



## Perceived Constraints to Effective Clinical Assessment of Nursing Students Competencies among Nursing Students and Educators in Southwest Nigeria

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### Authors' contributions

This work was carried out in collaboration with all authors. Authors ECI conceived and designed the study, wrote the protocol and the first draft of the manuscript. Authors ECI, OMO and DAO managed the FGD. Authors ECI, OMO and NJE managed the literature searches. All authors read and approved the final manuscript.

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### ABSTRACT

**Aim:** This study investigated the perception of nursing students and educators on the constraints to effective clinical assessment of nursing students' competencies and probed possible solutions to the identified constraints in Lagos, southwest Nigeria.

**Methods:** In this cross sectional study, 175 nursing students, and 49 nurse educators from five randomly selected nursing schools participated. The study adopted a triangulation approach of quantitative and qualitative method for data collection and analysis. A self-administered questionnaire was utilized to collect quantitative data from the nursing students and nurse educators and a response return rate of 163(93%) and 46(94%) were recorded respectively from

both groups. Focus Group Discussion (FGD) was employed for qualitative data among 12 nursing students and 11 nurse educators in two nursing schools. Data was analyzed and relative importance index (RII) and its ranking (R) was utilized to establish the relative importance of the various constraints identified as responsible for effective clinical assessment of competencies.

**Results:** The result revealed as major constraints from the students; lack of confidence by the students in carrying out procedures in clinical setting and lack of materials and instruments for clinical practice with equal ranking (RII=0.78; R=1.5), similarly, the educators rated; Lack of confidence by the students in carrying out procedures in clinical setting (RII=0.74; R=1.0) as a key constraint. The Mann Whitney U test showed no statistical significant differences to the perception of the constraining factors and probable solutions by both groups ( $p>0.05$ )

FGD revealed; lack of clear objectives for each clinical posting, as both students and clinical assessors do not have clear idea of what competencies they are to acquire and assess as a major constraint.

**Conclusion:** The researchers recommend that clinical placement objectives should be set and communicated to the students, educators and assessors to direct nursing students' clinical practice and evaluation and assessment formats developed in line with specific skills to be evaluated.

*Keywords: Clinical assessment; constraints; competencies; nursing students; nurse educators.*

## 1. INTRODUCTION

The development of competent practice is essential for nursing education and providing high quality nursing care is a requirement which depends on the nursing competency. Clinical nursing competency means competence and qualification in the areas of cognitive, psycho-physical, clinical skills, critical thinking, decision making and ability to harness theory and clinical practice with excellent standards of care [1]. The term clinical competence also encompasses demonstration of professional practice elements such as history taking, physical and clinical examination skills, nurse-patient therapeutic communication and problem solving ability, and management skills, relationships with colleagues, ethical behavior and skills in practical procedure determined through clinical evaluation of practice [2]

Clinical competency evaluation is an integrated form of assessment seeking to combine knowledge, understanding, problem solving, technical skills, attitudes, and ethics in evaluating clinical practices [3] In clinical evaluation, the students in the clinical settings are to exhibit appropriate professional behavior, establish an appropriate interaction with the patients, prioritize the problems, have the basic knowledge about clinical methods, perform the care procedures correctly, and apply critical thinking. A reliable and valid assessment of clinical competence is an important area of concern in nursing education and practice as it directly impacts on patient care and outcome. It involves direct observation of nursing students and nurse intern

by professionals when students are on clinical placement. Tests of clinical competencies allow decisions to be made about nursing qualification and fitness to practice, as well as having predictive value for a graduate clinical competence, as written tests do not assess clinical skills [2,3].

Exposing the nursing students to clinical practicum is a requirement necessary for training student nurses to be competent in the delivery of adequate and efficient nursing care. In Nigeria, most training health institutions are publicly owned with very weak structures and are functioning sub-optimally and does not have the adequate capacity and facilities needed for effective training of students [4]. There have been situations where newly graduate nurses are seen as incompetent by older nurses and they do not feel comfortable assigning nursing tasks to these graduate nurses. Further, is the inability of these older nurses to recognize their responsibility in mentoring and role modeling the nursing students in areas of clinical skills and capacity development to produce graduates with desired competence and skills and who by extension going to be the future nurse leaders. These attitudes may trigger on the graduate nurses a sort of emotional distress and breeds in them dissatisfaction for the profession [5]. Again is the problem of defective students' clinical competency assessment formats with wrong evaluation tools which may lead to students' frustration, lack of trust in their clinical teachers and poor attitude to clinical learning. It may also create the problem of qualifying students who are clinically incompetent and will eventually render

substandard nursing care to patients after graduation; this may have adverse effects on nursing practice and education.

