MIDWIFE LECTURERS PERCEPTION ON SIMULATION AS TEACHING METHOD IN THE SIMULATION CENTRE

UR/CMHS/SONM/Nyarugenge Campus

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By

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A dissertation submitted in partial fulfilment of the requirements for the degree of

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DECLARATION AND AUTHORITY TO SUBMIT THE DISSERTATION

Surname and First Name of the Student:

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Title of the project ***"MIDWIFE LECTURERS PERCEPTION ON SIMULATION AS ATEACHING METHOD IN THE SIMULATION CENTER"***

a. *Declaration by the Student*

I do hereby declare that this ***dissertation*** submitted in partial fulfilment of the requirements for the degree of **MASTERS OF SCIENCE IN NURSING EDUCATION LEADERSHIP AND MANAGEMENT** track, at the University of Rwanda/College of Medicine and Health Sciences, is my original work and has not previously been submitted elsewhere. Also, I do declare that a complete list of references is provided indicating all the sources of information quoted or cited.

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Surname and First Name of the Supervisor /co supervisor

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In my capacity as a Supervisor, I do hereby authorise the student to submit his/her **dissertation**.

Date and Signature of the Supervisor/Co-Supervisor

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DECLARATION

I declare that this Dissertation with the title ***"Midwife lecturers' perception on simulation as a teaching method in the simulation centre"*** contains my own work that it has not been submitted for any degree or examination at any other university, and that all sources I have used or quoted have been indicated and acknowledged by complete references.

Student Name and Number:

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Signed……..

Date……..

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ABSTRACT

***Background**:* Simulation is one teaching method used in nursing and medical schools in course that have practical component. It provides an opportunity to students to acquire and practice clinical skills in a safe and controlled environment. While there is a growing evidence of the value of simulation to teachers, there is a little understanding on the perception on simulation by midwife lecturers.

***Objective**:* This study explored the midwife lecturers' perception on simulation as a teaching method in the simulation centre.

Design: Through a qualitative descriptive design using semi structured interviews, midwife lecturers expressed their perceptions on simulation. Interviews were audio-recorded and transcribed verbatim then a thematic analysis was conducted.

Participants: were 9 midwife lecturers in the Department of Midwifery

Setting: One site, the University of Rwanda, College of Medicine and Health sciences, School of Nursing and Midwifery, Nyarugenge campus.

Results: Three themes were identified and grouped into categories: Usefulness of simulation, Process of simulation and Factors affecting simulation as a teaching method.

Conclusion: The majority of midwife lecturers interviewed perceived simulation as an excellent teaching tool of procedures in midwifery courses as it allow students to do repetition until mastering the procedures by correcting errors made and students and patients are safe, reducing fear and frustration, as a transition from theory to practice, and help students to be familiar with the image of clinical environment, then they maintained that the process used in this school is perceived to be a good and effective one starting by setting a teaching plan, objectives and booking the simulation centre, following by checking and organizing the material by creating a conducive environment, then teaching using simulation methods and giving feedback like a debriefing after scenario and an evaluation using OSCE to allow success ones to practice on the real patient. However, they noted a number of factors seen to be affecting the use of simulation in this school either positively like students' willingness to participate in simulation sessions, having good

material and qualified staffs plus negative factors like time, infrastructure and environment and poor planning and the ration of students to faculty members.

KEYS WORDS

Teaching: Teaching is what the educator provides to the student in terms of goals, methods, objectives, and outcomes so that learning occurs. Learning according David A. Kolb (1984) is a process of gaining skills, knowledge and experience and then change behavior (Kelly et al., 2014, p. 98).

Simulation: Simulation is the imitation of a real life process or situation. It is also defined as activity mimicking the reality of clinical environment (Larue et al., 2015, p. 132).

Midwives: Midwives are person qualified to deliver babies and to care for women before, during, and after childbirth. According to International Confederation of Midwives (ICM), a midwife is a person who has successfully completed a midwifery education program that is recognized in the country where it is located and that is based on the ICM Essential Competencies for Basic Midwifery Practice and the framework of the ICM (1986) Global Standards for Midwifery Education; who has acquired the requisite qualifications to be registered and/or legally licensed to practice midwifery and use the title 'midwife'; and who demonstrates competency in the practice of midwifery (Parratt et al., 2014, p. 59).

Simulation centre: Simulation centre is an area of teaching skills and assessing students' skills level before practicing on a real patient (Document et al., 2016, p. 14).

Lecturers: A lecturer in the present study is a midwife academic faculty member (teaching staff) without considering their level of education (Kelly et al., 2014, p. 98).

Perception: Perception is the way people think about or understand someone or something. Perception also is how people express their experiences, opinions and feeling regarding something (Baillie & Curzio, 2009, p. 298).

LIST OF SYMBOLS AND ACRONYMS

IRB: Institutional Review Board

NMC: Nursing and Midwifery Council

OSCE: Objective Structured Clinical Evaluation

QSEN: Quality and Safety Education for Nurses

SONM: School Of Nursing and Midwifery

UR: University of Rwanda

UK: United Kingdom

WHO: World Health Organisation

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CHAPTER I: INTRODUCTION

1.1 INTRODUCTION

In teaching and learning process simulation is one of the systems used with a greater emphasis within midwifery education. On complicated cases, simulation gives midwife students occasion to increase their performance. This has been described by the Nursing and Midwifery Council's (NMC) decision to set guidelines to be followed while using simulation in the process of practice teaching and learning (Arias, Tran, Breaud, Fournier, Bongain, Delotte, 2015, p. 3).

Simulation is the development of practice skills, it use experiential learning and behavioural theories. Simulation allows students to be active participants rather than passive in the process of learning. As a teaching method in healthcare setting, simulation is promoted worldwide (Tosterud, 2015, p. 3).

Simulation has a positive impact in health care learning institutions, improving health professional's proficiency and safe practice. In simulation, learners study in an environment similar to real setting but they exercise procedures without taking risk to clients, and then perform these skills in a real setting. Strategies of teaching and learning for healthcare professionals in practical settings put emphasize on learners to be familiarized with practical experience. The application of classroom learned material in clinical setting is needed for student midwives and simulation is a good teaching method to achieve these learning outcomes (Bogossian et al., 2014, p. 693).

According to Stefanski and Rossler, 2015 (p.7), simulation is seen to be a good teaching method with the objective of developing competence and assurance of students, minimizing errors so that patients are safe. It is known that students have to perform skills in stressful situations before they go to practice in real situation. For experience to be ameliorated, teachers users of simulation need to understand the advantages, strengthens, limitations and its' scope of practice. Simulation in a simulation centre is a process of active studying that provides to students different occasions to study, by applying classroom learned theory to practice and prepare to face a real situation.

Simulation has come at the first level as an effective teaching modality in teaching the nursing science. It is important that students are well prepared before assessing and examining patients. Consequently clinical simulation is known as a pedagogical strategy which promotes the use and application of psychomotor, cognitive skills necessary to develop the profession of midwifery (Tosterud, 2015, p. 3).

High fidelity simulation procedures are common in the profession of midwifery education. They develop team work and are popular in obstetrics by preparing progressively students to practice safely in a real setting. The use of simulation is influenced by an increasing evidence of its importance (Brady et al., 2015, p. 526).

This study explored the perception of University of Rwanda, College of Medicine and Health Sciences, School of Nursing and Midwifery, midwife lecturers on simulation as a teaching method in the simulation centre.

1.2 BACKGROUND

According to Fiona 2015 (p. 32) the manikin formed in the 17th Century by Dr Gregoire of Paris is the first recorded medical simulator. To explain difficult and assisted deliveries to students' future midwives, he took dead foetus, pelvis, and rigid cover crossway to reproduce the abdomen.

At the beginning in the nursing education simulation as teaching methods was using static, low fidelity mannequin at the Chase Hospital Doll (Cordeau, 2012, p. 14). Nurse educators used to train nurses with an adult mannequin which have similarities with Dolls. Martha Chase was in charge of that teaching method under the supervision of the principal of Hartford Connecticut Hospital training school (Cordeau, 2012, p. 14). The use of mannequin was appreciated and is still growing and used till now (Melorose et al., 2015, p. 9).

During its starting time, the evolution of medical and nursing simulators was slow due to the price issue principally, unwillingness to assume new teaching methods, and uncertain that what was gained from a simulator could be sent to the real setting (Melorose et al., 2015, p. 9). These days, those are still considered but, the fact of combination of safe practice knowledge which is promoted by teachers, and the use of sophisticated equipment, help simulation to be used in solving some complicated problem in association with old teaching methods. Simulation has changed from the area of old to a new ordinary learning modality (Carolan-Olah et al., 2016, p. 378).

Many publications confirm simulation as a good teaching method, in which learning by experience occurs and give chance to students to be safe in simulation setting, while they solve problem, take decisions and increase their skills (Carolan-Olah et al., 2016, p. 378 & Rutherford-hemming, 2012, p. 130). An extra understandable teaching and learning method using high fidelity mannequin, has been developed by the faculty at Creighton University School of Nursing (Melorose et al., 2015, p. 10). This innovative teaching method provides not just skills acquisition, but also cares management concepts into the scenario, while requiring only one faculty member (Carolan-Olah et al., 2016, p. 379). Students at the same time take one of two paths through the components of this method to achieve the same learning outcomes (Pennaforte et al., 2016, p. 6). The use of simulation as teaching method, allows student to do many exercise regarding different scenario,

and gain knowledge and apply decision making safely with no fear to harm the patient (Rutherford-hemming, 2012, p. 130).

In clinical setting, competition is known to facilitate simulation to be understood so that many users continue to wish its' use to help midwife students. To make easy the use of simulation as a teaching method and its' learning environments users of it like teachers, members of regulatory bodies should make it valuable (Carolan-Olah et al., 2016, p. 378). There is no statement from the regulatory body for midwifery in Australia, regarding the how big simulation as a teaching method is considered in midwifery education (Hope et al., 2011, p. 713). However, standard 8 for accreditation of midwifery education programs refers to 'actual or simulated experiences' and also requires students to be involved in labour monitoring until delivery (Fox-Young, Brady, Brealey, Cooper, McKenna, Hall, & Bogossian, 2012, p. 437).

In clinical setting preparation, simulation is an important teaching method to teach low to high fidelity events in midwifery procedures that provide students confidence to practice prior to real placement, and without affecting patient safety (Fox-Young et al., 2012, p. 438). Validity is an essential component of good simulation especially where it has high psychological fidelity, and is enough to cause the kind of increased stimulation that would be experienced to the real patient (Hope et al., 2011, p. 713). Although barriers exist to the adoption and extend of simulated learning in midwifery, there is a long history of simulation and a big motivation to develop its' use among midwifery education in Australia (Fox-Young et al., 2012, p. 439). It is known that simulation is efficient for students as its' learning setting (the simulation centre), is not harmful and skills are practicable and repetition is possible. Thus, regarding the application of ethical concepts, few literatures guide the building of an effective use in the simulation centre environment (Hope et al., 2011, p. 713). It known that ethical consideration, communication in health care are for the big importance and are essential in our clinical setting, to that end midwife students need to learn these as it is even reported in the Hippocratic promise (Botma, 2014, p. 3).

In American and European countries, simulation as teaching methods are still used for obstetric residents, trauma medicine, advanced cardiac life support teams, and professionals involved in

neonatal resuscitation (Rutherford-hemming, 2012, p. 130. To address emergency situations, teaching using simulation in order to improve clinicians' approaches to sensitive issues has been used (Lathrop et al., 2007, p. 496).

In the United Kingdom (UK) simulation as a teaching learning process has been recognized in its' form that may substitute hours from clinical setting (Rutherford-hemming, 2012, p. 130. This integration has become a surrounded feature of the pre-registration nursing program at a University in the North of England, along with strategic investment in staff and simulation suites developed to support this curriculum change though in the absence of light empirical evidence (Fox-Young et al., 2012, p. 439). Here the annual "skills drills" exercise is recommended jointly by the Royal College of Midwives and the Royal College of Gynaecologists and Obstetricians. Periodic drills are also a requirement of recently highlighted maternity risk management standards in the United Kingdom (Hope et al., 2011, p. 713).

