DETERMINANTS OF EFFECTIVE CLINICAL LEARNER SUPPORT AMONG NURSING STUDENTS IN MIDDLE LEVEL COLLEGES IN NAIROBI COUNTY KENYA

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DECLARATION AND APPROVAL

Declaration by Candidate:

This thesis is my original work and has not been presented for a degree in any other university or any other award.

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ABSTRACT

Background: Student nurses' clinical learning is a key requirement in the profession. However, the students often face many challenges in clinical sites that puts a negative perception on their professional growth. Clinical learner support is the most challenging part because of several guidelines, policies and requirements to be followed during the training. To enhance effective clinical learner support, there needs to be training design to support problem-based learning, trainees' characteristics should portray positivity, and team-based coaching that focus on skills results attainment.

Objectives: The broad objective of the study sought to establish determinants of effective learner support for nursing students in middle-level colleges. The specific objectives were: To assess students related factors, identify primary training institutions, other related placement site-related factors and establish the students' perceptions of the existing clinical learner support systems.

Methodology: A descriptive design was utilized. Qualitative and quantitative data collection methods were utilized. A Simple random method was used to sample 394 respondents from a total population of 3368 nursing students across 12 training institutions. The data was coded and analyzed using Excel and SPSS Version 28. The study findings are presented using tables, pie charts, bar graphs and histograms. The data was first presented in form of descriptive in terms of percentages. Chi-square test of independence was then calculated at p value of <.05, significant factors after crosstabulation were entered into binary logistic regression analysis stepwise followed by multivariate analysis to adjust for confounding factors.

Conclusions: The learners achieved effective clinical learner support where n=302 out of 380 with 75% indicating effective learner support. It is recommended that qualitative and more quantitative studies should be carried out on postgraduate and other healthcare cadres to compare the results. A further study needs to be carried out on the students' attitude on the learner support.

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ABBREVIATIONS AND ACRONYMS

CPD	Continuous Professional Development
EBP	Evidence Based Practice
ERC	Ethics and Research Committee
IPE	Interprofessional Education
JCIA	Joint Commissions International Association
KNH	Kenyatta National Hospital
MH HR FM	Mater Hospital Human Resource Form
MMH	Mater Misericordiae Hospital
MMTRH	Mathare Mental Teaching and Referral Hospital
NCK	Nursing Council of Kenya
OSCE	Objective Structured Clinical Evaluation
PBL	Problem Based Learning
PPS	Probability Proportional to Size
SBL	Simulation Based Learning
S.No	Serial Number
SOPs	Standard Operational Procedures
SPSS	Statistical Package for Social Sciences

OPERATIONAL DEFINITION OF TERMS

Clinical Learner: Is a nursing student who is placed where an actual patient is for the purpose of gaining competence in knowledge, skills and attitude**.**

Clinical Site/Placement/Practice Site: A place in the hospital or health care facility where the nursing students are placed to gain the skills, knowledge and attitude through the observation and treatment of actual patients.

Effective Learner Support: This is the creation of the conducive environment for the learner in the clinical sites by ensuring physical, psychosocial wellbeing and provision of materials and equipment needed for the learners to gain competence in knowledge, skills and attitude.

Learner Support: It is the providing of the suitable environment by the faculty, clinical instructors, managers and other staffs in the clinical areas to ensure effective learning among the nursing students.

Mentor: Is a trained senior nurse with experience in the nursing career and takes part in teaching of nursing students.

Middle Level Colleges: A nurse training college that creates an opportunity for the students to earn a diploma.

Placement: It is a place within the hospital facility where student nurses put into practice what they have been taught theoretically and through simulation.

Preceptors: A teacher, or someone who trains nurses on how to perform skills.

Simulation Based Learning: It is the student nurses' training method that is used to replace the real experience with guided steps.

CHAPTER 1: INTRODUCTION

1.1 Overview

The chapter includes the study background, states the problem, broad and specific objectives and research questions. Background of the study shows how the determinants to effective clinical learner support are highlighted and emphasized on. Likewise, the chapter highlights the justification and significance of the study.

1.2 Study Background

In nursing education clinical learning carries a large proportion of the curriculum that is carried out in a complex environment. Therefore, it is very important to identify challenges faced by students in clinical areas that impacts negatively on their growth and development of their nursing skills (Jamshidi et al., 2016). Effective clinical learner support is a compulsory requirement for nursing students in their training however, many students report most of the challenges in these areas since they have to follow several policies and requirements in clinical setting. Another challenge comes with inadequate health workforce recruitment that create a gap in student supervision (Hussain et al., 2019).

The study done in Tanzania on "Factors Affecting Performance in Clinical Practice among Pre-service Diploma Nursing Students'' shows the impact of effective supervision and assessment, it highlights the barriers and enablers in clinical learning, based on students' personal experiences (Gemuhay et al., 2019). In the same study the student nurses reported on factors such as lack of self-confidence, students' absenteeism, however, it is the issue of supervision that gains prominence among the factors affecting learner support in the clinical areas (Torabizadeh et al., 2019; Gemuhay et al., 2019). Majority of nursing students on the other hand reported that

clinical placements often fail to provide adequate opportunity for effective learner support, connecting this to the shortage of nurse tutors in clinical areas (Gemuhay et al., 2019).

In the Kenyan context, some minimal improvement has been shown in the public/County nurse training facilities following devolution of health care services in the year 2013. These includes enhancing learner support of the student nurses by having training design to support problem-based learning, trainees' characteristics that portray positive characteristics, team-based couching focusing on results attainment (Chelagat et al., 2019).

1.3 Statement of the Problem

Despite some reasonable progress made towards promoting student nurses effective clinical learner support by different countries, capacity issues in the nursing training institutions documented globally in both public and private healthcare sectors is still a challenge towards achieving quality graduates (Maloney et al., 2013). Subsequently, effective clinical learner support remains one of the most neglected areas of nurse training. A gap felt by the students during their clinical learning that is commonly related to senior managers in the clinical areas majorly is concerned with intimidation by the managers during their clinical learning. This makes the students to avoid their managers and supervisors of whom they are supposed to work with closely to ensure effective clinical learner support (Bishop et al., 2019).

Records from a sample of a Nairobi based middle level college of nursing (Catherine McAuley Nursing School) indicates challenges in clinical skills performance given that only 10% out of 150 students annually for the past five (5) years, manage to score

credits and distinctions while the rest of the students attain a pass with a significant majority being referred for second attempt as others defer.

Anecdotal evidence from city county/ public practice sites reveals a worrying trend of nursing students' absenteeism, and lack of patient contact with no communication or valid reasons being provided. Student absenteeism means minimal or no contact with faculty members, mentors, clinical instructors and other nursing staffs that play a key role in nursing students clinical learning. Absenteeism leads to the nursing students missing out on observing important rare procedures that are key for taking part in for the sake of effective clinical learning. There being no documented evidence of any follow up for the students with high rate of absenteeism from the clinical sites and evaluation of clinical learner support, concerns on supervision and availability of their assigned mentors and preceptors towards ensuring students clinical learner support are raised. It has further been observed that none of the practice site facilities in the country have an evidence-based documentation on factors that affect effective clinical learner support.

Consequently, limited student supervision in the clinical areas has led to medical-legal incidents some of which are linked to adverse patient outcomes (MH-HR-FM 36(2)) S.NO 5/21 and MH-HR-FM 36 (2)) S.NO 7/21).

The study therefore aimed at investigating the determinants to effective clinical learner support among student nurses in middle training colleges in Nairobi County which will later provide documented evidence, recommendations that will be implemented to enhance the practical sites learning.

1.4 Research Questions

The study sought to answer the following questions

i. What are the students' related factors that affect effective clinical learner support among nursing students in the middle level colleges in Nairobi County?
ii. How does the practice sites related factors affect effective clinical learner support among nursing student in the middle level colleges in Nairobi County?
iii. What are the primary training institutions' related factors that affect effective clinical support among nursing students in the middle level colleges in Nairobi County?
iv. How does the nursing students' perceptions of the existing systems on clinical learner support among nursing students in their respective training institutions in the middle level colleges in Nairobi County?

1.5 Research Objectives

1.5.1 Broad Objective

To establish determinants of effective clinical learner support among nursing students in the middle level colleges in Nairobi County.

1.5.2 Specific Objectives

i. To assess student related factors that affect effective clinical learner support among nursing students in the middle level colleges in Nairobi County.
ii. To investigate the practice sites related factors that affect effective clinical learner support among nursing students in the middle level colleges in Nairobi County.

iii. To identify the primary training institutions' related factors that affect effective clinical learner support among nursing students in the middle level colleges in Nairobi County.

iv. To establish the students' perceptions of the existing systems on clinical learner support among nursing students in their respective training institutions in the middle level colleges in Nairobi County.

1.7 Justification of the Study

The study explored the determinants to effective clinical learner support among nursing students in middle level colleges in Nairobi County. One of the reasons as to why the study was justified is that the findings inform the middle level training institutions and the regulatory body which is the Nursing Council of Kenya (NCK) on the areas that need action to enhance clinical learner support hence, improve the quality of the nurses produced. Competent nurses fill the local and international need for adequate health care workers who are responsible and fully professional.

The type of research design which is descriptive, and the population size is manageable in terms of resources (time, money, personnel, research instruments) to enable the researcher meet the requirements as a post graduate within the stipulated university timeline. The study will add and provide the scientific knowledge that will act as reference for other future coming up researchers interested in improving clinical nursing education.

1.8 Significance of the Study

The study findings and recommendations contribute to improving nursing students' clinical learner support, which further leads to achieving the desirable global outcomes regarding provision of quality health care. Quality workforce that doesn't compromise

on quality in nurses training is imperative and also help in the achievement of Sustainable Development Goals (SDGs). Coupled by anticipation of well-equipped learning environment, the training process enhances learning quality outcome that are directly commensurate to the nurse's competency for the client's safety.

1.9 Assumptions of the Study

The researcher assumed that the participants gave the honest feedback. In addition, it was assumed that the data collected was a true reflection of the situations affecting clinical learner support at the present time of the study. Earlier on the researcher assumed that during the time of data collection the COVID-19 pandemic would have been controlled enabling direct communication with the respondents for clarity. However, there was an increase in the severe cold that was assumed to be reemerging COVID; lucky the Ministry of Health confirmed otherwise and termed it as severe influenza.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

In this chapter the researcher will search for supporting literature on the factors that affect student nurses' effective clinical learner support. The chapter is divided into different thematic objective sections that reviews the factors related to students, other practice sites and primary related factors not forgetting, the learners' perception of existing support systems towards effective clinical learner support in their respective training institutions. Effective clinical learner support for nursing students' ultimate aim is to supply society with a knowledgeable, skilled and up to date cadre of health care professionals who put patients care above self-interest (Swanwick, 2018).

Determinants of students' effective clinical learner support are: training design, individual characteristics and work environment climate (Chelagat et al., 2019). For effective learning to be achieved in the clinical areas the nursing students need the placement sites that enhance development of elements of professional practice within the primary training facility and other related sites that portray the real-world scenarios in health (Wu et al., 2021).

2.2 Theoretical Framework

Kolb's in his theory of Experiential Learning Cycle defines learning process as an interaction whereby knowledge results from both grasping and transforming it an experience (Morris, 2019). The theory explains the four basic concepts that enhances learning in the cyclic sequence. The stages are dependent on each other, which must be completed in sequence to have an experience or the doing which is skill development.

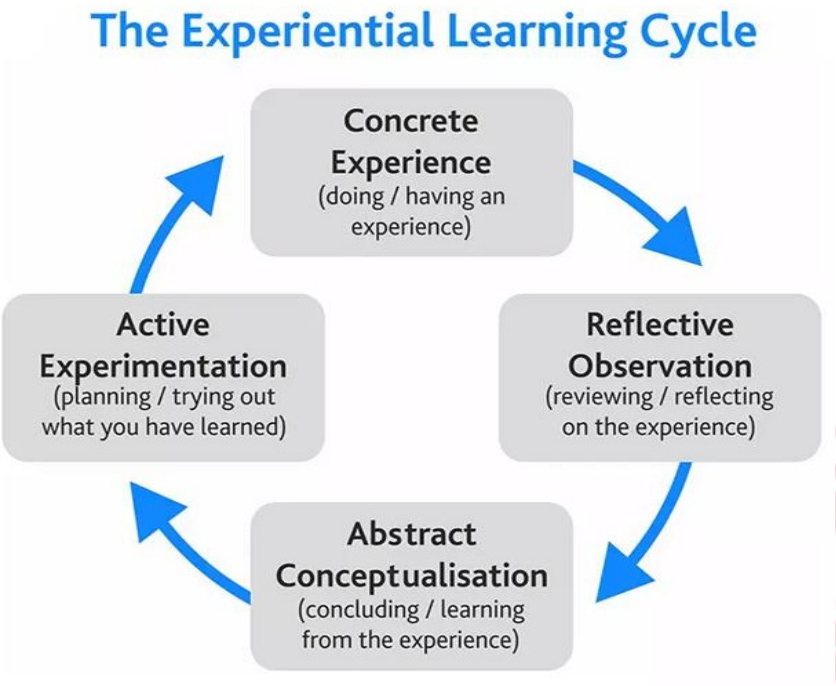

Figure 1: Kolb's Experiential Learning Theory & Learning Styles (1984).

In application of the model the learner can start and stop anywhere in the cycle. The model is applied after the learner has been taken through the theoretical contents and is ready for the clinical experience and learning. The contents are delivered through the simulation sessions, meetings with the managers, faculty members, clinical instructors and mentors. In the concrete stage there is the experience of learning something new. The learners have the watching and feeling effect through observation of the procedures being performed for example wound dressing, administering of medication and other fundamentals in nursing. They should utilize their objectives and other learning materials issued by the training institutions as required by the NCK as core references. In the second stage of reflective observation, the learner is allowed to ask questions and discuss the feedback with the instructor, supervisor, or peers. The challenges that come out of these is discrimination of the students based on gender especially in the institutions where patients prefer female or male nursing students denying an opportunity for some students to perform the procedures. Missing out on the procedure

makes it difficult for the learner to reflect and give feedback. This should highly be discouraged especially during peer learning, and during the meetings with the managers in the clinical learning. The learners think through of what they have learnt and how to apply. In this stage debriefing on the procedures observed is very key. Therefore, a minimum of two weekly mentors and faculty meetings for evaluation is vital in ensuring effective clinical learner support (Burke & Burke, 2020).

Heinrich and Green (2020), discuss abstract conceptualization which is the second stage as the one that focuses on theoretical contents that should translate into learning of the skills. The skills learning should be relevant to their future. Abstract conceptualization makes learning to stick. The learners perform the learned skills repeatedly leading to improvement of their effective clinical learning.

Active experimentation generates new ideas or modifies what the learner has mastered from the initial experience. The stage guides the learner on how to grow and start the cycle again. Growth in career development comes up with Effective learner support (Heinrich & Green 2020).

2.3 Student Related Factors that Affect Effective Clinical Learner Support Among Nursing Students in the Middle Level Colleges in Nairobi County.

Getting the right candidate for the nursing career is crucial in enhancing their training through effective clinical learner Support. The importance of conducting intake interviews has demonstrated selection processes of the individuals who are fit for the nursing course. (Swanwick et al., 2018). Individual applicants for nursing career should be done based on an informed individual choice and not from external forces like the parents or other support partners (Patterson et al., 2019).

It becomes more challenging and difficult for the nursing students who didn't make an individual choice for nursing as their career but rather as a requirement by their next of kin and the financial supporters during the training (Black, 2019). Blacks justifies that such students who are forced into the career might opt not to value their clinical learning terming it as very frustrating environment.

According to Mervat and Youssef (2018), highlights on gender issues in the nursing profession whereby some communities link the profession to feminine has had a negative impact on effective clinical learner support. In this communities there is pronounced stigmatization of the male students who choose to pursue the career that is strictly linked with femininity, affecting the male gender students' clinical learning negatively (El Dahshan & Youssef, 2018).