As nurse educators and Nursing and Midwifery Council of Nigeria Examiners, the researchers have observed in various training health institutions in Nigeria that nursing students usually express their dissatisfaction with the methods used for their clinical assessment. They also observed a gap between the theoretical and clinical performances of nursing students. Students who perform poorly in theory aspect of an examination usually score above average in clinical assessment, even when examiners complain of lapses in their skills, students still end up passing the clinical examination. This triggers the question are the students effectively assessed clinically?

Although few studies have been conducted on some aspects of assessment of clinical skills like hand hygiene, physical assessment among nursing students, challenges of nursing students in clinical learning environment and barriers to clinical nursing education [1,2]. There is however paucity of studies on constraints to effective clinical assessment of nursing students' competencies among nursing students and educators in Lagos state.

Therefore this study seeks to investigate the constraints to effective clinical assessment of nursing students' competencies as perceived by nursing students and nurse educators in five selected nursing schools in Lagos state and to explore the possible solutions to the identified constraints.

## 2. RESEARCH HYPOTHESIS

**H<sub>01</sub>:** There is no statistically significant difference in the perceived constraining factors to effective clinical assessment of nursing students' competencies between the nursing student and nurse educators in the study.

**H<sub>02</sub>:** There is no statistically significant difference in the perceived solutions to the identified constraints to effective clinical assessment of nursing students' competencies between the nursing students and nurse educators.

### 2.1 Significance of the Study

There may be drawbacks to effective clinical assessment of students' competencies and identifying the perceived constraints will be an

eye opener to the stake holders of training institutions and Nursing and Midwifery council of Nigeria, as the first step to solving a problem is identifying the problem itself. This will help them in restructuring clinical assessment curriculum if found defective and to promote effective and friendly assessment, bearing in mind the ethos and sociocultural context upon which the students are trained and evaluated. It can also be the evidence upon which the administrators of training school can leverage on while defending their budget in this era of economic recession to attain cost effectiveness and efficiency in scale of preferences. Applying the findings of the study to solving this problem will help to reduce the constraints to minimum while improving satisfaction of nursing students, enhancing their attitude to clinical learning and their competencies. Improved assessment techniques will improve the quality of nursing students graduated into health institutions as well as quality of client care rendered while bridging theory practice gap. It will also serve as literature and stepping stone for future researchers.

## 2.2 Theory

The theory of constraints (TOC) methodology was used to support this study. The core concept of this theory is that, it is a methodology for identifying the most important limiting factor or constraints that stands in the way of achieving a goal and then systematically improving that constraint until it is no longer the limiting factor. This theory of constraint is a management philosophy designed to follow the 5 steps of identifying the constraints, deciding how to exploit and eliminate the constraints, subordinate everything else to the constraints, eliminating the constraints with whatever action is necessary, and evaluate and check if the constraints is lifted. This theory is most appropriate for this study as most health system have limited resources to provide for adequate training of students needed for competency development, so a more focused evidence based system that helps managers prioritize decisions on profound constraints will help in maximizing efficiency [6].

## 3. METHODOLOGY

The descriptive cross sectional design with a triangulation approach was adopted for the study. The study population consisted of two hundred and twenty four (175 nursing student and 49 nurse educators) recruited from five randomly selected nursing schools to include: all the nursing students of school of post basic

nursing in Orthopaedics Lagos, School of Accident and Emergency nursing studies of Lagos University Teaching Hospital (LUTH); final year nursing students of School of Nursing Lagos University Teaching Hospital (LUTH); School of Nursing Lagos State and School of Midwifery Lagos State and all the nurse educators who teach and assess the students both in the demonstration rooms and in the clinical setting in these schools. These groups of student were chosen because they have had over six months to one year consolidated clinical teaching and assessment exposure and could possibly give detail account of their clinical teaching, assessment and learning experiences.

Inclusion criteria were that the students must be in their final year and present at the time of study, nurse educators must have partaken in clinical assessment of students for at least one year, and educators must still be in service at the study setting during the period of the study. willingness to participate in the study. Nursing students and educators from other training institutions other than the ones selected and those on leave were excluded from the study.

