to carry out the study was obtained from Kenya Methodist University Science and Ethical Review Committee (KeMU, SERC), National Commission for Science, Technology and Innovation (NACOSTI); Nairobi City council- Ministry of Education, Daystar University research and Ethics review committee; CUEA research and Ethics review committee; JKUAT research and Ethics review committee; Mount Kenya University research and Ethics review committee; Egerton University Research and Ethics review committee and Mbagathi County referral hospital research and Ethical committee (pretest). Each participant signed an informed consent form to participate in the study.

A semi-structured self- administered questionnaire was used to collect quantitative data. A structured interview guide was used to interview nurse instructors. Method used for interview was face to face. Questionnaire and the interview guide were reviewed by experts from Nursing and Education departments. Pretesting of study tools were done at Mbagathi County hospital on third year BScN students in clinical placements and Nursing instructors. Revision of the tools was done after pretest. Data collection was done between June and July 2019. One hundred and sixty questionnaires (160) were distributed to BScN students filled and returned. All questionnaires were received back. Ten (10) Nurse Instructors were interviewed and each interview took 45 minutes. The study variables were predictor and outcome variables. Predictor variables were a) Clinical teaching strategies b) Clinical learning and assessment tools. Outcome variable was student assessment scores. Analysis of quantitative data was by SPSS version 24 for windows. Descriptive statistics and inferential statistics were derived from the data and these were Chi-square, multiple regression and correlation models. Statistical significance was at 95% confidence level. Data collected from interview were coded, themed and analyzed using content analysis method.

4.0 FINDINGS AND PRESENTATION

4.1 Demographic Characteristics of the Respondents

The study sought to determine the demographic distribution of students in the selected training institutions. The variables included in this analysis were age, gender and institutions of study. All 160 respondents attempted this questions. Table 1 illustrates the findings.

Table 1: Characteristics of age, gender and institutions N=160

Characteristics	Category	Frequency	%
Age	20-25 Years	139	87
	26- 30 Years	16	10
	31-35 Years	3	3
Gender	Female	99	69.9
	Male	61	38.1
Institutions	Daystar university (Faith- based)	12	7.5
	Egerton University (Public)	44	27.5
	CUEA University (Faith- based)	32	20
	JKUAT University (Public)	40	25
	Mt. Kenya University (Private)	32	20
Total		**160**	**100%**

With respect to age, majority of the respondents 139 (87%) were aged between 20-25 years. Others 16 (10%) aged between 26 -30 years and the least, 5 (3.0%) respondents being in the age category of 31-35 years. The findings show that majority of the respondents joined the universities immediately after Kenya Certificate of Secondary Education (KCSE). Very few students joined nursing after the age of thirty years. Findings on gender showed female respondents were 99 (61.9%) while male respondents were 61(38.1%).The findings confirm previous studies that nursing is female- dominated profession.

Institutions of study, findings showed private and faith- based institutions enrolments were low 47.5% compared to public institutions with 52.5%. Egerton University had the highest enrolment of students 44 (27.5%) and Daystar University had the lowest enrolment 12 (7.5%). The results of university enrollment showed Egerton University was leading with 44 (27.5%) followed by JKUAT 40 (25%), CUEA and Mount Kenya Universities 32 (20%) each. Daystar University had the lowest sample of 12 (7.5%).

4.2 Clinical Teaching Strategies

Respondents were to identify from a checklist the teaching strategies they experienced during clinical placements. All respondents attempted the question on clinical teaching strategies as shown in Table 2.

Table 2: Teaching strategies experienced by students n=160

Teaching strategy	Experienced the strategy	Did not experience	Total	(%)
Demonstration	149	11	160	100
Problem solving	44	116	160	100
Clinical conferences	57	103	160	100
Clinical portfolios	38	122	160	100

In table 2, findings show that majority 149 (93.1%) of the respondents experienced demonstration strategy. Eleven (6.9%) of the respondents reported not having experienced

demonstration strategy during their clinical placement. The same table showed only 44 (27.5%) experienced problem-based strategy while 116 (72.5%) did not. Findings on conferencing showed few respondents 57(35.6%) experienced clinical conferences while majority of respondents 103 (64.4%) reported not having had clinical conferences with their clinical instructors.

Results on portfolios showed majority of the interviewed respondents 122 (76.3%) had not experienced portfolios during the clinical placements while 38 (23.8%) reported having clinical portfolios in the clinical placements. This implies problem- based strategy, clinical portfolios and conferences are not widely used by clinical instructors in Kenyan universities although studies elsewhere have shown the three strategies to be powerful teaching methods.

