



MAKERERE UNIVERSITY

COLLEGE OF HEALTH SCIENCES

SCHOOL OF MEDICINE

DEPARTMENT OF PEDIATRICS AND CHILD HEALTH

**BARRIERS TO NURSES PARTICIPATION IN CONTINUING MEDICAL
EDUCATION ACTIVITIES IN ARUA REGIONAL REFERRAL
HOSPITAL, ARUA CITY**

BY

DRICIRU BEATRICE

BMED (Mak). DNE (KSNM), DME& CM (KSM)

REG.NO.2019/HDO7/23915U

SUPERVIORS

PROF.KIGULI SARAH, MBChB, MMED, MHPE

ASSOC. PROF. VICTOR MUSIIME, MBChB, MMED, PhD

**A DISSERTATION SUBMITTED TO THE SCHOOL OF MEDICINE MAKERERE
UNIVERSITY IN PARTIAL FULFILMENT OF THE REQUIREMENTS
FOR THE AWARD OF A DEGREE OF A MASTER OF SCIENCE
IN HEALTH PROFESSIONS EDUCATION OF
MAKERERE UNIVERSITY**

JANUARY, 2026

DECLARATION

I, Driciru Beatrice declare that this dissertation is my own work and that all the sources that have been used or quoted are duly acknowledged by means of complete reference.

Signature: g

Date: 12/02/2026

DRICIRU BEATRICE

APPROVAL

This dissertation titled: Barriers to Nurses participation in Continuing Medical Education activities in Arua Regional Referral Hospital in Arua City, has been approved for submission by the following supervisors:

Signature: *S. Kiguli* Date: *17/2/2026*
PROF. KIGULI SARAH, MBChB, MMED, MHPE

Signature: *[Signature]* Date: *12th February 2026*
2. ASSOC. PROF. VICTOR MUSHIME, MBChB, MMed, PhD

DEDICATION

I dedicate this work to my parents, may their soul rest in external l peace; beloved children Munduru Sancta Wendy, Letasi Ondoga Prudence, Hope Justine Ondoga, Eriku Emmanuel, my brothers, sisters and relatives.

ACKNOWLEDGEMENT

I would like to acknowledge the following people who supported me in this study. The salient support came from the following;

First and fore most my Research supervisors Professor SARAH KIGULI and Assoc. Professor VICTOR MUSIIME for their generous scholarly guidance throughout the research process.

Secondly, to my colleagues in MHPE, especially Kakande Nelson, may God bless you abundantly.

My colleagues working in Lira School of Comprehensive Nursing for their Guidance and encouragement, God bless you all.

TABLE OF CONTENT

DEDICATION.....	iv
TABLE OF CONTENT.....	vi
LIST OF FIGURES	ix
LIST OF TABLES.....	x
ABBREVIATIONS AND ACRONYMS	xi
OPERATIONAL DEFINITIONS.....	xii
ABSTRACT.....	xiii
CHAPTER ONE: INTRODUCTION.....	1
1.0 Introduction.....	1
1.2 Background to the study	1
1.1 Purpose of the study.....	2
1.2 Problem statement.....	3
1.4 Research questions.....	4
1.5 Specific objectives	4
1.6 Justification for the study.....	4
1.7 Conceptual Frame work.....	5
1.8 Scope of the study	6
1.8.1 Geographical scope.....	6
1.8.2 Scope of the study.....	6
1.8.3 Time scope	6
1.9 Theoretical Framework.....	6
CHAPTER TWO: LITERATURE REVIEW	7
2.0 Introduction.....	7
2.1 Definition of Continuing Medical Education	7
2.2 Barriers to participation in CME among nurses	7
2.3 Strategies on strengthening CME	9
2.4 Suggestions for promoting nurses' participation in CME	10
CHAPTER THREE: RESEARCH METHODS	12
3.0 Introduction.....	12
3.1 Study Design.....	12
3.2 Study Setting.....	12
3.3 Study participants.....	13
3.4 Study Population.....	13

3.5 Eligibility Criteria	13
3.5.1 Inclusion criteria	13
3.5.2 Exclusion criteria	13
3.6 Sample size determination	13
3.7 Sampling procedure	13
3.8 Data Collection	14
3.9 Data collection tools	14
3.10 Research instruments	14
3.11 Data analysis	15
3.12 Quality control	15
3.13 Ethical considerations	16
3.14 Dissemination of results.....	16
3.15 Limitations of the study	16
CHAPTER FOUR: RESULTS	17
4.0 Introduction.....	17
4.1 Demographic Characteristics	17
4.2 Value of CME for Professional and Patient Care	19
4.3 Barriers to Participation in CME	21
4.4 Barriers that hinder nurses' and midwives' participation in (CME).....	21
4.5 Coping & Engagement Strategies	22
4.6 Coping and Engagement Strategies	22
4.7 Strategies for Improvement.....	24
4.8 Strategies for Improvement.....	24
CHAPTER FIVE: DISCUSSION.....	26
5.0 Introduction.....	26
5.1 Value of continuing Medical Education (CME) for professional development and Patient Care in Arua Regional Referral Hospital.....	26
5.2 Barriers to nurses' participation in Continuing Medical Education (CME) activities in Arua Regional Referral Hospital	27
5.3 Strategies that can be used to promote nurses' participation in CME in Arua Regional Referral Hospital.....	28
CHAPTER SIX: CONCLUSION AND RECOMMENDATIONS.....	31
6.1 Conclusions.....	31
6.2 Recommendations.....	31

REFERENCES	33
APPENDICES	36
APPENDIX I: Informed Consent for -Nurses	36
APPENDIX II: Informed Consent for -Midwives	39
APPENDIX III: Informed Consent -BSN.....	42
APPENDIX IV: Informed Consent -Administrators	45
APPENDIX V: Interview Guide- Nurses	48
APPENDIX VI: Interview guide – Midwives	49
APPENDIX VII: Interview guide –BSN	50
APPENDIX VIII: Interview guide –Administrators.....	51
APPENDIX IX: Interviews guide for KII-Administration.....	52
APPENDIX X: The proposed budget	53
APPENDIX XI: Research work plan.....	54
APPENDIX XII: Introduction Letter	55
APPENDIX XIII: Clearance Letter	56
APPENDIX XIV: REC Letter	57
APPENDIX XV: Map of Uganda Showing Arua District and Arua RR Hospital.....	58

LIST OF FIGURES

Figure 1: Shows the conceptual frame work for factors influencing CME attendance among nurses	5
---	---

LIST OF TABLES

Table 1: Shows the value of CME for professional and patient care.....	19
Table 2: Shows the barriers to participation in CME	21
Table 3: Shows the coping & engagement strategies	22
Table 4: Shows the strategies for improvement.....	24

ABBREVIATIONS AND ACRONYMS

CME:	Continuing Medical Education
HC:	Health Centre
HSD:	Health Sub-District
IMCI:	Integrated Management of Childhood Illnesses
IST:	In-service Training
MOH:	Ministry of Health
NISTS:	National In-service Training Strategy
PHC:	Primary Health Care
UDHS:	Uganda Demographic and Health Survey
UNMC:	Uganda Nurses and Midwives Council
UNMHCP:	Uganda National Minimum Health Care Package
ARRH:	Arua Regional Referral Hospital
DNE:	Diploma in Nursing Extension
DME:	Diploma in Midwifery Extension
BSNs:	Bachelor of Science in Nursing

OPERATIONAL DEFINITIONS

Barriers:	Circumstances that are either individual or at the health facility that stops a nurse from participating in CME activities organized within or outside the health facility.(Lim et al., 2020)
Continuous Medical Education:	Educational activities which serve to maintain, develop, update and increase knowledge, skills, attitudes, competencies, relationships and professional performance that a licensed health professional uses to provide services for patients/clients, public or the profession.(Rao,K.D, Srivastava, S., Warren, N., Mayra,, 2019)
Knowledge:	Awareness of the meaning of CME, activities involved in CME and the benefits of CME to a nurse.(Ingwu et al., 2019)
Nurses:	Qualified nurses or midwives are health provider, having been admitted to Nursing or Midwifery Educational programme, has successfully completed the prescribed course of studies in nursing or midwifery and have acquired necessary qualification to be registered and legally licensed to practice.
Participation:	The involvement of intended beneficiaries in the planning, design, implementation and subsequent maintenance of the development intervention. (Bader, McGrath, Rouse, & Anderson, 2017)
Strategies:	Measures which if taken may promote nurses participation in CME activities within or outside the health facility. (Bryan, Kreuter, & Brownson, 2019)

ABSTRACT

Introduction: Continuing Medical Education (CME) has been identified as an element of professionalism in health care because of the ever changing nature of medical technology and the emergence of new diseases, drugs, and treatment guidelines. It is especially needed by health care professionals because their work involves human life. To provide high-quality care that protects and preserves life, health care professionals must keep abreast with scientific developments.

Methods: This study adopted qualitative study design. Focus group discussion (FGD) was used to explore ideas from nurses and midwives working at Arua Regional Referral hospital. It was through FGD that practices and experiences were clearly described by the individual nurses and midwives, key informative interviews (KII) was used for administrators which gained a deeper understanding of participants' perspective since the researcher had little knowledge about CME at ARRH.

Results: Six FGDs demonstrated that nurses and midwives at Arua Regional Referral Hospital viewed Continuous Medical Education (CME) as an indispensable tool for professional growth, improved patient outcomes, lifelong learning and adaptation to new healthcare challenges. For strengthening teamwork and professional collaboration. However, they were some barriers such as heavy workload, poor scheduling, irrelevant content, lack of incentives, limitations were, as limited access to technology undermine consistent participation. Participants identified practical strategies, such as better planning, Flexible duty allocation, Motivational incentives, relevant content, institutional support, and mentorship, to strengthen engagement in CME.