Male students encounter several challenges due to being minority in female oriented nursing field. However, being aware of this they seem to be less burdened with stereotyping and discrimination that happens in the clinical practice sites to ensure they learn effectively (Prosen, 2022).

Mclaughlin et al. (2010) raises concerns on issues of gender in different occupations to include nursing career. Gender can interact with career choice and aspirations in many ways. It can mark and individual out of the nursing career context. The female nursing student is unremarkable in the clinical sites while the male nursing student most of the time is referred to as the "Male student". The remark makes the male nursing students feel isolated and lonely, the feeling creating a negative impact on their effective clinical learner support.

In the most recent decades, the number of males joining the nursing profession has increased. Despite the increase in male nursing students joining the trainings the

number of male nurses has remained low. What could be attributing to these low numbers of male nurses? Some of the factors attributed to these is a high rate of male nursing student drop out of the training because of lack of support especially in Western and African countries. In Asian countries the low numbers of male nursing students are attributed to cultural differences, strong social stigma, discrimination and prejudice towards the male student nurses. In this is case then the male nursing cannot get adequate support towards their effective clinical learner support (Shim & Park, 2023).

Lack of finances and other social issues about nursing students affect effective clinical learner support because this creates psychological problems. Parent's economic status affects clinical practice because lack of money causes inability to afford payment for placement sites fees, cater for learning materials, transport and other personal needs to include school fees (Gemuhay et al., 2019).

Other student related factors that include age, previous learning experiences, anxiety that comes with making a mistake leading to patient demise or complications and conflicts with relatives. This makes it difficult for the learner to transit from one stage to another (Wu et al., 2021). The issues with proper orientation programs in the clinical sites are key. Orientation programs helps in determination of the student's characteristics and discuss their objectives that enable quick adaptation and settling in the clinical area (Laugaland et al., 2021).

Challenges to effective clinical learner support among nursing students has closely been linked to poor communication with clients/ colleagues and other team members in the clinical areas (Cohen et al., 2019). Hashemiparast et. al. (2019) in their study of exploring the barriers of utilizing theoretical knowledge in clinical settings: 'A qualitative study,' Students' attitudes is significantly pointed out as a hindarance to

critical thinking which is key to effective clinical learner support. Most of the students are resistant to competency based or learner centered method but prefer the faculty to deliver the contents that makes it easier for memorization and challenging in application in practice.

Tornwall (2018) promotes peer learning and assessment that provides more practice opportunities and peer feedback. Peer assessment should be emphasized on to promote learner centered learning and enhance clinical learner support that integrates instructional practice throughout the program. Bishop et al. (2019) emphasizes on peer learning for the students who are comfortable. However, he encourages professionalism on how to handle each other and referral to the mentors and faculty members to avoid diagnosing challenges at the summative assessment. Lerchenfeldt et al. (2019) in the study based on the utilization of peer feedback during collaborative learning in undergraduate medical education:' a systematic review', students evaluated peer learning as having challenges of lack of professional values and insight to make accurate evaluations.

2.4 Practice Sites Related Factors that Affect Effective Clinical Learner Support Among Nursing Students in the Middle Level Colleges in Nairobi County

Theory-practice integration sustains effective clinical learner support for, it drives the best practice. One of the barriers to theory-practice in clinical nursing learning is lack of standardized operational procedures in different clinical sites. These occurs due to different types of patients and availability of the resources (Prosen, 2022). The vital attributes that enhances clinical learner support are: the physical space where they practice the skills, psychosocial and interaction factors that should be stress free, organizational culture with its policies and guidelines, learning materials resources that are adequate and friendly (Lungu et al., 2021).

Mohammed Idris et al. (2023) pointed out that the clinical learning environment plays a vital factor affecting effective learner support. The supportive environment encourages the students to be independent and contribute to students positive learning and emotional well-being. Some issues that prevent clinical learner support include lack of resources, lack of diversity of patient cases and high number of students in one clinical site. The students are mostly left unsupervised leading to adverse incidents to the patients The adverse effects demoralize the students and sometimes leads to punishments that affects the students' effective clinical learner support. Having good interpersonal communication, adequate number of students in the clinical practice sites and proper supervision ensures effective clinical learner support.

Student overpopulation in the clinical sites makes it difficult for the learner and the clinical supervisors to engage and enhance effective learning. The nurses prioritize patient care and meeting of their objectives especially when they have very sick patients as compared to student mentorship and teaching of the students (Drasiku et al., 2021). When student numbers are high in the clinical areas it means student-preceptor ratios will be higher than required for supervision hence affecting effective clinical learner support a good example being Kenyatta National Hospital (Ziba et al., 2021).

Clinical sites are complex atmosphere involving staffs, educators, patients and their relatives that surround the nursing students that can either improve or hinder their effective clinical learner support. It is the responsibility of the faculty members from the training institution to select and allocate the nursing students to appropriate clinical sites to ensure effective clinical learner support. The clinical sites should be based on cost effectiveness with specific health facilities. Student reported about unsupportive and unprofessional staff behaviors like disrespect to learners, lack of co-operation and

lack of competence that affects their effective clinical learner support (Berhe & Gebretensaye, 2021).

Students stated that they did not see very complex medical devices or conditions in their primary training institutions. It was, therefore, an opportunity to find these conditions and devices in the other learning sites where they were placed for their effective clinical learner support (Gcawu et al., 2021). Procedure standardized through the prescribed NCK manual and training files, standard operational procedures in the clinical areas greatly contribute to effective clinical learner support. The major challenge towards skills learning and development is use of shortcuts in carrying out of the procedure (Kaliyangile, 2020).

Effective clinical learner support is attributed to the clinical learning atmosphere, ward manager leadership style and the relationship between the supervisor, the students and other staffs in the clinical sites. Regular meetings with the supervisor and the learners create a conducive environment that enables the learners to improve on their skills on day to day leaning (Ziba et al., 2021, Launer, 2019, Ekstedt, 2019).

The global standard according to World Health organization (WHO) of patient safety, quality care and nursing leadership urges the countries to have a high number of specialized trained nurses who can mentor the students in the clinical sites (Atakro et al., 2019).

Despite having the prescribed NCK manuals that standardize the procedures different facilities embrace individualized standard operational procedures that suit their clientele making it difficult for the students to learn in different institutions (Gcawu et al., 2021).

2.5 Factors Related to Primary Training Institutiton that Affect Clinical Learner Support Among Nursing Students in the Middle Level Colleges in Nairobi County

The training institution curriculum should clearly stipulate the allocated hours to specific placement sites to ensure effective clinical learner support for the nursing students in all the reccomended areas. Continuos feedback to the students by the faculty members, mentors and supervisors for student self improvement should be encouraged, unfortunately this is usually missed out (Steinert, 2019).

Factors that influences student nurses effective clinical learner support can be grouped into three main domains namely: the student, the clinical facilitators, the senior managers, facultiy, clinical instructors and mentors and the last domain focussing on clinical learning environment that promotes effective clinical learner support (Mohammed Idris et al., 2023). The current digital era and emerging education technology should be employed ensuring effective clinical learner support among the nursing students (Snell et al., 2019).

The same sentiments on digital era has been echoed by the training teams on how to handle and effectively teach the students with the updated practices in the clinical placement. Faculty members need to be trained on technology and other emerging techniques in the diversified world (Dogra & Carter-Pokras, 2019). Most of the time the faculty members are left out on the update of innovative teaching in the clinical areas. This makes it challenging to implement the innovative stratergies on Evidence Based Practice (EBP) (Skela-Savič et al., 2020).

Alsayed et al. (2020) Technology allows the learner to access a range of websites that enable sound clinical decisions and documentation that is channeled towards the safety of the patients. Integration of technology usage in the clinical sites drives innovative

ideas that support effective clinical learner support. Despite the notable benefits of technology use in the clinical sites there are challenges associated towards it. Senior managers and educators associate technology with disruptions in the clinical sites. Further challenges are related to hardware and software issues, data security and lack of face-to-face interaction with the learner.

Virtual patient simulation provides learners with interactive way to experience virtual clinical scenarios. There is a wide selection of patient scenarios to support effective clinical learner support. The current immerse virtual reality simulation is an advanced technology that provides a three-dimensional experiential simulation that replicate real life experience that once used for teaching it makes it effective in clinical learning hence support (Choi et al., 2021).

According to Wood (2019), the highly competent learners and teaching staffs in the clinical areas are not only knowledgeable but they are capable of bringing out positive attitude to effective clinical learner support with an ability to empathise with their students and a desire to see them improve. In the modern health care practice, Interprofessional education (IPE) is highly recommended to enhance effective clinical learner support. IPE helps the student nurses to achieve the clinical competencies that are relevant to their nursing career (Freeth et al., 2019).

Appiah (2020) brings out the issue of aging faculty posing a challenge of the age difference between the trainee and the educator. Age can highly affect communication skills, self-expression during clinical learning, availability and accessibility that may affect students learning. In this case communication styles that should be maintained between staff and students should encourage student effective clinical learner support (Labrague et al., 2019).

Identification of weak and struggling students in early stages of the training should be the first step and measures should be put across on how to support them in the clinical learning. Each student nurse should be considered as unique and employed of different measures to the student to ensure successful clinical learning (Cohen et al., 2019). Despite availability of the skills laboratory and learning through simulation, the students still rely highly on the faculty members for their skills practice. This leads to delay in skills learning and acquisition of competencies (Tuomikoski et al., 2019).

The institutional and the regulatory body checklists should be frequently structured to be more reliable with the best rating scale. Technical skills, such as taking blood pressure or performing resuscitation, can easily be tested with checklists, whereas more complicated skills, such as short patient biodata, seem to be better tested with rating scales. Many nursing training institutions embrace short skills station in early year of training and longer skills station in late year of training to enhance effective clinical learner support during the Objective Structured Practical Examination (OSPE). Objective Structured Clinical Examination (OSCE) should be employed in combination with other clinical learning methods for certification purposes. OSCE when utilized alone it is not desirable for the sake of skills competence. Most of the nursing training institutions have solely embraced it for assessment as explained in the article: “How to Design a Useful Test: The Principles of Assessment” (Schuwirt & Van der Vleuten, 2018).

2.6 Student Nurses' Perception to Existing Clinical Learner Support Systems in their Respective Institutions Among Nursing Students in the Middle Level Colleges

Bedside clinical learning has been advocated to be mostly used in student nurses' effective clinical learner support. The students perceive that attainment of clinical learner support is important for the training colleges when bedside teaching together with simulation focusing on patient and client centered safety is applied. Motsaanaka et al. (2020) emphasizes on the issue of overcrowding in the clinical areas that negatively affects clinical learner support. In their observation it was clear that professional nurses had difficulty in managing large number of students from various disciplines, and students were competing for clinical procedures where others had no chance of performing them. Their negative experiences of overcrowding in clinical areas resulted in decreased clinical learning opportunities and most of them didn't have their clinical books signed.

Orientation schedule in the clinical areas is highly appreciated by the students, they term the process as educative that provides the safe environment for learning. For example, before they met the students on the first day, the clinical facilitators said to each other: "A lot of things are frightening in the clinical areas for the students, so you shouldn't be frightening as well with the clinical support put in place." (Elton & Borges, 2019).

2.7 Gaps Identified in Effective Clinical Learner Support

Inadequate materials and equipment to enable effective clinical learning for student nurses has come out as one of the key gaps. There are limited practice sites for nursing student effective clinical learner support. Unhealthy interpersonal relationship between the senior managers and the learners, poor communication and integration of theory to practice have been identified as some of the gaps to be addressed to enhance effective clinical learning for student nurses (Fadana et al., 2021).

Most of the primary and practice site areas lack proper plans for emerging and reemerging diseases that are likely to disrupt student nurse clinical learning. Clients' rights affect effective clinical learning for nursing students especially with increased number of students. This becomes a great challenge in applying simulation as a learning method. Embracing of home-based nursing that limits conditions found in the hospital and so limitation on effective clinical learning for some conditions like palliative and oncology, geriatric care, kidney diseases and other chronic conditions (Laugaland et al., 2021b).

2.8 Conceptual Framework

The Kolb's Theory of Experiential learning has been singled out as the most effective among many theories of learning because it explains the "intricacies and complexities of classroom teaching" (Akella, 2010, p. 100). This argument is based on theory's 'learning style inventory' which successfully informs an understanding at the critical stages of learning, explaining numerous ways by which the learners can receive and process new information (Akella, 2010; Healey & Jenkins, 2000). Hence, independent variables are taken to include the student related factors, other practice site factors and

primary institution related factors. All these attributes enable in determining changes on the dependent variable, which is effective in clinical learner support.

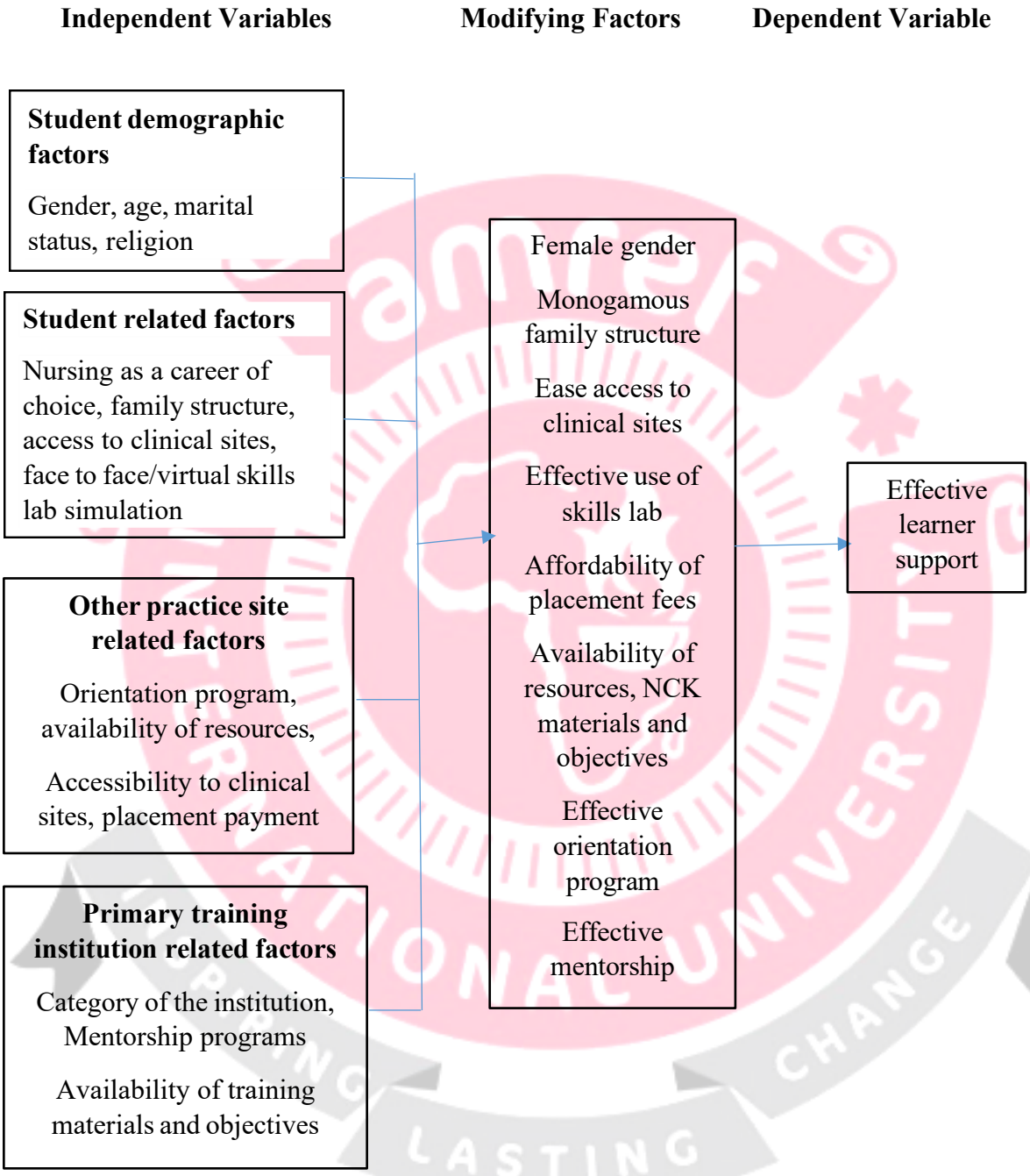

Figure 2: Conceptual framework

CHAPTER 3: METHODOLOGY

3.1 Introduction

The chapter describes the research setting including the study population, design, and data management. This chapter thus presents the proposed methodology that helped in exploring both subjective and contextual differences in nursing education based on learners' voices, knowledge, and experiences. Starting with an overview about the study area and reflections about positionality of the researcher, this chapter delves into the research design and approaches used for data collection. In this regard the chapter presents the different methods and techniques used for sampling and for analysing data.