The instruments for data collection were self-administered questionnaire and focus group discussion guide. The questionnaire was developed differently for both groups and consisted of 25 questions for nursing students and 27 questions for nurse educators and were arranged in three sections, A, B, and C. The questionnaire was designed from previous studies reviewed in this work [5].

The items that sought to measure the influence of the constraints on the effective clinical assessment of the nursing students competencies were presented on a four point likert scale coded Strongly Agree = 4, Agree = 3, Disagree=2, Strongly Disagree=1.

The FGD guide consisted of 2 open ended questions that sought to elicit responses on constraints to effective clinical assessment of competencies and perceived solutions to the identified constraints. The data from the questionnaire yielded a Cronbach Alpha coefficient of 0.89, the instrument was therefore considered reliable. The content validity of the instrument was established by experts in nursing education, clinical preceptors and instructors who checked them for coverage of the objectives of

the study. The questionnaire was conveniently administered to the participants in their classrooms and offices during break periods with the help of three co- researchers, all with Msc in nursing sciences.

The FGD was held in two schools; one for the students where twelve nursing students participated and the other for the nurse educators where eleven nurse educators participated and was anchored by three of the researchers and a tape recorder was used to record the responses. FGD section lasted for 60 minutes in each school. All data collection lasted over a period of 3months between January and March 2019.

Data collected was analysed using a triangulation approach of both quantitative and qualitative approach. The questionnaire after being filtered and sorted out for completeness and omission, a response return rate of 163(93%) and 46(94%) were recorded respectively from the nursing students and educators and were used for the data analysis. The relative importance index (RII) was used to determine the contribution of each of the constraining items to effective clinical assessment of nursing students' competencies and the ranking of the attributes in terms of their criticality as perceived by the respondents. The score for each constraint was calculated by summing up the scores given to it by the respondents. The RII was used to rank (R) the constraints. The ranking made it possible to cross-compare the relative importance of the constraints as perceived by the respondents. Each RII as perceived by all respondents were used to assess the general and overall rankings in order to give an overall picture of the constraints and which has more influence on the effective assessment of competencies as well as solutions that carries more weight which should be given more priority.

The relative importance index was computed [7] as:

$$RII = \frac{\sum W}{(A * N)}$$

Where,

W=weight given to each factor by the respondents and ranges from 1 to 5  
A= the highest weight=5  
N= the population size

The responses of the FGD were transcribed and using a thematic analysis the themes were patterned across data set that are important to the description of phenomenon that were associated to specific research objectives.

#### 4. RESULTS

The mean age of the nursing student (respondents) were within  $29.75 \pm 9.13$ , with the majority of the students females 140 (85.9%), and School of nursing LUTH 53(32.5%) having the highest population [Table 1].

The mean age of the nurse educators were within  $48.38 \pm 11.26$ ; more than half 25(54.3%) of the respondents had Bachelors of Science in Nursing or /Bachelors Nursing Sciences as their highest educational qualification with 21(45.7%) having 1-5 years work experience [Table 2].

##### 4.1 Perceived Constraints to Effective Clinical Assessment of Students' Competencies

From the students perspectives on what constitutes constraints to effective clinical assessment of nursing students competencies, the findings revealed the five most outstanding constraints to be; lack of confidence of the students in carrying out procedures in clinical setting and lack of materials, instrument or equipment like BP apparatus, monitors and other instruments for practice in clinical areas with equal ranking (RII=0.78; R=1.5), Lack of use of varieties of clinical assessment methods during clinical assessment of students (RII=0.74; R=3.0), Lack of motivation for the assessors or evaluators and lack of awareness of the aims and objectives of the clinical placement exercise to be assessed by the educators (RII=0.72; R 4.5) with equal ranking [Table 3].

A further probe through FGD on the factors that constraints effective clinical assessment of nursing students' competencies elicited the following responses from the students:

*"Ineffective utilization of continuous assessment evaluation form by the ward managers; Clinical assessment of competencies is supposed to be done per progress report, some ward managers ask questions relating to theory and our practical skills are not tested; for example, they may ask a student when they want to fill the appraisal form 'what is fracture and types of fracture' and the*

*students will just list the answers based on theoretical knowledge and not on the skills set to acquire for fracture management"*

*One of the students had this to say "We are assessed based on attendance to clinical posting rather than clinical skills to be acquired" again some of us do not have the confidence to carry out procedures because we do not know it.*

*"Students are not frequently evaluated in the clinical area of posting; they are only assessed during examination and most times the students may not have gained skills needed in the examination ward as students may have only been in the exam ward for one or two weeks"*

As regards the nurse educators view on what the constraining factors are, the three most profound constraints to effective clinical assessment of nursing student's competencies as indicated by the educators were; Lack of confidence by the students in carrying out procedures in clinical setting (RII=0.74; R=1.0) which ranked first, lack of materials, and equipment like BP apparatus, monitors and other instruments for practice in clinical areas (RII=0.72; R=2.0) and lack of motivation for the assessors/ evaluators (RII=0.71; R=3.0) [Table 4].