4.2.1 Helpfulness of Clinical Conferences and Portfolios

To determine the influence of clinical conferences and portfolios on clinical performance of BScN students in Kenya, views of the respondents were sought. One hundred and twenty-three (123) 76.8% respondents attempted this question. Findings are in figure 1.
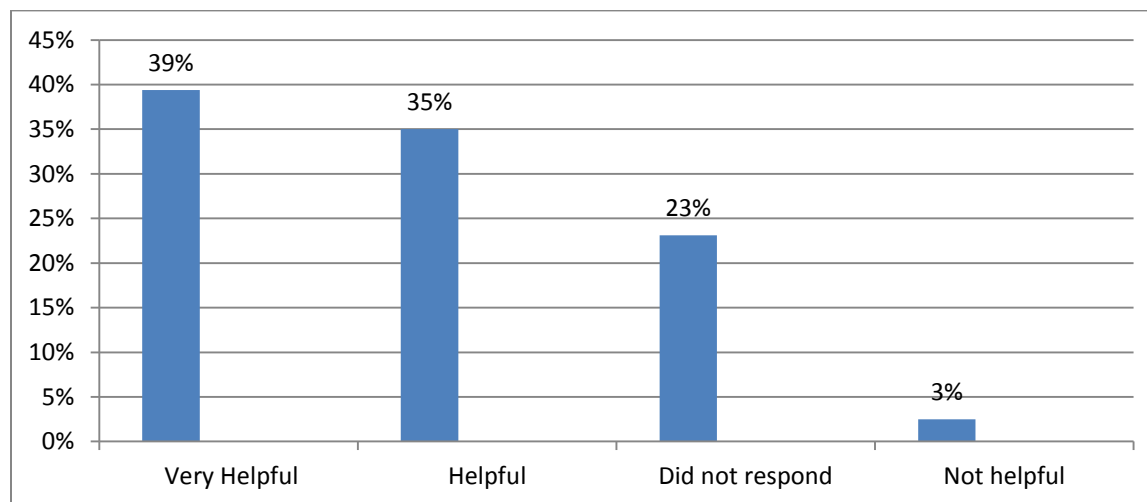

Figure 1: Helpfulness of clinical conferences and portfolios n=160

In figure 1 63(39%) of respondents reported having found clinical conferences and portfolios very helpful. This proportion was followed by 56(35%) who found them helpful, the minority, 4 (3%) did not find them helpful and 37(23%) gave no responses. Among the 123 respondents who responded to this question 119 (96.7%) found these two teaching strategies helpful in development of clinical competencies. Only 3% found the strategies not helpful. In conclusion clinical conferences and portfolio teaching strategies were found helpful by the majority of the respondents.

4.3 Clinical Learning and Assessment Tools Used by the Students

The study sought to identify and evaluate tools used by respondents in the clinical area and how they influenced clinical performance. The clinical assessment tools identified were student training files, student logbooks, procedure manuals and training objectives.

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Table 3: Clinical assessment tools used by nursing students in clinical practice n=160

Clinical assessment tools	Having the tools	Not having the tools	Total	%
Training file	30	130	160	100
Student Log book	140	20	160	100
Procedure manual	114	46	160	100
Training objectives	96	64	160	100

The respondents were to make multiple choices. In table 3 results showed majority of the respondents 130 (81.25%) did not have training file to guide them in their clinical practice while 30 (18.75%) respondents reported having training files. Students are provided with training files by the nursing regulatory body within the first year of study. Table 3 findings showed, majority of respondents 140 (87.5%) used logbooks in their clinical practice and 20 (12.3%) respondents reported not using student logbooks in clinical practice. Pertaining procedure manuals findings revealed majority of the respondents 114 (71.25%) used procedure manuals while 46 (28.75%) of the respondents did not have procedure manuals. Results indicated majority of the respondents 96(60%) used learning objective and 64(40%) respondents reported not having learning objectives in their clinical practice. Respondents were expected to tick the tools from a list provided in the questionnaire. Therefore, it may imply that those who ticked not having the tool may have not understood the question or did not have the assessment tool. The clinical faculty should come up with ways of ensuring availability and use of learning and assessment tools in clinical practice.

4.3.1 Respondents' perspectives on Assessment Tools measuring KAP.

To examine the effectiveness of clinical assessment tools in the development of clinical competencies respondents gave their views. This question was responded to by 156 (97.5%) respondents. Findings are in figure 2.
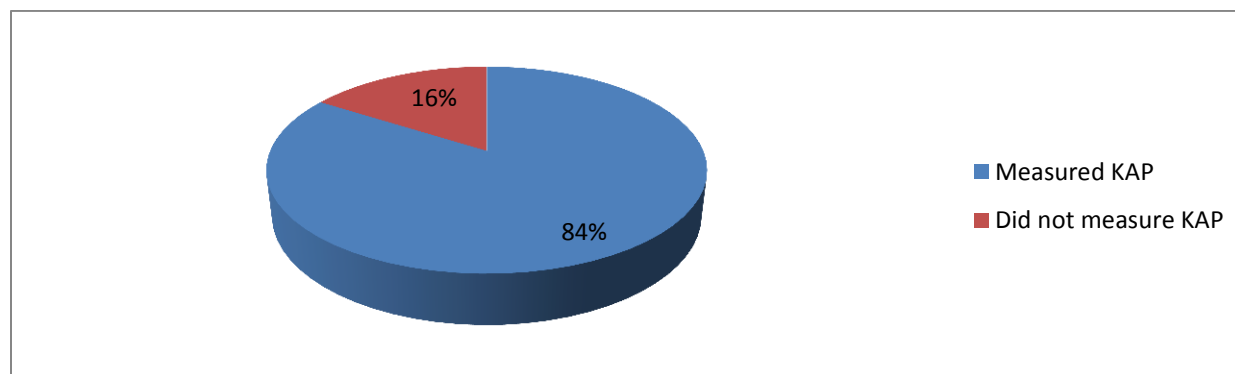

Figure 2 pie chart: 16% Did not measure KAP, 84% Measured KAP

Figure 2: Contribution of clinical assessment tools in measuring Knowledge, Attitude and Practical skills (KAP) (n=156)

Figure 2 shows majority of the respondents 131 (83.9%) affirmed that clinical assessment tools measured clinical competencies while 25(16%) respondents felt the tools did not measure competence. In this study competence was measured in form of clinical Knowledge, student Attitude and Practical skills (KAP).