3.2 Study Design

The study applied a descriptive design combining both quantitative and qualitative methods of data collection. The mixed methods of data collection approach were used to overcome some subtle challenges associated to confidentiality. A descriptive design allowed the data to be collected at only one point in time, thus making it cost effective and efficient in controlling the effect of confounding factors like social and environmental changes over time. Hence, this study transcends the approach for selecting methods limited to "the nature of the research problem" Edström et al. (2015) but also analysed the population context by focusing on the best interest of the intended audience, being middle level training nursing students. This ensured that the research process was rigorous enough by applying a design that is participant centred.

The design was therefore, transformative, drawing on the experiences of the middle level institutions nursing students as the source of empirical evidence for drawing conclusion (Etikan & Bala, 2017). Adopting descriptive cross-sectional research design

approach, therefore, helped in generating primary evidence on how the trainees engage differently in the middle level colleges all of which offer diploma in nursing.

3.3 Study Area: Nairobi County Middle Level Nursing Training Institutions

In the Kenyan context, health training institutions are linked to the healthcare facilities across the country. In Nairobi County there are twelve (12) clusters of middle level nursing training institutions. These institutions are spread across the seventeen sub-counties of Nairobi County.

Table 1: List of Middle Level Colleges in Nairobi County

No.	Name of the nursing school	Subcounty
1	Catherine McAuley Nursing School	Starehe
2	Amref Nursing School,	Langata
3	Pumwani School of Nursing,	Kamukunji
4	Gertrude's Children Hospital School of Nursing	Westlands
5	Nairobi Women's Hospital College	Dagoretti North
6	Mathare Campus Kenya Medical Training College	Kasarani
7	St. Francis Kasarani Nursing	
8	KNH Nursing School	Kibra
9	Kenya Medical Training College	
10	Armed Forces Nursing Training School,	
11	Cicely Mc-Donell College of Health Sciences	
12	Karen Medical Training College	

Extracted from the Nursing Council of Kenya (NCK) portal (Nov. 2021)

All these training institutions contribute the entire workforce for both public and private healthcare staff which is estimated at 3,290 personnel in Nairobi County (Kumar et al.,

2021, p. 3). Among this workforce in Nairobi the technical staff are estimated to be 2604 which constitutes 79% of the County health care workforce. According to Kumar et al., (2021, p. 3) “the technical staff mainly comprise general doctors and specialists, nurses, clinical officers, public health officers, and laboratory technologists/technicians”.

3.4 Study Population

The population for this study comprised of the students enrolled in the middle level Nursing Colleges in Nairobi County cutting across the privately/faith based owned and the public training institutions. The population of this study comprised of the twelve (12) middle level colleges for nurse trainings in Nairobi County.

Table 2: Student Population in the Middle Level Nursing Colleges in Nairobi County

No.	Name of Institution	Number of Students
1	Catherine McAuley Nursing School	217
2	Amref Nursing School	600
3	Armed Forces Nursing Training School	80
4	Pumwani School of Nursing and Midwifery	55
5	Cicely Mc-Donell College of Health Sciences	240
6	Karen Medical Training College	110
7	Gertrude's Children Hospital School of Nursing	38
8	Nairobi Women's Hospital College	68
9	Mathare Campus Kenya Medical Training College	360
10	Kenya Medical Training College- Nairobi Campus	1200
11	St. Francis Kasarani Nursing School	120
12	KNH Nursing School	280
	Total	**3,368**

The public training institutions include the KNH Nursing School, the Kenya Medical Training College - Nairobi Campus; Mathare Campus Kenya Medical Training College; Pumwani School of Nursing and Midwifery; and the Armed Forces Nursing Training School. The privately-owned training institutions include: Karen Medical Training College; Cicely Mc-Donell College of Health Sciences; and Amref Nursing School, St. Francis Kasarani Nursing School and Catherine McAuley Nursing School.

3.5 Inclusion and Exclusion

3.5.1 Inclusion Criteria

These included the students in middle level colleges in Nairobi County who presented during the time of study. All students involved in the study were considered to have done at least one formative clinical assessment. Students who had rotated in at least three clinical sites.

3.5.2 Exclusion Criteria

The group of students who were excluded were the entry level learners.

3.6 Sampling Frame

The study population of students from 12 middle level training colleges comprised of 3,368 possible participants. The table below reorganizes the population frame according to each cluster that provided the ration of selecting the sample size.

Table 3: Sampling Frame from Clustered Population Size

Name of Institution	**Number of Students**
Cluster 1: Private/Faith based institutions	
Catherine McAuley Nursing School	**217**
St. Francis Kasarani Nursing School	**120**
Amref Nursing School	**600**
Cicely Mc-Donell College of Health Sciences	**240**
Karen Medical Training College	**110**
Gertrude's Children Hospital School of Nursing	**38**
Nairobi Women's Hospital College	**68**
Sample frame 1 – Private and Faith based institution cluster	***1,393 (41.36%)***
Cluster 2: Public institutions	
Mathare Campus Kenya Medical Training College	**360**
Kenya Medical Training College- Nairobi Campus	**1200**
KNH Nursing School	**280**
Armed Forces Nursing Training School	**80**
Pumwani School of Nursing and Midwifery	**55**
Sample frame 2 – public institution cluster	***1,975 (58.64%)***
Total	**3,368**

The sampling frame, therefore, comprised of two clusters divided into public institution cluster 1,975 (58.65%); Private/Faith based institution cluster 1,393 (41.36%). It based on these percentages that the individual respondents were distributed.

3.7 Sampling Technique

Drawing from the population of students in the twelve middle-level (diploma) training colleges, the sampling frame was taken to comprise of 3,368 possible participants. It is the clustered population framework that defined the sampling frame upon which the sampling design was applied. The table for the study population reorganized the population frame according to each cluster that provides the ration of selecting the sample size. The sampling frame, therefore, comprised of public institution cluster 1,975 (58.65%); Private and Faith institution cluster 1,393 (41.35%). It is based on these percentages that the individual respondents were distributed.

The study used “the mixed sampling design”. This sampling design comprised of a blend of both probability; simple random sampling and non-probability; purposive sampling technique for the selection of a sample. The use of probability simple random sampling methods in this study helped in dealing with quantitative data by enabling a smooth “selection of moderately great number of units from a population” (Aldiabat & Le Navenec, 2018, p. 246). Etikan and Bala (2017), also argue that such sampling techniques enables clear determination of “every element of the population”. The sampling frame was picked from the class registers that were provided by the primary training institutions. Hence, all the quantitative data participants were selected through the simple random sampling technique as the first step of sampling the nursing students in the middle level colleges.

Secondly, the study also used non-probability (purposive) sampling to complement the probability sampling, as a means of bringing about the "deviant or extreme location of cases where by selection is done best on specific purpose of interest instead of deliberate selection" (Etikan & Bala, 2017, p. 3). The researcher applied purposive sampling in selecting the participants for Focused Group Discussions. Where two (2) FGDs were carried out, the researcher purposely classified them into two (2) groups of male and female gender. This sampling design helps in purposively selecting the respondents for qualitative data.

3.7.1 Sample Size Determination

The sample size for this study was determined by the Yamane (1967) formula based on the population size of 3, 368. Since the population size was known, the sample size was derived as follows:

$$\boldsymbol{n} = \frac{\boldsymbol{N}}{\mathbf{1} + \boldsymbol{N}(\boldsymbol{e}\mathbf{2})}$$

Where: n was the sample size to be determined

N is the Population as given in the sample frame (3,368)

e is the sampling error (0.05)

$$\boldsymbol{n} = \frac{3368}{\mathbf{1} + 3368(0.05^2)}$$

$$\boldsymbol{n} = \frac{3368}{\mathbf{1} + 8.42}$$

$$\boldsymbol{n} = 357.54$$

The sample size based on the known population gave n=357.54 participants. To cater for non-response, this sample size was adjusted by 10% non-response to a sample size of 357.54*1.1=393.3, which was rounded up to the nearest person n=394.

The distribution of sample size across the 12 middle level training institutions was done by Probability Proportional to Size (PPS) as follows:

Table 4: Distribution of PPS Sample

Name of Institution	Number of Students	Sample proportion	Sample size by institution
Cluster 1: Private institutions			
Catherine McAuley Nursing School	**217**	**6.4%**	**26**
St. Francis Kasarani Nursing School	**120**	**3.6%**	**14**
Amref Nursing School	**600**	**17.8%**	**70**
Cicely Mc-Donell College of Health Sciences	**240**	**7.1%**	**28**
Karen Medical Training College	**110**	**3.2%**	**13**
Gertrude's Children Hospital School of Nursing	**38**	**1.1%**	**4**
Nairobi Women's Hospital College	**68**	**2.0%**	**8**
Sample frame 1 – Private/Faith based institution cluster	***1,393***	***41.4%***	***164***
Cluster 2: Public institutions			
Mathari mental and teaching nursing school	**360**	**10.7%**	**42**
Kenya medical training college- Nairobi campus	**1200**	**35.6%**	**140**
KNH nursing school	**280**	**8.3%**	**33**
Armed Forces nursing training school	**80**	**2.4%**	**9**
Pumwani school of midwifery	**55**	**1.6%**	**6**
Sample frame 2 – Public institution cluster	***1,975***	***58.6%***	***230***
Total	**3,368**		**394**

3.8 Data Management

All the data was collected for a period of 60 days to capture quantitative data, qualitative data. The data sets thus were gathered through researcher administered questionnaires

and Focus Group Discussions (FGDs). The qualitative data sets directly from the phones where it is uploaded onto the cloud server hosted by the researcher. All the data was then stored in the researcher's computer that is protected by a password only to be accessed by the researcher.

3.8.1 Data Collection Tools

The following tools were used:

Questionnaire: a survey tool was constructed and pre-tested in one of the middle-level (diploma) training institution. After the pretest the tool was modified as per the input given to give the reliable and valid results upon use to collect quantitative data. The questions asked covered information about factors that affecting student nurses related to their effective clinical learner support during the training. The survey tool also captured the practice site related factors affecting the nursing students' effective clinical learner support. Subsequently, the tool helped in determining nursing students' perception to the existing clinical learner support systems that affecting effective clinical learner support.

Focus Group Discussion: Discussion guide was applied to collect additional qualitative information to corroborate all information about all the research questions. At least one question was asked focusing on each of the research objectives to explain the statistics. Unlike the questionnaires, an exhaustive and in-depth focus group discussions were conducted in person by the researcher. Only a few institutions with smaller proportions of sample size were targeted for one-on-one interviews with group of students. Because it is interactive and exploratory, this method of data collection allowed the participants to express their views and observations freely, resulting in a deeper understanding of the implementation issues and challenges. The questionnaires were administered in all institutions in which more than ten (10) students were sampled.

FGDs composed of 6-10 participants each. In cases where two (2) FGDs were planned in an institution, same gender (male and female) groups were convened. Otherwise, where only one (1) FGD was conducted per institution, it comprised of mixed gender groups of learners.

Table 5: Sample Size by each Tool of Data Collection

Name of Institution	Sample size by institution	Survey participants	FGD
Cluster 1: Private Institutions			
Catherine McAuley Nursing School	**26**	**10**	**2 (8participants)**
St. Francis Kasarani Nursing School	**14**	**14**	**-**
Amref Nursing School	**70**	**50**	**2 (10participants)**
Cicely Mc-Donell College of Health Sciences	**28**	**28**	**-**
Karen Medical Training College	**13**	**13**	**-**
Gertrude's Children Hospital School of Nursing	**4**	**-**	**-**
Nairobi Women's Hospital College	**8**	**-**	**1 (8participants)**
Sample frame 1 – Private institution cluster	***164***	***115***	***48***
Cluster 2: Public Institutions			
Mathari Mental Teaching and Referral Nursing School	**42**	**34**	**1 (8participants)**
Kenya Medical Training College-Nairobi Campus	**140**	**124**	**2 (8participants)**
KNH Nursing School	**33**	**33**	**-**
Armed Forces Nursing Training School	**9**	**-**	**1 (9participants)**
Pumwani School of Nursing and Midwifery	**6**	**-**	**1 (6participants)**
Sample frame 2 – Public institution cluster	***230***	***191***	***39***

3.8.2 Data Cleaning and Analysis

i. **Data Tracking and Cleaning:** The questionnaires were checked to ensure completeness. The qualitative data was transcribed into a word document then transferred to Excel. The data was further analyzed using SPSS version 28 and NVivo version 10 and Chi square.

ii. **Data Analysis:** Quantitative data was analyzed using statistical techniques, based on SPSS to derive both descriptive and inferential statistics. Quantitative data was converted first in excel then transferred into an SPSS template. The data was first presented in form of descriptive in terms of percentages. Chi-square test of independence was then calculated at p value of <.05, significant factors after crosstabulation were then entered into binary logistic regression analysis stepwise followed by multivariate analysis to adjust for confounding factors. The cleaned data was summarized and presented in form of tables, graphs and charts. On the other hand, qualitative data from group discussions was converted into verbatim. During thematic analysis emerging teams were incorporated in the quantitative data in form of narrations. The thematic framework was then systematically applied to all the interview transcripts. Patterns and associations of the themes were identified and compared within and between the different groups of respondents and primary training institutions to enhance triangulation of data.

3.8.3 Data Presentation

Data was presented during the report writing by use of tables, bar graphs, pie charts and histograms was used to present continuous and discrete data.

3.8.4. Dissemination of Findings

The findings from the study were disseminated through continuous professional education seminars, conferences both internal and external. The results are also be shared with relevant bodies in form of reports. Publication and intellectual outputs with cited data sources will also be made available.

3.9 Ethical Considerations

This study was be guided by the "do no harm" principle while engaging with different groups of students. A broad set of considerations, including Ethics Clearance by the Amref International University, seeking approval by applying for the research permit from National Commission for Science, Technology, and Innovations (NACOSTI) before starting the study. Subsequently, consent granted enabled me as a researcher to access nurse training institution and reach the participants that I have sampled to collect data.

It follows therefore, that adequate procedural safeguards, which include "procedures for making informed consent, to observe confidentiality, and to ensure safety of both the researcher and the research participants" was observed (Ouma et al., 2021).

The participants were made aware that they were free to pull out from the study if they felt insecure with no victimization. Likewise, the participants were informed in advance that there was no compensation for any participants and the process was purely on voluntary basis.