When the educators were asked through a FGD their views on what constitutes constraints to effective clinical assessment of nursing students' competencies, the following responses were elicited.

*"Inadequate knowledge of the preceptors on what to assess the students at each clinical posting, students go to the clinical area without any clear-cut clinical objective in mind, no specific set goals to drive clinical placement and skills to be taught and assessed on the students for each clinical period";*

*This is an excerpt from an educator "Again is the issue of sentiment in evaluating student; there is weak assessment tool for assessing students' skills, such that, most times students score high marks on clinical assessment without a commensurate display of clinical competence of such task"*

##### 4.2 Probable Solutions to the Identified Constraints

The students rated adequate provision of materials, instruments and equipment for clinical

teaching (RII=0.89; R=1.0), students to be duly communicated with the objectives of the clinical placement and posting of students to only the functional units and health centers in the communities which had equal ranking (RII=0.88; R=2.5), adequate clinical teaching rounds by

educators and nurse clinicians when students are on clinical placement (RII=0.87; R=4.0), and students to be given cases for presentations and assignment (RII=0.84; R=5.0) as profound solutions [Table 5].

**Table 1. Demographic characteristics of nursing students n = 163**

Variable	Category	N	%
<b>1.Age</b>	below 20 years	13	8.0
	20-29	115	70.6
	30-39	24	14.7
	40 and above	11	6.7
Mean age	29.75± 9.13		
<b>2.Gender</b>	Male	23	14.1
	Female	140	85.9
<b>3.Marital status</b>	Single	133	81.6
	Married	30	18.4
<b>4.Nursing School</b>	School of midwifery Lagos state Igando	26	16.0
	School of post basic nursing in Orthopaedics NOHI Igbobi Lagos	18	11.0
	School of post basic accident and emergency nursing. LUTH	27	16.6
	School of nursing LUTH	53	32.5
	School of nursing Lagos state Igando	39	23.9

**Table 2. Demographic characteristics of nurse educators n = 46**

Variable	Category	N	%
<b>1.Age</b>	30-39	22	47.8
	40-49	15	32.6
	50-59	8	17.4
	60 above	1	2.2
Mean age	48.38±11.26		
<b>2.Gender</b>	Male	9	19.6
	Female	37	80.4
<b>3.Nursingschools</b>	School of midwifery Lagos state Igando	9	19.6
	School of post basic nursing in orthopedics NOHI Lagos	11	23.9
	School of post basic accident and emergency nursing, LUTH	6	13.0
	School of nursing LUTH	16	34.8
	School of nursing Lagos state Igando	4	8.7
<b>4.HighestEducationalQualification</b>	RNE/RME	7	15.2
	B.Sc/B.NSc	25	54.3
	Msc/Phd	14	30.5
<b>5. What is your position</b>	Nurse educator	35	76.1
	Clinical nurse	7	15.2
	Clinical preceptor	4	8.7
<b>6. Years of work experience</b>	1-5 years	21	45.7
	6-10 years	9	19.6
	11-15 years	6	13.0
	15 years above	10	21.7

**Table 3. Constraints to effective clinical assessment of nursing students' competencies as perceived by nursing students with their RII and its ranking**

	Constraints to clinical assessment	Percentage (%) of respondents score (n=163)				RII	Rank
		1	2	3	4		
1	Lack of objectivity in the assessment format employed	9.20	21.47	47.85	21.47	0.70	6
2	Lack of awareness of the objectives of the clinical placement to be assessed by the educators/assessors	5.52	22.70	51.53	20.25	0.72	4.5
3	Inadequate knowledge of the objectives/ expectations of the clinical placement by the students	4.91	28.83	45.40	20.86	0.71	9
4	Poor cooperation among teachers and clinical staff during clinical assessment	2.45	36.81	40.49	20.25	0.70	7
5	Inadequate preparation and readiness of students for assessment	6.13	29.45	43.56	20.86	0.70	8
6	Lack of use of varieties of clinical assessment methods during clinical assessment	4.29	21.47	46.63	27.61	0.74	3.0
7	Poorly developed checklist for scoring	7.36	31.29	38.65	22.70	0.69	10
8	Lack of motivation for the assessors/ evaluators	5.52	30.06	34.36	30.06	0.72	4.5
9	Lack of materials, or equipment like BP apparatus, monitors and other instruments for assessment in clinical areas	4.91	16.56	39.26	39.26	0.78	1.5
10	Lack of confidence of students in carrying out procedures in clinical setting	6.75	14.72	39.26	39.26	0.78	1.5