4.3.2 Respondents' Perception on the Influence of Clinical Assessments on Performance

The study sought to determine the respondents' perception on the influence of clinical assessments (examinations) on student performance. The respondents were asked whether clinical assessments influenced their clinical performance or not. This question was answered by all the respondents.
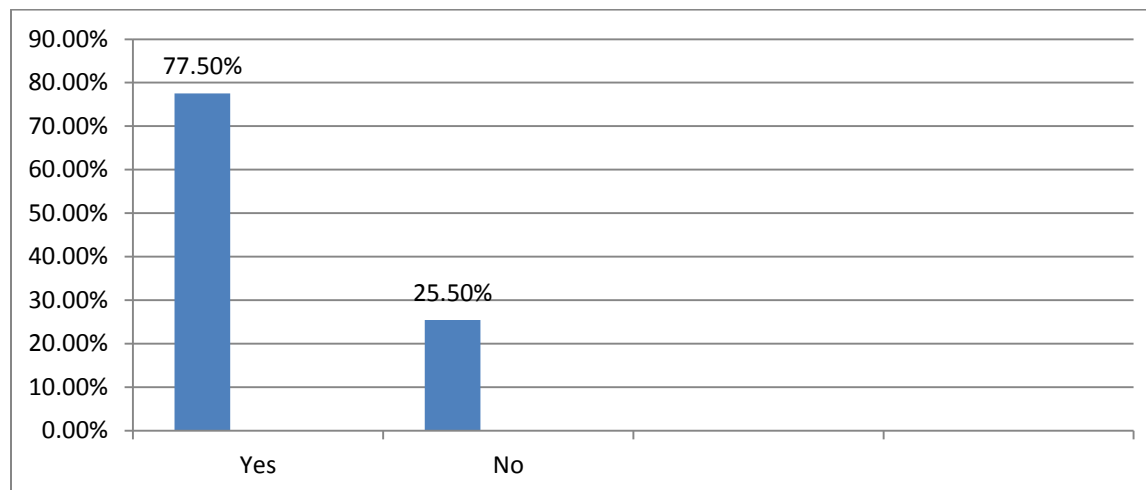

Figure 3: Influence of clinical assessments on clinical performance n=160

In figure 3 majority, 124 (77.5 %) of the respondents were of the opinion that clinical assessments influenced their clinical performance, while 36 (25.5%) reported assessments did not influence their performance. The respondents, who answered yes to the question, explained that assessments helped them to bridge theory- practice gap. Nursing profession being a practice profession, students are expected to perform practical examinations known as clinical assessments. The assessments test knowledge, skills acquired in clinical practice and student attitudes. In this study respondents were expected to give their own perceptions on clinical assessments influencing their performance scores. Findings showed assessment influenced student clinical performance (77.5%).

4.3.3 Respondents' views on clinical assessment influence on performance

One hundred and twenty-eight (80%) respondents attempted this question. The question was attempted by those respondents who acknowledged clinical assessments influenced performance. Table 4 illustrates the findings.

Table 4: Clinical Assessments influence on performance n=128

Influence of clinical assessment on learning.	Frequency	(%)
Enabler to learning	64	50
Helps one develop competence	32	25
Bridges the gap between theory and practice	17	13.3
Enhances focus on learning objectives	15	11.7
Total	**128**	**100.0**

From table 4 findings show 64(50%) respondents held the view that assessment enhanced clinical performance by being an enabler to learning, 32(25%) of the respondents cited clinical

assessment as helping them develop clinical competencies while 17 (13.3%) reported that assessments helped students bridge the gap between theory and practice. The smallest number of respondents 15 (11.7%) reported that assessment helped enhance focus on learning objectives. Findings revealed clinical examinations enabled students to learn, develop clinical competencies in nursing procedures, application of learning objectives and thus bridging theory- practice gap.