3.10 Limitations and Delimitations

The study used descriptive design which might not fully have represented the true picture in private/faith based and county/public institutions. Some of the respondents were not willing to give responses despite assuring them of anonymity, at the same time respondents took long with the feedback, hence delaying the study. The researcher was forced to make more frequent visits to the institutions to be able to administer the questionnaires. In this case the questionnaires were also distributed in during the times that the students were free especially in the evening after most of the classroom teaching were completed. Despite informing the participants that the study was purely voluntary

with no incentives to be paid, some demanded for the payment before participating in the study. The researcher had to work closely with their faculty members to keep repeating the importance of the students to participate in the study. One of the importance is that the study findings were to be used to generate evidence-based information in improving clinical learning. In addition, the researcher had to take a few moments to teach the students on ethical considerations in research. The talks on ethical considerations were very fruitful and this enable the researcher to collect the data to completion. Different institutions sampled didn't give the timely approval hence this forced the researcher to a make more frequent physical visits and appointments to get the approval done. However, the delays in these institutions didn't go beyond two (2) weeks as per the timeframe that the researcher had to guide the work.

The study bias was minimized by use of random sampling techniques and application of PPS in selecting the participants. The students were encouraged to give the feedback as per the current status and not as per the previous experience to minimize bias especially those pursuing the post basic diplomas.

CHAPTER 4: RESULTS

4.1 Introduction

The chapter presents the research findings of the study with reference to specific research objective as listed in chapter one. First the study sought to study the demographic characteristics of the participants and their association with effective clinical learner support, and this is presented in section 4.2. Section 4.3 presents data for objective one, student related factors that determine effective clinical learner support. Section 4.4 presents data for objective two, clinical site practices related factors that determine effective clinical learner support. Section 4.5 presents data for objective three, primary training institution related factors that determine effective clinical learner support. Section 4.6 presents data for objective four, how the students' perception of the clinical sites affects effective clinical support in their training institutions. Section 4.7 presents summary of determinants of effective clinical learner support. The response rate was 96% for the study. The level of effective learner support was assessed based on Kirkpatrick's model for evaluating results of clinical learning.

Table 6: Kirkpatrick's Model for Evaluating Effective Clinical Learner Support

Evaluation Category	**Learner support factor**
Program objectives	I understand the clinical learning objectives I'm able to relate each learning objective to its achievement I appropriately feel challenged by the learning cases in the clinical areas
Course materials	I easily access the learning materials as required NCK I find course materials for clinical learning easy to navigate and understand
Content relevance	I'm able to apply objectives during continuous clinical learning
Mentorship/preceptors and other staff support	Learning is enhanced by the mentors, preceptors and clinical instructors Learning is enhanced by faculty frequent visit in the clinical sites

The learner answered either "Yes" or "No" to the above clinical learner support factors then the results were converted into percentages and rated. The results were categorized into high (64 and above scores), moderate (Between 31-63 scores) and poor below 30 scores. However, the majority of the students reported that the level of clinical learner support was high at 79.5% (n=302).

4.2. Demographic Characteristics of the Study Participants

The study gathered information on the demographic characteristics of the targeted nursing students on their age, gender, year of study, level of study, religion and marital status.

4.2.1 Age of the Respondents

The age of the student was collected as a continuous variable with a mean of 23.49 and later after data collection was categorized into age brackets. Figure 1 indicates that the age of the student was rounded up in complete years and categorized as shown. It was found that the nurse students had varied ages. Majority (66.6%, n=253) were aged between 21-30 years, 19.2% (n=73) had an age above 30 years, while 14.2% (n=6) were aged 20 years and below. There was no available information or reason for this big gap in terms of number of respondents in this age category.

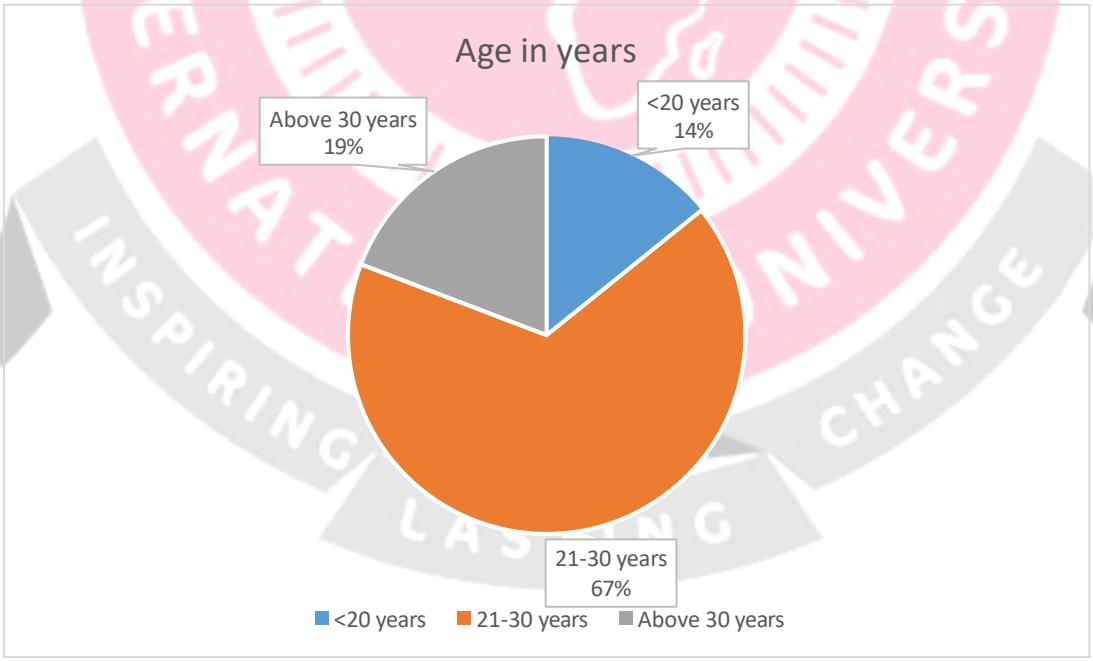

Figure 3: Age of the Participants

4.2.2 Gender of the Participant

The participants were asked to report on their sex and majority (57.6%, n=219) reported to be female, with 33.4% (n=127) reported to be male and the transgender was represented by 8.9% (n=34).

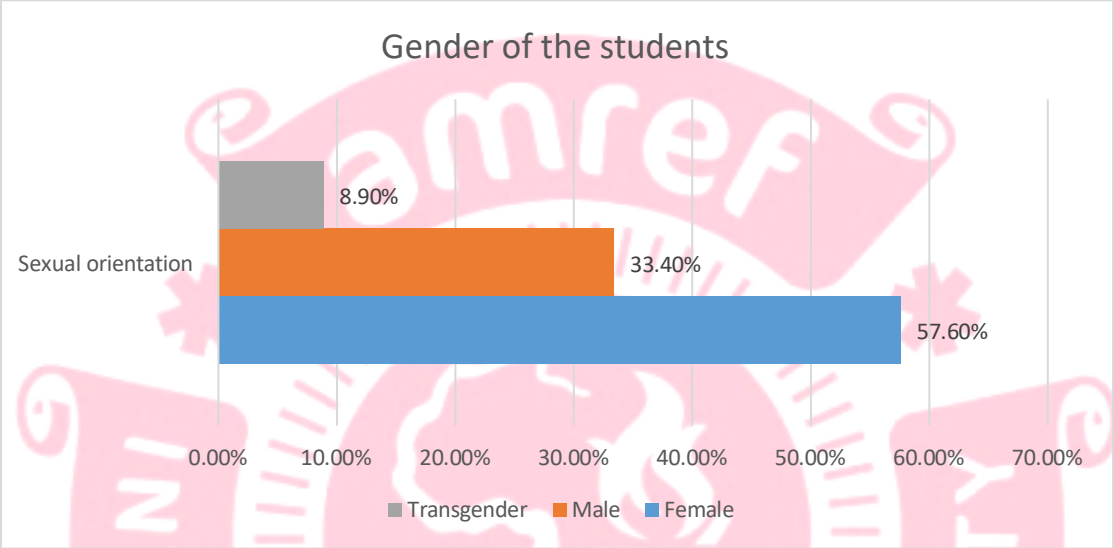

Figure 4: Gender of the Participants

4.2.3 Marital Status of the Students

The students reported varied status with the majority (38.2%, n=145) reporting to be single, 33.4% (n=127) were married, and those who were separated, and others represented by 14.2% (n=54) each respectively. The summary is shown in figure 5.

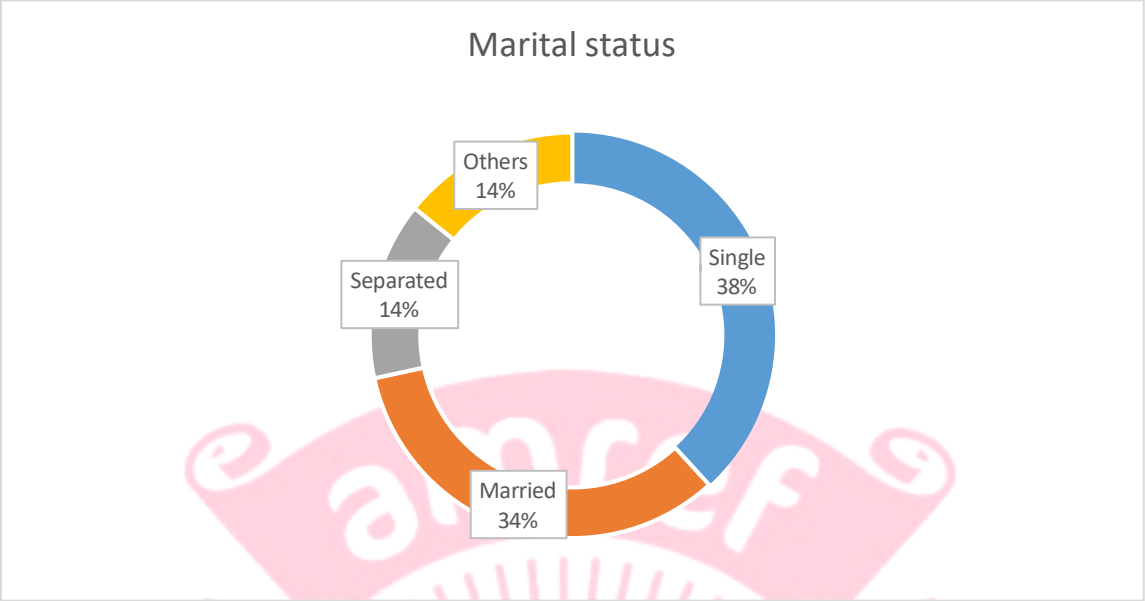

Figure 5: Marital status of the students

4.2.4 Religion of Affiliation

The majority of the students (85.8%, n=326) reported to be Christians. This included those who are affiliated to catholic, Pentecost, full gospel, Seventy-Day Adventist, and other Christian associated religion. A few (14.2%, n=54) reported to be Muslims as indicated in Figure 6.

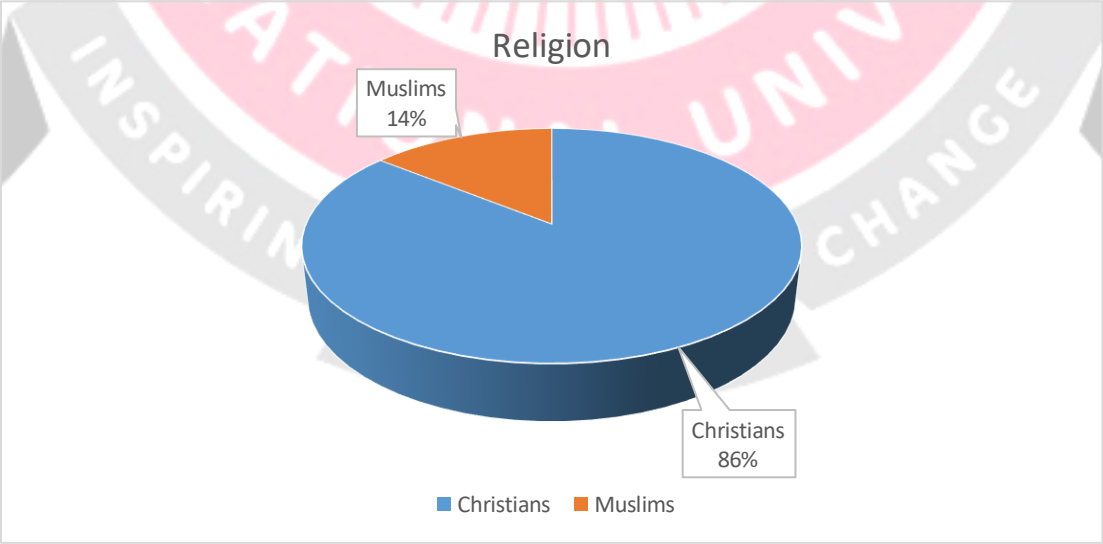

Figure 6: Religious Affiliation

4.2.5 Level of Study

The students were assessed on the level of training. The majority (61.8%, n=235) were taking basic training in nursing, with 38.2% (n=145) undertaking a higher diploma in nursing.

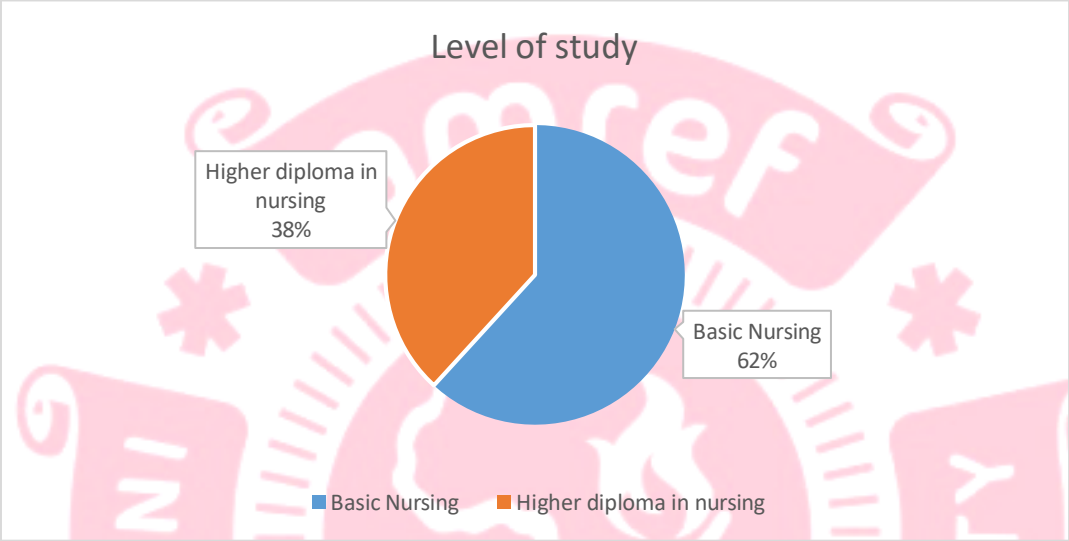

Figure 7: Level of Study

4.2.6 Year of Study in Training

Majority of the students (52.4%, n=199) were in year two while 28.4% (n=108) were in year one with 19.2% (n=73) who reported to be in year three as indicated in Figure 6.