Conclusion: The study found out that CME as educational activities which serve to maintain, develop, update, and increase knowledge, skills, attitudes, however there were multiple limitations. It was recommended that provide consistent support for CME, Motivation, flexible duty rosters, teaching aids, and ICT resources, mentorship and peer-learning. Addressing these barriers is essential for enhancing nurse's competences, improve service delivery at Arua regional referral hospital and similar settings.

CHAPTER ONE: INTRODUCTION

1.0 Introduction

This chapter contains the background of the study, problem statement, and purpose of the study, research objectives, research questions and significance of the study.

1.2 Background to the study

Continuing Medical Education (CME) or In-service Training (IST) for medical workers is a process in which the competencies of health workers continue to be maintained, improved and new ones acquired following the completion of basic training (Rao,K.D, Srivastava, S., Warren, N., Mayra,, 2019). It consists of educational activities which serve to maintain, develop, or increase the knowledge, skills, and professional performance and relationships that a health worker uses to provide services for patients, the public or the profession (Rao et al., 2019). CME can be accessed through workshops, seminars, clinical audits, formal lectures, radio and television programs and support supervision, among others.

Continuing Medical Education (CME) has been identified as an element of professionalism in health care because of the ever changing nature of medical technology and the emergence of new diseases, drugs, and treatment guidelines (Jones et al., 2021). It is especially needed by health care professionals because their work involves human life. To provide high-quality care that protects and preserves life, health care professionals must keep abreast with scientific developments (Neimeyer,G.J & Taylor,J.M 2019).

Literatures also shows that in hospitals where a significant number of nurses pursue CME, additional benefits have been reported. These include high patient satisfaction score, increased client attendance, reduced hospital stay, promotion to a higher grade or position, attaining more responsibility, and bridging the gap between lower-level and highly educated nurses (Su & Baird, 2017).

Countries all over the world have developed CME programs, which are reviewed from time to time to ensure that nurses must be competent in clinical skills and keep up with the updates on technology, knowledge and evidences pertinent to nursing practice and these CME activities are well attended in the developed countries. For instance, in the United States, 75% of nurses participate in continuing medical education without being mandated to do so by their employers because they are aware of the benefits (Ingwu et al., 2019). However, in developing countries

attendance to continuing medical education organized by the health facilities is poor. For instance in Africa, 60% of the nurses do not participate in CME unless it is mandated by their employers or they are paid for their participation (Bader, McGrath, Rouse, & Anderson, 2017).

Various studies point to nurses' continuing education challenges as the following: being an obligatory education and lack of motivation for learning in some nurses,(Pool, Poell, Berings, & Ten Cate, 2016) high number of participants in classes, financial resources restriction, restriction in the number of clinical places, shortage of educational budget, nursing school work overload which leads to lack of adequate time for educational courses,(Nsemo, Nkere, & Enebeli, 2019) type of planning for continuing education activities, time limitation and lack of workforce (Lhibani, Lamiri, Lotfi, Tridane, & Belaaouad, 2021) lack of satisfaction with time and schedule of the educational classes conducted, low applicability of lectures, no coincidence between educational needs and conferences outlines, and lack of familiarity with nurses' educational needs among physicians(Eslamian, Moeini, & Soleimani, 2015).

Although many studies have been done on Continuing Medical Education in Uganda and elsewhere majority of the studies examined the effects of continuing medical education in the nursing profession (Biamah, 2018) and nurses' orientation towards lifelong learning (Maliira, 2010), there is a lack of research on barriers and strategies to promote nurse's participation in CME. In addition, the bulk of the existing research has taken a quantitative approach, and therefore there is a lack of rich insight that a qualitative study could provide in understanding the barriers to attendance of CME among the nurses. The study was therefore undertaken to explore the barriers to nurse's participation in CME and identify strategies for improving engagement within the hospital context. Generating context-specific qualitative evidence is expected to inform hospital management, policymakers and professional bodies in designing responsive CME programme that enhance nurses professional develop and ultimately improve patient care outcome in the West Nile region.

1.1 Purpose of the study

The purpose of this study was to explore existing barriers to nurses' participation in Continuing Medical Education in Arua Regional Referral Hospital and identify strategies to promote nurses' participation in CME activities.

1.2 Problem statement

Globally, Rapid changes in health care, innovative technologies, and the emergence of new knowledge led to a need for enhancement in Continue Medical Education (CME) opportunities for nurses in public hospitals. However, they need to be empowered with updated knowledge and skills to adapt to these changes to enable them to render quality care to patients, resulting in fewer lawsuits. Changes in technological advancements in health care, economic status, and advancement in knowledge in nursing across the globe led to the obligation that professional nurses require the understanding of the CME process and to ensure that they adapt to the changes (Brekelmans et al., 2013; Govranos & Newton, 2014; Nsemo et al., 2013; LaMonica et al., 2020).

The Health Care Professions Council of South Africa (HCPSA) mandates that health care professionals, such as doctors, obtain and register CME points each year to keep their registration with the Council. Developing a CME system for South African (SA) nurses and midwives, as stated by the SANC (Circular 3 of 2018)

Uganda Nurses and Midwives Council (UNMC) has to ensure that Nurses and midwives purchase a CME diary from the Council to track their own continuing professional development and make up their CME credits required for renewal of license (Eslamian et al., 2015).

Despite the existence of the CME diary to enable one track their own knowledge and skills, the majority of Nurses and Midwives have not been able to effectively give evidence of their CME in this diary. As a result, CME credits have not been used to renew practicing licenses for nurses and midwives in Uganda(Ekong, Muwanguzi, Wilson Mwanja, Muwema, & Cato, 2015). In Arua RRH on average about 40% of the nurses do attend CME organized by the hospital every fortnight (Arua RRH, report 2021), Yet Arua RRH is a teaching hospital where nursing and midwifery students are placed for practicum to acquire hands on skill and the nursing staff are to mentor and supervise them during clinical practice. No studies have been done to identify the barriers to nurses' participation in CME activities in Arua RR Hospital.

Therefore, there is a need to systematically explore the barriers to nurse's participation in CME at Arua regional referral hospital and to identify strategies that can promote effective engagement in CME, meet national, regional and international standards.

1.4 Research questions

- i. What are the barriers to participation in CME activities among the nurses in Arua Regional Referral Hospital?
- ii. What are the strategies that can promote participation in CME activities among nurses in Arua Regional Referral Hospital?

1.5 Specific objectives

- i. To explore the barriers to participation in CME activities among nurses in Arua Regional Referral Hospital.
- ii. To identify strategies for promoting participation in CME activities among nurses in Arua Regional Referral Hospital.

1.6 Justification for the study

The study was done in Arua RRH because on average about 40% of the nurses do attend CME organized by the hospital every fortnight (Arua RRH, report 2021). Yet it is the largest hospital in West Nile and training institution for interns and nursing students from Arua School of Nursing and midwifery, Kuluva School of Nursing- Maracha, Muni University, and Bugema University

The study findings may be useful to the following stakeholders in improving the quality of health care. Ministry of health may use the study findings to develop policies and design training programs that will be used to enforce participation in Continuing Medical Education among health professional including nurses. Uganda Nurses and Midwives Council as a regulatory body for nurses and midwives may use the study findings to develop tools for monitoring nurses' participation in Continuing Medical Education in all health facilities and set measures to enforce it. Arua RR Hospital management may use the study findings to bridge the gaps identified so that nurses' participation in Continuing Medical Education is enhanced. In nursing practice, the study findings may be used to advance strategies that will help motivate nurses to participate in CME activities. To research, the study finding will offer a leeway for a more rigorous quantitative study on large scale to identify barriers to nurses' participation in CME activities in other hospitals.