4.4 Clinical Performance in First Clinical Assessment

The study sought to determine student clinical performance based on the students' first clinical assessment in the clinical environment. The pass mark point for clinical assessments in all the institutions was 70%. The results were graded as fail (poor) performance and good performance. Fail performance was marks below 70% and good performance was marks 70% and above. The performance was assessed via self-report and the mean score was 77.24% and the mode was 70%. Findings are illustrated in Figure 4.
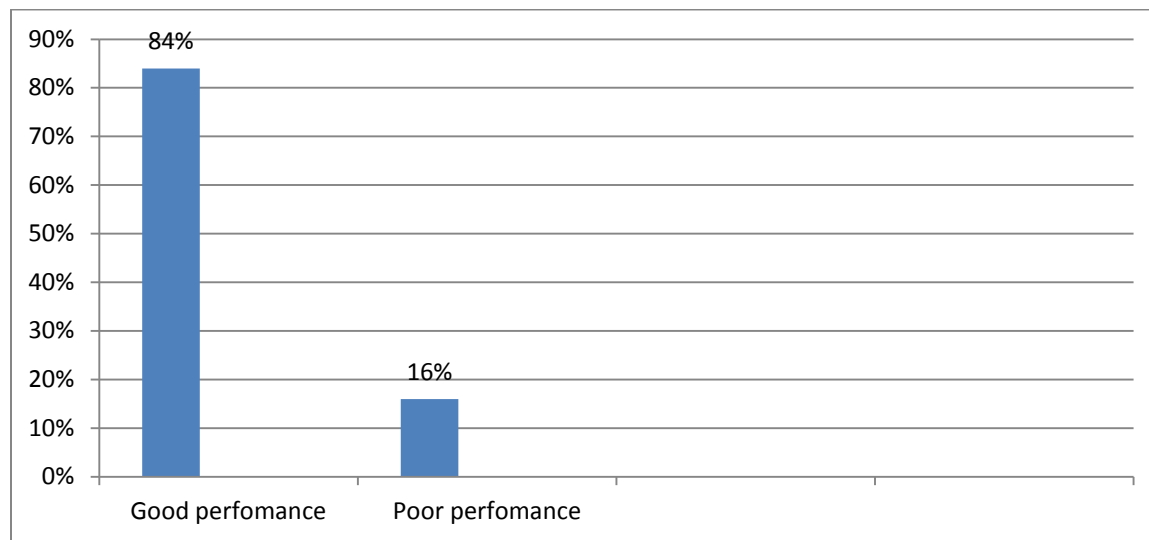

Figure 4: Respondents performance in their first clinical assessment n=160

Figure 4 findings show majority of the respondents 134(84%) had good performance and 26(16%) respondents attained fail performance. Findings revealed good performance for most of the respondents. Fail performance translated to re-take of the assessment before proceeding to the next stage of training. Therefore 16.25% of the respondent had to re-take the assessment to attain good performance.

4.4.1 Respondents' Performance Based on Gender and Institution

A comparison was done between female respondents and male respondents' performance and findings are illustrated in table 5.

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Table 5: Respondents' performance based on gender and institution n= 160

Characteristics		Good. Performance >70%	Fail performance <70%	Total	%
Gender	Female	79	20	160	100
	Male	53	8		
Institution	Public	68	16	160	100
	Private	64	12		

Table 5 findings show female respondents 79 (59.8%) performed well compared to males 53(40.2%). Further findings showed female 20 (71.4%) respondents attained fail performance while males 8 (28.6%) respondents had fail performance. More female students attained fail performance taking into consideration female respondents were more compared to male students. Performance as per institutions findings revealed public institutions 68 (51.5%) performed slightly well compared to the private institutions 64 (48.5%). Pertaining fail performance, respondents from public institution performance poorly 16 (57.1%) compared to Private institutions' 12 (42.9%) performance. This meant more respondents from public institution (16) attained fail performance compared to private institutions (12). All in all findings of the study showed respondents from public institutions performed better compared private institutions.

4.5 Qualitative Data Findings

4.5.1 Demographic characteristics of Clinical Nurse Instructors

Ten clinical nurse instructors participated in the study. Nine were females and one male. All the respondents were aged between 30- 45 years. They had taught BScN students for more than two years therefore were well versed with the topic of clinical teaching. The study sought to interview nurse instructors with one-year experience and above. Table 6 illustrates the findings.

Table 6: Clinical nurse instructors' gender, age and teaching experience n=10

Characteristics		Frequency n=10	%
Gender	Male	1	10%
	Female	9	90%
Age	Above 40 years	6	60%
	Below 40 years	4	40%
Teaching experience in yrs	2-6 years	6	60%
	7-13 years	4	40%
Universities	Private	6	60%
	Public	4	40%

From Table 6, findings show four (40%) respondents were below forty years while six (60%) were above forty years. Respondents' clinical teaching experience was between two years and thirteen years. These were experienced nursing instructors who were well versed with issues of clinical instruction in Kenya.

Six (60%) of the respondents had supervised BScN students between (2-6 years) and four (40%))

respondents had an experience between (7-13) years. This shows all the clinical nurse instructors had met the criteria set by the researcher of more than one-year experience. Six (60%) respondents taught in private teaching institutions while four (40%) taught in public institutions. Their different experiences were expected to enrich the study.

4.5.2 Respondents' Perception on the Use of Clinical Teaching Methods

Respondents were expected to give their own views concerning demonstration, problem- based teaching, clinical conferencing and clinical portfolio teaching strategies. All the clinical instructors responded to this question and the findings are illustrated in table 7.

Table 7: Clinical teaching strategies as applied by respondents n= 10

Teaching strategies	Applied strategy	Didn't apply	Total	%
Demonstration	10	0	10	100
Clinical conference	8	2	10	100
Problem solving	3	7	10	100
Clinical portfolio	2	8	10	100

All the ten (100%) respondents reported having used demonstration method in clinical instruction and agreed it was the most commonly used strategy in nursing practice. Clinical conference strategy was used by eight (80%) respondents. Two (20%) respondents reported not having used conference method in clinical teaching. The reason given for not using clinical conference was increased workload due to shortage of human resources in clinical setting. Table 7 findings show eight (80%) respondents applied clinical conferencing in teaching and two (20%) did not. The reason given for not using clinical conferences was shortage of clinical nurses in the clinical environment leading heavy workload and nursing students covering the shortage. The findings appeared to disagree with student findings (35.6%) that clinical conferencing is not widely used in Kenyan health facilities. Konings et al., 2014 supports the difference in findings.