Scale: 1=strongly disagree, 2 =Disagree, 3=Agree, 4=strongly agree, RII=0-1

**Table 4. Constraints to effective clinical assessment of nursing students' competencies as perceived by nurse educators with their RII and its ranking**

SN	Constraints to effective clinical assessment	Percentage (%) of respondents score (n=46)				RII	Rank
		1	2	3	4		
1	Lack of objectivity in the assessment format employed	13.04	30.43	30.43	26.09	0.67	7.5
2	Lack of awareness of the objectives of the clinical placement exercise to be assessed by the educators	17.39	30.43	41.30	10.87	0.61	10
3	Inadequate knowledge of the objectives/ expectations of the clinical placement by the students	8.70	23.91	47.83	19.57	0.70	6.0
4	Poor cooperation among teachers and clinical staff during clinical assessment	8.70	32.61	39.13	19.57	0.67	7.5
5	Inadequate preparation and readiness of students for assessment	6.52	26.09	50.00	17.39	0.70	5.0
6	Lack of use of varieties of clinical assessment methods during clinical assessment	4.35	34.78	39.13	21.74	0.70	4.0
7	Poorly developed checklist for scoring	10.87	28.26	41.30	19.57	0.67	9
8	Lack of motivation for the assessors/ evaluators	10.87	21.74	41.30	26.09	0.71	3.0
9	Lack of materials, or equipment like BP apparatus, monitors and other instruments for assessment in clinical areas	8.70	21.74	41.30	28.26	0.72	2.0
10	Lack of confidence of students in carrying out procedures in clinical setting	6.52	21.74	41.30	30.43	0.74	1.0

Scale: 1=strongly disagree, 2 =Disagree, 3=Agree, 4=strongly agree; RII=0-1

**Table 5. Possible solutions to the identified constraints to effective clinical assessment of nursing students' competencies as perceived by nursing students in the study**

Possible solutions to constraints	Percentage (%) of respondents score (n=163)				RII	Rank
	1	2	3	4		
1 There should be adequate clinical teaching rounds by educators and nurse clinicians when students are on clinical placement	0.61	9.82	28.83	60.74	0.87	4.0
2 Enforcement of disciplinary measures to defaulting students	3.07	9.82	42.94	44.17	0.82	7.5
3 Efforts should be made to change the negative attitude of clinical nursing staff towards BNSc nursing students on clinical placement	6.13	7.98	34.36	51.53	0.83	6.0
4 Reduction in the number of students posted to each clinical unit to avoid overcrowding students in a particular unit at a particular time	8.59	11.66	33.13	46.63	0.79	10.0
5 Provision of adequate materials and equipment for clinical teaching	1.84	7.98	23.31	66.87	0.89	1.0
6 Posting of students to only the functional units and health centers in the communities	2.45	6.75	28.83	61.96	0.88	2.5
7 Students should be given cases for presentations and assignment	3.07	7.98	39.88	49.08	0.84	5.0
8 More clinical instructors (Preceptors) should be employed by the school	4.29	11.04	36.81	47.85	0.82	7.5
9 Incentives should be given to clinical instructors and preceptors to encourage them	4.91	11.04	42.33	41.72	0.80	9.0
10 Clinical teaching allowance should be paid to teachers in the school	6.75	9.82	47.24	36.20	0.78	11.0
11 Students should be duly communicated with the objectives of the clinical placement	3.07	3.68	31.90	61.35	0.88	2.5

Scale: 1=strongly disagree, 2 =Disagree, 3=Agree, 4=strongly agree; RII=0-1

**Table 6. Possible solutions to the identified constraints to effective clinical assessment of nursing students' competencies as perceived by nurse educators in the study**