1.7 Conceptual Frame work

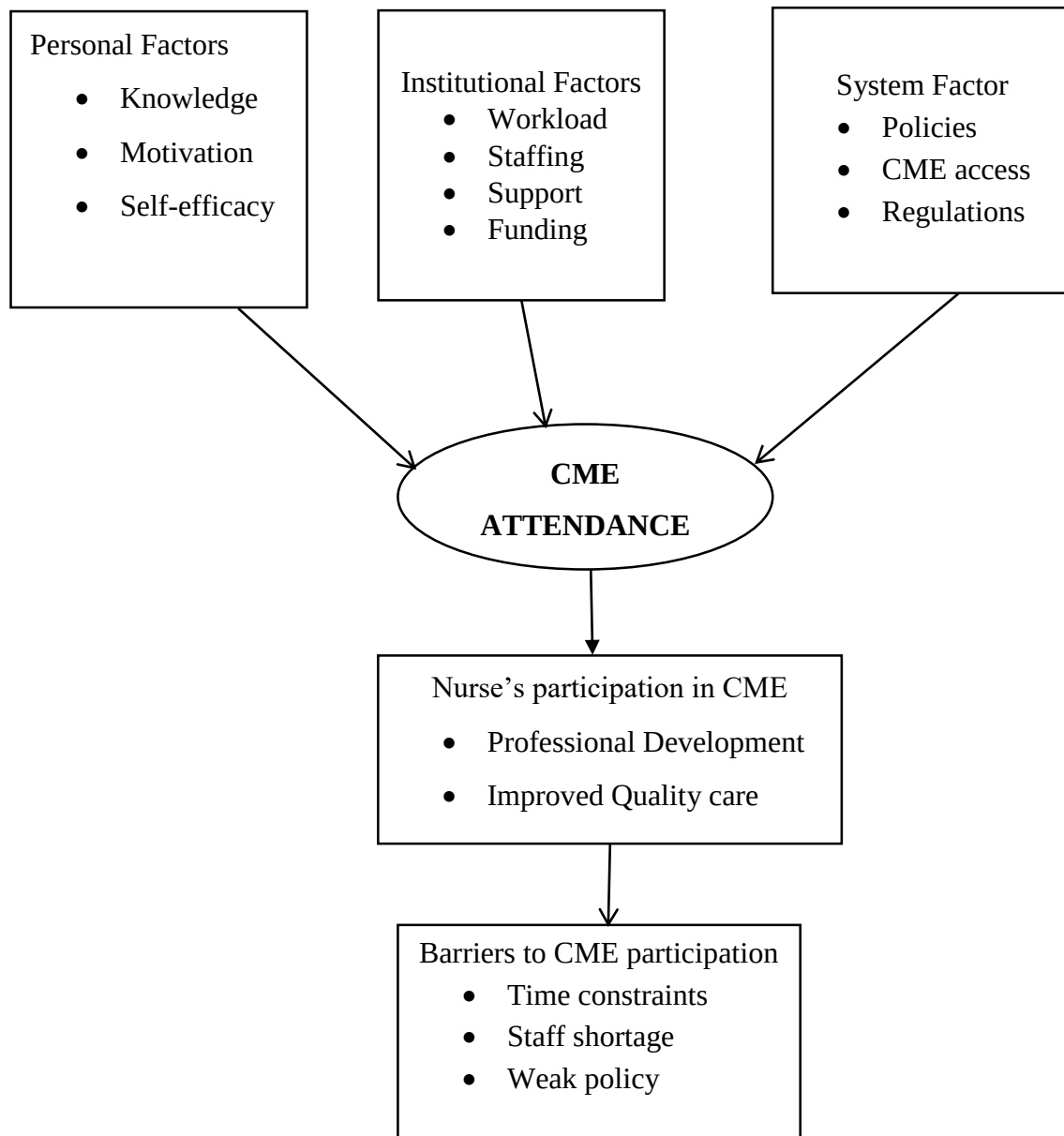


Figure 1: Shows the conceptual frame work for factors influencing CME attendance among nurses

The attendance of Continuing Medical Education activities for nurses and midwives shall have 4 key players: the institution/organization factors, Uganda Nurses and Midwives Council, Personal factors and community factors. These key players shall work in synergy to cause quality nursing and midwifery care and break in the synergy will impact on the quality of nursing and midwifery services being offered.

1.8 Scope of the study

1.8.1 Geographical scope

The study was carried out at Arua RRH, Arua city, the hospital is located in Uganda, West Nile region near the borders with South Sudan and the Democratic Republic of Congo (DRC).

1.8.2 Scope of the study

The study concentrated basically on exploring existing barriers to nurses' participation in Continuous Medical Education in Arua Regional Referral Hospital so as to identify strategies to promote nurses' participation in CME activities.

1.8.3 Time scope

The study was carried out from January 2025 to September 2025.

1.9 Theoretical Framework

The theoretical framework for this study was derived from Social cognitive theory which focuses on the ways in which people learn from one another. This perspective reflects a blending of behaviorist concepts. Environmental and cognitive variables continually interact with one another and with behavior, such that each influences the others in a common way. Many behaviors, beliefs, and attitudes are acquired through *modeling*; academic skills, aggression, and interpersonal behaviors. Effective models are likely to be competent, prestigious, powerful and to exhibit behaviors that are perceived to be "gender-appropriate" and relevant to the observer's own situation. Four conditions are necessary for modeling to occur: attention, retention, motor reproduction, and motivation.(Lirgg & Feltz, 1991; Schunk, 2012).

Learning is about being attentive to what is taught or practiced to retain and reproduce imitatively what is right (Subkhan Rojuli & Sulaeni). In CME sessions the Nurses and midwives are able to be more competent in their knowledge, skills, and learn what is done by others(Herayanti, Widodo, Susantini, & Gunawan, 2020). This implies that effective learning depends on the individual's personal characteristics, appropriate behavior and supportive environment. Therefore, this theory aided in evaluating the nurses and midwives' skills attainment. This framework was based on barriers influencing CME attendance at ARRHH. The study assessed the level of knowledge on CME among nurses, barriers to nurses' participation and sought suggestions from the nurses on how to improve their participation in CME activities at Arua RRH.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

This chapter presents the literature related to the study topic. It was obtained from text books, internet, journals and research reports. The literature is organized according to the specific objectives of the study under the following themes; Knowledge on CME among nurses, Barriers to CME among nurses and strategies to improve participation in CME among nurses.

2.1 Definition of Continuing Medical Education

Uganda Nurses and Midwives Council (UNMC) defines CME as educational activities which serve to maintain, develop, update, and increase knowledge, skills, attitudes, competences, relationships, and professional performance that a licensed health professional uses to provide services for patients/clients, public or the profession. Uganda Nurses and Midwives Council requires all registered or enrolled nurses and midwives to purchase a CME diary from the council to track their own professional development and make up their CME credits required for license renewal. Each registered or enrolled Nurse or Midwife will be required to engage and acquire 50 CME credit units over a period of three years which will be apportioned in the following manner; 35 credit units shall be acquired in nursing and midwifery areas and 15 credit units shall be acquired in other related areas that shall be deemed necessary by the nurse or midwife. (MOH, 2014/2015).

2.2 Barriers to participation in CME among nurses

According to a study by (Altin, Tebest, Kautz-Freimuth, Redaelli, & Stock, 2014), in Germany, the main barriers to participation in CME were heavy workload (89.0%), lack of computer skills (56.0%), and lack of workshops specific to nursing (48.0%). Nonetheless, most respondents appeared to understand the concept as a part of lifelong learning and not as an on-going process of reflection and action.

Similarly, a study by (Lim et al., 2020) in Malaysia, found that 78% of the participants reported the existence of barriers to CME. Regarding difficulties to attend the CME activity, 17% reported that they were unable to attend it because the clinic was too busy, while 83% reported difficulty because the CME programme was already booked.

According to (Fairs, 2019) found that the CME programmes that are taking place in hospitals usually focus on general nursing subjects between nurses and patients. However, in practice disciplines, such as nursing, learning can be maximized through experience located in the clinical setting. Feedback and “moving to the next step” are essential in this process and experiences in 'real-life' settings need to be effectively facilitated to obtain the desired outcomes otherwise it can become one of the barriers to nurses participation in CME sessions. Similarly, (Viljoen, Coetzee, & Heyns, 2017) reported that one of the barriers to CME attendance among nurses is that the programmes/seminars taking place in the form of lectures and not in the clinical, which means that nurses cannot find support when faced with problems in clinical practice. Theoretical knowledge or knowledge that has previously been 'distal' to practice could be integrated into immediate practice via mutual collaboration of nursing team members.

The negative perception about CME among the nurses is also another barrier to participation in CME sessions in Nigeria, according to (Nsemo et al., 2019) most nurses perceive CME as a measure for improving the service towards the patients rather than improving their competences. CME has beneficial effects in planning the nursing care and thinking of what to do in practice. It is a requirement for all nurses. Structured continuing education programs are just one method of acquiring knowledge. Non-structured, self-directed methods of development often are overlooked in this process.

In other countries there are certain regulatory bodies acting as a means for nurses to demonstrate continuous learning and professional growth. These organizations assist nursing leaders, practitioners, educators, and regulators to successfully design and implement a comprehensive program to enhance competence and continued professional growth in an environment of change and challenge(Tuckett, Eley, & Ng, 2017), absence of such endeavor may be barrier to nurses participation in CME sessions(Suprenant, 2016).

On the other hand, many clinics are always busy and it is difficult from the nurse leader to allow the nursing staff to attend the CME programmes (Day, 2017). A recent study revealed that nearly 47% of the Fellows of the Australasian College for Emergency Medicine nominated lack of time as a significant barrier to attend a CME, whilst 35% reported family commitments preventing CME (Maher et al., 2018). Professional knowledge was reported as the prime motivator to seek CME(Summers, 2020). Other motivators, which featured in the top four most

important factors included updating existing qualifications, increasing the status of the profession as a whole and demonstrating that an individual was professionally competent(Gaspard & Yang, 2016).

Furthermore, in Uganda, it was realized that CME sessions are unevenly distributed across the country thus decreasing accessibility and the permission to attend CME sessions is often given by supervisors. In that case, CME sessions are often attended by supervisors mostly when organized outside their places of work. The lower cadre nurses and midwives are mostly exposed to in house training or CME sessions organized within their places of work. To make matters worse, when a person attends a CME session outside the work place has limited opportunities to share what was learnt and therefore does not get to pass on information to other colleagues neither does the person get to practice what was learnt (Greer, Fisher, Saini, Owen, & Jones, 2016).

2.3 Strategies on strengthening CME

Continues Medical Education (CME) is one way of keeping health workers updated with the new development and new insight in treatment approaches to health issues. There various strategies in strengthening continues medical Education.

Incorporate principles of adult learning and instructional design in continues professional development credits as well as free and flexible programs can also help to facilitate motivation and attendance. Incorporating these principles into programs enhances receptivity, relevance and engagement which lead to strengthening continuous medical development. (Bryan, Kreuter, & Brownson, 2009)

Offer a diversity of educational topics in continuing medical development, the developer of the program should try to offer a variety of topics so as to promote experiential learning reflection feedback and immediacy of application of transfer new skills back to their work.(Rubeck & Witzke, 1998)

Develop different programs to accommodate the diverse needs and objectives both the individual and organization.

Other strategies to strengthen continuing Medical Education is use of seven stages that is identification of the problem, planning, action, recording, reflection, evaluation, application and sharing established a clear path that ensures individual acquire the necessary knowledge, skills and understand to remain relevant their field and job market.