Health Workforce Australia 2010 (p. 67) organized many sessions which was exploring the skills lab for simulation, to optimize clinical setting for midwives students, and other health care team members(Hope et al., 2011, p. 713). Hawkins KS, et al. report that the setting to be safe some challenges in teaching midwifery students has been observed, and with high fidelity mannequins the students' evaluation becomes better. A lack of evaluation materials of simulation, which are valid to measure the accuracy of student performance, has been identified, to that end a tool of evaluation of simulation was developed and tested with senior nursing students to handle this issue (Hope et al., 2011, p. 715). Then its' content validity was established from the literature and reviewed by an expert panel. Reliability was established using sixteen simulation sessions, by two trained evaluators at each session. Percentage of agreement by evaluators was 84.4% to 89.1%. There is a need of additional research to verify these results with different evaluators, varying levels of students, and additional scenarios and a valid, reliable tool to evaluate simulation experiences improves student assessment skills and thus clinical performance (Carter et al., 2015, p. 870).

At the Stellenbosch University, Cape Town, South Africa the Principal investigators observed that primary health care nurse students studying at this university, failed to adequately acquire the

required clinical confidence and competence in the assessment of the 'real' patient (Botma, 2014, p. 4). These students predominantly practiced and acquired their clinical skills within the skills lab exercises on simulations. Most of students verbalized that, they did not feel competent or confident during assessment of patients holistically after having practiced on artificial manikins. This raised serious concerns for academic lecturers who used this teaching and learning strategy, as ultimately patient safety might seriously be compromised (Botma, 2014, p. 4).

Many studies conducted on laboratory setting and simulations are based on students' perceptions. In McAdams survey conducted in Australia in 2008, students (n=59) emphasized on how teaching in laboratory setting reduce anxiety for students whom are assured, and patients are safe. Midwife educators confirm similarities of laboratory setting to real setting. But the student preparation is not full as well. To that end, it is clear that students should have simulated skills revision before practicing on real clients (Baillie & Curzio, 2009, p. 300). Simulation is now broadly used in midwifery education, with some limitations caused by the reality of material and system used. So many barriers in different area of setting, related to management of material and human resources, time, its' price and keeping those material are observed as well (McKenna et al., 2011, p. 684).

In the context of Rwanda, the University of Rwanda, College of Medicine and Health Sciences in the School of Nursing and Midwifery, have introduced 13 years ago a simulation centre for the faculty of nursing sciences (general nursing and Midwifery departments) which is also used by other faculty students in demonstration of different procedures in the acquisition of practical skills. The school has a teaching plan that is used by academic staff to guide them for ongoing academic year. This is an overloaded one and cause a lacking time for simulation to teach practical skills. Also academic staffs are not well trained on the using simulation as a teaching method due to the fact that trained staff some time got job elsewhere and left the school. Students have an overloaded time table and by the time they come after hours there are no staffs to work extra hours (after 5 PM and off days) for simulation, even if it is for self-directed learning. Limited infrastructure is seen to be a barrier and causes the limit on the use of simulation. The time of using simulation centre is limited; lecturers emphasize on theory than practice and let practical sessions to be students' responsibility during the self-directed learning time. There is also a problem of lack of

materials, as for high fidelity manikin is only one to be used by all users add to that, all midwifery procedures cannot be simulated.

1.3: PROBLEM STATEMENT

One of the most challenging tasks for faculty, who teach beginning nursing/midwifery students, is preparing them for the first experience with real patients. In a controlled laboratory setting,

students practice basic skills, such as communication, assessment, personal hygiene, patient safety, and medication administration. While students can use manikins and task trainers for repeated skill practice, the human component of actual patient care is absent (Ham, 2016, p. 167). Reports of nurse/midwifery educators emphasize on simulation as a great teaching strategy, however many published researches are limited and focuses on student's experiences rather than the effectiveness of simulation as a teaching method (Melorose et al., 2015, p. 30 & Rutherford-hemming, 2012, p. 130).

In the UR/CMHS/SONM simulation centre is the areas in which simulation is done as a teaching/learning method. Perception of midwife lecturers on the usefulness of simulation at this school has not been explored or documented, and therefore not known. The current simulation methods existing in this school and the perception of the process of simulation remain unexplored. In addition, very little is known with regards to the factors facilitating or hindering simulation in the school simulation centre. Therefore, as there is no existing study conducted in this area of teaching learning in this school, the present study explored the perception of UR/CMHS/SONM midwife lecturers on simulation, its' usefulness, its' process and factors affecting its' use.

1.4: RATIONALE

It is known that teaching by simulation is more effective in meeting the learning outcomes of the session taught, and some kind of midwifery procedures may be impossible to be simulated (Roberts et al., 2011, p. 2). There is a lack of research into factors influencing simulation up take

in the discrete discipline of midwifery. However, from research in related health professions it is evident that there are factors known to contribute to the effective use of simulation and those seen as barriers against its' wider acceptance and use (Miller & Bull, 2013, p. 242). It is important to know how simulation is perceived by midwife lecturers as a teaching method in the simulation centre regarding its' usefulness, process and factors hindering its' use at the University of Rwanda, College of medicine and health Sciences, School of Nursing and Midwifery, Nyarugenge Campus. As midwives are highly needed in our country where there is a need of meeting midwifery care, midwife educators need to improve quality of education.

1.5: RESEARCH OBJECTIVES

1.5.1: GENERAL

- To explore the midwife lecturers' perception on simulation as a teaching method in the simulation centre at University of Rwanda, College of Medicine and Health Sciences, School of Nursing and Midwifery, Nyarugenge campus.

1.5.2: SPECIFIC OBJECTIVES

- Describe how the midwife lecturers perceive the usefulness of simulation as a teaching method in simulation centre at UR/CMHS/SONM
- Discuss how the midwife lecturers perceive the process of simulation as teaching method in simulation centre at UR/CMHS/SONM
- Explore factors that the midwife lecturers perceive as influencing simulation as teaching method in simulation centre at UR/CMHS/SONM

1.6: RESEARCH QUESTIONS

- How do the midwife lecturers perceive simulation as a teaching method in the simulation centre at UR/CMHS/SONM?
- How do midwife lecturers perceive the process of simulation in the simulation centre at UR/CMHS/SONM?
- What factors do the midwife lecturers perceive to be influencing simulation as teaching method in the simulation centre at UR/CMHS/SONM?

1.7: SIGNIFICANCE

A study of this nature was the first to be done at UR/CMHS/SONM in midwifery department.

Significance to nursing practice

Practitioner in midwifery area will understand the importance of having midwife students, coming for the clinical setting having the image of the clinical environment through simulation as a transition from theory to practice as student don't have fear or frustration and are safe.

Significance to nursing education

Midwife lecturers will show their perception on the usefulness of teaching using simulation, and provide recommendation to improve the process and remove barriers on simulation teaching method to gain high quality standards of education.

Significance to nursing research

The present study will open the eyes of Nursing and midwifery researchers will continue to conduct research on teaching using simulation methods and will explore factors influencing its' wide use.

Significance to nursing administration

The present study will help the school and department authorities to know how simulation is perceived by midwife lecturers as a teaching method. Midwife lecturers provided their perceptions on simulation, the usefulness, the process and factors affecting its' use, they suggested some recommendations to improve its' usefulness and show the way of improving quality education.

1.8: CONCEPTUAL FRAMEWORK

John Dewey experiential learning theory was used as a conceptual framework guiding this project. Experiential learning is an important approach within the theoretical tradition of adult education (Ord, 2012, p. 59). This theory defines learning as "the process whereby knowledge is created through the transformation of experience. Knowledge results from the combination of acquisitive and transforming experience". The experiential learning theory model portrays two dialectically related modes of acquisition of experience which are Concrete Experience (CE) and Abstract Conceptualization (AC) and then two dialectically related modes of transforming experience which are Reflective Observation (RO) and Active Experimentation (AE) (Kolb et al., 2000, p. 235)

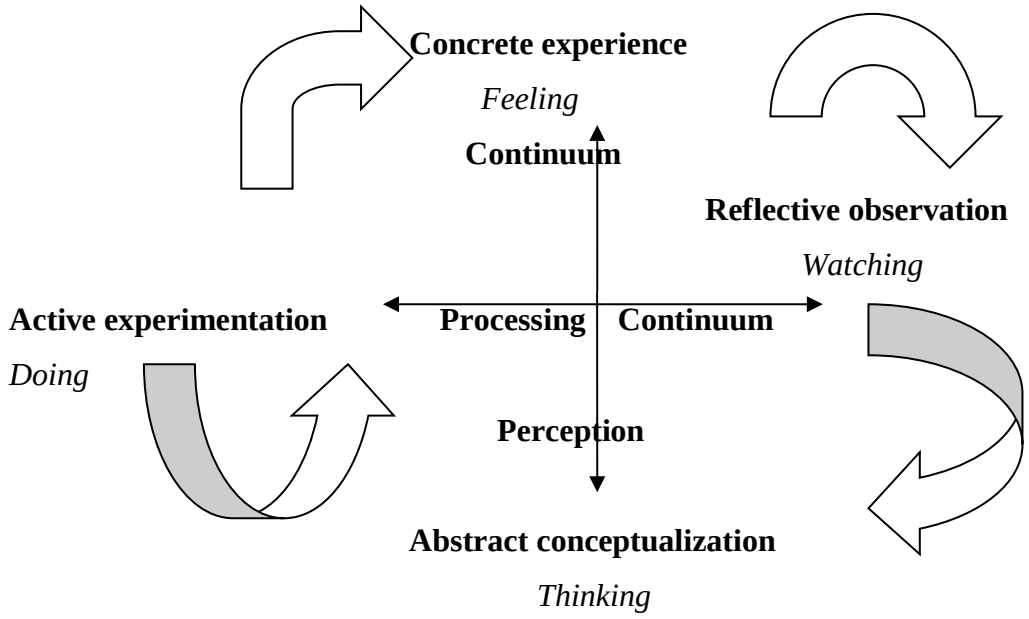

Figure 1: Diagram of John Dewey theory of experiential learning (2000)

Concrete experience (Feeling)

They are the basis for observations of a new experience on a situation that is encountered, or a reinterpretation of existing experience.

Reflective observation (Watching)

The reflections are assimilated and distilled. Those are of the new experience of particular importance and are any inconsistencies between experience and understanding

Abstract conceptualization (Thinking)

Here new implications for action can be drawn. These implications can be actively tested and serve as guides in creating new experiences. Reflection gives rise to a new idea, or a modification of an existing abstract concept.

Active experimentation (Doing)

Here the learner applies them to the world around them to see what results.

Application of Dewey's model of experiential learning to the study

John Dewey in his theory of experiential learning, he confirms that in adult learning people learn by experience. Learning by doing (or experiential learning) is based on three assumptions, that:
1. People learn best when they are personally involved in the learning experience;
2. Knowledge has to be discovered by the individual if it is to have any significant meaning to them or make a difference in their behavior; and
3. A person's commitment to learning is highest when they are free to set their own learning objectives and are able to actively pursue them within a given framework (Ord, 2012, p. 62)
Therefore, in the present study, the model was applied: to determine how midwife lecturers perceive the usefulness of simulation and its' teaching method, the process of teaching using simulation and factors affecting the use of simulation. Then to describe how the environment in which student use during simulation sessions can affect they learning, to justify how the willingness of the student to learn may affect learning by simulation, to discuss the availability of different simulation methods and how time allocated can affect the use of simulation centre.

The concrete experimentation phase explore the feeling of midwife lecturers regarding their perception on simulation with its' teaching methods available at this school, then the reflective

observation phase they describe their process of teaching using simulation methods and exploring factors affecting the use of simulation in this school. Thinking and analyzing issues associated to simulation occur in the abstract conceptualisation phase and evaluating and setting possible solution to improve the use of simulation and transferring their expression to the real clinical setting is discovered in the active experimentation component.