SN	Probable solutions	Percentage (%) of respondents score (n=46)				RII	Rank
		1	2	3	4		
1	There should be adequate clinical teaching rounds by educators and nurse clinicians when students are on clinical placement	2.17	8.70	36.96	52.17	0.85	1.5
2	Enforcement of disciplinary measures to defaulting students	2.17	8.70	36.96	52.17	0.85	1.5
3	Efforts should be made to change the negative attitude of clinical nursing staff towards BNSc nursing students on clinical placement	4.35	4.35	43.48	47.83	0.84	5.5
4	Reduction in the number of students posted to each clinical unit to avoid overcrowding students in a particular unit at a particular time	6.52	13.04	34.78	45.65	0.80	10.5
5	Provision of adequate equipment, instrument and materials for clinical teaching	4.35	6.52	36.96	52.17	0.84	5.5
6	Posting of students to only the functional units and health centers in the communities	6.52	13.04	32.61	47.83	0.80	10.5
7	Students should be given cases for presentations and assignment	2.17	10.87	36.96	50.00	0.84	5.5
8	More clinical instructors (Preceptors) should be employed by the school	2.17	6.52	41.30	50.00	0.85	1.5
9	Incentives should be given to clinical instructors and preceptors to encourage them	4.35	8.70	39.13	47.83	0.83	9
10	Clinical teaching allowance should be paid to teachers in the school	6.52	8.70	28.26	56.52	0.84	5.5
11	Students should be duly communicated with the objectives of the clinical placement	4.35	4.35	39.13	52.17	0.85	1.5

Scale: 1=strongly disagree, 2 =Disagree, 3=Agree, 4=strongly agree; RII=0-1

A further probe of the students' view during FGD on how the identified constraints could be solved elicited these responses:

*"The school should employ clinical instructors specifically trained in clinical assessment of students' competencies and avoid using clinical preceptors from the ward as they are overworked and do not have time for students, some of them are not committed and do not have the skills of clinical assessment".*

*"There should be continuous assessment of students on skills to be acquired on each clinical placement based on set objectives before the main examination to develop competency and confidence"*

*"Proper harnessing of procedures to ensure uniformity of practice so that external examiners from other schools do not see students' clinical practices from other schools as incompetent";*

*"The assessment tool is faulty and not specific for specific task; the only available tool is the appraisal form. This makes assessment very subjective. The educator should have standardized tool for use during clinical round"*

From the nurse educators perspective, it is interesting to note that the findings revealed the four most important solutions to the identified constraints to effective clinical assessment of nursing students competencies with equal ranking as; students should be duly communicated with the objectives of the clinical placement, more clinical instructors and preceptors should be employed by the school and clinics, there should be adequate clinical teaching rounds by educators and nurse clinicians when students are on clinical placement, and enforcement of disciplinary measures to defaulting students(RII=0.85, R 1.5) respectively [Table 6].

Again probing the educators' views during FGD on how the identified constraints could be solved elicited these responses:

*"Each clinical placement should have a specific clear-cut aim and objectives which must be communicated to the ward managers and students with a standardized evaluation tool to test the skill to be acquired"*

*"There should be objective assessment; assessment tool should be validated to measure what it is intended to measure"*

*One of the educators had this to say "Sometimes patients might not be willing to cooperate with students to carry out procedures on them. Assessment should be an on-going thing because we have different staff for different shift so the students give the progress report to any available staff, sometimes it might be the person who have not supervised the student that evaluate the student appraisal form leading to poor and misleading scoring"*

In testing the stated hypothesis; the Mann Whitney U test for comparing two independent samples shows no statistical significant difference between nursing students and nurse educators' perception on constraints to effective clinical assessment of nursing students competencies ( $p>.05$ ). This result reveals that the way nursing students view the constraints is similar to the nurse educators' view on the identified constraints. Hypothesis ( $H_{01}$ ) upheld.

The Mann Whitney U test for comparing two independent samples shows no statistical significant difference between students and nurse educators' perception on possible solutions to the identified constraints to assessment of clinical competencies of nursing students ( $p>.05$ ). This result reveals that the way nursing students view the solutions is similar to the way nurse educators view the solutions to the identified constraints. Hypothesis ( $H_{01}$ ) upheld.