Healthcare facilities need adequate resources for practice and quality nursing care. Lack of resources and staff shortages make nursing care difficult and even affect the training of student nurses. As Feldacker et al. (2017), Haji Mustapa et al. (2021) and Bwanga (2020) noted, CME could only be effective if there are facility based resources, such as equipment, supplies, and laboratories, to enable employees to implement new skills and practices.

2.4 Suggestions for promoting nurses' participation in CME

Studies have suggested several strategies for promoting CME these included employing more nurses to reduce the workload (17.0%), offering more opportunities for nursing specific trainings (19.5%), and providing incentives (16.0%) (Kanaabi et al., 2014). Therefore, initiatives such as regular formal hospital- based CME programs must address the reported barriers if they are to achieve success that can be translated into quality nursing care and improved patient outcomes.

Other studies have suggested that the barriers to CME can be overcome by improving nurses' participation in CME provided through partnerships between health care facilities and academic institutions (Bodnar, Claassen, Solomon, Mayanja-Kizza, & Rastegar, 2015).

According to Brooks & Everett (2018), it was found that participation in CME among nurses was associated with years of experience, age, and level of education. Higher education had a positive effect on CME because nurses who attain higher education are more committed to learning than their counterparts who do not. The key components of higher education that facilitate participation in CME include computer skills, literature searching skills, ability to read scientific literature, and updates about various diseases, drugs, and innovative practices (Baryamureeba, 2017). Higher education also empowers nurses with the necessary knowledge, skills, and attitudes to practice critical reflective learning (Manchul, 2015).

In addition, before continuing education programs are implemented, it is important to assess expected participants' knowledge and skills and to bridge these gaps before professional content is addressed. For instance, for nurses who participated in the current study, knowledge gaps can be filled by providing a hybrid module that includes basic computer skills, reflective learning, searching for peer-reviewed journal articles, and reading and analyzing scientific literature (Bahn 2017).

Banaabi et al., 2014 also found that participation in CME session decreases as nurses grow older and gain clinical experience. Similar findings have been reported in studies conducted in the United Kingdom and Australia (Bahn, 2017; Hegney, Tuckett, Parker, & Robert, 2017). These non-modifiable factors have implications for facilitators who are planning CME session for nurses because they show that such activities must be stimulating enough to attract older and experienced nurses. This can be achieved through tailored challenging programs that are relevant to practice and delivered in a way that builds on experiences.

Further still, studies have revealed that because CME is critical and affects the quality of nursing care and patient outcomes, in some countries nurses are required to undertake mandatory continuing education (Vernon, Chiarella, & Papps, 2011). CME is enforced by making some aspects, such as accredited continuing education credit hours, a requirement for certification and license renewal (Hegney, Tuckett, Parker, & Robert, 2020). This strategy has been successfully implemented in developed countries (Vernon et al., 2011). However, before such a policy is adopted in Uganda, nurses must be made aware of the benefits of CME to improve their attitudes and prevent them from viewing such a requirement as a professional penalty or punishment.

Warren & Mills, (2019), suggested that CME can be promoted among nurses through strategies such as providing staff motivation and tailored CME to meet critical needs. These strategies have been recommended by other studies focusing on continuing education in hospitals and community-based health care organizations (McLaren. 2018). Other strategies that promote CME include the use of electronic tools that provide filtered information, learning portfolios, and regular discussion of content with peers and supervisors (Teuniseen & Dornan, 2018).

CHAPTER THREE: RESEARCH METHODS

3.0 Introduction

This chapter describes the Study design, study setting, study population, sample size determination, sampling procedure, Inclusion criteria, Research instruments, data collection procedure, data management, data analysis, ethical considerations, limitations of the study and dissemination of results

3.1 Study Design

This was a cross-sectional qualitative descriptive study design with semi structured face-to-face interviews approach to explore barriers to CME attendance among nurses in Arua RRH. Focus group discussions (FGD) were conducted with nurses/midwives and key informant interviews (KII) with administrators.

3.2 Study Setting

The study was carried out in Arua Regional Referral hospital. Arua regional Referral Hospital is in West Nile, Northern Region of Uganda approximately 496 kilometers by road North West of Kampala and the coordinate are, 03°01'10.0" N, 30°54'45.0" E (Latitude 3.019444: Longitude:30.912500)

Arua hospital was elevated to the regional referral in 1994, it's a public hospital which is funded by Ministry of Health and health care in this hospital is free. It is one of the thirteen (13) regional referral hospital in Uganda. The hospital is designed as one of the fifteen (15) internship hospital in Uganda where graduates of Ugandan medical and Nursing schools can serve one year of internship under the supervision of qualified specialists and consultants. It also offers an opportunity for pre service training placement for clinical practice for Certificate and diploma Nursing and Midwifery and Bachelor degree student. The bed capacity of Arua Regional Referral Hospital is 272 although the hospital admits far more than the bed capacity where by the excess patients either sleeping on the floor or share beds. The hospital is a teaching and research center that receives patients from all the departments such as the inpatient department, outpatient department, antenatal and maternity, AR clinic sickle cell clinic, Diabetic clinic and Eye clinic. These clinics offer a wide range of laboratory investigations which include malaria test, complete blood count, sickle cell test, PCR test, HIV test, random blood sugar and attract many students from training Schools for clinical placement (Personal communication from ARRH director)

3.3 Study participants

The study participants were selected from the nurses and midwives working in Arua RRH. Nurses make up the largest percentage of health care professionals working at Arua RRH and are qualified with Certificate, Diploma, a Bachelor's degree, or a master's degree in nursing. (ARRH Staff register)

3.4 Study Population

The study population upon which the researcher based her conclusions were the nurses and midwives working in Arua RR Hospital.

3.5 Eligibility Criteria

3.5.1 Inclusion criteria

The eligibility criteria were:

1. Having a nurse qualification certificate, diploma, BSN (Bachelor of Science in Nursing) and Masters participating in clinical nursing work in ARRH and nurse or midwife who have worked for two years on wards willing to participate in the study.
2. Nurses and midwives for focus group discussion (FGD) and nursing administrators for key informative interviews (KII).

3.5.2 Exclusion criteria

The study excluded Nurses and Midwives who were not willing to participant in the study and those who were absent at the time of data collection.

3.6 Sample size determination

A sample size of 38 respondents were invited to participate in the study. The final sample size however was determined by data saturation point (Hennink MM, Kaiser BN, Marconi VC, 2017). Careful focus group discussion (FGD) with 14 midwives, 18 nurses and 6 nursing administrators for the Key informative interview (KII).to provide quality information in a deep understanding the barriers to nurses participation in continuing Medical education in Arua Rregional Rreferral Hospital.

3.7 Sampling procedure

Purposive sampling was employed to select participants in FGD. This is a type of sampling where by participants who were available to take part and eligible for the study were selected.

The technique was employed to recruit nurses and midwives working in Arua RRH selected because of their qualification and experience to address the study objectives. The study targeted six (6) certificate nurses and six (6) diploma nurses, seven (7) certificate midwives and seven (7) diploma midwives, six (6) BSN nurses and six (6) nursing administrators. Focus group discussion was used for nurses and midwives and key informative for nursing administrators without mixing the cadres. Nursing administrators are those nurses and midwives who have an extra responsibility like ward in charges.

This allows free sharing of ideas of interviews was arranged based on participants' interest. After holding interviews, in case of any further questions, the researcher contacted the participants through referring to them by phone calls or e-mail individually

3.8 Data Collection

50 minutes' focus group discussion (FGD) was used for nurses, midwives and BSN with each composing six to seven members of the same cadre and key informative interviews for the nursing administrators. The participants were met and fully discussed ideas about existing barriers to nurses' participation in Continuous Medical Education in Arua Regional Referral Hospital so as to identify strategies to promote nurses' participation in CME activities. Tested question guide from Masaka RRH was used to guide experience research assistant in focus group discussion. The research assistant collected data under the supervision of principal investigator. The medium of communication was English and the responses were Audio-recorded and later, transcribed.

3.9 Data collection tools

The researcher used FGD to collect data among purposively selected BSN nurses and midwives through focused group discussions and a KII guide for the nursing administrators. Qualitative data was audio-recorded and later transcribed. The interview guide was also used to assist the research assistant in probing to attain information relevant to explore the barriers to nurses' participation in CME activities and identify strategies for promoting nurses' participation in CME activities in Arua Regional Referral Hospital.

3.10 Research instruments

Based on the aims of the research, a semi-structured interview guide was formed through extensive review of relevant literature, and discussion among the research team members: experiences with continuous medical education status; influences on; demographic

characteristics or respondents, second part had questions on barriers to nurses' participation and the third part the way of promoting nurses' participation in CME activities. The interview guide was pretested in Masaka RR Hospital for validity and reliability on a population of similar characteristics. Corrections were done, questions reframed to ensure validity and reliability of the data collection tool.

3.11 Data analysis

The data was analyzed by Braun and Clark (2006) inductive thematic content analysis (2006). Inductive analysis involves data collection and analysis without preconceived categories or theories. This flexibility allows the data to guide the researcher's analysis in order to identify emerging patterns, themes and concepts. Content analysis is a research tool used to determine the presence of certain words, themes or concepts within some given qualitative data and helps researchers to quantify and analyze the presence, meaning and relationships of certain concepts. The researcher listened to the individual interview sessions immediately after recording them, and after finding a sense of whole, transcribed all the interviews verbatim word by word so that analysis units were formed. Then, the data was read line by line, and key sentences and phrases were allocated, underlined, and coded. Similar codes were combined and primary categories were made. Data reduction was conducted in all analyzed units until categories emerged, so that general, concepts, and inductive data was put in the main category. For conducting a proper content analysis in this study, a 15-item checklist, made by the above-mentioned writers and used in a qualitative research was used.