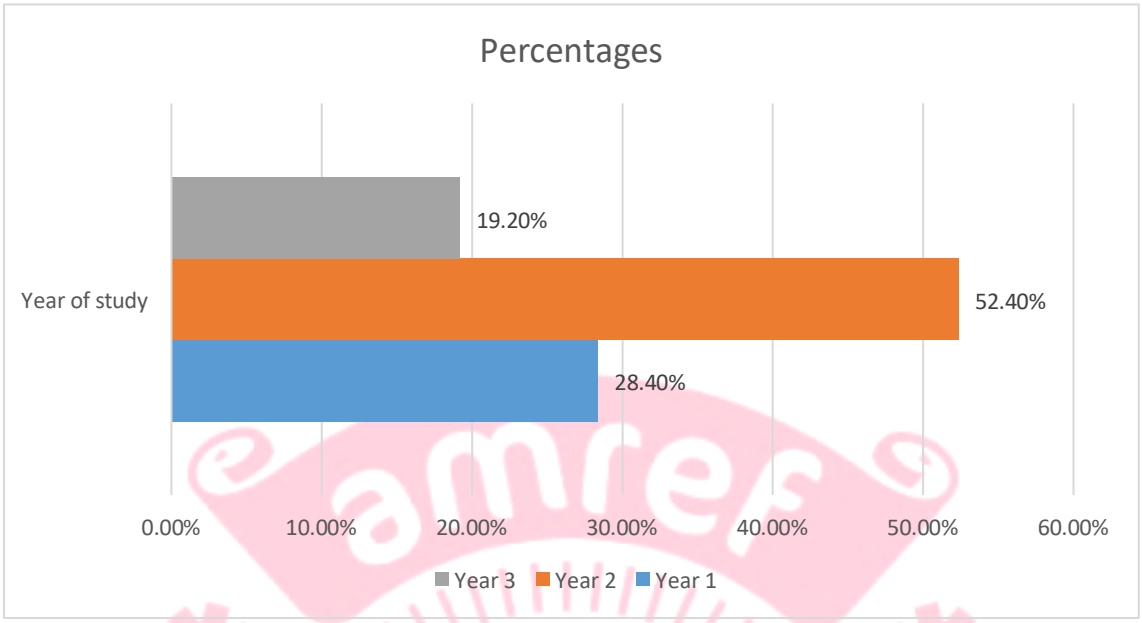

Figure 8: Year of Training

On cross tabulation of these results with effective clinical learner support, it was found that gender of the participant was significantly associated with effective support. The female gender was more likely to learn effectively than the male and transgender. All the other variables were not significant.

Table 7: Demographic Data

Variable	Category	Level of effective clinical learning		df	P value & Chi-square
		Moderate	High		
Sex of the participant	Female	34	185	2	**P=.006** χ^2=10.40
	Male	38	89		
	Transgender	6	28		
Age	<20	10	44	2	P=.352 χ^2=10.40
	21-30	57	196		
	>30	11	62		
Marital status	Single	35	110	3	P=.453 χ^2=2.08
	Married	21	106		
	Separated	10	44		
	Other	12	42		
Religion	Christian	66	260	1	P=.739 χ^2=.111
	Muslim	12	42		
Level of study	Higher Diploma	35	110	1	P=.171 χ^2=1.875
	Basic diploma	43	192		
Year of Study	First	20	88	2	P=.422 χ^2=1.726
	Second	39	160		
	Third	19	54		

4.3 Student Related Factors Determining Effective Clinical Learner Support

All the students reported that they had chosen nursing as their career of choice. None reported to have been influenced by family, friends or parents. However, 19.2% (n=73) had consulted their parents for them to make an informed decision with 80.8% (n=307) making personal choice. The findings indicated that the majority of students (66.6%, n=253) clinical learning was affected by skills lab simulations, they did nor perfect the skill before proceeding to clinical area, therefore, felt incompetent to learn the skills on real patients. However, in the clinical area 81.1% (n=308) reported that they had been allocated clinical mentors. Despite the allocation of the clinical mentors some students had never seen or met their clinical mentors.

Since clinical area is a learning site, 76.1% (n=289) of the students reported to have made mistakes while handling the patients. It was reported that majority (85.8%,

n=326) of the students were working under supervision from a qualified nurse. During the clinical placement, clinical site fee was catered for by students. Relatively, some students paid for clinical area on their own, some were paid for by their parents and others by their guardians at 33.4% (n=127), 33.4% (n=127) and 33.2% (n=126) respectively. The study found out that majority of the students (85.8%, n=326) came from monogamous families.

The students reported to be motivated to pursue nursing profession so that they can work abroad while others were motivated by the fact that after training, they will get a ready job market for them. The findings indicated that nursing career pays well and has employment guarantee as indicated by 33.2% (n=126) and 33.4% (n=127) respectively. On the means of transport to clinical area, majority of the students (57.1%, n=217) reported to be dropped in the clinical site by the college bus while others were either using public means (23.9%, n=91) and motorbikes (18.9%, n=72) respectively.

Table 8: Student Related Factors

Variable	Category	Frequency	Percentage
Do you consider nursing as your career of choice	Yes	380	100
What informed your decision to do nursing	Parents decided	73	19.2
	Personal choice	307	80.8
Skills lab simulations affect the quality of practice in the clinical area	Yes	253	66.6
	No	127	33.4
Students are assigned mentors/ preceptors while in the clinical area	Yes	308	81.1
	No	72	18.9
Students are allowed to make mistakes in clinical practice	Yes	289	76.1
	No	91	23.9
Students always work under supervision	Yes	326	85.8
	No	54	14.2
Who meets the training cost at the clinical area	Individual student	127	33.4
	Parents	127	33.4
	Guardians	126	33.2
Family structure	Monogamous	326	85.6
	Polygamous	54	14.2
What motivates the student to pursue nursing	It pays well	126	33.2
	To work abroad	54	14.2
	To help people	73	19.2
	Employment guaranteed	127	33.4
Means of transport to clinical area	College bus	217	57.1
	Public means	91	23.9
	Motorbikes	72	18.9

On calculation of Chi-square test of independence, it was found that quality of skills lab simulations, students working under supervision, means of transport to clinical area site were significantly associated with effective clinical learner support at $\chi^2(1, N=380) = 14.68, p<.001$, $\chi^2(1, N=380) = 22.07, p<.001$, $\chi^2(2, N=380) = 8.14, p=.017$ respectively. The other factors were not statistically significant.

Table 9: Primary Institution Related Factors

Variable	category	Level of effective clinical learning		df	P value Chi-squar
		Moderate	High		
What informed students' decision to do nursing	Parents decided	16	57	1	P=.743 χ^2=.11
	Personal choice	62	245		
Skills lab simulations affect the quality of practice in the clinical area	No	41	89	1	**P<.001** χ^2=14.68
	Yes	37	213		
Assigned preceptors in the clinical area	No	16	56	1	P=.692 χ^2=.16
	Yes	62	246		
Students are allowed to make mistakes in the clinical area	No	23	68	1	P=.198 χ^2=.165
	Yes	55	234		
Students are always supposed to work under supervision	No	24	30	1	P<.001 χ^2=22.07
	Yes	54	272		
Who meets the training costs	Individual	21	106	2	P=.299 χ^2=2.42
	Parents	31	96		
	Guardians	26	100		
Family structure	Monogamous	68	258	1	P=.693 χ^2=.16
	Polygamous	10	44		
What motivates a student to do the nursing profession	It pays well	28	98	3	P=.399 χ^2=2.95
	To work abroad	10	44		
	To help people	19	54		
	Employment guaranteed	21	106		
Means of transport to clinical area	College bus	37	181	2	**P=.017** χ^2=8.14
	Public means	28	62		
	Motorbike	13	59		

The significant factors: quality of skills lab simulations, students working under supervision, means of transport to clinical area after cross tabulation were entered into binary logistic regression and the results are indicated.

Table 10: Other placement Site Related Factors

Variable	Category	B	Wald	df	Crude odds ratio COR	Lower boundary	Upper boundary
Gender	Female	1.564	3.902	1	1.89	1.41	3.03
	Male	1.212	4.49	1	1.16	1.44	3.14
	Transgender	Reference category					
Quality of skills lab simulation affect clinical area learning	No	-.975	14.12	1	2.65	1.59	4.41
	Yes	Reference category					
Students always need supervision while working in clinical area	No	-1.39	19.98	1	4.03	2.18	7.42
	Yes	Reference category					
Means of transport to clinical area	College bus	-.075	.044	1	.928	.46	1.86
	Public means	.718	3.54	1	2.05	.97	4.33
	Motorbike	Reference category					

From the above results, only gender of the student, quality of skills lab simulation and students to always work under supervision were significant and were entered into multivariate logistic regression to adjust for confounding factors. After adjusting for confounding factors only gender of the student and student always working under supervision were found to determine effective clinical learner support.

The female gender was 5.89 times more likely to be supported in clinical area than the male gender. During group discussion, a group member reported the following

> *'while working in the ward the patients are used to calling the nurse ladies 'sister' they fear calling the male nurse students, they only call them 'daktari' this mentality makes even the male nurses to feel like nursing is for ladies. (Participant 4, Group 2)*

This was supported by another participant in another group discussion who reported that,

'……nursing is a lady's profession…. according to the uniform nurses should be wearing nurses' caps which cannot be worn by male nurses….'

(Participant 2 Group 1)

The students who were supervised while practicing were 11.89 times more likely to learn effectively compared to those who were not supervised.

Table 11: Primary Institution Related Factors

Variable	Category	B	Wald	df	Adjusted odds ratio AOR	Lower boundary	Upper boundary
Gender	Female	1.774	7.90	1	5.89	1.71	20.29
	Male	1.935	5.49	1	6.92	1.37	34.90
	Transgender	Reference category					
Quality of skills lab simulation affect clinical area learning	No	.895	2.55	1	2.44	.817	7.32
	Yes	Reference category					
Students always need supervision while working in clinical area	No	2.47	28.92	1	11.89	4.82	29.32
	Yes	Reference category					
Means of transport to clinical area	College bus	-.200	25.92	1	.82	.39	1.72
	Public means	.082	.04	1	1.09	.47	2.51
	Motorbike	Reference category					

4.4 Practice Site Related Factors that Determine Effective Clinical Learner Support

Various aspects of clinical practice site were evaluated. Majority of the clinical practice sites (85.8%, n=326) were public health facilities, and majority of the students reported to pay for the clinical placement amount ranging from one thousand Kenyan shillings to three thousand Kenyan shillings. Majority (61.8%, n=235) were paying two thousand Kenya shillings. The frequency of the payments was varied but majority (66.8%, n=254) paid monthly. Majority of the students (81.1%, n=308) reported that they had

been allocated mentors, however, only 76.3% (n=290) who knew their mentors. Similar proportion knew the mentors or preceptors attached to them for each shift. The school faculty was found to be holding meetings with clinical preceptors to discuss students' progress as reported by the majority of the students (81.1%, n=308), this was also supported by most of the students (85.8%) who reported that their college had a training clinical coordinator in their institution. All the students were allowed to attend ward rounds in their placement facility.

Student in clinical area should be guided by clinical objective for each clinical practice site according to the nursing council of Kenya. It was found that 23.7% (n=90) students were not given their clinical area objectives before attending the clinical practice site. Despite having the clinical area objectives, more than half of the students (52.4%, n=199) reported that their mentors and the college did not hold discussions with the students on their progress in meeting the objectives neither tracking their progress in clinical area, only 33.2% (n=126) of the students reported that their skills were continuously assessed before the main assessment.

During the working sessions in the clinical sites, a larger proportion of the students (61.8%, n=235) were provided with meals and refreshments in support of their learning. This was catered for by the placement fee they paid.

Table 12: Practice Site Related Factors

Variable	Category	Frequency	Percentage
Category of primary practice sit	Public	326	85.8
	Private	54	14.2
Clinical Practice site paid for	Yes	254	66.8
	No	126	33.2
Amount paid for clinical placement	Ksh.1000	72	18.9
	Ksh. 2000	235	61.8
	Ksh. 3000	73	19.2
Frequency of paying clinical site for practice	Monthly	254	66.8
	Twice	54	14.2
	More than twice	72	18.9
Mentors are allocated to students in clinical practice	Yes	308	81.1
	No	72	18.9
Students know their mentors	Yes	290	76.3
	No	90	23.7
Students know their mentors per shift	Yes	290	76.3
	No	90	23.7
Clinical staffs hold meetings with school staff to discuss student progress	Yes	308	81.1
	No	72	18.9
The students have a training clinical coordinator in their institution	Yes	326	58.8
	No	54	14.2
Students are allowed to attend clinical ward round	Yes	380	100
Students are given clinical objectives before attending to clinical sites	Yes	290	76.3
	No	90	23.7
There are discussions and tracking progress made in meeting clinical objectives with mentors and preceptors	Yes	181	47.6
	No	199	52.4
Students are given meals and refreshments in support of their clinical learning	Yes	235	61.8
	No	145	38.2
Students skills are assessed continuously before main assessment	Yes	126	33.2
	No	254	66.8

After crosstabulation of these factors against the dependent variable: effective clinical learning, it was found that category of the primary practice site, mentors allocated to specific students in clinical area, students knowing their mentors in each shift, clinical staffs holding meetings with school staffs to discuss student progress, students' knowing their clinical objectives before going to clinical area, and students skills assessed continuously before main assessment at $\chi^2(1, N=380) = 6.96, p=.008$, $\chi^2(1, N=380) = 17.44, p<.001$, $\chi^2(2, N=380) = 12.37, p<.001$, $\chi^2(1, N=380) = 10.97, p=.001$, $\chi^2(1, N=380) = 6.49, p=.011$, $\chi^2(1, N=380) = 11.55, p=.018$, respectively.

The students who were attending their clinical placement in a private site were 6.96 times more likely to learn effectively compared to those in public clinical sites. It was noted that the students who reported that they had clinical mentors were 17.44 times more likely to get effective clinical learning compared to those who had no clinical mentors. Therefore, clinical area mentorship was key for effective clinical learning especially knowing the clinical mentors per shift which was found to promote clinical learning 10.97 times more likely.

The research found that giving the students objectives for clinical area placement before attending the placement increased the chances of clinical area learning by 6.49 times while those students who reported that their clinical skills were assessed continuously while in the placement were 11.55 times more likely to learn effective in the clinical site.

Table 13: Practice Site Related Factors Analysis

Variable	category	Level of effective clinical learning		df	P value & Chi-square
		Moderate	High		
Category of primary practice site	Private	22	135	1	**P=.008**
	Public	56	167		χ^2=6.95
Clinical sites paid for	No	26	100	1	P=.971
	Yes	52	202		χ^2=.001
Amount paid for clinical placements in Ksh.	1000	16	56	2	P=.333
	2000	43	192		χ^2=2.19
	3000	19	54		
Frequency of clinical placement fee payments	Monthly	52	202	2	P=.878
	Twice	10	44		χ^2=.26
	Thrice	16	56		
Students are always supposed to work under supervision	No	24	30	1	**P<.001**
	Yes	54	272		χ^2=22.07
Mentors are allocated to specific students in the clinical area	No	37	71	1	**P<.001**
	Yes	41	231		χ^2=17.44
Students made aware of their mentors	No	20	70	1	P=.648
	Yes	58	232		χ^2=.21
Students are aware of their mentors in each shift	No	30	59	1	**P<.001**
	Yes	48	243		χ^2=12.37
Clinical staff hold meetings with school staff to discuss students' progress	No	25	47	1	**P=.001**
	Yes	53	255		χ^2=10.97
Students have a training clinical coordinator	No	10	44	1	P=.693
	Yes	38	258		χ^2=.16
Students know their clinical objectives before accessing clinical area	No	27	63	1	**P=.011**
	Yes	51	239		χ^2=6.49
There are discussions and tracking of students' progress in meeting clinical objectives	No	37	162	1	P=.328
	Yes	41	140		χ^2=.96
Students are given meals and refreshments in support of clinical learning	No	35	110	1	P=.171
	Yes	43	192		χ^2=1.86
Students' skills are assessed continuously before the main assessment	No	38	86	1	**P=.001**
	Yes	40	216		χ^2=11.55

The significant factors after crosstabulation were entered into binary logistic regression. The factors included: category of the primary practice site, mentors allocated to specific students in clinical area, students knowing their mentors in each shift, clinical staffs holding meetings with school staffs to discuss student progress, students' knowing their clinical objectives before going to clinical area, and students' skills assessed continuously before main assessment. All of these factors were significant following binary logistic regression as indicated in Table 13.