**Table 7. Mann Witney U test of difference in the perceived constraints between nursing students and nurse educators**

Variables	Category	N	Mean rank	Sum of ranks	Z	P-value
Constraints to Clinical Assessment	Nursing Student	163	108.66	17712.00	-1.652	0.099
	Nurse Educators	46	92.02	4233.00		
	<b>Total</b>	<b>209</b>				

Significant at  $p < 0.05$

**Table 8. Mann Witney U test of difference in the perceived solutions to the identified constraints between nursing students and nurse educators**

Variables	Category	N	Mean rank	Sum of ranks	Z	P-value
Perceived Solutions to the identified constraints to effective clinical assessment of competencies	Nursing Students	163	103.88	16933	-0.504	0.615
	Nurse Educators	46	108.96	5012		
	<b>Total</b>	<b>209</b>				

*Significant at  $p < 0.05$*

## 5. DISCUSSION

Findings of this study revealed the most prominent factors that constraint effective clinical assessment of nursing students' competencies as perceived by the nursing students and nurse educators as; Lack of awareness of the objectives of the clinical placement by assessors and students, defective assessment forms, lack of confidence of the students in carrying out procedures in clinical setting, lack of materials, instrument or equipment like BP apparatus, monitors and other instruments for practice in clinical areas and lack of motivation for the clinical evaluators. These lacks and inadequacies for instance lack of awareness of the objectives may be attributed to defective clinical curriculum and guidelines for assessment that clearly spells out what exactly should be assessed in the students to ascertain competencies and technical skills at each clinical posting and how precisely it should be carried out and scored to ensure objectivity.

Lack of confidence in the students may be related to insufficient knowledge to care for the patient or face the challenging clinical environment, as such the students may have difficulties communicating with the patients and performing certain procedures due to lack of necessary skills. This result is in accordance with the findings of a qualitative study in which one of the patterned theme "Inadequate readiness of the students" were related to inadequate knowledge, deficient clinical skill and insufficiently developed communication skill by the nursing students that challenges their clinical training [8]. The result stated that it develops in the students' inferiority complex and lack of confidence to practice nursing care. Lack of motivation of evaluators may also be due to lack of standard guideline relating to clinical assessment and personnel remunerations.

The result of this study is supported by the reports of other studies which identified lack of equipment and infrastructures as one of the constraining factors affecting clinical training of students in nursing profession [5,1]. It is worth noting that where there are lacks of equipment in the wards, it makes competency development difficult; as it creates room for improvise which jeopardizes actual 'hands on' practice during clinical assessment of competencies.

The findings are also in line with several other studies reviewed; the result on a survey of a group of nurses in Cameroon on nurses and challenges faced as clinical educators [9] which showed that there are no guidelines to assist clinical teachers on how to effectively teach, supervise and evaluate students in the clinical area. The Iranian study which showed from both the students and instructors' point of view [3]; inappropriate clinical evaluation methods, problems of clinical evaluation process and problems related to clinical instructors as the major evaluation problems in clinical learning and the position of the Esmailivand et al study, which stated that evaluation based on appropriate criterion, is one of the important factors in clinical education [10]. As lack of such standard criteria may constrain evaluation.

However, the findings in this present work is in contrast with a few studies reviewed; the Narjes et al study where their result indicated from the participants' viewpoints that the most important problems in the academic education for nurses to acquire competency were lack of academic research during the clinical period and no application of theoretical aspects of the nursing process in practice [11].

Addressing the increasing placement demand of nursing students requiring clinical teaching and assessment of competencies at each posting is important in order to ensure adequate logistical

methods of delivering satisfactory and effective clinical teaching and assessment of competencies. The study participants identified adequate provision of materials, instruments and equipment for clinical assessments, communication of clinical placement objectives, employment of preceptors and clinical instructors, posting of students to functional clinics and health centers in the communities, adequate clinical teaching rounds by educators and nurse clinicians when students are on clinical placement, case presentations and assignment, and enforcement of disciplinary measures to defaulting students among others as probable solutions.

This result is in consonance with the study that systemic or environmental constraints to effective clinical training are indeed a major factor in discouraging interest in educator's role in the clinical setting, a conducive and well equipped care settings are key motivators driving clinical educators to teach and perform assessment [12]. The students having necessary instrument to work with when on clinical posting will help them develop necessary skill to give quality care.

Proper communication of clinical placement objectives is considered an important solution to the identified constraints from both the students and nurse educators' perspective. This implies involving the students in planning their time table and clinical rotations, identification of viable settings and ensuring students understanding of the actual competencies expected of them at each specialty clinic placement. Nurse educators as their role models must carry out this task to instill in the students self- confidence to manage the challenges in the clinical learning environment. This result is supported by another study which reported that proper communication of the students' clinical placement objectives creates a guiding atmosphere in the clinical environment and develops in the students' sense of enthusiasm and increases their motivation to implementing the clinical placement plan and to learn [13,14]. This present finding is also in line with the result of a research which recorded non participation of the students as one of the factors hindering clinical training [5].