3.12 Quality control

Experienced research assistants in focus group discussion interviewing were used to collect data and they were fully supervised by the researcher. Tested interview guide about barriers to nurse's participation in continuous medical education activities in Arua Regional Referral Hospital was used and this helped in validation of the question guide before being used by the research assistant.

The FGD guide was pretested with a small group of Nurses and Midwives who were not included in the main study sample to evaluate the clarity of and relevance of the questions, feedback from this pretest was used to refine the guide, ensured that the questions collect the appropriate data. Additionally functionality test of the recording equipment was conducted during the pretest to allow any adjustment before the actual study starts.

Credibility was ensured before each interview or discussion, the principal investigator shared with the participants introductory remarks and the explanatory statements which helped the

participants feel free, confidentiality was assured. Freedom of expression was allowed so that any other external reader of the study findings at a later time should relate it with the participant's experiences

Conformability, audio records was used to take notes during interviews and research assistants were involved to ensure that the findings are clearly rooted in participant's true viewpoint other than the principal investigators interest.

Dependability, well detail track record of data collection procedure was done in addition to a drafted research protocol.

Transferability, research procedure, methodology and data analysis were described for any interested researcher to carry out in the same study.in any other setting.

Reflexivity, was ensured by routine researcher's meetings to reflect on the study process as it is a continuous process. Reflexivity involved acknowledging researchers professional familiarity with the hospital, minimizing bias through neutrally use of guide, reflexive note, verbatim transcription and ensuring and ensuring voluntary participation and confidentiality

3.13 Ethical considerations

Ethical approval was sought from Makerere University's School of Medicine, Research and Ethics Committee; (Mak-SOMREC-2024-944) of Makerere University College of Health Sciences. Following the approval the researcher sought for an introduction letter was obtained from the school administration to introduce the researcher to the Director Arua RR Hospital to seek permission to use their facility for the study and health workers. The researcher explained the purpose of the study to the participants and informed consent was sought from each respondent before data collection. Identified respondents were protected by using serial numbers instead of names to ensure confidentiality. The interview was conducted in hospital board room for privacy.

3.14 Dissemination of results

The research findings have been documented and copies given to Makerere University College of Health Sciences School of Medicine department of Pediatrics and Child Health. Arua RR Hospital. Makerere University School Library and a copy for the researcher.

3.15 Limitations of the study

Untruthful information from some of the respondents was also another anticipated limitation. These was minimized by the researcher having in depth interviews with the respondents and setting clear priorities

CHAPTER FOUR: RESULTS

4.0 Introduction

This chapter presents the study results of barriers to nurse's participation in continuing Medical Education activities in Arua Regional Referral hospital in Arua city.

A total of six focus group discussions (FGDs) were conducted among Certificate Nurses and Diploma Nurses Certificate Midwives and Diploma Midwives and BSN. Key informative interviews were held with the Nursing administrators without mixing them. Each FGD group comprised 6 to 8 Nurses and Midwives. The participants were certificate nurses, diploma nurses, BSNs, certificate midwives diploma midwives and masters working in ARRH, some had leadership and administrative responsibilities as ward in-charges and others working in administrative offices. Inductive and deductive analysis was used to identify key codes and categorize them into subthemes and themes. Inductive approach was used primarily during thematic analysis of qualitative data obtained from focus group discussion and key informant interactions. Transcribed data were carefully read and coded without imposing predetermined categories, patterns, meaning and recurring ideas emerging directly from participants. The inductive approach therefore ensured that the finding were grounded in participants lived experiences and accurately reflected the real contextual barriers within Arua Regional Referral Hospital

Deductive approach was applied during interpretation and organization of the findings in relation to the study objectives, research question sand conceptual framework. Emerging themes were examined alongside existing literature and theoretical perspectives including concept related to professional development and social cognitive theory.

4.1 Demographic Characteristics

The background characteristics of respondents considered were age, gender, level of education, experience and departments.

Table 1: Demographic characteristics of respondents

Variables	Category	Frequency (n=38)	Percentages (%)
Gender	Male	12	31.6
	Female	26	68.4
Age	20-29	10	26.3
	30-39	14	36.8
	40-49	10	26.3
	50 and above	04	10.5
Level of education	Certificate	13	34.2
	Diploma	15	39.5
	BSNs	6	15.8
	Masters	4	10.5
Years of experience	2-3	20	45.5
	4-5	10	22.7
	6-7	04	9.1
	More than above	04	9.1
Department	Outpatient	4	10.5
	Paediatric	4	10.5
	Maternity	14	36.8
	Medical	4	10.5
	Surgical	4	10.5
	Isolation	4	10.5
	Others	4	10.5

This section presents the demographic characteristics of Nurses and Midwives who participated the study at Arua regional referral hospital a total of 38 respondents were included in the analysis.

In term of gender the study was predominantly composed of female respondents (26-68.4%) compared to male respondents (12-31.6%).This reflects the general female dominated composition of Nursing and Midwifery workforce.

Regarding age distribution the majority of the respondents were aged 30-39 years (14-36.8%) while the least represented group were those aged 50 years and above (4-9.1%).This indicates that most of the participants were in within the active working group.

Concerning professional cadre, most of the respondents were diploma nurses (15-39.5%), the least were masters (4-9.1%)

Regarding years of work experience, most respondents had 2-3 years of experience (20-45.5%), the least were those who had worked for 6-7 and above .The may be due to transfers from one work place to other.

Finally in relation to departments or working units the largest number of the respondents were from maternity ward (14-36.8%) the lowest from other units (4-9.1%). This demonstrated the representation across major service delivery units within Arua regional referral hospital.

Overall the findings indicated that the study participants were predominantly female, diploma level nurses in their productive working age with moderate professional experience distribution across key clinical departments of Arua Regional Referral Hospital.

4.2 Value of CME for Professional and Patient Care

Table 1: Shows the value of CME for professional and patient care

Theme	Sub-theme	Codes
Value of CME for Professional and Patient Care	Knowledge & skills	Improves knowledge, skills, competencies, confidence; updates practice
	Patient care & outcomes	Enhances quality, evidence-based care, patient safety, outcomes
	Lifelong learning & career growth	Bridges gaps for those away from school; prepares for further studies; promotes lifelong learning
	Adaptation & innovation	Updates on guidelines, outbreaks, new technologies
	Professional collaboration	Promotes teamwork, inter professional collaboration

Value of Continuous Medical Education (CME) for their professional development and patient care

The study explored nurses' and midwives' perspectives on the value of Continuous Medical Education (CME) for their professional development and patient care. The findings revealed that participants recognized CME as a crucial tool for strengthening their knowledge, improving the quality of patient outcomes, and fostering professional growth. Several sub-themes emerged under the overarching theme of *Value of CME for Professional and Patient Care*, including knowledge and skills enhancement, improved patient care and outcomes, lifelong learning, adaptation and innovation, and professional collaboration.

Participants strongly emphasized that CME plays a vital role in enhancing their **knowledge, skills, and competencies**, thereby building confidence and updating their clinical practice. As one respondent highlighted, "*Continuous medical education improves on my skills, knowledge,*

and it develops me as a person. Then it also helps in better management of patients and their outcomes.” (Resp. 1, DN).

In addition to professional development, CME was seen as essential for **improving patient care and outcomes**. Respondents noted that the training contributes to the delivery of high-quality, evidence-based care, which ultimately strengthens patient safety and health outcomes. This was illustrated by one participant who stated, *“It improves patient's outcome in terms of providing high quality evidence-based care to the patients.”* (Resp. 11, DN).

Another important aspect of CME highlighted was its role in **lifelong learning and career growth**. Participants explained that CME bridges the knowledge gap, particularly for those who have been away from school, and prepares them for further studies. As one respondent expressed, *“CME also prepares us for long-term training... this CME equips you with knowledge so that when you are for the studies, you are able to recall what you learned.”* (Resp. 3).

CME was also valued for its contribution to **adaptation and innovation** in practice. Participants recognized its importance in keeping health workers updated with new guidelines, emerging diseases, and the use of modern technologies. For instance, one respondent explained, *“...CMEs also help us in the management of outbreaks, things like M pox, COVID-19, and so on.”* (Resp. 6, DN).

Finally, CME perceived as a platform for **professional collaboration**, strengthening teamwork and inter-professional relationships among healthcare workers. This collaborative dimension was emphasized by one respondent who remarked, *“It should be continued because it has created inter professional collaboration among the staff.”* (Fifth respondent, DM)

4.3 Barriers to Participation in CME

Table 2: Shows the barriers to participation in CME

Theme	Sub-theme	Codes
Barriers to Participation	Workload & staffing	High patient load, understaffing, emergencies, being alone in unit
	Timing & scheduling	Short notice, night/evening shifts, off-duty conflicts, long sessions, late starts
	Content & relevance	Irrelevant/hard topics, lack of nursing focus, poor facilitator preparation
	Motivation & incentives	Lack of refreshments, allowances, recognition, handbooks/certificates; poor turnout demotivates
	Institutional & logistical gaps	Small/confined venues, lack of teaching aids/handouts, favoritism (doctors prioritized over nurses), absence of CME focal person
	Access & technology	Data costs for online CMEs, lack of CPD documentation/certification

4.4 Barriers that hinder nurses' and midwives' participation in (CME)

The study further explored the barriers that hinder nurses' and midwives' participation in Continuing Medical Education (CME). While CME was acknowledged as essential for professional growth and patient care, participants reported several challenges that limit their consistent attendance and engagement. These barriers were categorized into six sub-themes: workload and staffing, timing and scheduling, content and relevance, motivation and incentives, institutional and logistical gaps, and access and technology.