CHAPTER II: LITERATURE REVIEW

2.1: INTRODUCTION

The purpose of literature review in this study is to present the accumulated body of knowledge regarding simulation as a teaching method used in teaching midwifery procedures in midwifery education.

Facilitation of students to develop appropriate clinical skills is a goal challenged by many issues like environment, time constraints, students' ability to learn and methods used. There is manner in which simulation is seen as whole and different existing types of simulation methods; there is also the process on teaching using simulation finally there are factors known to affect simulation positively and negatively during the teaching process. However simulation methods, process and factors are perceived differently by users, and simulation remain effective and useful for preparation of future midwives (Pennaforte et al., 2016, p. 9).

2.2: PERCEPTION OF SIMULATION AS A TEACHING METHOD

Simulated experiences offer the opportunity to student to be involved in patient care experiences they may otherwise not be experienced in an actual clinical setting. There has been a growth in the use of simulation as a teaching tool within midwifery education. This has been influenced by numerous factors, such as decreased number of hospitalised patients and a few number of emergency cases, safety concerns and advances in learning theory, which push educators to leave traditional behaviours and encourage student skill acquisition (McKenna, Bogossian, Hall, Brady, Fox-Young, & Cooper, 2011, p. 684). Simulation used in midwifery education as a way of preparing students midwives to practice safely; confirm that graduate midwives are capable of assuming the full responsibilities and accountabilities of a midwife upon graduation (Catling et al., 2016, p. 111).

2.3: SIMULATION CENTRE ENVIRONMENT AND RESOURCES

Dow (2012) say that clinical simulation centre could have the same criteria to the real clinical environment due to the reason why the context of work is considered to have an important role in the sharing of content taught and skills acquisition, acquired during simulation to the real practice. Although the benefits of clinical simulation environment are clear, it is resource intensive, often involving costly equipment and high staff to student ratios (Coffey Fiona, 2015, p. 34).

Because simulation is an educational strategy with application of technology, the purpose of simulation is to achieve goals specific to teaching and evaluation. Simulation centre does not replace the need for teaching in the clinical practice setting; however allows the student to increase their assessment, critical thinking and decision-making skills in a safe and supportive environment (Larue et al., 2015, p. 136). This also allows for the assessment and evaluation of the student performance, whereby if the student demonstrates an error, or makes a wrong patient assessment or slow clinical decision making, this may not affect the patient health and the student has the opportunity to learn from the experience. The main aim of teaching using simulation methods in the simulation centre is to advance patient safety and to help the student nurse achieve competence, relating their theoretical knowledge with clinical practice (Edgecombe et al., 201, p. 23).

2.4: THE USEFULNESS OF SIMULATION

Simulation is a teaching and learning methodology that is progressively used in nursing education to prepare students for the clinical setting (Edgecombe et al., 2013, p. 23). Simulation enhances transformational learning experience for all midwifery students and provides different perspectives on caring for patients across the continuum of care. With simulation, students are able to practice multiple tasks and skills, and implement knowledge and decision making without the fear of harming the patient. Actually simulation is the best way and evidence based method to teach and practice psychomotor skills facilitating high quality experiences which build rapid students' critical thinking and clinical reasoning (Rutherford-hemming, 2012, p. 132).

Dow, 2012 (p. 23) confirm that Simulation can have the influence to diminish fear because the familiarity with settings and emergency scenarios can give an image similar to the clinical practice

and support an increase in confidence and ability to manage the situation. One of the benefits of simulation is the potential to ensure skill mastery via repetition or "scaffolding", with ongoing feedback and dialogue considered to be important to learning. Poor performance may be reduced prior to practice by repetition, the recognition of mistakes and ongoing dialogue with facilitators and peers. However, there is a need to consider how skills should be assessed during simulation and whether the simulation is the optimum method of assessing a particular skill development or skill competency. In order for simulation to work well, lecturers need expert support and advice to increase their confidence and capabilities in using simulation activities (Coffey Fiona A & Applied, 2015, p. 34).

Simulation allows learners to practise safely before they perform a procedure in clinical practice, reducing exposure of patients to any unnecessary risk, decreasing the potential for litigation of health care practitioners around patient safety(Cooper et al., 2012, p. 72). It provides an intense learning experience allowing space for the student or facilitator to apply theory to practice (Hope et al., 2011, p. 713).

According to Hope 2011 (p. 714), Simulation provides the student the opportunity to practise in a low risk environment and to familiarise themselves with equipment and procedures within a safe, supervised environment. Simulation using the high fidelity simulators offers boundless opportunities to address patient safety issues and to aid collaboration between education and practice. It provides the prospect for learner-centered, contextualized, risk free learning, which would be impossible in the clinical environment.

During simulation scenario the students can develop their skills and competences while working with other students and during feedback sessions and reflection after doing a scenario (Tosterud, 2015, p. 13). Midwife and nurse educators see simulation as a favourable teaching strategy. This has been attributed to several factors which include letting students work in smaller groups and the ability to discuss and apply theory and practice within a safe clinical environment. It is accepted that simulation is performed under artificial conditions that are not always directly transferable to clinical practice because in the simulated settings there may be fewer extraneous distractions than the clinical setting, therefore, simulated practice may be considered by some as the ‘second best’

option for practice teaching (Carolan-Olah et al., 2016, p. 376). Nevertheless, simulation is particularly useful in teaching subject areas such as clinical assessment and procedures that may be uncommon, hazardous or costly to set up. Simulation allows the learner to experience dimensions of the reality of clinical practice vicariously (Arias et al., 2015, p. 4).

Nurse/midwifery educators have reported that they felt simulation as a powerful teaching strategy, but much of the published research is limited and focuses on student's experiences rather than the effectiveness of simulation (Faulcon, 2015, p, 48)

Although simulation seems to increase student's confidence, problem solving and clinical judgment, it is not explicitly and strongly demonstrated within the existing evidence base whether these skills are more effectively learned through clinical simulation compared with classroom teaching (McCaughey & Traynor, 2010, p. 828). Several attempts to evaluate the effectiveness of clinical simulation in the development of clinical skills have been made (McKenna et al., 2011, p. 684).

2.5: THE PROCESS OF TEACHING USING SIMULATION

2.5.1: Preparation

A "pre-brief" establishes standards, Policies and protocols, role expectations, prepare the simulation area, make transparent the intended learning outcomes, introduction to the setting and simulation equipment, set rules for debriefing prior to the simulation. Setting a teaching plan, objectives and booking in simulation centre. Checking and organizing for the material, create a conducive environment all is part of preparation of teaching using simulation. Since the beginning lecturers should prepare students to face that field anxious about material and new approach. To address this, reassurance and clear explanations should be provided by the lecturer about what would be required and the support that would be available to them during the activity so that a conducive environment is created. Students can also organize themselves before going in the simulation centre (Faulcon, 2015, p. 47).

2.5.2: Conducting a simulation teaching session

The teaching session with simulation goes with varied methods of simulation according to the objectives. It is very important to teach with simulation using different common method used by the fact that the lecturer offers clear expectations and feedback. Teaching in skill lab is good than using dialogue in class because of using technical equipment, implication of language that providing the meaning by assisting students in decision making, and help faculty in policy making, research, and development of theory. The teaching process can use different forms of static pictures, skeleton, slides and three dimensional computer models. The process goes with the time of evaluation of communication, interviewing and assessment of skills of the learner (Larue et al., 2015, p. 132).

2.5.3: Debriefing students after scenario

Debriefings are generally conducted as a reflective learning experience in which participants review their performance in the simulation and the facilitator provides additional feedback.

Debriefing is an essential component of simulation that is used in nursing education. It can be defined as an activity that follows a simulation experience that is led by a facilitator where feedback is provided on the participants' performance, all aspects of the simulation activities are discussed, and reflective thinking is encouraged (Larue et al., 2015, p. 133).

The debriefing after scenario has the objectives to review simulation event, sort out and clarify thinking, release emotional tension, reinforce teaching points and correct misconceptions. Without debriefing, mistakes that have occurred in past projects will remain in future projects (Edgecombe et al., 2013, p. 23).

Debriefing is known to be of the big importance during teaching using simulation. It is an occasion to review, make comments and analysis regarding behavior of the students. The term insight was used by Dow in 2012 to describe how participants' simulation experiences can heighten awareness of practice and provide a learning catalyst as students gain experience and become open to other learning. The failings during simulation sessions have some relationship with the simulation

centre. Students' experiences and reflection on what they have done during simulation is the reality of their action this explain how facing the real clinical setting is needed. So it is important to do debriefing as it was concluded in many studies by providing a safe and open environment. Effective facilitation was described as enabling of learning with participants by making links between daily practice and the simulated emergencies (Merriman et al., 2014, p. 121).

2.5.4: Evaluation in simulation using OSCE

The Objective Structured Clinical Evaluation (OSCE) is a form of assessment in which the student demonstrates clinical skills, and underpinning knowledge, usually in simulated conditions. It can be understood as a measurement tool of clinical competencies with adoption of standard procedures. Besides, it recovers previous knowledge acquired by students, amplifying leaning opportunities in a clinical setting (Naiara et al., 2015, p. 6).

As a way to acquire knowledge, the use of OSCE becomes important, once lecturers position students in front of real situations for decision making and nursing conducts. It consists of a way to evaluate their clinical rationale. It is structured in stations, in which a pre-determined time for its development in presented, forming a circuit where students are in a rotation and simultaneous way to multiple subjects, in which themes depend on learning objectives (Naiara et al., 2015, p. 5).

As a methodological instrument to execute the OSCE, the Standard Operational Protocol (SOP) exposes each sequential step that the student should follow. The intention is to guide procedures development and clarify doubts. Those protocols should be updated and followed by students in standardized ways. Laboratory simulations with the OSCE promote an approximation with real situations that will be experienced in health attention environments. understanding the use of this strategy as an evaluation tool can serve as guide to use the strategy in the student training process (Fidment, 2012, p. 9).

2.6: FACTORS AFFECTING SIMULATION

2.6.1: Positive factors

In a study conducted by Houghton at al. in UK and Ireland in 2011, it was found that the use of good material was perceived positively by both educators and students as valuable learning tools. They were identified as helpful in developing critical thinking, confidence and competence. They indicated that good material increases students' knowledge, clinical judgment and communication skills (Houghton et al., 2012, p. 30).

In a study conducted by Botma in 2013 in South Africa she described that good teaching methods that promote critical thinking and clinical reasoning are helpful in teaching using simulation. She demonstrate that the teaching method enhance clinical judgment. Her research found that good teaching method promote a cooperative strategies resulted in increased transferring abilities with regard to clinical workup and treatment in medical students. According to case studies, as a learning opportunity, increase critical thinking skills and theory practice integration (Botma, 2014, p. 3).

In a study conducted by Amanda and Pam Moule in UK in 2008, they concluded that qualified staff and well trained one with regard to students willing to study increase confidence and support simulation teaching session. The mentors could see the benefits afforded through allowing students to practice clinical skills in a safe environment, believing this would help the acquisition of a range of skills including team working and support confidence development. This they felt would also aid the patients. They felt that patients would have greater confidence in the student nurses caring for them if they appeared confident in their practice. Mentors also believed that simulation could prepare the students for practice and had the potential to support student achievement of the required practice learning outcomes if the students are trained with a hard and qualified lecturer (Amod & Brysiewicz, 2017, p. 196).

2.6.2: Negative factors

Many studies conducted worldwide found negative factors associated to the use of simulation as related to time, infrastructures and environment, not having qualified staff, lack of material. To that end teaching technical skills during midwifery training can present some ethical and medico legal issues. Vaginal examinations are concerned because they involve the genital area and obstetric management (Catling et al., 2016, p. 110). However, being able to perform vaginal examinations correctly is known to be an essential skill in labor management and several studies have reported low levels of update in vaginal examinations performed by midwifery students working in gynaecology and obstetrics departments (Brady et al., 2015, p. 526). This low reliability in examination techniques is due, in particular, to the fact that they cannot be learned by observation alone; students need enough exercises on vaginal examinations on pregnant mothers. In normal circumstance learning, these examinations are performed under the supervision of an instructor who will then repeat the examination for every client. This helps to explain the difficulties experienced by midwife educators in teaching these techniques (Cooper et al., 2012, p. 67).