Problem solving strategy involves clinical nurse instructors giving students assignments in the clinical area then evaluating the outcome together with students. Three (30%) respondents used problem- based method of teaching and seven (70%) did not use problem –based learning. The rationale for not using problem solving strategy was the clinical instructors doubled as classroom lecturers as well as clinical instructors so citing increased workload. Two (20%) respondents reported having used clinical portfolio method and this helped students in developing creativity and critical thinking in clinical practice. However, they reported portfolio method required a lot of instructor/ student commitment. Eight (80%) respondents reported not using portfolio method in clinical teaching. All in all, the ten clinical instructors reported that if the four clinical teaching strategies were used in clinical environment regularly it would improve the quality of clinical performance of BScN students. They concurred that demonstration, problem- based teaching, clinical conferencing and clinical portfolio strategies help in development of competencies in nursing students.

4.5.3 Respondents' perceptions on nursing clinical assessment tools

To evaluate respondents' perception on the effectiveness of the assessment tools in measuring Knowledge, Attitude and Practical skills (KAP) respondents gave their views. Sixty percent (60%) of respondents found assessment tools measuring KAP. Forty percent (40%) found the

tools not measuring KAP and recommended evaluation of the assessment tools.

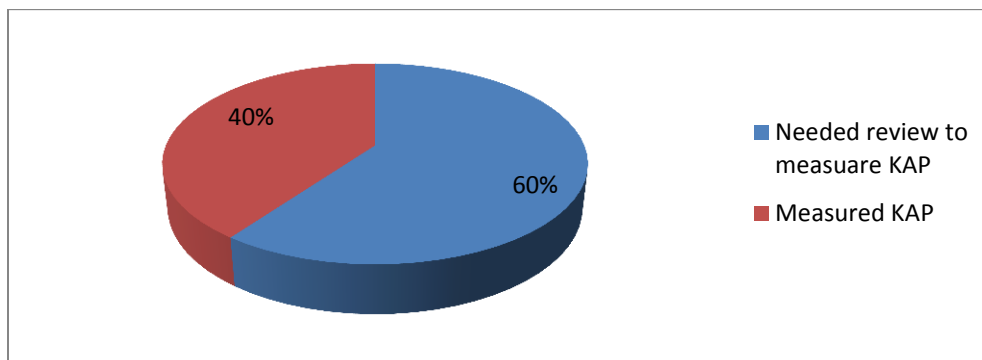Findings are illustrated in figure 5.

Figure 5: Respondents perception on assessment tools measuring competencies n=10

Figure 5 results showed six (60%) respondents agreed nursing clinical assessment tools required review to measure student competencies (KAP) in clinical procedures. Four (40%) respondents reported the assessment tools measured KAP. The tools that needed review were procedure manual and student training file. Reasons given are procedure manual last edition was done in the year 2009 and needed review to include the already new nursing procedures currently done by nurses such as male circumcision. Student training file was found not specifying how to test student attitude but the tool had specifications for testing knowledge and practical skills. In conclusion the two assessment tools required revision as cited by Chege et al 2013.

4.6 Chi-Square Test analysis

4.6.1 Association of age, institution, teaching strategies, assessment tools and Student Performance Scores.

Table 6 presents results of student performance according to gender, institution of study and clinical teaching strategies.

Table 8: Chi-squared analysis test on association of predictor and outcome variables

Independent variables.		Performance in clinical assessment.					
		Good		**Fair**			
		n	**%**	**n**	**%**	**N**	**P=≤ 0.05**
Gender	Male	53	40.2	8	28.6	61	χ^2=1.313
	Female	79	59.8	20	71.4	99	df=1
	n	**132**	**100**	**28**	**100**	**160**	p=0.252
Institution.	Public	68	51.5	16	57.1	84	χ^2=0.293
	Private	64	48.5	12	42.9	76	df=1
	n	**132**	**100**	**28**	**100**	**160**	p=0.588
Experienced Clinical portfolio	Yes	38	23.8%	10	35.7	63	χ^2=0.191
	No.	122	76.2%	18	64.3	97	df=1
	n	**132**	**100**	**28**	**100**	**160**	p=0.662
Experienced problem-solving teaching method	Yes	30	22.7	14	50	44	χ^2=8.618
	No	102	77.3	14	50	116	df=1
							p=0.003
	n	**132**	**100**	**28**	**100**	**160**	
Experienced clinical conferencing teaching method	Yes	45	34.1	12	42.9	57	χ^2=0.774
	No	87	65.9	16	57.1	103	df=1
	n	**132**	**100**	**28**	**100**	**160**	p=0.337
If assessment tools measure KAP	Yes	101	76.5	23	82.1	124	χ^2=0.420
	No	31	19.4	5	17.9	36	df=1
	n	**132**	**100**	**28**	**100**	**160**	p=0.517

Table 6 shows female students performed slightly better 79(59.8%) compared to male students 53(40.2%). The study showed there was no statistical importance between gender and clinical performance scores (p=0252). Findings on gender are supported by Joseph et al., (2015) study that found performance by gender not statistically significant (p=0.80). Institution of study-Public institutions 68 (51.5%) performed slightly better than private institutions 46 (48.5%). The relationship between institution and clinical performance was not statistically significant (p=0.588) contrary to Miller and Win (2020) who found institution of study impacting significantly on student performance. Moreover, Etikan, et al., (2017) chi- square test results revealed there was no significant difference in academic performance based on institution at p values p=0.506. Clinical portfolio association with clinical performance did not have statistical meaning (p=0.662). The finding is supported by Pool et al., (2020) study findings that showed use of portfolios in assessing students resulted into fragmented picture of student development therefore it did not significantly influence student performance The relationship between clinical conferencing and clinical performance did not have statistical notable effect on student performance scores (p=0.336). Conferencing teaching strategy was found to influence student performance by Li, (2007). The association of problem solving strategy and clinical performance was statistically important (P=0.003). Aidoo et al., (2016) revealed problem based learning was effective strategy in teaching chemistry and enhancing development practical skills (p<0,05) thus supporting the current study findings.