A major barrier identified was workload and staffing constraints. Many participants highlights difficulties in leaving their duty stations due to high patient loads, understaffing, and frequent emergencies. One respondent explained, *"When you are alone in the unit, you can't leave the unit and you come and attend the CME."* (Resp. 5).

Closely related were issues of timing and scheduling, where CME sessions often conflicted with nurses' shifts, off-duty hours, or were organized at short notice. Participants also noted that long sessions and late starts made attendance difficult. As one nurse put it, *"Sometimes the challenges we get can be the work schedule. That is when you are for night or you are for evening, automatically you cannot attend."* (Resp.1).

Participants also raised concerns about content and relevance. Some sessions were seen as less applicable to nursing practice, with poor facilitator preparation or a focus on non-nursing issues. A midwife remarked, *"One of the things... is the content. Me being a midwife, I would love to have a CME on postpartum hemorrhage... not again on educational issues."* (Third respondent, DM).

Another recurring theme was motivation and incentives. Nurses highlighted the absence of refreshments, allowances, certificates, or recognition as key demotivating factors. Low turnout was also noted to discourage participation. As one respondent stated.

“Lack of motivation is a big problem... when nothing is organized, people will not be motivated.” (Resp. 10).

Institutional and logistical gaps were also evident. Participants mentioned challenges such as small and confined venues, lack of teaching aids or handouts, favoritism where doctors were prioritized over nurses, and the absence of a designated CME focal person. For example, one respondent explained, *“The venue usually is a confined space... the boardroom cannot accommodate all the healthcare professionals.”* (Resp. 10).

Finally, issues of **access and technology** hindered participation in online CME sessions. Nurses reported difficulties with data costs, poor internet access, and lack of proper CPD documentation or certification for attendance. A midwife noted, *“Currently, the CMEs... are being shared on our WhatsApp groups and we have a challenge... with internet data.”* (Resp. 1, DM).

4.5 Coping & Engagement Strategies

Table 3: Shows the coping & engagement strategies

Theme	Sub-theme	Codes
Coping & Engagement Strategies	Communication & planning	Early communication, reminders (WhatsApp), identifying topics early
	Duty allocation & flexibility	Adjust rosters, rotate attendance, departmental CMEs, afternoon sessions
	Personal motivation	Self-drive, positive attitude, valuing knowledge
	Peer support & mentorship	Sharing notes, feedback, pairing juniors with seniors
	Alternative arrangements	Outdoor/tent sessions, online/Zoom CMEs, shorter sessions, interactive approaches

4.6 Coping and Engagement Strategies

In addition to highlighting the value of Continuous Medical Education (CME) and the barriers to participation, the study also explored the strategies nurses and midwives use to cope with challenges and remain engaged in CME activities. The findings revealed a range of coping and engagement strategies, reflecting both individual initiative and collective efforts to ensure continued learning. The major strategies identified included communication and planning, duty

allocation and flexibility, personal motivation, peer support and mentorship, and alternative arrangements.

One of the most frequently mentioned strategies was **effective communication and planning**. Participants emphasized that timely communication and reminders often shared through WhatsApp groups encouraged higher attendance. Early identification of relevant topics also made sessions more appealing. As one respondent explained, *“One is early communication on when the CME is going to take place... when it is communicated early, trust me, the attendance is massive.”* (Resp. 1).

Another key strategy was **duty allocation and flexibility**, where units adjusted rosters to allow some staff to attend while others remained on duty. Rotation of attendance and holding departmental CMEs were also used to ensure that no staff member missed out entirely. One participant illustrated this by saying, *“...we can allocate some two, three midwives to go for the CME while others continue. And when they come back, they tell us what they learned.”* (First respondent).

Participants also relied on **personal motivation**, where self-drive and a positive attitude were seen as essential for engagement in CME despite challenges. The value placed on knowledge motivated individuals to make personal sacrifices to attend. *“Self-motivated – when you have the willingness to learn you can attend,”* (Resp. 13).

Peer support and mentorship emerged as another important coping strategy. Staff members who could not attend relied on colleagues for notes, feedback, and updates, while junior staff were often paired with seniors for guidance. This was expressed by a participant who noted, *“If I don’t find time... I just have to ask people who attended to share the knowledge with us.”* (Resp. 8).

Finally, participants highlighted **alternative arrangements** to make CME more accessible and engaging. Suggestions included holding outdoor sessions in tents or under trees to address space limitations, offering online/Zoom sessions, and making sessions shorter and more interactive. As one midwife suggested, *“We talked of rooms not being enough... there should be enough room created... by having tents or attending under the tree.”* (First respondent, DM).

4.7 Strategies for Improvement

Table 4: Shows the strategies for improvement

Theme	Sub-theme	Codes
Strategies for Improvement	Policy & regulation	Compulsory CME, linked to licensing/CPD points, enforced by management
	Incentives & resources	Refreshments, transport, data support, handouts, teaching aids, accommodation, certificates
	Relevant & participatory content	Nursing-focused, addressing knowledge gaps, practical and pandemic-related topics, evidence-based practice
	Communication & organization	Advance notice, memos, posters, WhatsApp groups, good time management
	Presenter capacity	Training facilitators, improving teaching methods, ensuring preparedness
	Motivation & mentorship	Encouragement, team spirit, pairing junior with senior staff

4.8 Strategies for Improvement

The study also sought participants' views on strategies that could be adopted to improve Continuous Medical Education (CME) participation and effectiveness. Nurses and midwives proposed practical solutions that addressed both structural and individual-level challenges. The strategies suggested were organized under six sub-themes: policy and regulation, incentives and resources, relevant and participatory content, communication and organization, presenter capacity, and motivation and mentorship.

One of the strongest recommendations was the establishment of policy and regulatory measures to make CME compulsory and directly linked to professional licensing and Continuing Professional Development (CPD) points. Participants felt that management should enforce attendance to ensure accountability. As one midwife noted, *"This should become a rule... to renew a certificate, the person should show at least three to five evidence of CMEs attendance."* (First respondent, DM).

Another key strategy was the provision of incentives and resources to motivate attendance and participation. Nurses suggested practical support such as refreshments, transport facilitation, data support for online sessions, handouts, teaching aids, and certificates. One respondent emphasized, *"When there is refreshment at least, it will improve people's attendance... even water... when you are from night duty, you are dehydrated."* (Resp. 1).

Participants also stressed the importance of relevant and participatory content tailored to nursing needs and addressing real practice gaps. They recommended more sessions on practical issues, evidence-based practice, and emerging health threats such as pandemics. A midwife noted, *“Some CMEs don't address the future pandemics... If we are dealing with Ebola, let there be a CME on Ebola.”* (Second respondent, DM).

Effective communication and organization were also highlighted as an essential mean of improving CME attendance. Suggestions included giving timely notice through memos, posters, and WhatsApp groups, as well as ensuring proper time management during sessions. As one nurse explained, *“Good time management by both the participants and the facilitators... CMEs are reported a day to the CME but it is better when you plan early.”* (Fifth respondent, DN).

Concerns about presenters' capacity were also raised, with participants recommending training facilitators to improve their teaching methods and ensure preparedness. One respondent expressed, *“Some of them... come without teaching aid. Maybe they're not teachers, that's why they're not prepared to conduct CMEs,”* (Fourth respondent, DM).

Finally, participants emphasized motivation and mentorship as crucial strategies. They proposed building team spirit, encouraging participation, and pairing junior staff with experienced nurses to enhance learning and professional growth. This was supported by a respondent who stated, *“Experienced nurses should be paired with new in the field, so that they can provide guidance and support.”* (Resp. 10).

CHAPTER FIVE: DISCUSSION

5.0 Introduction

Continuing Medical Education (CME) is increasingly recognized as a cornerstone for sustaining professional competence and improving healthcare delivery. For nurses and midwives, CME serves not only as a means of updating clinical knowledge and skills but also as a platform for fostering professional growth, teamwork, and adaptation to evolving healthcare challenges. However, despite its acknowledged importance, participation in CME is often limited by contextual barriers that reduce its effectiveness. The present study contributes to this discourse by examining nurses' and midwives' perceptions of the value of CME, the barriers that hinder their participation, and the strategies that can be implemented to strengthen engagement within Arua Regional Referral Hospital. By comparing these findings with existing literature, this discussion highlights both the consistencies with global evidence and the unique institutional realities shaping CME in resource-constrained settings.

5.1 Value of continuing Medical Education (CME) for professional development and Patient Care in Arua Regional Referral Hospital

The study revealed that nurses and midwives perceived Continuing Medical Education (CME) as a critical tool for professional growth and improved patient care. These findings are consistent with previous literature that positions CME as essential for maintaining competence, updating knowledge, and fostering lifelong learning in health professions (UNMC, 2015; Vernon, Chiarella, & Papps, 2011). Several sub-themes emerged: knowledge and skills enhancement, improved patient outcomes, lifelong learning and career advancement, adaptation and innovation, and professional collaboration.

Knowledge and skills enhancement was the most frequently mentioned value of CME. Participants emphasized that CME improved their knowledge, clinical competencies, and confidence in practice. This aligns with Brooks and Everett (2018), who found that CME participation enhances clinical competence and professional confidence, particularly among nurses with higher educational backgrounds.

Closely related to professional competence was the impact of CME on patient care and outcomes. Participants highlighted that CME enables them to deliver high-quality, evidence-based care, which strengthens patient safety. Similar findings have been reported globally, where CME is linked to improved patient outcome and service delivery (Summers, 2020; Gaspard & Yang, 2016).