Another notable driving solution as rated by the nursing students is the placement of students in functional and viable clinical areas and health centers. Logistical restrictions, such as having few hospitals for clinical placement and placing large volume of nursing students' into clinical

rotations, limit the capacity for clinical teaching and assessment [15].

Undoubtedly, effective clinical assessment of competencies is vital to the development of future nurses through providing them with the opportunity to gain invaluable skills and guidance under the training and supervision of nurse educators, instructors and preceptors. Hence, administrative support in the form of employment of experienced clinical educators, supervisors and preceptor as well as funding and implementation of up-skilling and character development program are necessary to ensure delivery of effective clinical assessment of competencies in the care setting and potentially improve efficacy in nursing practice.

The Mann Witney U test showed no statistical significant difference between the two groups' perception on constraints to effective clinical assessment of nursing students' competencies ( $p=.099$ ), and on possible solutions to identified constraints ( $p>.05$ ). The similarity in their opinion are expected as the study groups had similar views on the greater proportions of the domains that constitute constrains to effective clinical assessment of nursing students competencies and the five schools studied are exposed to the same Nursing and Midwifery Council of Nigeria General Nursing and Post basic clinical nursing curriculum for assessment of students' competencies.

Finally, these findings logically substantiate the need for having these two populations of nursing students and nurse educators in this study as the similarities in their opinion show the gravity of the constraints. Hence, these views if properly harnessed will yield strong evidence and give direction to solving the identified constraints.

## 6. RECOMMENDATIONS

The results of this study should be potentially important in terms of developing strategies for clinical evaluation of students' clinical competencies and in constructing clinical assessment tools:

- As lack of awareness of clinical placement objectives was an outstanding constraint, therefore, school administrators and clinical managers should go back to the drawing board referencing the clinical curriculum and procedure books to develop specific objectives that are in line

with each task and skill to be acquired for a particular clinical posting bearing in mind the behaviors, ethos, and policies to be applied in the institutions.

- Since faulty evaluation tool is a major constraints to effective clinical assessment of nursing students competencies, nursing schools should therefore work towards developing evaluation tools that are customized towards assessing specific skill to be acquired for each clinical placement and reduce unnecessary diversions but promote real hands on clinical practice.
- Given that a well-structured assessment tool is very important to ensuring objectivity in scoring. Evaluation tools should be developed such that for each task or procedure to be performed by a student, specific mark should be allotted for each step and competency demonstrated in carrying out procedures being assessed to reduce subjectivity in scoring.
- Since lack of confidence was identified as a profound constraint by both groups, nursing health administrators and managers should try as much as possible to identify what exactly breed fear in the students and what motivate and satisfy the students and develop schemes that steers and build their esteem to maintain professional ego.
- Nursing and Midwifery Council of Nigeria should strategies and build strong clinical curriculum structures that address the needs of young students and intern nurses bearing in mind advances in technology, faulty clinical curriculum and assessment tools in order to ensure that clinical placement becomes an important academic and clinical nursing exercise in producing quality nurse graduates.
- Frequent goal setting meetings; a type of quality circle meeting with all stakeholders to identify, analyze and solve clinical placement related problems in order to improve clinical experience and develop satisfaction on the students, educators and evaluators should be established.

## 7. LIMITATION

The limitation of this study is that the study did not investigate the constraints as it relate to each individual school.

## 8. CONCLUSION

The most prominent factors that constraints effective clinical assessment of nursing students'

competencies as perceived by the nursing students and nurse educators were; Lack of awareness of the objectives of the clinical placement exercise to be assessed by students and the assessors, defective clinical assessment tools, lack of confidence of the students in carrying out procedures in clinical setting, and lack of materials, instrument or equipment like BP apparatus, monitors and other instruments for practice in clinical areas. The perceived solutions were quite commendable but require administrative support, academic and clinical staff commitments as most of the solutions focused more on providing conducive clinical learning atmosphere with adequate nurse educators and clinicians to manage the ever increasing nursing students on clinical placement.

## CONSENT

Participants were informed of the objectives and purpose of the study, and written informed consent obtained before completing the questionnaire. Participants were assured of confidentiality of their responses and discussions.

## ETHICAL APPROVAL

Ethical approval to conduct the study was obtained from the Health, Research and Ethics committee of National Orthopaedic Hospital Igbobi Lagos and administrative permission obtained from each of the schools studied.

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## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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