Table 14: Practice site Relates Factors Cross Tabulation

Variable	Category	B	Wald	Df	Crude odds ratio COR	Lower boundary	Upper boundary
Category of clinical site	Private	-.722	6.79	1	.486	.282	.836
	Public	Reference category					
Students know their mentors in the clinical area	No	1.077	16.61	1	2.93	1.75	4.93
	Yes	Reference category					
Students know their mentors per shift	No	.946	11.88	1	2.57	1.50	4.40
	Yes	Reference category					
Clinical staffs meet school staffs and discuss student progress	No	.940	10.50	1	2.55	1.45	4.51
	Yes	Reference category					
Students are given clinical objectives before going to the clinical area	No	.697	6.34	1	2.00	1.17	3.46
	Yes	Reference category					
Students' skills are assessed continuously before the main assessment	No	.87	11.19	1	2.38	1.43	3.97
	Yes	Reference category					

Following multivariate logistic regression only category of clinical site, availability of mentors for students in clinical area, students knowing their mentors per shift and clinical mentors holding discussions with training institution staff on student progress were found significant as shown in Table 4.9. availability of the student mentors in the

clinical area increased the probability of effective learning by 149 times while when the students knew their mentors per specific shift the chances of effective learning was increased to 2.05 times more. During group discussion it was evident that mentorship plays an important role in effective learning in the clinical area

> *'When you have a mentor, you develop the confidence to consult on challenging procedures unlike when you just consult any staff, some staffs are good and will help while others will scorn you. Especially when working in clinical area, there is a mentor you can work with per shift and you achieve many objectives while some staffs just let you learn by yourself through trial and error'.*

(Participant 6, Group 1)

In the same discussion group, another member reported that

> *'... when training in a private clinical site, the procedures are followed as they are prescribed by the nursing training manual and standard operating procedures, while in public health facilities, the nurses use short cuts since they do not have adequate resources. This compromises the clinical learning for the students.*

(Participant 3, Group 1)

Whenever the staffs in the clinical site and those from the training institutions held meetings to discuss students' progress in meeting the targeted objectives, it was observed that these discussions increased effective clinical area learning by 2.96 times more compared to those learners whose mentors and trainers never held such meetings. This was supported during focus group discussion when a participant reported the following:

'.....during my clinical placement, the clinical instructor usually follows us and first they meet with the clinical mentors to discuss our progress before he comes to address us. By the time he is addressing us, he addresses our challenges and provides suggestions on how we can improve and minimize the challenges. These discussions really help in clinical learning…'

(Participant 5, Group 3)

4.5 Primary Training Institution Related Factors that Determine Effective Clinical Learner Support

Learning in nursing training transits from the theory taught in classroom to skills demonstrated in the skills lab and continues in clinical practice site, where the learner experiences real skills with real patients. Therefore, it was paramount to assess the factors related to the training institution that may affect learning in the clinical setup.

The findings indicated that more than half of the students (58.7%, n=223) were training in public training institutions. Majority of the students (66.8%, n=254) reported that they pay clinical placement fee together with the college fee, then the college pays for them the clinical placement fee directly to the clinical site facility.

During training in the institution, the institution embraces both face to face training and blended e learning. Majority (81.1%, n=308) were trained through face-to-face learning. During the training, 85.8% (n=326) students reported to have been issued with their training guidelines, procedure manuals and files for learning. This helps for easy mastery of the procedures before embarking on real patients. Most of the training institutions (66.8%, n=254) were found to allow the students to reside outside the college. The distance to the clinical site was varied based on the residence of the student. Some students (33.4%, n=127) who resided in the colleges near clinical sites

spent one kilometer or less to clinical area site, some students (18.9%, n=72) resided near the clinical site area spent less than a kilometer to the clinical site while the rest had to travel for more than ten kilometers to reach the clinical sites.

All the colleges were found to have skills laboratories for students to practice before visiting the clinical sites. However, it was noted that 18.9% (n=72) students rarely got access to the skills lab prior to clinical area placement. For those who attended, majority (52.4%, n=199) often used the skills lab with 33.4% (n=127) attending the skills lab during classes only. In the skills lab it was found that both the faculty members and the clinical instructors did the demonstrations, however, most demonstrations (52.6%, n=200) were done by clinical instructors. The majority of the students (85.8%, n=326), had access to the NCK procedure manuals and used them during the skills lab sessions.

Before clinical placement begun, more than half of the students (85.8%, n=326) reported that they are usually issued with clinical placement schedules. This helped them in preparation for clinical learning.

Table 15:Training Requirements

Variable	Category	Frequency	Percentage
Category of training institution	Public	223	58.7
	Private	157	41.3
Training institution pays for clinical placement	Yes	254	66.8
	No	126	33.2
Modes of training	Face to face	308	81.1
	Blended e-learning	72	18.9
Students are issued with clinical training guidelines during clinical teaching	Yes	326	85.8
	No	54	14.2
The college accommodates all students	Yes	126	33.2
	No	254	66.8
Estimated distance to the clinical site	<1 km	72	18.9
	1 km	127	33.4
	2-10km	54	14.2
	>10 km	127	33.4
College has skills lab	Yes	380	100
Students have access to the skills lab	Yes	308	81.1
	No	72	18.9
Frequency of using skills lab	Always	54	14.2
	Often	199	52.4
	During classes only	127	33.4
Who conducts skills lab sessions for students	Clinical instructors	200	52.6
	Faculty members	180	47.4
Students have access to NCK procedure manuals	Yes	326	85.8
	No	54	14.2
Students are issued with placement schedules before attending to clinical area site	Yes	326	85.8
	No	54	14.2

On computation of the association between primary training institution factors and effective clinical learning it was found that mode of training, issuance of clinical training guidelines to students during their clinical teaching, frequency of using skills lab and having access to NCK procedure manuals were significant at $\chi^2(1, N=380) = 7.10, p=.008$, $\chi^2(1, N=380) = 20.07, p<.001$, $\chi^2(2, N=380) = 8.90, p=.012$, $\chi^2(1, N=380) = 25.62, p<.001$, respectively. The other institutional factors assessed in the study were not statistically significant.

Table 16: Training Requirements Cross Tabulation

Variable	category	Level of effective clinical learning		df	P value & Chi-square
		Moderate	High		
Category of primary training institution	Private	30	127	1	P=.566 χ^2=.33
	Public	48	175		
Training institution pays for clinical site placement	No	26	100	1	P=.971 χ^2=.001
	Yes	52	202		
Mode of training embraced by training institution	Face to face	56	256	1	**P=.008** χ^2=7.10
	Blended e-learning	22	46		
Students are issued with clinical training guidelines during clinical teaching	No	24	32	1	**P<.001** χ^2=20.07
	Yes	54	270		
Training institution accommodates all students	No	50	204	1	P=.564 χ^2=.332
	Yes	28	98		
Estimated distance to the clinical area in kilometres	<1	16	56	3	P=.598 χ^2=1.88
	1-9	29	98		
	10-19	12	42		
	>20	21	106		
Students have access to skills lab	No	13	59	1	P=.564 χ^2=.33
	Yes	65	243		
Frequency of students using skills lab	Always	11	44	2	**P=.012** χ^2=8.90
	Often	30	167		
	During classes only	37	91		
Who conducts skills lab sessions for students	Clinical instructors	40	160	1	P=.789 χ^2=.07
	Teaching staffs	38	142		
Students have a access to NCK procedure manuals	No	25	29	1	**P<.001** χ^2=25.62
	Yes	53	273		
Students are issued with clinical placement schedules	No	10	44	1	P=.693 χ^2=.16
	Yes	68	258		
There are discussions and tracking of students' progress in meeting clinical objectives	No	37	162	1	P=.328 χ^2=.96
	Yes	41	140		
Students are given meals and refreshments in support of clinical learning	No	35	110	1	P=.171 χ^2=1.86
	Yes	43	192		
Students' skills are assessed continuously before the main assessment	No	38	86	1	**P=.001** χ^2=11.55
	Yes	40	216		

After entering the significant factors into binary logistic regression, mode of training, issuance of clinical training guidelines to students during their clinical teaching, often of using skills lab and having access to NCK procedure manuals as indicated in Table 4.12.

Face to face mode of training was 0.457 times more likely to promote effective clinical area learning compared to blended e learning. This was also supported by often use of the skills lab for demonstration of the skills and promotion of simulation-based learning. Often use skills lab was 0.44 times more likely to promote clinical learning compared to those who used the skills lab only during class time. These findings were supported during focus group discussion as the members reported the following;

> *'...during our training, the trainers taught us face to face and took us to the skills lab for demonstration, we were then allowed to visit the skills lab often to practice the skills. During COVID 19, some lecturer taught using blended e learning and we did not learn as much as when we learn via face to face. I recommend face to face learning for nurses…'*

(Participant 5, Group 2)

In another group discussion it was indicated as follows;

> *'...during face to face learning it is easier to understand and seek clarification where necessary compared to blended e learning. In e learning, the learning can join the class but be doing their own things not concentrating to the trainer as in the case of face-to-face learning…in face-to face training, the trainer effectively uses the NCK training manuals to guide the students through demonstration unlike in blended e learning'*

(Participant 3 Group 1)

The significant factors remained significant even after multivariate logistic regression except giving students guidelines during clinical area placement which became non-significant.

Table 17:Primary Institution Related Factors

Variable	Category	B	Wald	df	Adjusted odds ratio (AOR)	Lower boundary	Upper boundary
Mode of training	Face to face	1.496	7.12	1	4.46	1.49	13.29
	Public	Reference category					
Students given clinical training guidelines during clinical placement	No	.745	1.66	1	2.11	.68	6.52
	Yes	Reference category					
Students often use skills lab	Always	-.314	.624	1	.73	.33	1.59
	Often	-1.231	14.34	1	.29	.15	.55
	During classes only	Reference category					
Students access NCK procedure manuals	No	1.496	7.22	1	4.46	1.49	13.29
	Yes	Reference category					

4.6 Students' Perception to Clinical Learner Support Systems in their Respective Institutions

The researcher explored the student perception on clinical site learning and how this may influence the effective learning in clinical area. The perceived that holding meetings with the mentor or clinical instructor at least twice a week of their placement will boost their learning in clinical area, however, only 33.4% (n=127) students who reported to be holding such meetings.

It was found that whenever the student mentor or clinical instructor had a meeting with the students, they discussed the clinical objectives as indicated by the majority (52.6%, n=200) students. More than half of the students (66.8%, n=254) reported that they were well prepared on expectations of their clinical placement by their training institutions.

The results indicated that 76.1% (n=289) of the students met the clinical objectives adequately with a few not meeting the expectations. However, it was evident from the results that the clinical teaching sessions were inadequate since only 33.4% (n=127) students out of the 380 sampled reported to be holding clinical teaching with their mentors or clinical instructors.

When the students are in the clinical area, they are expected to have observation checklists, in the current study, it was found that the mentors filled the observation checklists for majority (66.6%, n=253) of the students. However, not all the students were found to have their students log book signed appropriately since only 80.8% (n=307) students had their log books appropriately signed.

The students reported to be getting their assessment schedules in at least two weeks' time for easy preparation, however, 23.9% (n=91) reported to be given the schedules in less than two weeks' time. After the continuous assessments, 81.1% (n=308) reported to be given feedback on their performance while 85.8% (n=326) received feedback after summative clinical assessment. The students reported to be mentored and being coached during clinical placement learning, with 66.8% (n=254) reporting to have been mentored by a qualified staff during the placement.

Table 18: Primary Institution Related Factors

Variable	Category	Frequency	Percentage
Students hold meetings with and clinical instructors at least week	Yes	127	33.4
	No	253	66.6
Students meet and discuss their clinical objectives with their mentors	Yes	200	52.6
	No	180	47.4
Students are well prepared on expectations of their clinical placements by their training institution	Yes	254	66.8
	No	126	33.2
Students meet their clinical objectives adequately during clinical placements	Yes	289	76.1
	No	91	23.9
Students have clinical teaching sessions during placements in clinical areas	Yes	127	33.4
	No	253	66.6
Students have their observation checklists filled by preceptors while performing targeted procedures	Yes	253	66.6
	No	127	33.4
Students assessment schedules are shared at least two weeks before assessments	Yes	289	76.1
	No	91	23.9
Students are actively mentored and coached by a qualified staff during clinical placements	Yes	254	66.8
	No	126	33.2
Students receive feedback on their continuous assessments	Yes	308	81.1
	No	72	18.9
Students receive feedback after summative clinical assessments	Yes	326	85.8
	No	54	14.2
Students log books are signed as appropriate after each placement	Yes	307	80.8
	No	73	19.2

After crosstabulation of the results, it was found that mentors holding meeting s with mentees twice weekly was associated with effective clinical learning at $\chi^2(1, N=380) = 7.34, p=.007$, as well as discussing students' clinical objectives with the mentors was also significant at $\chi^2(1, N=380) = 5.30, p=.021$. Other factors that were found to be

significantly associated with effective clinical learning included; having clinical teaching sessions during placements in clinical area at $\chi^2(1, N=380) = 6.98, p=.008$, actively being coached and mentored by a qualified staff at $\chi^2(1, N=380) = 10.47, p=.001$, receiving feedback from clinical instructors during continuous clinical skills assessments at $\chi^2(1, N=380) = 27.72, p<.001$, and receiving feedback after summative assessments on area to improve at $\chi^2(1, N=380) = 20.78, p<.001$.

The other factors assessed in the study were not significant as indicated in the Table 18.

Table 19: Primary Training Institution Cross Tabulation

Variable	category	Level of effective clinical learning		df	P value & Chi-square
		Moderate	High		
Mentors hold meetings with mentees twice weekly during clinical placement	No	62	191	1	**P=.007**
	Yes	16	111		χ^2=7.35
Mentors meet mentees and discuss their clinical objectives	No	46	134	1	**P=.021**
	Yes	32	168		χ^2=5.30
Students are well prepared on expectations of their clinical placements by training institutions	No	28	98	1	P=.564
	Yes	50	204		χ^2=.33
Students meet their clinical objectives adequately during clinical placements	No	19	72	1	P=.924
	Yes	59	230		χ^2=.01
Students are engaged in clinical teaching sessions during placements in clinical area	No	61	188	1	**P=.008**
	Yes	17	114		χ^2=6.98
Students' observation checklists get filled by preceptors while performing targeted procedures	No	21	106	1	P=.172
	Yes	57	196		χ^2=1.86
Assessment schedules are shared at least two weeks before assessments	No	13	78	1	P=.091
	Yes	65	224		χ^2=2.85
Students are actively mentored and coached by a qualified staff during clinical placements	No	39	92	1	**P=.001**
	Yes	39	210		χ^2=10.47
Students receive feedback regularly from clinical instructors	No	35	51	1	**P<.001**
	Yes	43	251		χ^2=27.72
Students receive feedback after summative assessments	No	28	41	1	**P<.001**
	Yes	50	261		χ^2=20.78
Students have their log books signed as appropriate after each placement	No	18	55	1	P=.331
	Yes	60	247		χ^2=.94

The significant factors above: holding meetings to discuss students' progress, discussing students' objectives for the clinical placement, conducting clinical teaching sessions, coaching and mentoring students, giving feedback for both continuous and summative assessments were entered in binary logistic regression analysis and the results are indicated in the Table 20.

Table 20: Student Mentorship

Variable	Category	B	Wald	df	Crude odds ratio COR	Lower boundary	Upper boundary
Holding meetings between mentors and mentees twice weekly	No	.812	7.09	1	2.25	1.23	4.09
	Yes	Reference category					
Holding discussion between clinical mentors and students to discuss students' clinical objectives	No	.589	5.23	1	1.80	1.09	2.99
	Yes	Reference category					
Conducting clinical teaching sessions	No	.777	6.76	1	2.17	1.21	3.91
	Yes	Reference category					
Active coaching and mentoring of students	No	.825	10.18	1	2.28	1.37	3.79
	Yes	Reference category					
Giving feedback to students on continuous assessments	No	1.388	25.53	1	4.00	2.34	6.86
	Yes	Reference category					
Giving summative assessments feedback to the students	No	1.271	19.25	1	3.56	2.02	6.29
	Yes	Reference category					

The significant factors above were entered in multivariate logistic regression where it was found that holding meetings between mentors and mentees twice weekly and conducting clinical teachings in clinical area were not significant factors to determine effective learning.