One other key dimension was the recognition of CME as a pathway for lifelong learning and career development. Nurses viewed CME as a bridge that helps them recall and update knowledge, particularly for those considering further studies. This resonates with Bahn (2017), who emphasized that CME sustains professional learning beyond initial training and keeps practitioners academically and clinically engaged.

Participants also associated CME with adaptation and innovation in practice. They described CME as a source of updated knowledge on emerging health challenges, new guidelines, and modern technologies. This finding is supported by Tuckett, Eley, and Ng (2017), who noted that CME enables nurses to adapt to changing healthcare environments and is a basis for effective response to public health crises.

Finally, nurses valued CME for fostering professional collaboration and teamwork. CME was viewed as a platform for interaction with colleagues and other professionals, enhancing inter-professional relationships. This aligns with literature emphasizing the role of CME in promoting collaborative practice, mutual learning, and stronger professional networks (Teuniseen & Dornan, 2018).

5.2 Barriers to nurses' participation in Continuing Medical Education (CME) activities in Arua Regional Referral Hospital

Although Continuous Medical Education (CME) was widely acknowledged as essential for professional growth and improved patient outcomes, several barriers hindered consistent participation among nurses and midwives at Arua Regional Referral Hospital. These barriers were grouped into six interrelated sub-themes: workload and staffing, timing and scheduling, content and relevance, motivation and incentives, institutional and logistical gaps, and access and technology. The findings resonate with existing literature, suggesting that such challenges are common across different contexts.

Workload and staffing constraints emerged as the most significant barrier. Nurses reported that heavy patient loads, understaffing, and frequent emergencies made it difficult to leave their workstations to attend CME sessions. Similar findings were reported by Altin et al. (2014), who found that workload (89%) was the leading barrier to CME participation. Likewise, Maher et al. (2018) highlighted that nearly half of participants in their study cited lack of time as a major obstacle. This demonstrates that competing clinical responsibilities continue to limit CME access for frontline health workers.

Closely linked to workload were issues of timing and scheduling. Participants explained that CMEs often conflicted with their duty shifts or were organized without sufficient notice. This reflects the findings of Lim et al. (2020), who noted that 83% of respondents experienced difficulty attending CME due to poor scheduling. Day (2017) also reported that busy clinical environments often prevent staff from being released for training.

The content and relevance of CMEs was another barrier raised by participants. Some sessions were considered poorly tailored to the professional needs of nurses, with facilitators focusing on general or non-nursing issues. This aligns with findings by Fairs (2019) and Viljoen, Coetzee, and Heyns (2017), who emphasized that CMEs that are lecture-based and detached from real clinical practice may fail to engage nurses or address their immediate learning needs. Low motivation and lack of incentives also discouraged participation. Nurses expressed dissatisfaction with the absence of refreshments, allowances, certificates, or recognition. This is consistent with Summers (2020) and Gaspard and Yang (2016), who found that professional recognition, certification, and opportunities for career advancement were among the strongest motivators for attending CME.

Participants further identified institutional and logistical gaps such as inadequate venues, lack of teaching aids, favoritism towards Doctors, and absence of a CME focal person. Greer et al. (2016) similarly reported that uneven distribution of CME sessions and lack of supportive infrastructure limit nurses' access and participation, especially at lower-level facilities.

Finally, access and technology-related challenges were highlighted. Nurses described difficulties with internet costs, poor connectivity, and lack of proper documentation for online CME participation. Altin et al. (2014) also reported that lack of computer skills (56%) hindered nurses' ability to engage in CME, underscoring the technological divide as a persistent obstacle.

5.3 Strategies that can be used to promote nurses' participation in CME in Arua Regional Referral Hospital

The study revealed multiple coping mechanisms and suggested strategies to improve CME participation among nurses and midwives in Arua Regional Referral Hospital. These strategies reflected both individual-level efforts and systemic interventions, and they closely align with evidence from the literature on effective approaches to strengthening continuing education.

The strategies were categorized under six key areas: communication and planning, duty allocation and flexibility, motivation and incentives, relevant and participatory content, institutional and policy support, and mentorship and peer learning.

Communication and planning emerged as a crucial strategy for improving CME participation. Nurses highlighted that early communication, reminders, and identification of relevant topics enhanced attendance. This aligns with findings by Kanaabi et al. (2014), who argued that structured and regularly scheduled hospital-based CME programs help overcome participation barriers and promote consistent engagement.

Closely related was the strategy of duty allocation and flexibility, where departments adjusted schedules to ensure that some staff could attend while others remained on duty. Rotation systems and departmental CMEs were also mentioned as ways to balance service delivery and learning. Similar approaches have been recommended in the literature, where flexible scheduling and supportive leadership are seen as essential for reducing workload-related barriers by Lim et al., (2020).

Motivation and incentives were also considered critical for boosting CME participation. Nurses suggested provision of refreshments, transport facilitation, handouts, teaching aids, and certificates as motivating factors. This supports Summers (2020), who found that recognition, certification, and career-related incentives are among the most powerful motivators for healthcare professionals' engagement in CME.

Participants further emphasized the need for relevant and participatory content tailored to nursing practice and real clinical gaps. Sessions that addressed emerging health threats and practical issues were preferred. Fairs (2019) and Viljoen, Coetzee, & Heyns (2017) similarly highlighted that experiential, practice-oriented CME rather than generic lecture-based content enhances learning and encourages nurse participation.

In terms of institutional and policy support, nurses proposed that CME should be linked to licensure and Continuing Professional Development (CPD) requirements to ensure accountability. This reflects international best practices where mandatory CME is tied to recertification and license renewal (Vernon, Chiarella, & Papps, 2011; Hegney et al., 2020). Effective institutional support also includes providing adequate venues, teaching aids, and

designated CME focal person's recommendations consistent with Greer et al. (2016), who noted that resource availability significantly influences CME success.

Finally, mentorship and peer learning were identified as key strategies for sustaining engagement. Nurses described peer support systems, where colleagues shared notes and updates with those unable to attend, and senior staff mentored junior colleagues. This resonates with McLaren (2018) and Teuniseen & Dornan (2018), who emphasized that mentorship and collaborative learning environments foster a culture of continuous professional development.

CHAPTER SIX: CONCLUSION AND RECOMMENDATIONS

6.1 Conclusions

1. This study demonstrated that nurses and midwives at Arua Regional Referral Hospital view Continuing Medical Education (CME) as an indispensable tool for professional growth, improved patient outcomes, lifelong learning, and adaptation to new healthcare challenges. CME was also valued for strengthening teamwork and professional collaboration.
2. However, multiple barriers such as heavy workload, poor scheduling, irrelevant content, lack of incentives, institutional limitations, and limited access to technology undermine consistent participation.
3. Despite these challenges, participants identified practical strategies, including better planning, flexible duty allocation, motivational incentives, relevant content, institutional support, and mentorship, to strengthen engagement.

6.2 Recommendations

1. The Ministry of Health should develop and enforce national guidelines that make CME mandatory for all nurses and midwives, linking participation directly to license renewal and Continuing Professional Development (CPD) requirements. To achieve this, the Ministry needs to allocate dedicated funding to support CME activities at referral and lower-level hospitals, including allowances, learning materials, and ICT infrastructure to facilitate access.
2. Furthermore, deliberate efforts should be made to train and accredit facilitators who can deliver evidence-based, practice-oriented CME sessions.
3. The Ministry of Education and Sports should ensure that CME is systematically integrated into both pre-service and in-service nursing and midwifery curricula, aligning it with the evolving health needs of the country.
4. Strong partnerships should be fostered with universities, training institutions, and professional councils to enhance the quality, certification, and recognition of CME programs. In addition, the Ministry should support research into innovative CME delivery models, particularly e-learning platforms, which can broaden access for nurses working in remote or understaffed facilities. This would not only increase participation but also promote equity in professional development opportunities.
5. ARRH should provide consistent support for CME by scheduling regular sessions, communicating them early, and ensuring flexible duty rosters that allow staff to balance

clinical service with learning. Motivation and participation can be enhanced through incentives such as certificates of attendance, recognition, small allowances, and provision of refreshments.

6. The hospital should also invest in improving CME infrastructure, including appropriate venues, teaching aids, and ICT resources to enable both in-person and online learning. Importantly, the content of CME sessions should be tailored to the practical needs of nurses and midwives, emphasizing experiential learning and skill application.
7. Lastly, mentorship and peer-learning structures should be strengthened so that senior staff guide juniors, and participants share CME updates with colleagues unable to attend.