Although Chi square test analysis showed no statistical significant between conferences, portfolios and student performance scores the findings differed with Jepketer, (2017) which showed significant relationship between teaching strategies and student's performance.

4.6.2 Prediction of Student Scores

Multiple regression coefficients model was used to predict student performance score as shown in table 7.

Table 7: Multiple regression coefficients on prediction of performance scores based on institution, conferences and clinical portfolio.

	Unstandardized Coefficients		Std. Coeff			95.0% CI for B	
	B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
(Constant)	70.736	3.622		19.530	0.000	63.581	77.891
Institution	1.735	.495	0.262	3.507	0.001	0.758	2.712
Clinical Conference	-3.882	1.412	-0.206	-2.749	0.007	-6.672	-1.092
Clinical Portfolio	3.326	1.516	0.164	2.193	0.030	0.331	6.320

Table 7 illustrates prediction of student performance in clinical assessment at 95% confidence level and significant level at 0.05 Institution of study, clinical conference and clinical portfolio predicted student performance (P=0.001, p=0.007, p= 0.030) respectively. From Table 7, multiple regression values show institution statistical significance (P=.001), Clinical conference (p=0.007) and Clinical portfolio (p=0.030) are less than the significance level of 0.05. Therefore, institution of study, clinical conferencing and clinical portfolios significantly predicted student performance scores. There was strong positive relationship between these predictor variables and outcome variable (clinical assessment scores). The findings of multiple regressions were supported by Jepketer (2017) which found student centered teaching strategies such as clinical portfolios having significant relationship with student performance (R=624, R2= 390, Beta= 0.254, Alpha= 0.000). Miller and Win (2020) study findings revealed institution of study significantly influences student academic performance.

4.6.3 Multicollinearity diagnostic Testing

To understand the correlation between nurse instructor practices and student clinical performance multicollinearity diagnostics was performed using inspection of correlation coefficients and Tolerance/ variance inflation factor (VIF) values. The findings are illustrated in tables 8.

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Table 8: Muticollinearity diagnostics

Pearson correlation	Correlations	Collinearity Statistics	
	Score	Tolerance	VIF
Age in category	-0.034	0.940	1.064
Gender	-0.063	0.908	1.101
Performance influence	0.079	0.808	1.237
Problem solving experience	0.037	0.726	1.377
Institution	0.287	0.903	1.107
Clinical Conference experience	-0.004	0.637	1.569
Clinical Portfolio experience	0.156	0.583	1.715
Had conferences in the clinical area	-0.210	0.492	2.035
Helpfulness of Portfolio.	-0.207	0.428	2.338

The table 8 shows there was no multicollinearity in the data as shown by all VIF < 10 and no correlation between the variables VIF >0.7. From Pearson correlations analysis it is evident that age, gender, and clinical teaching strategies were not highly correlates as shown by Variation Inflation Factor of < 2.5.

Table 9 below shows the R2 for the overall model was 24.1% with an adjusted R2 of 22.7%, a small size effect. This meant the addition of the independent variables into the regression model explained 24.1% of the variability of clinical assessment score. It showed the predictor variables in table 8 statistically significantly predicted student clinical performance scores as shown in table 9. Age of respondents, gender institution of study, problem solving strategy, clinical conferencing and clinical portfolios had positive relationship with student clinical assessment scores, F (11, 146) = 4.261, p< 0.001.

Table 9: Statistical significance model of predictors of clinical performance.

	Sum of Squares	df	Mean Square	F	Sig.
Regression	2866.001	11	260.546	4.216	0.000
Residual	9022.876	146	61.801		
Total	**11888.877**	**157**			

The predictor variables significance is indicated by p<0.001 which is less than confidence level of 0.05. Therefore regression analysis showed the relationship between predictor variables and clinical performance scores was statistically important. This calls for the rejection of null hypothesis that stated students' age, institution and clinical teaching strategies do not influence student clinical performance.

4.7 Discussion of the Findings

This section presents a discussion integrating the findings of both quantitative and qualitative data. Discussion was based on the two research objectives namely; Clinical teaching strategies, clinical assessment tools.

4.7.1 Age. Gender and Institution of Study

Findings of the study in Table 1 showed majority of the respondents (87%) were between 20-25 years of age and 15% between 26-30 years. Findings on gender revealed more females (61.9%) than males (38.1%) were interviewed thus confirming earlier studies that nursing is a female dominated profession (Kaniaru & Chebor, 2017; Kamau, 2016). The findings were supported by Nyangena et al., (2013) where findings showed 72.9% of respondents were aged between 20-27 years and 4.8% were aged above 30 years. Institutional enrolment was found to be higher in public universities compared to private and faith- based Universities with highest percentage being 27.5% and the lowest 7.5%. Public universities funding attracts more students as reported by Chingos, (2017) and Alando,(2016). In conclusion, nursing profession is a profession of caring, dominated by females and practiced worldwide (Pampilio et al., 2020).