During focus group discussion, the students reported that

'…during our placement what made me learn more was when we used to discuss my clinical objectives with the mentors and even other students learnt a lot from the mentors. Those students who never met their mentors always complained of not learning effectively in the clinical area. They were never confident in performing procedures…'

(Participant 3 Group 1)

'…Some mentors go out of their way to coach and guide you, these make good nurses, but some nurse mentors guide you as if they are forced to, this irritates and makes the learners to avoid them. Students like the nurses who treat them as learners and not fellow qualified staffs…'

(Participant 5 Group 2)

Our clinical instructors used to give us feedback on both continuous assessments of the skills and after summative assessment. This real helps one to know their area of weakness and improve in the next placement.

(Participant 6 Group 1)

CHAPTER 5: DISCUSSIONS

5.1 Introduction

In this chapter, the results for each objective shall be presented starting with students related factors that determine effective clinical learner support, this shall be followed by discussion of the results related to clinical practice site and thirdly those factors related with the primary training institution that determine effective learner support in clinical area. Finally, discussion on students' perspective related factors will be discussed.

5.2 Student Related Factors that Determine Effective Clinical Learner Support

The study findings indicated that being supervised during their clinical practices improved the students' effective clinical learner support. All the students reported that they had made personal choices to join nursing profession unlike in previous study where the students did not make individual choices hence had challenges during the effective clinical learning. In the previous study it was reported it was important to carry out the interviews and select the suitable candidates for the nursing training. This selection should be utilized to examine the suitability of the nursing students during the clinical learning to identify challenges that need to be worked on (Patterson et al., 2019). In another study it was found that nursing students who had their nursing career being chosen for by parents and their financial supporters had challenges in getting supported in the clinical areas because of lack of motivation (Black, 2019).

In the current study the female gender was associated with effective clinical learner support, this is congruent with the results previously reported by El Dahshan and Youssef (2018) who found that the nursing profession has suffered greatly from public stereotyping and for being strictly linked with femininity and non-masculinity. In some

countries the male students who choose nursing as their career end up being stigmatized in the area of practice which they term as feminine hence affecting the male gender students' clinical learning negatively (El Dahshan & Youssef, 2018). In another study it was found that gender tailoring of allocating students and mentors with the same gender category proved to increase learning experiences (Hashemiparast et.al., 2019).

Socio-economic issues create psychological problems as well as social climate of the training institution is an important factor in enabling students' effective learner support. Majority of nursing students agree that parent's economic status affects clinical learning. Lack of money causes inability to afford learning materials and other personal needs (Gemuhay et. al. 2019). However, in the current study socio-economic status of the parents or guardians was assessed and was not significantly affecting the effective clinical learner support. During the students placement, the current study found that the most of the parents paid placement fee together with college fee, then it became the responsibility of the college to pay for the students for the clinical site fee. The students were not involved directly with the payments of clinical fees hence, they were not psychologically tortured about the it.

The current study also found that the students who were supervised always for their practice became more competent compared to those not supervised. During supervision, the mentor can correct the mentee and this improves their skills. Unlike where the students are not supervised, they learn through trial and error method and in this case patient care is compromised and may take long for the student to learn the right practices. According to Laugaland (2021), the students require to be practising under supervision as this ensure both patient safety and effective clinical learner support. In another study it was reported that the student who worked hand in hand with

the mentors supervising them always they became competent in the nursing practice (Dyar et al., 2020).

5.3 Factors Related to the Practice Site that Affect Effective Clinical Learner Support

The current study found out that category of the clinical site, availability of mentors, students knowing their clinical mentors per shift and clinical mentors holding meetings with college trainers to discuss students clinical progress was found significantly affecting effective clinical learner support.

The private clinical practice sites were found to be associated with effective learner support compared to the public practical sites. This was associated with availability of resources and follow up and use of standard operating procedures in the private sector compared to the public sector. In the public practice site the students reported that the nurse mentors used short cuts in doing the procedures and this affected their effective clinical learner support. The disaparity in use of the correct practice guidelines affected students learning. However, Drasiku et al. (2021), found that it was not the category of the practice site that matters but availability of the resources and use of the standard operating procedures. Therefore, if all the health facilities were accorded the same resources and use of the standard operating procedures, the category of the practice site may be not significant. There may be other related factors that require further study on the differences between clinical learning in private sector and that in a public sector. According to Lungu et. (2021) the physical space encompasses the environment and resources that influence learning including equipment, facilities, learning tools and standard procedures. However, inadequate learning resources in hospitals is also evident in high-income countries and not only in the many training facilities in the sub-

Saharan Africa (Lungu et al., 2021). It was also reported that in the public health facilities, the number of patients is more and the nurses in practice are faced with a heavy patient load and prioritize patient care over the clinical learning for nursing students (Drasiku et al., 2021).

Availability of the mentors in the clinical area and students knowing their clinical mentors especially those they are working with in each shift was found to significantly improve their clinical competencies. A study done in Kenyatta National Hospital (KNH) found that it is used by most of the health care training institutions not only in the county but also in the country for effective clinical learner support which makes it almost next to impossible (Ziba et al., 2021). Previously it was reported that practice sites for student nurses act as the most powerful forces impacting on effective clinical learner support and professional identity formation in health professionals. Effective clinical learner support is obtained from a range of role models, mentors and the multiple personal and group interactions that occur during the clinical learning in experiences from multiple learning environments in the nursing course (Cohen, 2019). In another study, the clinical learning atmosphere, ward manager leadership style and supervisory relationship were found to be important factors that contribute to satisfaction with the clinical environment. Students who had the chance to meet a supervisor on more regular basis tended to well appreciate the contribution of the clinical environment to their skills learning. Having access to a supervisor or mentor allows the student to learn more and improve the skills learning (Ziba et al., 2021). The degree of presence of supervisors and their availability for dialogue and teaching are crucial, and there is evidence to show that lack of supervision has a direct negative impact on patient care and can be associated with increased mortality and morbidity (Launer, 2019).

The students in clinical area are learners and need to be guided, the guidance should be based on their clinical objectives as per the placement, therefore, it was found in the current study that when the students discussed their clinical objectives with the mentors it was easy to follow the standardized procedure manuals to achieve the competencies. This is in line with a previous study that indicated that standardized procedure manual in the clinical areas can greatly contribute to the high development of effective clinical learner support. The limitation in skills learning and development is attributed to shortcuts in the carrying out of some of the procedures as a result of non-availability of some equipment and supplies in most of our public facilities both clinics and main hospitals where students visit for effective clinical learning (Kaliyangile, 2020). On the other hand, a corrosive learning environment that demeans or humiliates learners will inhibit proper identity formation of the nursing student hence affecting their effective clinical learner support in both skills and theoretical work (Cruess, 2019).

5.4 Factors Related to Primary Training Institution that Affect Effective Clinical Learner Support

The current study found that the students who learnt using face to face mode of training were effectively learning in clinical area compared to those who used blended e learning. Effective clinical learner support was also associated with often use of the skills lab and availability and access to use the nursing council of Kenya (NCK) training guidelines and manuals.

For effective skills learning among the nursing students, instructional strategies in health care training institutions, in clinical, or online context, should emphasise active learning methods, self-reflection, just-in-time instructional support, and ongoing formative assessment. The institution should make sure that the trainers should be well

versed with these modern methods of student based learning to effectively deliver the contents in clinical learning. The role of the teacher should be to assist learners in goal setting and selecting tasks, facilitate, coach, scaffold, mentor, and assess; the role of learners is to be active, self-regulated, and to collaborate with peers. Current and emerging education technology can assist in planning, record keeping, and providing instructional design (Snell et al., 2019).

Transition of theoretical knowledge to effective skills has been met with its back set for example many students indicate that they do not apply physical assessment lessons as learnt in the classroom to include many more fundamental procedures like bathing of a apatient, aseptic wound care where handscrubbing is never done appropriately. Instead of physical examination they state that all they do is just end up checking of vital signs of blood pressure, pulse, temperature and respiration. They are not usually taught other aspects of physical assessment such as percussion and auscultation during clinical learning even in their mother training institutiton (Atakro et al., 2019). Therefore, often use of the skills lab can help fill this gap as indicated in the current study. On the other hand helping students search for more information to improve and revise their tasks plays an integral part in the learning (Orey, 2010).

Previously it has been reported that given the heavy workload, staff nurses might not have the time to guide or supervise students during their clinical learning. This corroborated with this study's findings, in which the participants were aware of the working conditions of nurses and, hence, unfavorable ward environments that blocked their effective clinical learning (Wong & Kowitlawakul, 2020). The available nurse educators are usually over-worked and rely on nurses in practice for the clinical teaching of undergraduate nursing students. The professional staff nurses in the clinical education of nursing students in the clinical environment include mentors, preceptors,

clinical teachers, and clinical supervisors yet the meaning of the terms may differ from setting to setting (Dyar et al., 2020).

5.5 Students Perspective Related Factors that Affect Effective Clinical Learner Support in their Respective Institutions

The study found that mentors holding meetings with mentees on their objectives, actively coaching and mentoring them, giving feedback both during continuous assessment and summative assessment improves students' clinical learner support. Assessment has a major impact on students effective clinical learner support. Often the standard response of teachers is to blame students for this strategic approach to clinical learning. It is just normal human behaviour and it is not going to go away; indeed, we are all susceptible to these kinds of external motivators that have a negative impact even in our primary nursing training institutions. More importantly, the driving influence of assessment is a powerful tool to ensure that students learn what, and how, teachers want them to learn. To maximise the effectiveness of this alignment, it is important to realise that assessment influences student clinical learning by combining constructivisim and behaviourism during the clinincal learning activities (Schuwirth et al., 2019). Students however complain that effective clinical learner support is done in time but feedback is not always given to students in various demonstration sessions. Some students further narrated how their clinical learning for a particular departmental allocation were not undertaken throughout the clinical placement. In the current study, it was significantly found out that giving feedback is critical in student' clinical learning.

According to Lungu et al. (2021) and team they found that the psychosocial and interaction factors of the clinical environment encompass communication, behaviours and attitudes displayed by a qualified healthcare worker, clinical instructors and

students that influence clinical learning. Students lack clearity on stipulated expectations in the clinical learning environment as one of the significant challenges that are faced during their clinical practicum. However, the current study found that whenever the mentor and mentees shares and discusses the clinical objectives, effective learning is promoted.

From the students' perspective, the clinical environment is described as non-supportive, e.g. because of organisational shortcomings, a lacking relationship between students and preceptors/mentors, and negative attitudes and behaviours on the part of preceptorsand mentors. Students have also described inhibitors to learning arising from preceptors/mentors' lack of engagement and feedback. Preceptors and mentors are not always engaged personally or easy to reach, and students find that theory and practice are not always clearly connected to each other.Therefore, they feel that they lack opportunities to reflect together with their preceptors and mentors (Ekstedt et al., 2019).

The supervisor's relationship with the student is also key towards effective clinical learner support. The bond they form and mutual trust being important in the supervisor-student relationship (Laugaland et al., 2021; Dyar et al., 2020). Students generally prefer lecturers or faculty members because it is easier to approach them when confronted with a clinical problem. They were uncertain of the reactions of the health workers to students in the unfamiliar new allocations (Lungu et al., 2021).

Students greatly appreciate the planned orientation days in the clinical areas during their first days in the clinical learning areas. They experienced these days as educational and relevant time spent with engaged and knowledgeable clinical facilitators. In places where the orientation schedule is done, and students are welcome with positive

encouragement the students feel at home and learn in a safe environment. For example, before they met the students on the first day, the clinical facilitators said to each other: “A lot of things are frightening in the clinical areas for the students, so you shouldn’t be frightening as well with the clinical support put in place” (Elton & Borges, 2019). However, in the current study, sharing clinical placement schedules in time and orientation were not significantly associated with effective clinical learner support.

CHAPTER 6: SUMMARY, CONCLUSIONS AND RECCOMENDATIONS

6.1 Introduction

The study sought to determine factors related to effective clinical learner support with specific objectives which included: student related factors, practice site related factors, primary training institution related factors and students' perspective factors that affect effective clinical learner support.

6.2 Conclusions

The demographic characteristics indicated that majority of the students had a mean age of 23.49 with majority aged between 20 to 30 years old bracket. Among the students' characteristics which were assessed including gender, level of training, year of study and religion, only the gender of the student was found to significantly affecting effective clinical learner support.

The student related factors were assessed, these included what the student considered to choose nursing career, what informed their decision, how skills lab simulations affect their clinical learning, support received from the mentors, level of supervision, training costs and who caters for the costs, their family structure and what motivates them to do nursing. Out of all these factors only supervision of the students while practicing in clinical area was found to significantly affect the effective clinical learner support. The students who were supervised gained more competencies compared to those who were not supervised.

The practical site related factors included: category of the practice site whether private, faith based or public, who pays for the clinical placements and how much, availability of preceptors and mentors for students and specifically for each shift, holding of

meetings between the faculty and clinical mentors to discuss students' progress, students knowing their clinical objectives, students having a clinical coordinator, students being allowed to attend ward rounds, being given meals and refreshments while working in the clinical area and being continuously assessed while practicing in the clinical area. Out of all these factors it was found that the category of the practice site, availability of mentors in clinical area, students knowing their mentors per shift, and mentors discussing with faculty on students' progress in clinical area were significantly associated with effective clinical learner support.

The primary training institution related factors were also assessed and were found that often use of the skills lab, providing students with NCK manuals and use of face-to-face mode of training were significantly associated with effective clinical learner support. Among the student perceived factors that affect their learning support, it was found that the students perceived that there was effective support whenever they discussed their clinical objectives with the preceptors and the mentors, when they received active coaching and mentorship, and when they received feedback on their performance both during formative and summative assessment.

6.3 Study Recommendations

The study makes the following recommendations that sensitization through school career days, community leaders in their barazas that either gender can train and practice as a nurse. All the clinical practice site supervisors, clinical instructors and faculty members should ensure proper supervision of the learners. The primary training institution and NCK to ensure adequate clinical mentors as recommended to actively coach and mentor the students based on their clinical objectives. As much as technology is changing, the training institutions to embrace face-to-face training and make use of skills lab often as they slowly introduce virtual patient simulation learning. Clinical

assessors to always give feedback to the learners for both formative and summative assessments. In Future qualitative study on students' attitude on clinical training and learning among nurse students and a similar study to the current one can be conducted among other health care provision cadres to ascertain if the factors found in the current study cut across other cadres.

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APPENDICES

Appendix I: Graduate School Clearance Letter


10.Revised letter.pdf

Appendix II: Consent by Ethics and Scientific Research Committee

STUDY TITLE: DETERMINANTS OF EFFECTIVE CLINICAL LEARNER SUPPORT AMONG NURSING STUDENTS IN MIDDLE LEVEL COLLEGES IN NAIROBI COUNTY

Regina Waswa

Amref International University

P.O Box 27691-00506

NAIROBI

12/08/2022

0724690511/0733954362

TO: The Amref Ethics and Scientific Review Committee

RE: SEEKING FOR CONSENT TO COLLECT DATA ON NURSING STUDENTS

My name is Regina Waswa, a student at Amref International University pursuing Masters in Health Science (Health Professional Education). My admission number is SHS/MSHPE/511-2/202. My research is on "Determinants of Effective Clinical Learner Support Among Nursing Students in Middle Level Colleges in Nairobi County Kenya".