Practice Trends Influencing the Use of Simulation in Nursing Education

Researches have been made and show confirmed medical errors to the patient which result a health care reform. Through the integration of ideas from the quality and safety education for nurses (QSEN) plan, nursing/ midwifery education highlight on teaching the magnitude of patient safety. Simulation based education with planned practice is efficient in achieving specific clinical objectives regarding patient safety (Fox-Young et al., 2012, p. 438).

2.7: CONCLUSION

This chapter summarise the review from different literature regarding simulation as a teaching method. It talked on the usefulness of simulation, the process of teaching using simulation and factors affecting positively and negatively simulation as a teaching method.

CHAPTER III: RESEARCH DESIGN AND METHODOLOGY

3.1: INTRODUCTION

This chapter describes the research design and methodology that was used in the study, including the research setting, population, study sample, and sampling strategy, data collection process, data analysis, problem and limitation of the study, ethical considerations and finally the trustworthiness as it is a qualitative exploratory descriptive. The purpose of this study was to explore the perception of UR/CMHS/SONM midwife lecturers' on simulation as a teaching method in the simulation centre.

3.2: STUDY DESIGN

The research design is defined as the whole plan of how the researcher obtains answers to the research question. It specifies how often the data are to be collected, the type of the comparison to be made and describes where the study will be done (Denise, 2012, p. 58).

The study design was an exploratory descriptive within qualitative methods which refers to the study of different variations among given people with a purpose of finding out a range of some subject of importance among known individuals and it creates important differences among those people (Jansen, 2010, p. 3) Qualitative research is an interpretive naturalistic approach to the world (Keele, 2011, p. 38). This means that qualitative researchers study things in their natural settings, attempting to make sense of, or interpret a phenomena in terms of the meanings people bring to that phenomena (Keele, 2011, p. 39). A contextual in depth-interview was conducted to collect data.

3.3: STUDY AREA

The study was conducted at the University of Rwanda, College of Medicine and Health Sciences, School of Nursing and Midwifery, in the midwifery department at Nyarugenge Campus. It is located in Kigali City, Nyarugenge Sector, Rugenge Cell and Kiyovu Village.

3.4: STUDY POPULATION

A study population is defined as a set of individuals who have similar characteristics (Creswell, 2012, p. 142). The population in the present study includes 12 midwife lecturers at the School of Nursing and Midwifery at Nyarugenge campus during the academic year 2016-2017. Accessible population was made of twelve midwife lecturers who were available during data collection and voluntarily accepted to participate (Polit & Beck, 2013, p. 307)

3.5: STUDY SAMPLE

3.5.1: Sampling strategy

As it is a qualitative research, purposive sampling strategy was used. The researcher conducted an in-depth- semi structured interview of all midwife lecturers until the achievement to a theoretical saturation of ideas.

The purposive sampling is a sampling strategy in which the researcher selects people who are considered to be typical of the population. The knowledge of the researcher population and its elements is used to hand pick cases to be included in sample (Duan & Hoagwood, 2013, p. 4).

Purposeful sampling is widely used in qualitative research for the identification and selection of information rich cases related to the phenomenon of interest (Duan & Hoagwood, 2013, p. 4). This involves identifying and selecting individuals or groups of individuals that are especially knowledgeable about or experienced with a phenomenon of interest (Cresswell and Plano Clark, 2011, p. 6).

3.5.2: Sample size

Number of midwife lecturers of the department during the academic year 2016-2017 whom accepted to participate voluntary in this study. In research normally sampling size is decided by the type of design, type of sampling procedure and formula used for estimating optimum sample size, degree of precision required, the heterogeneity of attributes under study, and the relative frequency of the phenomena of interest occurring in the population (Creswell, 2012, p. 142). For

qualitative studies; the sample size is based on the information needs and is highly guided by the data saturation (Polit et al , 2012, p. 521). The sample size is 9 midwife lecturers.

The data saturation is the act of obtaining data from study participants up to the time that the researcher does not receive any new information regarding the phenomenon under study and redundancy has been achieved (Polit et al., 2012, p. 521) (Fusch & Ness, 2015, p. 1410). Data saturation in the present study was highly depended on the nature and extent to which diversity was achieved. So by using iterative process in the researcher sampling strategy, with involvement of the continual sampling, and the collection and analysis of data to inform the next stage of the sample design, then the researcher continue until theoretical saturation needed was achieved; that means when no new ideas or theories emerge.

3.5.2.1: Inclusion criteria

To be included in the sample, the subjects had to meet the following criteria: being a midwife lecturer in the UR/CMHS/SONM midwifery department at Nyarugenge campus and teaching a course involving midwifery procedures and use simulation teaching methods in the simulation centre and finally to have a willing to participate voluntary in this research.

3.5.2.2: Exclusion criteria

Any academic staff in the midwifery department that does not use any simulation teaching method in the simulation centre and is not a midwife.

3.6: DATA COLLECTION METHODS AND PROCEDURES

3.6.1: Data collection tool

A semi structured interview guide was used. That one has been developed by the researcher and was not undergo the process of validation. The guide has 3 main components the perception of the usefulness of simulation, the perception of the process of simulation and the perception of factors

affecting simulation. It is set in English as all participants can speak and understand the English Language.

3.6.2: Data collection procedures

The researcher started the process by explaining to participants the expectations, key words and the objectives of the research. Every participant received an information sheet containing keys words, objectives and research questions, then together we discussed on the topic and I make sure that they understood the meaning of the research. Then each one signed consent before we start, and gave the permission to be recorded. A private room was prepared and booked for the interview and participants were reassured for confidentiality.

The process carried out using a face to face interview, and tape recording equipment and verbatim transcriptions to increase accuracy of data collection. Then the researcher initiated each interview in a private room using a prepared interview guide, while participants were encouraged to talk freely and to tell stories using their own words. Each interview was lasting about 45 minutes to 1 hour and at the end of each interview, the researcher reminded the participants about her need for a second contact with them to discuss the study findings and to make sure that the study findings reflect their own experiences or perception on simulation as a teaching method. The level of data saturation determined by the researcher and her supervisor, and saturation was based on consensus between the researcher and her supervisor.

3.6.3: Pre test of the interview guide

A pre test was carried out one week before the data collection in order to avoid methodological error during data collection. The data collection tool (interview guide) pretested to check clarity and applicability, and to make sure if all questions were understood by all participants.

3.6.4: Content validity

Content validity is the estimate of how much a measure represents every single element of a construct (Polit et al., 2012, p. 521).

Table 1: Study objectives, variables, and instruments

Objectives	Research question	Conceptual framework	Item in the interview guide
Describe how the midwife lecturers perceive simulation as a teaching method in the simulation centre at UR/CMHS/SONM	How do the midwife lecturers perceive simulation as a teaching method in the simulation centre at UR/CMHS/SONM?	**Concrete experience (Feeling)** Usefulness of Simulatiom	As midwives educator, we use different teaching methods. One of them is simulation methods. So how do you perceive simulation as a teaching method in your teaching process? How do you perceive the usefulness of simulation as a teaching method?
Discuss how the midwife lecturers perceive the process of simulation as teaching method in simulation centre at UR/CMHS/SONM	How do midwife lecturers perceive the process of simulation in the simulation centre at UR/CMHS/SONM?	**Reflective observation (Watching)** Process of simulation	What process do you adopt in simulation? How do you perceive the process?
Explore factors that the midwife lecturers perceive as influencing simulation as teaching method in simulation centre at UR/CMHS/SONM	What factors do the midwife lecturers perceive to be influencing simulation as teaching method in the simulation centre at UR/CMHS/SONM?	**Abstract conceptualization (Thinking)** **Active experimentation (Doing)** Factors influencing Simulation	What factors do you consider are influencing simulation in this school?

This table shows the study objectives, variables, and instruments which will be used in each objective to obtain the needed information to answer the research questions/ objectives

3.7: TRUSTWORTHINESS

This expression explain at which degree the results findings that are generated from the study are realistic or true to others (Kuper et al., 2008, p. 405). It ensures the quality of the findings and increases the confidence of readers in the study findings and it requires that there be logical connections among the various steps in the research process from the purpose of the study through to the analyses and interpretations (Elo et al., 2014, p. 3). Thus, in the present study trustworthiness was utilized in order to establish the validity and reliability of the research findings.

3.7.1: Credibility

It is the way the research findings are accurate and truthful for the reader to believe in it, or the confidence that can be placed in the truth of the research findings (Elo et al., 2014, p. 4). Credibility establishes whether or not the research findings represent plausible information drawn from the participants‘ original data and is a correct interpretation of the participants‘ original views (Anney et al., 2015, p. 276).

In this study credibility was achieved by allowing participants to express their feelings through answering to open ended questions, verifying the data analysis together with them to ensure accuracy of transcription accepting their comments on the analysis so that I ensure that that I produced really reflects what they told me or whether I measured or tested what I intended to. The researcher was holding on the interview process until she reaches data saturation. Again, all transcription was verified completely for accuracy and all interviews were based on a pre established interview guide with structured questions.

3.7.2: Dependability

Dependability refers to the stability of findings over time. Dependability involves participants evaluating the findings and the interpretation and recommendations of the study to make sure that they are all supported by the data received from the informants of the study (Anney et al., 2015, p. 278).

The main concern of dependability is whether the same findings would be achieved if the same study were to be conducted the second time. To enhance the dependability of this study, detailed steps illustrating the data collection process was documented and systemically subsequent the methods of the thematic analysis in the study (Shenton, 2016, p. 4). To that end to achieve dependability the researcher used the recorder to tape all the interviews and the use of the same researcher in all interviews involving one midwife lecturer per interview was assisting in dependability. The participants were allowed the checking of transcripts to see whether there are no mistakes made by the researcher. Two persons (supervisor and co-supervisor) were also allowed to cross check the link between the objectives of the study, study questions, the conceptual framework used and the interview guide. After their agreement, the study was dependable. Finally, the fact that this study has credibility also determines its dependability.

3.7.3: Transferability

Transferability is used to determine the extent to which the result of the study can be transferred to other settings. To ensure the feasibility of findings transfer, the study population and research setting should be described in enough details (Elo et al., 2014, p. 4). In this study, transferability was ensured through the collection of sufficiently detailed descriptions of data in context and reported them with sufficient details and precisions to allow judgments about transferability to be made by the reader. In addition, this was again achieved through the provision of detailed description of the study setting, description of the study population as well as the detailed description of identified themes to facilitate application of the study to new prospective researchers. To that end the findings of this study can be applied to other midwife simulation users in other campuses of the University of Rwanda, college of medicine and health sciences.

3.7.4: Confirmability

Confirmability refers to the degree to which other researchers confirm the study findings (Shenton, 2016, p. 528). It is concerned with establishing that data and interpretations of the findings are not figments of the inquirer‘s imagination, but are clearly derived from the data (Anney et al., 2015, p. 279)

In this study, confirmability was achieved by accepting an audit trail to verify all resources the researcher have used, the references, the audio recorded that was made by the researcher, as well as all interviews done. The researcher was carefully so that her prior knowledge regarding perception on simulation did not influence what participants was saying. Six steps of Braun & Clarke, 2013 (p. 122) were used in analysis, which provide reasonable and precise interpretation of the data to achieve confirmability. Supervisor was allowed to verify collected data and data analysis procedure as well as the interpretation of data. Finally, data was verified with participants by going back to the study participants to really ensure that data collected reflected what participants was saying.

3.8: DATA ANALYSIS

Thematic approach to content analysis by identifying themes in the data to allow structured organization of data to take place was used.

According to Fusch, 2015 (p. 1411), qualitative data analysis is a procedure of fitting data collectively, to make visible what is supposed to be abstract, of connecting and attributing consequences to antecedents and the process follows many tasks to facilitate the management of collected narrative data (Beck, 2012, p. 557).