4.7.2 Influence of clinical teaching strategies on student clinical performance

The study aimed at assessing the clinical teaching strategies used and their influence on student clinical performance. The study findings showed demonstration method as most preferred teaching strategy with 149 (93%) response rate. It implied demonstration is the preferred strategy in clinical teaching in Kenyan Universities. Qualitative data findings echoed the same where 100% of respondents reported having used demonstration teaching strategy in clinical instruction. These findings are supported by Ismail, (2018) study (Egypt) where findings showed demonstration teaching strategy as an effective tool enhancing development of practical skills in students. Same findings are supported by Amtamwa et al., (2019) Kenyan study that revealed demonstration teaching strategy was a common instruction method in clinical nursing practice.

Quantitative data findings revealed problem – based strategy, clinical conferencing and clinical portfolios were less preferred instruction strategies in Kenyan Universities as shown by respondents' response rate of 27.5%, 35.5% and 23.8% respectively. These findings are supported by Priscah et al., (2016) another Kenyan study that showed reluctance of students and instructors to engage in self-reflection activities. Qualitative data findings agreed with quantitative data findings that problem- based teaching and portfolios strategies were not commonly used in clinical teaching in Kenya universities. Reason being heavy workload experienced by clinical nurse instructors. Clinical Instructors findings disagreed with Students' findings on use of clinical conference by rating it at 80% while students rated conferencing at 35.6%. Findings by Konings et al., (2014) supported the difference in perceptions between students and instructors. Vezeau, (2016) USA found clinical conferencing strategy not commonly used by clinical nurse instructors. However, the difference in findings was not statistically significant in predicting student performance scores. (p=0.337). The study revealed the students who did not experienced problem- based learning strategy attained higher performance scores compared to those who did experience it. However, the difference was statistically significant (p=0.003) in predicting student performance scores. A study by Moradi & Taghadosi (2016) showed problem based learning increases critical thinking in nursing students while Mollahadi et al., (2018) Iran study, results showed portfolio teaching strategy as an effective tool in mentoring

nursing students. It facilitates development of critical and creative thinking skills needed in nursing profession.

Figure 1: Helpfulness of conferences and portfolios. Both qualitative and qualitative data findings revealed the two strategies were useful in clinical nursing as enabler of learning bridging theory- practice gap. The response rate was 96.7%. Findings by Petro, (2017) study support this finding.

In conclusion both qualitative and quantitative data findings supported use of demonstration in clinical teaching with 93% and 100% response rate respectively. Problem- based strategy, conferencing and clinical portfolios were generally shown to be less preferred teaching strategies in Kenyan universities. The finding was supported by Pool et al., (2020) who found portfolio- use as an assessment tool not reliable and recommended use of traditional strategies of assessment. Clinical instructors should adopt problem based learning and portfolios in clinical teaching for good results in clinical assessments and nursing practice.

4.7.3 Clinical assessment tools used by student in clinical placements

Table 3 findings. To identify nursing clinical assessment tools used by students' clinical placements, a self- administered questionnaire and interview guide were used. Quantitative data findings showed 87.5% had logbooks and twenty (12.5%) respondents had no logbooks; One hundred and fourteen (71%) respondents had procedure manuals and forty-six (28.7%) respondents did not. Hundred and thirty (81%) respondents had no training files while 19% had training files. Sixty-four (40%) had no training objectives. Majority of the respondents had the procedure manuals and logbooks but very few had training files and (training) learning objectives. Rivaz et al., (2017) supported these findings.

A gap was identified in this area taking into consideration these were third year BScN students on clinical placement without the necessary learning tools. Training objectives guide students in performing procedures; logbook must be signed by the nursing staff after student acquires different nursing skills while procedure manual guides students on performing nursing procedures. All necessary learning and assessment tools are provided to all nursing students by the Nursing Council of Kenya (NCK) within the first month after admission to the learning institutions. This gap may indicate laxity on the part of the students. The fact that some students had all the clinical learning and assessment tools may suggest lack of commitment in learning as observed by Wu et al., (2014) and Eta et al., (2011) studies. The clinical instructors should put systems in place to ensure students make use of their clinical learning and assessment tools to bridge the theory- practice gap and develop competencies (Jamshidi et al., (2016).

In conclusion the study findings revealed not all nursing students were having learning and assessment tools in the clinical area. . It is the responsibility of students to make use of the tools provided for clinical learning while the clinical faculty has a responsibility to ensure availability of the required tools to the students.

4.7.4 Clinical assessment tools measuring competencies

Quantitative data findings in figure 2 showed 84% respondents reported assessment tools measured KAP while qualitative data findings only 40% respondents concurred with these findings. Qualitative data findings were slightly different in that 60% of the respondents (clinical instructors) stated the BScN student clinical assessment tools needed review to measure clinical

competencies. These findings are supported by Chege et al., (2013) Kenyan study on effectiveness of masters nursing students' clinical assessment tools where findings revealed 60% respondents found assessment tools not valid and reliable to measure KAP. The study recommended urgent revision of the assessment tools. A study by Wu et al., (2014) findings revealed there was need to establish assessment tools for clinical instruction that meet the required level of reliability and validity. In conclusion procedure manual and training student file needed review to measure clinical knowledge, attitude and practical skills.