By this letter, I'm requesting for consent and ethics approval from Amref Ethics and Scientific Review Committee, and a Research permit from National Commission for Science, Technology, and Innovations (NACOSTI). The approval will enable me as a principal investigator to access nurse training institution and to engage the student participants during data collection process.

The study involves student nurses who can voluntarily consent on their own without coercion or involvement of the next of kin. It does not involve specimen collection and transportation.

These approvals will, therefore, will used as evidence of compliance with the ethics requirements for the study before inviting participants into the study voluntary. The data will be collected through administration of questionnaires, as well as a face-to-face group discussion administered personally by the researcher once permission is granted. The qualitative data will be stored on a cloud server hosted by the researcher once as the responses get submitted from phone-based tools and secured with the special password. The questionnaires will be stored under key and lock that can only be accessed by the researcher. Data from server be exported to SPSS Version 28, NVivo 10 and Chi Square for analysis.

The data collection is expected to last 30 days, spread over two months, commencing after consent approval from the University Ethics committee and permit granted by NACOSTI. The results will be analyzed then presented through tables, pie charts, histograms and then disseminated in seminars and conferences.

The information that will be given will remain confidential and will be used for study purposes only aimed at improving the effective clinical learning for nursing students.

Yours faithfully

Regina Waswa

Appendix iii: NACOSTI Permit

Appendix III: Participants Information Sheet

My name is Regina Waswa, a student at Amref International University pursuing Masters in Health Science (Health Professional Education). My admission number is SHS/MSHPE/511-2/202. My research is on "Determinants of Effective Clinical Learner Support Among Nursing Students in Middle Level Colleges in Nairobi County Kenya".

This information sheet serves to notify you that my study has been approved and consent has been sought from Amref Ethics and Scientific Review Committee and research permit obtained from National Commission for Science, Technology, and Innovations (NACOSTI) who have granted me permission to collect data. I do, therefore, seek your consent as a nursing student at this ..... training institution, sampled for data collection. You have also been randomly sampled as a participant. Your consent is required in filling in the questionnaire or to participate in the interviews. If you agree to participate, you will receive the information shared on your WhatsApp so that you can willingly respond to the questions. There is no victimization if you don't, and you are free to pull out from the study at any stage. There is no compensation or renumeration to be given hence it is purely on voluntary and willingness basis. Do not write your name on the questionnaire, but serial numbers have been indicated on them instead to ensure your identity remains anonymous. The information that you will give me will remain confidential and will be used for study purposes only.

Participant'/Participants' Signature……...

Date……

Interviewers' signature……

Date……

Appendix IV: Questionnaire for Student Participants

Introduction and Consent:

My name is Regina, of Student registration no. SHS/MSCHPE/511-2/2020 at the Amref International University. The purpose of this exercise is to collect data for my research study at The School of Public Health in partial fulfilment of the requirement of the award of a degree of Master of Science in Health Professions Education of The Amref International University. My thesis is entitled: *Determinants of Effective Clinical Learner Support Among Nursing Students in Middle-Level Colleges in Nairobi County Kenya*. All information collected from you will strictly be used for this research and will not be shared or used for any other purpose. Although your participation in this exercise will not have any monetary gains, the outcome will help to a large extent in giving recommendations that may generate policies that impact nursing education in middle -level colleges. You have been randomly identified as an important source of information in this exercise. As a researcher, I'm obliged to ensure that all information you share with me remains confidential and your identity will not be made public or published in connection with the information you share with me. Participation in this study is voluntary. Furthermore, you retain the right to withdraw from the study at any point should you feel uncomfortable with the engagement. Filling out the tool should take you no more than 25 minutes to complete.

Consent statement: The information that has been presented to me regarding my participation in this study is clear and I willingly and voluntarily give consent, to answer the questions about my clinical practices learning as a nursing student, the way they are presented to me through the study tools. I will do so truthfully and to the best of my

knowledge. I understand I can choose to withdraw at any point in time if I feel that some aspects of the study do not make me comfortable. Furthermore, I agree that the outcome of the study will be shared with the relevant stakeholders upon the conclusion of the study.

I understand that any data collected will not be used to identify me, such as by names or by institution-specific information.

I understand that the only benefits are the outcomes of the study which are aimed at benefiting the wider population.

I consent to engage in this research study: Yes ☐ No ☐

I affirm that I will fill in the questionnaire Yes ☐ No ☐

Participants' Signature/Thumb sign……...

Date……

Interviewers' signature……

Date……

For any questions regarding the research please contact the following persons

Name	**Role**	**Phone contact**	**Email address**
Regina Waswa	Principle researcher	0724690511	waregina14@gmail.com
Dr. Micah Matiang'i	Supervisor	0723727325	micah.matiangi@amref.ac.ke

Dr. Anastasiah Kimeu	Supervisor	0720318001	anastasiahkimeu2012@gmail.com

Instruction: Select by ticking (√) or circling (©) only one answer in each case

Section A: Student Related Factors		
a.	Sex of participant	1. Male 2. Female 3. Transgender 4. Prefer not to say 5. Other (specify)_____
b.	What is your Month and Year of birth?	_____
c.	Marital status	1. Single 2. Married 3. Divorced 4. Separated 5. Widowed 6. Other (specify)_____
d.	Religious affiliation	1. Christian 2. Muslim 3. Hindu

		4. Buddhist 5. None 6. Other (specify)_____
e.	Level/cadre of study	1. Basic nursing 2. Certificate-diploma upgrading 3. Higher nursing diploma 4. Diploma-degree upgrading 5. Others (specify)-_____
f.	Level of study for your Nursing program	1. Year 1 2. Year 2 3. Year 3
Section B: Student-Related Factors Affecting Effective clinical learner Support *(In this section you are asked to identify any factors affecting clinical learning that are specific to student personal attributes, experience, or lifestyle)*		
a.	Do you consider nursing as your career of choice?	1. Yes 2. No
b.	What informed your decision to do nursing?	1. Parents decided 2. Personal choice

		3. Church recommended 4. Others- Specify_____
c.	Do you think skills lab simulations affect the quality of practice in the clinical areas?	1. Yes 2. No
d.	Are you assigned mentors/preceptors while in the clinical area? If yes, for how long?	1. Yes 2. No _____
e.	Are students always supposed to work under supervision?	1. Yes 2. No
f.	Who meets the training cost at the clinical areas?	1. Individual 2. Parents 3. Guardians 4. Sponsors 5. Others- Specify
g.	What family structure do you come from?	1. Monogamous 2. Polygamous 3. Others (specify)---------- -
h.	What motivates you to pursue nursing profession?	1. It pays well 2. To work abroad? 3. To help people 4. Employment guarantee

		5. Others (specify)_____
Section C: Primary Training Institution Related Factors and Students' Clinical Learner Support *(In this section you are asked to consider those factors that have an impact on the clinical learning of nursing students that are directly connected to the primary institution of learning)*		
a.	What is the category of your college/training institution?	1. Private 2. Faith based 3. NGO 4. Public 5. Other (specify)_____
b.	Does your annual fees paid in your institution include the clinical placement fee?	1. Yes 2. No
c.	What is/are the mode(s) of trainings used in nursing?	1. Face-to-face 2. Blended e-learning 3. Online 4. Others (specify)
d.	Are students issued with clinical training guidelines/files during their clinical training?	1. Yes 2. No

	Does the college/institution accommodate all the students in the campus?	1. Yes 2. No
	What is the distance of the college/institution from the clinical training site?	_____Kms
	Does the college have a skills lab?	1. Yes 2. No
	If yes, did you access the skills lab?	1. Yes 2. No
	How often did you go to the skills lab?	1. Always 2. Often 3. Rarely 4. Never
	Who conducts skills lab sessions for students?	1. Clinical instructors 2. Faculty members 3. Skills lab manager 4. Clinical staff 5. Others (Specify)
	Do you have access to NCK procedure manuals?	1. Yes 2. No
	Are you issued with a clinical placement schedule?	1. Yes 2. No
Section D: Practice Site-Related Factors that Affect Effective Clinical Learner Support		

(In this section you are asked to consider those factors related to practice sites [health facilities] that affect clinical learning of nursing students)		
a.	What is the category of the primary practice site-related practice site where students are placed?	1. Private 2. Faith based 3. NGO 4. Public 5. Other (specify)
b.	Do you pay for training in clinical placements?	1. Yes 2. No
c.	If yes, how much in Kenya shillings do you pay?	_____
d.	How often do you pay?	1. Monthly 2. Bimonthly 3. Quarterly 4. Annually
e.	Do you have mentors allocated to students' clinical practice?	1. Yes 2. No
f.	Do you know the mentors allocated to you?	1. Yes 2. No
g.	Do you have clinical mentors attached to you for each shift?	1. Yes 2. No
h.	Do clinical staff hold meetings with school staff to discuss students' progress?	1. Yes 2. No

i.	Do you have a clinical training coordinator in your institution?	1. Yes 2. No
j.	Were you allowed to attend ward rounds in your placement facility?	1. Yes 2. No
k.	Do you know your clinical objectives before accessing clinical placements?	1. Yes 2. No
l.	Are there discussions and tracking progress made in meeting clinical objectives with mentors?	3. Yes 4. No
m.	Are you given meals and refreshments in support of your clinical learning at the placement site?	1. Yes 2. No
n.	Are your skills continuously assessed before the main assessment?	1. Yes 2. No
Section E: Students Clinical Learner Support Perception to Existing Support Systems *(In this section I seek to understand your thoughts about the support system offered by school [primary institution] or hospital management [placement sites] as effective factors in clinical learning)*		
a.	Do you hold meetings with a mentor twice every week?	1. Yes 2. No
b.	Are you well prepared for clinical learning activities?	1. Yes 2. No

c.	Did you meet the clinical objectives during the clinical placement?	1. Yes 2. No
d.	Did you have clinical teaching sessions during placements in clinical areas?	1. Yes 2. No
e.	Were your competencies checklists filled by preceptors while performing targeted procedures?	1. Yes 2. No
f.	Did you receive assessment schedules shared at least two weeks before assessments?	1. Yes 2. No
g.	Were you actively mentored and coached by qualified staff in the clinical placement?	1. Yes 2. No
h.	Did you receive feedback regularly from their preceptors?	1. Yes 2. No
i.	Did the students receive feedback after summative assessment?	1. Yes 2. No
j.	Did the mentor sign your student's logbook after each placement rotation?	1. Yes 2. No

Appendix V: Focused Group Discussion

Introduction

My name is Regina, of Student registration no. SHS/MSCHPE/511-2/2020 at the Amref International University. The purpose of this exercise is to collect data for my research study at The School of Public Health in partial fulfilment of the requirement of the award of a degree of Master of Science in Health Professions Education of The Amref International University. My thesis is entitled: *Determinants of Effective Clinical Learner Support Among Nursing Students in Middle-Level Colleges in Nairobi County Kenya*. Although your participation in this exercise will not have any monetary gains, the outcome will help to a large extent in giving recommendations that may generate policies that impact nursing education. You have been randomly identified as an important source of information in this exercise. As a researcher, I'm obliged to ensure that all information you share with me remains confidential and your identity will not be made public or published in connection with the information you share. Furthermore, you retain the right to withdraw from the study at any point should you feel uncomfortable with the engagement. The discussion should take us no more than 20 minutes.

Consent statement: The information that has been presented to us regarding our participation in this study is clear and we willingly and voluntarily give consent. We understand that if we agree to take part in this research, it means that we are willingly going to answer the questions, as presented to us through the study tool. We will do so truthfully and to the best of our knowledge. We understand that it is purely voluntary to participate in this study and we can choose to withdraw at any point in time if we feel that some aspects of the study do not make us comfortable. Furthermore, we agree

that the outcome of the study will be shared with the relevant stakeholders upon the conclusion of the study.

We understand that any data collected will not be used to identify us, such as by names or by institution-specific information.

We understand that the only benefits are the outcomes of the study which are aimed at benefiting the wider population.

We consent to engage in this research study: Yes ☐ No ☐

Participants' Signature ……. Date……

Interviewers' signature……

Date……

For any questions regarding the research please contact the following persons

Name	**Role**	**Phone contact**	**Email address**
Regina Waswa	Principle researcher	0724690511	waregina14@gmail.com
Dr. Micah Matiang'i	Supervisor	0723727325	micah.matiangi@amref.ac.ke
Dr. Anastasiah Kimeu	Supervisor	0720318001	anastasiahkimeu2012@gmail.com

Instructions

1. There are no wrong responses and each participant's response is respected
2. Each student signs the form individually and is assigned a number/letter that will be cited during the documentation of their opinion

Questions

1. How does the financial needs like school fees, transport for commuters and clinical placement fees affect effective clinical learner support?

   Areas to probe (affordability of fees and whether the fees hinder access to clinical learner support)
2. How does skills lab factors such as availability of materials and equipment, teaching staffs availability and accessibility affect effective clinical learner support?

   Areas to probe (adequacy and quality of materials and staff)
3. Does the mode of learning either face to face-to-face, blended or virtual affect effective clinical learner support?

   Areas to probe (access and support to clinical learning by all students through designated mentors/preceptors/clinical instructors)
4. Do the factors like training files and guidelines, logbooks, progress reports, procedure manuals' access affect effective clinical learner support?

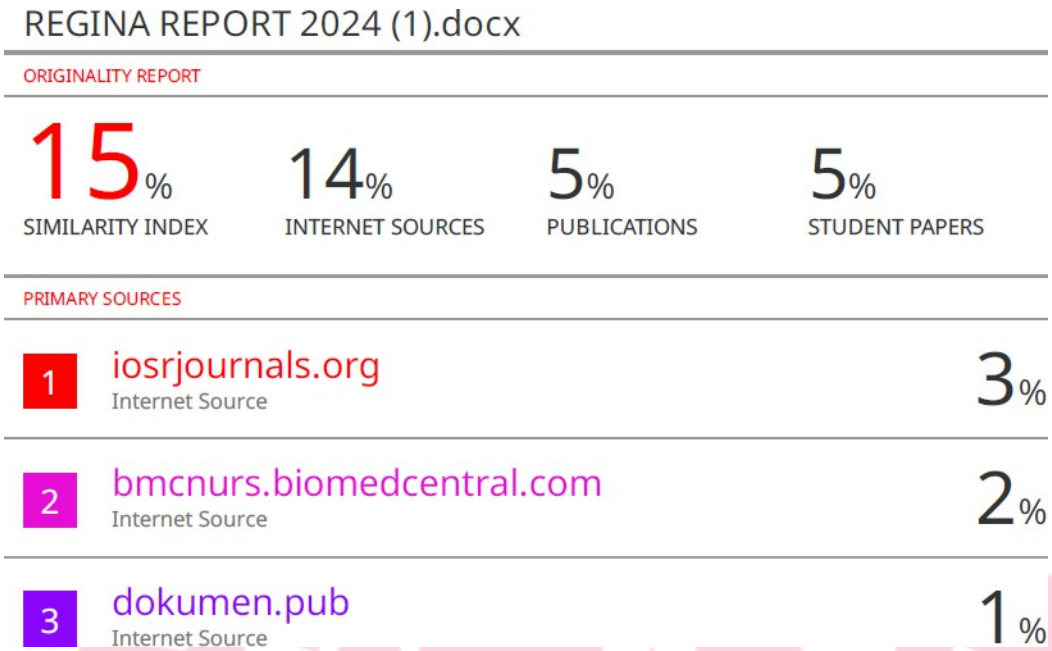
   Areas to probe (availability to each student, signing by mentors (logbooks), and clarity for procedure manuals)
5. Do you think factors concerning: mentors, preceptors, clinical instructors and teaching faculty affect effective clinical learner support?

Areas to probe (factors such as numbers, availability, skills, experience, commitment and willingness to teach of each of the staff mentioned).

Thank you for participating in this study

The End

Appendix VI: Plagiarism Check



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Appendix VII: Map of the Study Area