A thematic analysis approach was used. This is a method of interpreting data and provides a way of systematically identifying patterns among provided data so that there is a clear explanation of the phenomenon. It again provides a very rich understanding of the phenomenon and is based on the development of understandable themes (Smith, 2011, p. 3). The data was analyzed, based on six phases of thematic analysis according to Braun &Clarke (2013), which are the following:

3.8.1: Familiarization with data

According to literature, on this step the researcher have to use all possible means to get familiar with collected data (Clarke & Braun, 2013, p. 4).
In this phase, the researcher used to play the audio taped records as many times as possible, read the transcribed data as well, until she got the understanding and meaning of the whole content of what participants was telling regarding their perception on simulation as a teaching method.

3.8.2: Coding

Coding consists of a process of decreasing collected data and as well as an analytic method (Clarke & Braun, 2013, p. 4). During this phase, the researcher created labels and codes for significant characteristic of the data of significance to the research question to direct the analysis. The researcher read the data entirely and gives them codes which corresponded to their categories, and then codes were presented in a table well structured and visible for everyone who will need to read.

3.8.3: Searching for themes

At this step the researcher recognized same data by putting codes on each one and the generated themes and finally put together every data with the theme and subtheme applicable to it.
This is evidenced by the literature whereby it is written that the researcher is supposed to recognize same data by putting codes on each data; from that, themes are generated and put together every data with codes applicable to every theme (Clarke & Braun, 2013, p. 4).

3.8.4: Reviewing themes

At this step the researcher examined the theme, their rationale regarding data and then described the nature of every theme as well as their association. According to the literature, the researcher examined if the themes are realistic concerning the data and described the nature of every theme as well as the association among themes (Clarke & Braun, 2013, p. 5).

3.8.5: Defining and naming themes

At this step the researcher carried out a complete analysis of every theme, classify the meaning of each one and give a name for every theme of course relating them to subtheme.
This is confirmed by the literature which say that the researcher is supposed to perform a complete analysis of every theme, categorize the meaning of every theme and then create a brief instructive name for every theme (Clarke & Braun, 2013, p. 5).

3.8.6: Writing up

At this final step of the data analysis which is the writing up the report, the researcher combined all stories from participant and made a comparison with what is said in literature so as to inform readers those findings meaningful.
Literature confirm this by saying that at this phase, the researcher has to combine the story of participants with data extracts and compare it with the literature so as to inform readers (Clarke & Braun, 2013 , p. 6).

3.9: ETHICAL CONSIDERATIONS

The scientific and ethical approvals as well as permission to conduct the research was granted from the direction of post graduates studies and ethical committee (IRB), then the school wrote a recommendation letter to the department in which the study was supposed to be conducted, then the department authorized to start. Informed consent from participants in the research as well as permission to be recorded was obtained after explanation of the purpose of the study and key words. Confidentiality of the identity of the participants was maintained as we used to record voice but not a video taking. Unnecessary use of resources, including taking of excessive samples was avoided as only midwife lecturers users of simulation of Nyarugenge campus are only allowed to participate in the present study. Midwife academic faculty team from other campus was not accepted to participate in the present study.

3.10: DATA MANAGEMENT

During the research process data was kept safe and secured at all research stages. No any other person was having access to the data except the supervisor and co supervisor. Data sharing was possible after original research has been completed. According to the UR regulation after 5 years data will be destroyed. After final corrections one copy of the dissertation will be submitted to the library of UR, College of medicine and health sciences to be used by other readers and enable further researches in the related field of study.

3.11: DATA DISSEMINATION

The findings will be presented to the UR/CMHS/SONM committee of researcher, Midwifery department, Ministry of education, Ministry of health, Rwanda education board; National and International conferences then publication will be done in journal of nursing education to increase the dissemination of results regionally and globally.

3.12: PROBLEMS AND LIMITATIONS OF THE STUDY

3.12.1: Problems

The problem was regarding time as midwife lecturers' are always busy with the job. The researcher used to ask them an appointment and meet them where they were either in the clinical placement or at the office but trying to respect the given time.

3.12.2: Limitations

The limitation was the extent of generalization of findings as the researcher did not have time to apply findings to other simulation users and have collected data in only one campus. There was also a very limited ability to generalize because sample is handpicked. There was also the issue of information bias and interviewer bias since a face to face interview was conducted in data collection procedure and participants did not speak freely as some are colleagues others are friends.

3.13: CONCLUSION

This chapter looked at research design, research approach, research setting, population, sampling ,sampling strategy, sample size, data Collection, data Collection instruments, data collection procedure, data analysis, ethical considerations, data management, data dissemination, limitations and challenges of the study.

CHAPTER IV: PRESENTATION OF FINDINGS

4.1: INTRODUCTION

This chapter presents findings from qualitative data collection for this research. It describes participants of the study and finding according the objective. There is meaning of findings and evidence from verbatim transcribed interviews.

4.2: DESCRIPTION OF CHARACTERISTICS OF PARTICIPANTS

In the present study participants were Nyarugenge campus midwife academic staffs, who are actually teaching courses involving simulation methods in teaching midwifery procedures and use the simulation centre. Nine participants were approached based on data saturation. Two of them were men and seven were women. Their age vary between 30 to 50 years old, all of them were married. Their working experience was varying between 5 to 15 years in teaching using simulation methods in the SONM. Four of them were bachelors' degree holder, four were masters' degree holder and one is in ongoing Phd course.

Table 2: Profile of participants

Participants	Gender	Age	Level of education	Working experience
Participant 1	Female	47	Masters' degree	8 years
Participant 2	Female	45	Bachelor degree	5 years
Participant 3	Female	42	Bachelor degree	5 years
Participant 4	Male	36	Bachelor degree	5 years
Participant 5	Female	43	Phd candidate	12 years
Participant 6	Male	32	Bachelor degree	6 yeras
Participant 7	female	44	Masters' degree	13 years
Participant 8	Female	43	Masters' degree	11 years
Participant 9	Female	45	Masters' degree	13 years

Table 3: Main themes and subthemes

Themes	Subthemes
Usefulness of different types of simulation as a teaching methods	Allow repetition and correction of errors until mastering the procedure as student are in pair during time of self exercise
	Help student to be familiar with the image of clinical setting
	Reduce fear and frustration of students
	Application of theory learned material in practice
	With simulation students and patient are safe
Process of teaching using simulation method	Setting a teaching plan, objectives and booking in simulation centre
	Checking and organizing for the material, create a conducive environment
	Teaching using simulation methods
	Giving feedback (Debriefing after scenario)
	Evaluation by OSCE
Factors affecting simulation teaching method	Well trained staff in using simulation methods
	Student willingness to participate
	Good simulation teaching material
	Infrastructure
	Environment
	Limited number of midwife lecturer
	No midwife lecturer who have a formal training on teaching using simulation
	Poor planning
	Lack of some material
	Time

Findings of the present study show how the midwife lecturers, perceived simulation as a teaching method, its' usefulness, process and factors hindering its' use. From informants expressions three themes were developed regarding perception of simulation.

4.3: DESCRIPTION OF THEMES

Themes in the present study are three and each has subthemes. They are the following: Usefulness of different types of simulation as a teaching method, Process of teaching using simulation method, Factors affecting simulation teaching method. The researcher is going to describe each one with its' subthemes.

4.3.1: Usefulness of different types of simulation as a teaching method

As simulation is one teaching method used in nursing and medical schools in course that have practical component. Participants perceived simulation teaching methods as useful method bridging the gap between theory and practice, reducing fair from the student to the patients, helping student to be familiarized with practice. They perceived simulation method as best used in teaching learners how to perform manipulative operations like in midwifery and perceive it providing several advantages like saves time in presenting, concentrates attention of learners on relationships to be understood, making efficient use of power of observation, is a means of strong motivation, and can be used in training groups or individuals. They perceived this usefulness as attributed to different types of simulation method.

4.3.1.1: Allow repetition and correction of errors until mastering the procedure as students are in pair during self directed exercises time

Midwife lecturers perceived simulation teaching methods as a useful one, in its' character of allowing repetition in the way that students repeat until they master the procedure. Then go to the real clinical setting when they are mastering the procedure. Taking the example of videos in teaching process there is an opportunity to play the video and reply it until students are satisfied and having developed the ideal idea.

When teaching using simulation methods student repeat many times as they can, do errors correct them continue until they fill the procedure is well known and mastered. Even students can come at self directed learning hours repeat procedures until mastering and write down questions to be addressed to the midwife lecturer to get more clarifications. Respondents of this study perceived that exercises at self directed time are good occasion for students to work and do and redo in pair whereby repetition and sharing experience is done. Students are free to make exercises, questions and clarifications needed are kept together and at the time of meeting the lecturer they are asked and responses are given. Students in pair use all methods available and the time is enough for self directed learning so that students master the procedure that is their perception of simulation regarding self directed learning.

Midwife lecturer said:

"*I perceive that the simulation based education, is one of the strategies ahh that is used in…. in medical teaching and even teaching nursing teaching especially for this college our school of nursing and midwifery we are using simulation based education mostly in the courses that having practical component and after we have delivered the theory theoretical part of our teaching our given module then we have to take our students in simulation environment……even they can make errors and correct because it is in simulation, they repeat and correct until mastering the procedure*" (Participant 5)

Another midwife lecturer said:

"….Ok for the.. euhh.. modular system it is not easy because on… for example for abnormal midwifery we have too much procedures to do and cover a hundred hours for theory and practice in the module but the time it is not enough according to the procedures to be taught it is not accommodating given procedures… that we have time to finish all of those in simulation, so I use to teach and motivate students to come for self directed exercises and maximize skills as well as they come this cover much more but not easy…. Self directed learning in simulation is motivated also by the fact that midwife students now that they will be evaluated and come many time to master the procedure preparing for the exam which will let them go for clinical setting "(Participant 8)

Midwife lecturer said:

"When I am teaching something new to our midwife students, it is often helpful to watch someone doing the same task,….. whether it is easy or difficult…. unlike an explanation from a teacher or a textbook, which requires learners to visualize a particular concept or process themselves, a demonstration enables concepts and processes to be observed directly, which in turn makes learning easier as student return demonstrate. As a simulation teaching technique, a demonstration is a valuable alternative to getting students to 'learn by doing'. While learning by doing is ideal in subjects like procedures in midwifery…" (Participant 4)

Midwife lecturer said:

"*….there is a time we use videos aahh there is big screen there when students are there,... there are watching we have some videos, showing how techniques are done….sometimes in simulation we can take some videos in the hospital then keep them in the simulation center which can allow student to assimilate or to get good understanding or deep understanding on what is being done at the real clinical setting yes….. yes a video is a good teaching method kind of simulation I mean…. let's take an example of health assessment it must be even like in you work in the field of midwifery if we are teaching let say family planning for reproductive health we need to do first an assessment so they can play the role of those scenarios and practice through that scenario…"*

"…. Exactly..... Exactly because those are human being we cannot go to to ... to do your first attempt we have to use the model the student have to be coached the... the lecturer perform first of all the .. the procedure then then student have follow what the lecturer did and for the following time the student also it is their own learning time to perform this and they perform the.. the procedure on those model" (Participant 6).

4.3.1.2: Help student to be familiar with the image of clinical setting

Informants perceived simulation teaching methods in the simulation centre as a method helping student to be familiar with clinical cases as the simulation centre has an image imitating the clinical setting. As midwife students come in the simulation centre many time during learning sessions as they become familiar with. The increasing number of attendance during teaching and learning time

in the simulation centre allow progressively familiarization with the clinical setting. The purpose of simulation is to prepare student to have an image of real clinical setting.

Midwife lecturer said:

"…..*for me I perceive that strategy as ahh learning or teaching and even learning methodology that help student to be familiar with clinical setting environment" "….I feel that it helps my students to be familiar with the environment that simulate the hospital…"*(Participant 6)

Another midwife lecturer said:

"As I said from the beginning, the simulation lab allow to student to live theory to practice before they go to the bed side, that means from the theory to the bedside simulation is between… for student to learn how to perform some practice and then that exercise can allow them to beee to be released from fear first of all and to.. the simulation lab is like a hands on real patient even it is not real patient the simulation can provide the picture on how clinical setting is for the student, that is one for student to be familial of clinical procedures before getting to the bedside….." (Participant 3)

4.3.1.3: Reduce fear and frustration of students

Informants perceived simulation teaching methods as good as reducing fear by the way that it is known that facing at the first time someone who is seriously sick or having strong contractions is not easy. But while midwife students have been working on that in the simulation centre frustration and fear are reduced and they feel comfortable. The way they make exercises the better they become familiar.