4.7.5 Influence of Clinical Assessment Tools on student performance

The findings of the study in figure 3 showed assessment tools influenced student clinical performance scores with 131(84%) students and 6(60%) nurse instructors affirming it. However, 25(16%) and 4(40) respondents were of contrary opinion. The null hypothesis was clinical assessment tools do not influence clinical performance. Chi- square findings showed the association between clinical assessment tools and clinical performance was not statistically remarkable (p=.0517) except problem-based strategy P= 0.003. Pearson correlation analysis (Table 9) revealed problem- based strategy, clinical conferencing, clinical portfolios contributed significantly to student clinical performance scores. Likewise regression analysis (Table 7) revealed clinical conference (p=0.007) and clinical portfolios (p= 0.030) statistically significantly predicted student clinical performance scores. Findings are supported by Petro, (2017) who found Instructional tools important in self- directing studies.

4.7.6 Influence of clinical assessments (examination) on student performance

Table 4 Findings revealed clinical assessments in the clinical setting were helpful to students with 77% response rate. The finding implied positive impact on nursing practice by enabling students to learn, develop clinical competencies in nursing procedures, focus on learning objectives thus bridging theory- practice gap. Although the finding appears impressive the problem of BScN students lacking clinical skills remains a big concern in nursing profession. One is left to wonder if clinical assessments help to bridge the gap between theory and practice why are BScN nurses incompetent in nursing practice. Pertaining nursing clinical assessments Wu et al., (2017) recommended clinical and academic institutions to work closely in reviewing clinical learning curriculum and enhancing clinical instructors' competence. Instructors' competence is plays an important role in nursing clinical assessments.

4.7.7 Students' performance in the first clinical assessment.

In figure 4, performance in the clinical assessment was notable that 134(84%) attained marks above 70% pass mark. Only 26(16%) respondents attained fail performance. Unsuccessful students were expected to re-take the assessment to obtain the required results. The findings in figure 4 are supported by Kenya- register for national nursing examination – wiki procedure (2018) that students who do not meet the required pass marks must re-take the assessment before proceeding to the nest stage of training. In conclusion majority of the respondents attained the required marks in the clinical assessment. According Dube and Mlotshwa (2018) students' good performance scores were attributed to helpful correspondence between students and nurse educators.

5.0 SUMMARY, CONCLUSION AND RECOMENDATIONS

5.1 Summary

The study aimed at assessing the influence of clinical nurse instructor practices on clinical performance among BScN students in Kenya. Findings showed demonstration teaching method was the main teaching strategy used in nursing clinical placements. Other methods such as problem – based learning, conferences and portfolios were practiced but less preferred.

Clinical assessment tools used in clinical learning and assessment were identified as procedure manuals, student logbook, training file and training objectives. These tools influenced assessment scores positively in measurement of knowledge, attitude and skills at (P< 0.001) and the relationship was statistically significant. Qualitative data findings showed procedure manual and student training file needed review to measure clinical competencies. Clinical instructors need to ensure availability and use of learning and assessment tools by students. Students need to take the responsibility of using learning and assessment tools seriously in clinical environment to improve their practice.

Study findings on first clinical assessment showed good performance scores 84% and fail performance 16%. The results were encouraging taking into consideration these were scores of the first clinical assessment in clinical setting. Fail performance meant re-take of the assessment.

5.2 Conclusion

Study findings showed demonstration, problem based learning, and clinical conferencing and clinical portfolio contributed to student clinical performance with demonstration being the most preferred clinical teaching strategy in Kenyan universities. It was concluded from findings that BScN students can perform better if clinical nurse instructors use innovative and transformative clinical teaching strategies such as clinical conferences and portfolios.

The study found out students in the same class did not have all the required learning and assessment tools provided by NCK. This is a gap that needs to be urgently addressed by the clinical faculty to ensure the tools are available and used by the students to improve clinical practice. Students have a responsibility to use learning and assessment tools in clinical setting. The study found out that clinical assessment tools positively influenced student clinical performance and development of clinical competencies. Majority of the students attained good performance while a few obtained fail performances.

5. 3 Recommendations on Study Findings

The study found out that nurse instructor practices (teaching strategies, assessment tools, supervision and role modeling) influenced clinical learning.

5.3.1 Objective one: Influence of clinical teaching strategies on student performance

The study recommends Kenyan Universities to ensure clinical nurse instructors use innovative clinical teaching methods such as clinical conferencing, problem solving techniques and clinical portfolios to impart creativity and critical thinking skills in BScN students. This will make students confident and ready for practice in these rapidly changing health care settings. There is need to build nurse instructors' capacity on innovative teaching strategies.

5.3.2 Objective two: Influence of clinical assessment tools on student performance

Findings showed students from public universities performed better than students from private universities. Clinical instructors from private universities could liaise with their colleagues from public universities and learn the strategies used to ensure better clinical performance in clinical assessments. Networking is an effective tool in nursing education.

Findings revealed a gap in uptake of clinical assessment tools. The study recommends harmonious working terms between the clinical faculties and practice institutions to ensure quality learning and safe practice. The study recommends NCK to evaluate student learning and assessment tools used in BScN students' clinical practice.

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