Midwife lecturer said:

"……..help in teaching students and making them view like feeling that there are in a safe environment whereby they can learn without fear without frustration" (Participant 7)

4.3.1.4: Application of theory learned material in practice

Informants perceived simulation teaching method as a way of application of learned in theory material to practice. As when a session is learned practical component should be given in an appropriate way so that lecturers are teaching in an area similar to the real practice.

Midwife lecturer said:

"…….*we are using simulation based education mostly in the courses that having practical components and after we have delivered the theory theoretical part of our teaching our given module then we have to take our students in simulation environment meaning the application of learned theory in practice in an area similar to the real setting ...."*(Participant 8)

Another midwife lecturer said:

"I like the simulation sessions because you cover things that we don't always get the time to do it in practice" (Participant 7)

4.3.1.5: With simulation students and patient are safe

Informants of the present study perceived simulation teaching method as a good one increasing the safety of the patients and the midwife students, in the way that students make many exercises and master the practice before practice on the real patient. The other way they perceived is that even if it is to do a mistake it is not done on the human being, it cannot harm the human being as well as student is using simulation teaching and learning methods. They perceived that at the first attempt there is a risk of harming a patient which is unsafe but using simulation teaching methods in its' character of allowing repetition, students masters the procedure and mistakes are reduced to that end students are safe as well as patients. Student cannot do the first attempt of procedure on the human being. Simulation allows students and patient to be safe.

A midwife lecturer said:

".. I say that .. euhhh ..Just because when doing some procedures they are harmful to the client either killing or causing pain or euhh .. even causing physical disability somehow…and the student will not fill comfortable to present or express him or herself if he is not sure for the safety. Let us take the example of IM injection to start practice at the first attempt this or a new one that technique on human being to do IM injection it will be painful and the student himself will not fill comfortable to do it immediately, it stressful……but if you do it on mannequin in simulation centre the student will be having no fear and will put that in practice and if she fails you will get chance to give the constructive feedback to the student as well as she is still improving and the more practice the student become more comfortable and confident and competent and that will allow her to put that in practice to the real client when she is in clinical setting it what I am saying it help student to learn more It is useful…."(Participant 1)

Another midwife lecturer said:

"It's good because students can make mistakes in the simulation sessions, without frightening patients, or putting them at risk in anyway it's scary to think what it would be like without it wouldn't it!". (Participant 9)

Another midwife lecturer said:

"Simulation provides the student the opportunity to familiarize themselves with equipment and procedures within a safe, supervised environment. The students are encouraged to work hardly, and acquaint themselves with the feel, use, safe handling and appropriate disposal of equipment. And euhh .. gives the student the opportunity to practice in a low risk and safe environment. I felt that they 'feel secure and can make mistakes', under my guidance and importantly simulation gives the student the opportunity to correct any errors without exposing this practice to the real patient" (Participant 3)

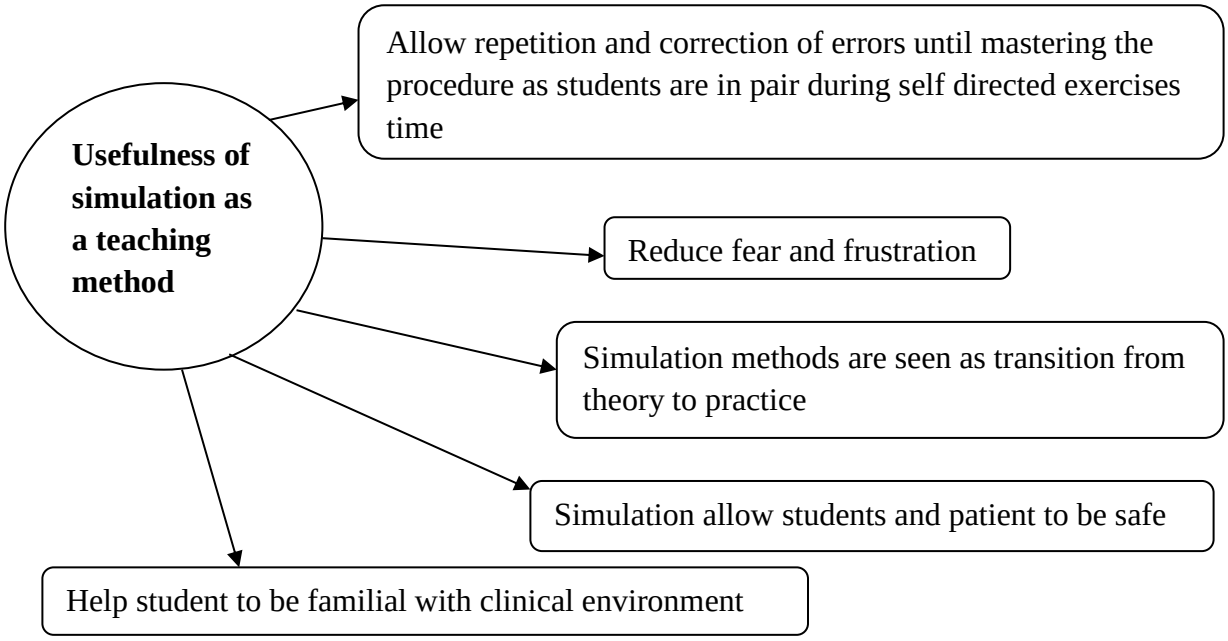

Figure 2: Showing theme 1 and its' subthemes

4.3.2: Process of teaching using simulation method

This developed theme on the process of simulation is having subthemes which are: setting a teaching plan, objectives and booking in the simulation centre; Checking and organizing for the material and create a conducive environment; teaching using simulation methods; debriefing after scenarios; Evaluation by OSCE.

4.3.2.1: Setting a teaching plan, objectives and booking in simulation centre

Informants said that they perceived the process of teaching using simulation as an organized one starting at the beginning of the academic year whereby midwife lecturer set a teaching plan in the department level in which everyone know the course that he or she will be teaching during this academic year. Then according to the course syllabus and the unit there are objectives that should

be covered during the academic year and the time table to follow is set. Regarding the organization booking is done immediately on line to let simulation centre staff to try organizing and confirming appointment for each one who need. The confirmation of the allocated time is done on line or on phone call and it is not always accepted as requested because users are many.

Midwife lecturer said:

"……..what we do is to start by planning because the module which are located in each semester are known and those which will require some practical components we know them and if you are teaching that module we plan ahead in the departmental level and then we submit this plan in skills or the simulation centre office and then they tell you if that plan will be accommodate depend on different plan the time while there are different plan from other department……."(Participant 2)

Another midwife lecturer said:

"*….then after accommodating your plan it is also part of you put the plan in the course syllabus course content course guideline and then tell to student when you introduce the course the first day also you plan to the student your expected time which you have practical component and the day and the date so you go on line you book the simulation centre on line and they give you the feedback that your request is accepted or if there is another proposal depending on what is available…."*(Participant 7)

4.3.2.2: Checking and organizing for the material, create a conducive environment

Informants in this study perceived the way of organizing the session before going with students as a good one preparing the lecturer to be up-to date with the content to be taught and the material to be used, even organizing the colleague who will come to help in different station if it is the way forward. The preparation goes with organizing the room which will be used by making sure of clearness, lightness and making everything good.

A midwife lecturer said:

"……..when for example it is scheduled tomorrow I have to go in the previous day to arrange the simulation centre to prepare the material and even if the teacher is not perfect or you have some confusion on where I don't have skills or having gap you exercise yourself and tomorrow you come…."(Participant 1)

Another midwife lecturer said:

"…after theoretical part we prepare some procedures on the skills lab the day of the procedure we start by preparing material we set material related to this procedure and we prepare ourselves and the stations then we call the students to search with different station to be prepared especially for the…, normally we organize the skills lab the previous day by checking the availability of material and see if equipment are functioning, making some refreshment regarding the procedure, make sure if the room is clean … anyway make the environment conducive for teaching and learning process….."(Participant 6)

4.3.2.3: Teaching using simulation methods

Informants of the present study perceived that the process of teaching using simulation has similarity even if methods are different, as they teach and students follow and will have the time of questions and clarifications. The process goes with the objectives that are expected to be achieved at the end of the session. They perceived simulation teaching process as good as if done properly midwife students get enough material taught. The process of rotating student helps in saving time as procedures are many.

They perceived as essential and helpful the encouragement of the midwife students to make predictions and announce or record their observations as they watch. After teaching, the scenarios are often accompanied by explanations and more clarifications. As with all, explanations, asking midwife students' questions, at the start and as they progress, this is perceived as helping midwife lecturers to assess their prior knowledge and evolving understanding, enabling them to reinforce and clarify points as necessary. Whether the simulation session made individually or collectively, the conclusions made after scenario help them identify appropriate ways of reinforcing or extending their learning.

Midwife lecturer said:

"….when you have the module which have theoretical component and as well as clinical or practical component it is recommended that first of all we go to make demonstration in simulation centre by using mannequins by using check lists and using videos if applicable and then give the student the time to make practice the return demonstration as well as self directed practice and that it is useful and it is recommended because no student is not allowed to go in clinical practice without passing in simulation centre…."(Participant 4)

Another midwife lecturer said:

"….We use to have more than one station when we are in the skills lab because like on the module of normal midwifery you cannot real finish all the procedures alone its' good that you are many so that one is focusing on one procedure and another one in other procedure otherwise if you are alone it will take too long and time and euh.. you know!?.... at the end of the term yourself you will be overloaded and tired…."(Participant 8)

4.3.2.4: Giving feedback (Debriefing after scenario)

Midwife lecturers' perceived that during the teaching process using simulation feedback as a debriefing is always done so that students know their weakness and improve as long as they proceed. This help in doing many exercises and is the only way to master the procedure. They perceive debriefing as good as it is done after completion of the procedure not at mid-time while the student is still performing they wait until the student finish. Student can also work in pair and discuss together. In simulation teaching session it is not necessary for the lecturer to start demonstration, as it is an adult learning, one student can come and demonstrate a procedure and the midwife lecturer just correct mistake and allow discussion.

A midwife lecturer said:

" *we used to teach using simulation and then we give to students the opportunity to repeat the procedure and we write down all mistakes the student do, after we have a time for feedback I mean a debriefing the student recognize mistake and then together we correct…… euh.. Some time*

we do, redo, until we are assured that the students can do even on the human being, … remember that.. that we have different simulation teaching methods but the debriefing is always the same " (Participant 1)

Another midwife lecturer said:

"*I want to say that the objective is achieved as I want,…. the most thing is that the feedback is given the student can assess himself or even pair can assess him they also assess just to reinforce the teaching, when the feedback is given and understood the students can improve and is what we want in our teaching process…….but it doesn't end there we also have a session like giving a feedback how did you see your colleague performing how did you feel you have to say how do you assess yourself how did you perform this procedure so those kind of feedback are needed to reinforce the teaching process…."*(Participant 9)

4.3.2.5: Evaluation by OSCE

Evaluation using OSCE is the only method of evaluation which is perceived by midwife lecturer as a last one during their process of teaching using simulation, preparing students to face the real setting. They perceived that preparing different stations with different lecturers is good whereby students pass in each one performing the procedure in a given time then students are marked then the total marks is given to the student. Doing OSCE in all taught procedures is perceived to be not necessary, just some procedures are choose to be done during that process. They perceived that process as a way that permit to categorize students as able or unable to practice on the human being because students who get less than 60% are not allowed to do in the real clinical setting they repeat as a remedial until having a pass mark average. After succeed the OSCE the student is allowed to face or to practice on the human being with expectation of not harming the client. Always after teaching there is time for evaluation using OSCE succeed students are allowed to go in clinical failed one have to do a remedial. This is done to evaluate achievement of objectives.

A midwife lecture said:

"*No there is an assessment, there is an assessment may be I missed that, you know that we are in education so you know that when you teach you need also to know if what you taught have been understood. Student has gained what? so you have achieved your objectives so in simulation we also evaluate we use the OSCE as you know it is an Objective Structured ahh evaluation, clinical evaluation, we evaluate student on the procedures we as I said, we are preparing them to go to clinical setting, real clinical setting like in hospital or in health centre then in those OSCE weee it is not like we assess each in every procedure so what we do, I am saying what we do I will say what I do but I will say it for even my colleagues is what they do because we have been trained on how to do so….* " (Participant 9)

Another midwife lecturer said:

"….let's say we are in a module where we have many procedures more than 10 procedures you do not evaluate the all 10 to 15 item like in a credit procedures but what we want to say this student have something that remained after you have taught which prepare them or him or her to go to the real setting so I choose like two I mean two four five six procedures of what I will evaluate but the procedure has have euhh many steps I even not need to evaluate all steps because if someone has understood how to do a procedure we can just see how he perform those procedures so those are steps that we go through while we are setting an OSCE for evaluation then we don't allow student who did not perform well the OSCE to go to clinical setting…."(Participant 4)

A midwife lecturer said:

"…..if he/she have not success the OSCE meaning something is missing so the student has to do a remediation we have to do a remediation for the student unless we do the remediation he succeed or she succeed the remediation then you can go to the clinical placement and for student to pass he has to get like 60% in OSCE so the one who got less than 60% he has to take the the.. remedial….."(Participant 3)

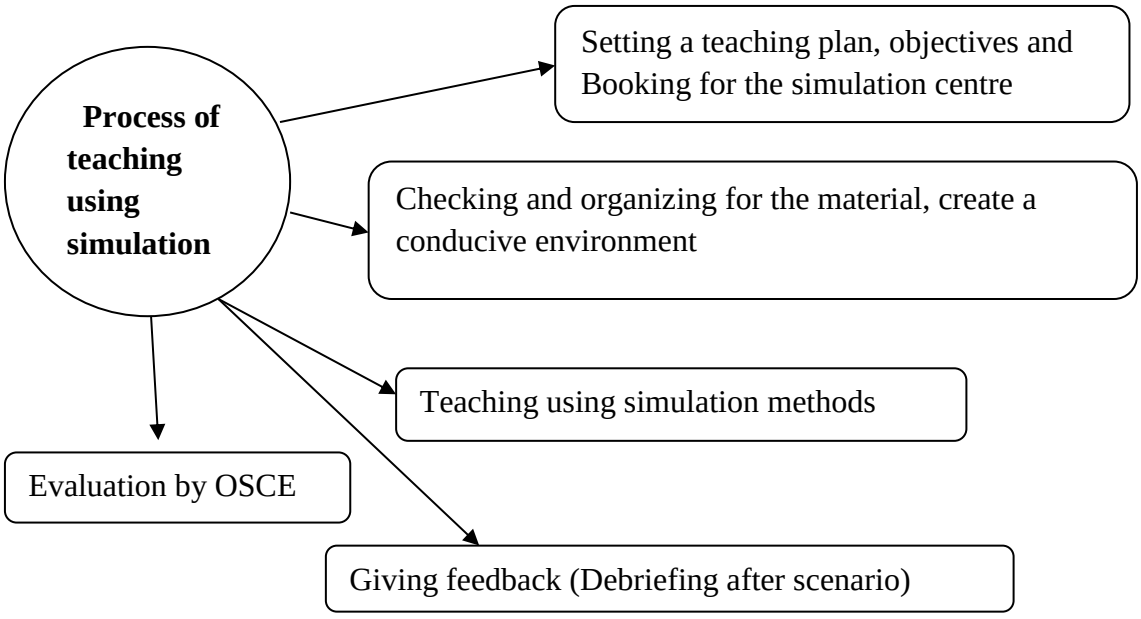

Figure 3: Showing theme 2 and its' subthemes

4.3.3: Factors affecting simulation teaching method

Here midwife lecturers perception permitted the researcher to develop the theme which having subthemes grouped into two categories: positives and negative factors. In positive side they found well trained staff in using simulation methods, student willingness to participate and good simulation teaching material. Regarding negative factors infrastructure, environment, limited number of midwife lecturer, lack of midwife lecturer with a formal training on teaching using simulation, poor planning, lack of some material and time are perceived to be affecting the teaching using simulation.

4.3.3.1: Positives factors

4.3.3.1.1: Well trained staff in using simulation methods

Midwife lecturer perceived that having informal training regarding teaching using simulation as a factor motivating the positive use of it. As it is done annually they are up to date of using simulation

teaching method. Midwife lecturers are trained in teaching using simulation and once a year there is refreshment. Annual continuous training about the use of simulation methods for midwife lecturers is seen to be a factor affecting positively simulation as a teaching method.

A midwife lecturer said:

".....about how prepared I say that some are prepared they are prepared because each year the simulation centre do a course a training for the new staff and especially for those who already have been trained on the use of simulation how to use the methodology how to stay you how to use the mannequin the equipment the institution try to train the new comes so some may be retrained some may have trainings those training for sure there is no lack of knowledge regarding teaching using simulation methods, I want to say that…."(Participant 4)

Another midwife lecturer said:

"*We have staff who are mastering the simulation methodology…… also some of the lecturers have been trained to use the simulation which is good because using the simulation is not really something tic tac so it require to be trained to know how to go about it how to „so many of the lecturers are trained to use the simulation….."*(Participant 7)

4.3.3.1.2: Student willingness to participate

Midwife lecturers perceived that students are willing to attend or participate in the simulation centre as they are having curiosity to know the clinical setting. This is seen as a positive factors on its' use because as student comes many time as they master the procedures performed in the simulation centre.

A midwife lecturer said:

"We found the students willingness to participate in simulation centre as a positive factor on its' use because students mostly beginner in midwifery have curiosity of the image of the real clinical setting, this motivate them to come as much as they can to use the simulation teaching

methods…Yeah student need to attend in free time at the self directed learning time…." (Participant 1)

Another midwife lecturer said:

"…… the showing character of motivation is the rate of absenteeism that is very low they are not absent when we go to the skills lab to do simulation centre and when you call upon each name from the attendance list you find almost everyone is there every one has attend so you can think that students are self motivated….." (Participant 6)

4.3.3.1.3: Good simulation teaching material

Midwife lecturers perceived having good teaching material as a factor affecting positively the teaching using simulation in the simulation centre. When there are sophisticated and up to dated material teaching is done with high motivation from the teacher and the student. Materials are considered as positive factors as there enough.

A midwife lecturer said:

"……*in our simulation centre you cannot find everything because it is impossible in developing countries you cannot find they have everything our skills lab our simulation centre is equipped with high tech materials mannequins I talked about sim euhh noella and you can find an updated materials and equipment the other thing I don't remember the number of mannequins but according to the schedule of visiting simulation centre is euuhhh there are not quite enough but there are at least enough I cannot say that they are enough but they are at least sufficient. …….*" (Participant 6)

Another midwife lecturer said:

"…the availability of good materials teaching materials like those high fidelity mannequins that are really very good that help student the use of simulation this is good…"(Participant 7)

4.3.3.2: Negatives factors

4.3.3.2.1: Infrastructure and environment

Space is seen as a negative factor hindering the simulation teaching method. Midwife lecturer perceived the infrastructure to be a barrier hindering negatively the use of simulation as a teaching method. They perceived the infrastructure old; rooms are small and even are few in numbers. In this infrastructure the simulation centre is on the 3rd floor, some light are not working and is even small in a such way that some material are kept in cupboard. There is no room prepared for debriefing, as it should be. The environment itself is perceived as a factor affecting negatively the use of simulation as a teaching method. It is located at the entrance of the school whereby there are a lot of noises due to the car passing around. Accommodating a big number of students is perceived to be not possible.

A midwife lecturer said:

" *We have only 2 rooms for simulations which are used by the hall college and you know that the college is made by many schools like nursing and midwifery, dental, allied sciences, medicine, community and so on…. all of them comes in this simulation centre; this is the reason why we have sometimes a compromising schedule, a limited time compared to the requested one, and.. euh.. we have a big classes which cannot be accommodated at once during demonstration time.. even if you have some colleagues to help the rooms remain a barrier sometimes we borrow material and we go to teach in the ordinal classes….* " (Participant 9)

A midwife lecturer said:

"Thanks as we said the first factors is negative and is space we have simulation lab it is not enough according the space we have enough materials but some are kept in cupboard and they are not used because the space is small and when I book I can found some booked at the same time that is a challenge …There only two rooms for the hall college and you know that the school have many schools. So we need other building for simulation…"(Participant 8)

4.3.3.2.2: Limited number of midwife lecturer

The midwife lecturers are perceived to be in short number compared to the number of student in the school. This is perceived as a factor affecting negatively the use of simulation as a teaching method. When it is a time for using simulation method either in teaching or evaluation sessions it is possible to miss the desired number of colleagues to assist. Number of midwife lecturer is seen to be a factor affecting simulation negatively as they are few compared to the number of student.

A midwife lecturer said:

"For negative one shortage of staff as I said the rotation staffing to use in the simulation but most of the time you find yourself alone to teach a big class and it require you to spend much time and you are tired you are exhausted you cannot really deliver the content as required. Yeah that is shortage of staff" (Participant 8)

Another midwife lecturer said:

"Staff the academic staff they are not sufficient in the department I mean when we compare with the number of student with staff. Staff and students ration they are not enough that is even justify what I was saying about a big number of student and if you are one of the faculty it will take your time and you stay alone it is also another challenge" (Participant 9)

4.3.3.2.3: Lack of midwife lecturer with a formal training on teaching using simulation

The midwife lecturer perceived the lack of qualified midwife lecturer with a formal training on the use of simulation as a teaching method as a barrier affecting negatively its' use.

A midwife lecturer said:

"….for sure there is no I want to say that there is no one who have been trained as a formal training of teaching using simulation and its' associated methods… I mean there is no midwife lecturer who has a formal training course of teaching using simulation methods. Yeah. May be you want to know about what you can say debriefing I want to say that Ahhh Any way I can call it

a debriefing but I know debriefing session it has its' own process it has requirements and factors so being honest with what we are doing its' like the way an effective that I may do that is personal I may do debriefing but saying that it is effective that all factors needed for an effective debriefing is not done because for sure there is no one having a formal training on teaching using simulation to master doing it effectively.." (Participant 9)

4.3.3.2.4: Poor planning

Poor planning for some of the midwife lecturer is perceived to be a factor affecting negatively the use of simulation as a teaching method. If a plan does not proposed at the beginning of the academic year there is a risk of compromising schedule with other users of simulation centre.

A midwife lecturer said:

"……..the other thing the schedule because there are compromising schedule the schedule teaching today in a simulation centre and you find there is another who are supposed to use it because in the college we have one simulation centre as you have planned you find student are already there because you booked late and you did not follow your acceptance or refuse so this is due to the poor planning of the teacher… a poor follow up …"(Participant 5)

4.3.3.2.5: Lack of some material

Midwife lecturers perceived the lack of some material as factors hindering the use of simulation teaching methods. Some material are perceived to be out dated and not replaced, others are broken but not repaired, others are not yet bought and this is perceived to affect simulation somehow. Materials are somehow a negative factor affecting simulation so there is a need for increasing number of high fidelity mannequin.

A midwife lecturer said:

"*The other thing we are having mannequin especially for midwifery ahh other speciality come for them but we still need high fidelity mannequin for, for like the neonate we still need you know to upgrade our simulation centre for our program you see different programs especially in midwifery as well as for others as seen as a big challenge…… I have also said that we need more high fidelity materials….. and because of the materials some of them are broken and not replaced on time…. but we still need high fidelity mannequin for, for like the neonate we still need you know to upgrade our simulation centre…..''*(Participant 8)

4.3.3.2.6: Time

Midwife lecturers perceive time as constraint of teaching using simulation methods. As the simulation center is one for the hall college the time requested is not that is accepted because of many requests they try to share the available time. The fact that simulation centre is not working during week end, day off and after hours time is perceived as factors hindering the effective use of simulation.

A midwife lecturer said:

"We teach using the limited time given but students are limited in doing self directed exercises as the simulation lab is not working extra time I mean week end, day off and after hours time.. even the simulation teaching material are very expensive and could not left to the students alone to be managed without having someone to supervise them, you know living material without someone responsible of is so taking risk… " (Participant 6)

Another midwife lecturer said:

"…negative factors when theee then the simulation is not available for student, considering working hours you know student have class working class from morning to 5, those are hours they are required to perform class activities and then the time to perform all procedures the simulation lab is closed..… I mean after working hours normal working hours from 7 to 5, student are concentrated to class activities that mean after five they should have some hours to perform the procedure on their own just like they have extra explanation or demonstration they have to do

those exercise as a group of student work as team just to judge themselves if they understand very well all they have learned from the lecturer that this is the second the first working hours extra hours I mean…." (Participant 7)

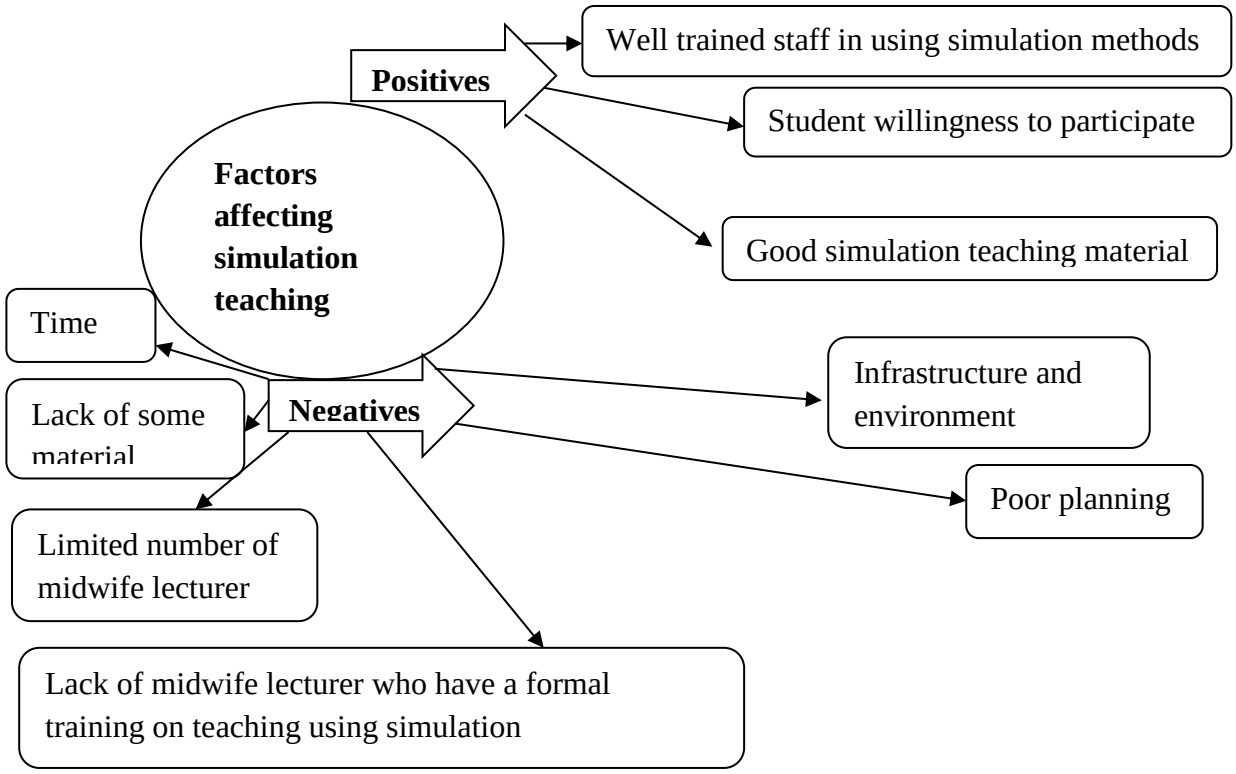

Figure 4: Showing theme 3 and its' subthemes

4.4: CONCLUSION

Findings of this research are that simulation is perceived as good method useful for teaching, it has a process it follow at this school and some factors are seen to affect simulation positively and others are hindering its' use.

CHAPTER V: DISCUSSIONS

5.1: INTRODUCTION

This chapter discussed the study findings in relation to the study objectives as well as relevant literatures reported from different studies. The main objective was to explore the perception of midwife lecturers on simulation as teaching method in the simulation centre. In this chapter the discussion of results is categorized according the study's specific objectives. Which are to describe how the midwife lecturers perceive the usefulness of simulation as a teaching method, to discuss how the midwife lecturers perceive the process of simulation as teaching method, and to explore factors that the midwife lecturers perceive as influencing simulation as teaching method in simulation centre at UR/CMHS/SONM.

5.2: FINDINGS

5.2.1: Usefulness of simulation as a teaching method in the simulation centre

Findings of the present study show that midwife lecturers perceived simulation teaching method as a way of application of taught material in theory to practice. As when a session is taught practical component should be given in an appropriate way so that lecturers are teaching in an area similar to the real practice.

These findings are congruent with the published literature concerning the usefulness of teaching using simulation methods whereby in a study, conducted by A. Hope et. al in the United Kingdom at a University in the North of England, during the year 2009-2010, on the pre registered nursing students with aim to explore the relationship between simulation, theory and practice titled "Rethinking theory and practice: Pre-registration student nurses experiences of simulation teaching and learning in the acquisition of clinical skills in preparation for practice" in which a mixed methods during data collection process was used. The study features a thematic analysis of evaluation questionnaires from pre-registration student nurses (n=N500) collected over a 2 year period which informed subsequent focus group interviews to explore the themes in more detail. Consistent data findings were the students' positive response to simulation as a learning approach

facilitating the application of theory in a safe controlled environment. Students reported that they felt prepared for practice, recognizing that simulated learning improved their humanistic and problem solving abilities as well as the development of psychomotor, technical skills, and overall confidence. The theory practice gap is a recurring narrative in the nursing literature, the findings of this study recognizes that simulation offers an opportunity to enact the integration of theory and practice illuminating this relationship in a controlled environment thus, reinforcing the theory-practice relationship for nursing students (Hope et al., 2011, p. 712).

Even it is in the agreement with the study conducted in South Africa university of Kwazulu natal in 2016, with the title "Developing, implementing and evaluating a simulation learning package on post-partum haemorrhage for undergraduate midwifery students in KwaZulu-Natal" by Amod when evaluating the simulation learning package, the students found the simulation experience to be innovative. Participation promoted teamwork, improved their clinical competence, enhanced critical thinking abilities and increased their self-confidence (Amod & Brysiewicz, 2017, p. 198).

Similarly to Yvonne Botma (2014) in her study titled Nursing student's perceptions on how immersive simulation promotes theory practice integration conducted in 2013 in South Africa, based on a qualitative descriptive study, answered the question about how simulation helps students to apply in practice what they have learned in class. She found that the inability of nurses to transfer to the clinical setting what they have learned in class, may be because nurse educators do not use teaching strategies that promote transfer of learning. The findings explicitly demonstrate that transfer of learning occurs because students can apply their knowledge and skills from training in the simulated work and describes simulation as the vehicle for translating classroom knowledge into a safe clinical learning environment. Open coding of the data that were gathered through two focus group interviews and documents revealed that simulation promotes theory practice integration, builds confidence, makes students aware of the aspects of care that need to be improved through deliberate practice, increases the motivation to learn and transfer their knowledge, and strengthens communication among team members (Hope et al., 2011, p. 712). Knowledge on the benefits of simulation can guide nurse educators to harness the method to enhance transfer of learning (Botma, 2014, p. 4).

Another descriptive survey conducted in the UK by Caroline S. McCaughey and Marian K. Traynor (2010) titled "The role of simulation in nurse education" with the aim to evaluate the role of medium to high fidelity simulation in the preparation for clinical nursing practice, from the perception of third year undergraduate students. Findings indicate that simulation using high fidelity simulators is perceived to be a valuable method of learning, which should positively impact on the clinical effectiveness of nursing students approaching the transition to registered nurses (McCaughey & Traynor, 2010, p. 829).

5.2.2: Process of simulation as teaching method in the simulation centre

This study found that midwife lecturers perceive the process of simulation as a long way starting on the settings teaching plan and objectives, continuing with organization of material and creating a conducive environment then teach using different simulation methods then give time for debriefing and evaluation as a process that could enhance students' confidence in their performance. The literature supports this, in a qualitative multi case study conducted in Ireland by Houghton et al. in 2012 called Staff and students' perceptions and experiences of teaching and assessment in clinical skills laboratories: Interview findings from a multiple case study with the aim to explore the role of the Clinical Skills Laboratory in preparing nursing students for the real world of practice, suggesting that increased confidence and better preparation for practice occur by motivating learning and providing useful feedback. They found that clinical skills laboratory can provide a pathway to practice and its authenticity is significant. Teaching strategies need to incorporate communication as well as psychomotor skills. Including audiovisual recording into assessment strategies is beneficial. Effective relationships between education institutions and clinical settings are needed to enhance the transferability of the skills learned (Houghton et al., 2012, p. 31).

5.2.3: Factors that influencing simulation as teaching method in the simulation centre

Findings of this study confirm that there are some factors affecting the use of simulation positively and negatively. Regarding negative factors affecting simulation infrastructure and environment**,**

limited number of midwife lecturer, lack of a midwife lecturer who have a formal training on teaching using simulation, poor planning somehow**,** and lack of some material plus time have been perceived as barriers to the use of simulation as a teaching method. This result is reflected in other research which also demonstrates barriers to greater use of simulation. The one conducted in Australia in 2011 by Fox-Young S.et al in which findings show the major barrier to greater use of simulation is the adequacy of resources funding for equipment; physical space to run the simulations; competent, trained, interested technical and academic staff to prepare, use and maintain the scenarios and equipment; and most importantly the time to implement it effectively with all the additional requirements such as set up and take down of sets, preparation of actors and debriefing of students (Fox-Young et al., 2012, p. 438).

5.3: CONCLUSION

The findings of this study are similar with other studies conducted worldwide on simulation as a teaching method. Even if simulation teaching method is used ever since many years ago, research on that are still conducted. The findings data has been able to answer the research questions and research objectives have been achieved.

CHAPTER VI: CONCLUSION AND RECOMMENDATIONS

6.1: CONCLUSION

As a conclusion of the present study, the majority of midwife lecturers interviewed perceive simulation as an excellent teaching tool of procedures in midwifery courses, and maintain that the process used in this school is perceived to be a good and effective one. However, they noted a number of factors seen to be affecting the use of simulation in this school either positively like students' willingness to participate in simulation sessions, having good material and qualified staffs plus negative factors like time, infrastructure and environment and poor planning and the ration of students to faculty members.

6.2: RECOMMENDATIONS

To close this study the following recommendations have been made to the different areas of nursing.

To nursing education

Nursing education worldwide should increase the use of simulation as preparing future student to face the real setting

The school of nursing and midwifery, college of medicine and health sciences, University of Rwanda

- ✓ Organise how to recruit a midwife lecturer with a formal training of teaching using simulation
- ✓ Extend the building so that simulation centre could have many rooms to serve all users
- ✓ Replace the broken and out dated material and buy other high fidelity mannequins so that simulation teaching should be up to date
- ✓ Recruit other midwife lecturers to have enough academic staffs
- ✓ Organise time table and found some people to work week end and after hours

To nursing research

- ✓ Research should continue to be conducted on simulation especially on perception of simulation
- ✓ Conduct research on some procedures that cannot be simulated in midwifery

To nursing administration

- ✓ Facilitate by all means simulation as a teaching method and always find new and needed material for simulation to be done properly

To nursing practice

- ✓ Organise simulation teaching session even for practioners for refreshment

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APPENDICES