REFERENCES

- Altin, S. V., Tebest, R., Kautz-Freimuth, S., Redaelli, M., & Stock, S. (2014). Barriers in the implementation of interprofessional continuing education programs—a qualitative study from Germany. *BMC medical education*, 14(1), 1-9.
- Bader, L. R., McGrath, S., Rouse, M. J., & Anderson, C. (2017). A conceptual framework toward identifying and analyzing challenges to the advancement of pharmacy. *Research in Social and Administrative Pharmacy*, 13(2), 321-331.
- Bodnar, B. E., Claassen, C. W., Solomon, J., Mayanja-Kizza, H., & Rastegar, A. (2015). The effect of a bidirectional exchange on faculty and institutional development in a global health collaboration. *PLoS One*, 10(3), e0119798.
- Bryan, R. L., Kreuter, M. W., & Brownson, R. C. (2009). Integrating adult learning principles into training for public health practice. *Health promotion practice*, 10(4), 557-563.
- Ekong, E. N., Muwanguzi, P. A., Wilson Mwanja, M., Muwema, F. R., & Cato, K. D. (2015). Perceived ease and usefulness of work-based learning (WBL) and its practice among baccalaureate nurses in central Uganda. *Texila International Journal of Nursing*, 7(2), 1-15.
- Eslamian, J., Moeini, M., & Soleimani, M. (2015). Challenges in nursing continuing education: A qualitative study. *Iranian journal of nursing and midwifery research*, 20(3), 378.
- Fairs, E. J. (2019). *The New Zealand osteopathic profession's understanding of continuing professional development*. University of Otago.
- Gaspard, J., & Yang, C.-M. (2016). Training needs assessment of health care professionals in a developing country: the example of Saint Lucia. *BMC medical education*, 16(1), 1-6.
- Greer, B. D., Fisher, W. W., Saini, V., Owen, T. M., & Jones, J. K. (2016). Functional communication training during reinforcement schedule thinning: An analysis of 25 applications. *Journal of Applied Behavior Analysis*, 49(1), 105-121.
- Herayanti, L., Widodo, W., Susantini, E., & Gunawan, G. (2020). The effectiveness of blended learning model based on inquiry collaborative tutorial toward students' problem-solving skills in physics. *Journal for the Education of Gifted Young Scientists*, 8(3), 959-972.
- Ingwu, J. A., Efekalam, J., Nwaneri, A., Ohaeri, B., Israel, C., Chikeme, P., . . . Omotola, N. (2019). Perception towards mandatory continuing professional development programme among nurses working at University of Nigeria Teaching Hospital, Enugu-Nigeria. *International Journal of Africa Nursing Sciences*, 11, 100169.

- Jones, J. M., Stone, M., Sulaeman, H., Fink, R. V., Dave, H., Levy, M. E., . . . Saa, P. (2021). Estimated US infection-and vaccine-induced SARS-CoV-2 seroprevalence based on blood donations, July 2020-May 2021. *Jama*, 326(14), 1400-1409.
- Lhbibani, A., Lamiri, A., Lotfi, S., Tridane, M., & Belaaouad, S. (2021). Factors Hampering the Participation of Nursing Staff in the Continuing Education Activities of Hospitals Centers in the Casablanca-Settat Region. *The Open Nursing Journal*, 15(1).
- Lim, S. C., Mustapha, F. I., Aagaard-Hansen, J., Calopietro, M., Aris, T., & Bjerre-Christensen, U. (2020). Impact of continuing medical education for primary healthcare providers in Malaysia on diabetes knowledge, attitudes, skills and clinical practices. *Medical education online*, 25(1), 1710330.
- Lirgg, C. D., & Feltz, D. L. (1991). Teacher versus peer models revisited: Effects on motor performance and self-efficacy. *Research Quarterly for Exercise and Sport*, 62(2), 217-224.
- Maher, B., O'Neill, R., Faruqi, A., Bergin, C., Horgan, M., Bennett, D., & O'Tuathaigh, C. (2018). Survey of Irish general practitioners' preferences for continuing professional development. *Education for Primary Care*, 29(1), 13-21.
- Neimeyer, G. J., & Taylor, J. M. (2019). Advancing the assessment of professional learning, self-care, and competence. *Professional Psychology: Research and Practice*, 50(2), 95.
- Nsemo, A. D., Nkere, E. I., & Enebeli, E. C. (2019). Cross River State experience of the mandatory continuing professional development program for nurses: A case study of the 34th session in Calabar, Cross River State, Nigeria. *International Journal of Nursing and Midwifery*, 11(5), 41-53.
- Pool, I. A., Poell, R. F., Berings, M. G., & Ten Cate, O. (2016). Motives and activities for continuing professional development: An exploration of their relationships by integrating literature and interview data. *Nurse education today*, 38, 22-28.
- Rao, K. D., Srivastava, S., Warren, N., Mayra, K., Gore, A., Das, A., & Ahmed, S. (2019). Where there is no nurse: an observational study of large-scale mentoring of auxiliary nurses to improve quality of care during childbirth at primary health centres in India. *BMJ open*, 9(7), e027147.
- Rubeck, R. F., & Witzke, D. B. (1998). Faculty development: a field of dreams. *Academic Medicine*, 73(9), S32-S37.
- Schunk, D. H. (2012). Social cognitive theory.

- Su, S., & Baird, K. (2017). The impact of collegiality amongst Australian accounting academics on work-related attitudes and academic performance. *Studies in Higher Education*, 42(3), 411-427.
- Subkhan Rojuli, S., & Sulaeni, M. P. PENINGKATAN SOFT SKILLS DAN KESIAPAN MENGAJAR GURU.
- Summers, A. (2020). *The Impact of Continuing Professional Development on Patient Care: The Perceptions of Australian Nurse Practitioners*. University of Canberra.
- Suprenant, C. M. (2016). *Motivators and barriers to learning during imposed medical device implementations*. Capella University.
- Tuckett, A., Eley, R., & Ng, L. (2017). Transition to practice programs: What Australian and New Zealand nursing and midwifery graduates said. A Graduate eCohort Sub-Study. *Collegian*, 24(2), 101-108.
- Viljoen, M., Coetzee, I., & Heyns, T. (2017). Critical care nurses' reasons for poor attendance at a continuous professional development program. *American Journal of Critical Care*, 26(1), 70-76.

APPENDICES

APPENDIX I: Informed Consent for -Nurses

MAKERERE UNIVERSITY COLLEGE OF HEALTH SCIENCES

SCHOOL OF MEDICINE RESEARCH ETHICS COMMITTEE (SOM-REC)

INFORMED CONSENT TEMPLATE FOR INTENDING RESEARCHERS

Title of the proposed study: **Barriers to nurse's participation in continuous medical education in Arua Regional Referral Hospital, in Arua City**

Investigators:

Driciru Beatrice (EM, RM, DN, BME)

TEL: 0782783511/0701979665

Dricirubeatrice100@gmail.com

Arua regional referral hospital, in Arua city.

You are being kindly asked to take part in a research study

Background and rationale for the study:

This is to find out and document **the existing barriers to nurses' Participation in Continuous Medical Education in Arua Regional Referral Hospital**. This study will identify the gaps in continuous Medical Education and results will be used to develop strategies to improve attendance of CME. The study will also look at the recommendations based on the study's findings and the this will be used when planning educational activities by the Uganda Nurses and Midwives Council (UNMC) and Allied health professional board in identifying areas that require attention in order to successfully equip them with the knowledge and skills. Continuous Medical Education

which serve to maintain, develop, or increase professional Performance and relationships that a health worker uses to provide Services for the patients, public or the Profession

A description of sponsors of the research project and the organizational affiliation of the researchers:

The study will be sponsored by the principal investigator who is a final year student of Master of Science in Health Professions Education.

Purpose:

The purpose of the study is to explore existing barriers to nurses' participation in Continuous Medical Education in Arua Regional Referral Hospital. Your participation in this Research will identify Gaps in Training and practical Application of theory by the health workers in caring for the patients to improve their Knowledge and skills.

The estimated duration the research participant will take to in the research project:

Your participation in this study will be about fifty (50) minutes and we shall strictly ensure that it is done within this time.

Procedures:

You will be approached by a research assistant who will introduce to you the study and there request your participation by way of informed consent provided in this form. Once you agree to participate, audio recording will be used during in-depth interview

Who will participate in the study?

The study participants shall be 14 midwives, 18 nurses and 6 nursing administrators for the Key informative interview (KII).to provide quality information in a deep understanding the barriers to nurses participation in continuous Medical education in Arua regional referral Hospital. 50 minutes' Focus Group Discussion (FGD) will be used for nurses, midwives and BSN with each composing six to Seven members of the same cadre and key informative interviews for the Nursing Administrators.

Risks/Discomforts:

Your contribution in this study will not create any risk or discomfort for you

Benefits:

The benefit of participating in this study is that you will get chance to express yourself of the barriers to Nurses participation in continuous medical Education in Arua regional Referral Hospital. And the gaps will be used to strengthen CME in other health facilities and in entire scientific world

Confidentiality:

You will not be identified by the name or by your responses. Therefore, there is no possibility of your identity being known by the people outside this interview room. You will also be required not to extend the interview room outside. If deemed absolutely necessary the School of Medicine Research Ethics Committee (REC) and Uganda National Council for Science and Technology (UNCST) are regulatory entities which may have access to private information that identifies the research participants by name.

Cost:

You will not incur any cost for participating in this study. The investigator will meet all the bill of costs.

Compensation for participation in the study:

There will be a compensation of 10000 (Ten thousand Ugandan Shillings) to each participant at the end of interview session. The participant who is injured during the study will be paid medical bill

Reimbursement:

Since the participants are at the study site, no reimbursement shall be given

Questions about the study:

In case of any question about the study, Driciru Beatrice can be reached at Tel. 0782783511/0701977665 or email.dricirubeatrice100@gmail.com to answer the questions

Questions about participant's rights:

If you have question about your rights and safety as a participant, contact the chair School of Medicine Research Ethics Committee (SOMREC) Prof, Ocama Ponsiano on 0772421190.

Statement of voluntariness:

Participation in the proposed study is voluntary and the participants may join on their own free will. The participants also have the rights to withdraw from the study any time without penalty.

Dissemination of results:

You will get feedback on findings and progress of the study from the principal investigator

Ethical approval:

This study has been approved by the Makerere University School of Medicine Research Ethics Committee (SOMREC) which is accredited by the Uganda National Council for Science and Technology (UNCST)

Consent:**STATEMENT OF CONSENT**

..... has described to me what is going to be done, the risks, the benefits involved and my rights regarding this study. I understand that my decision to participate in this study will not alter my usual medical care. In the use of this information, my identity will be concealed. I am aware that I may withdraw at any time. I understand that by signing this form, I do not waive any of my legal rights but merely indicate that I have been informed about the research study in which I am voluntarily agreeing to participate. A copy of this form will be provided to me.

Name Signature of participant Date

Name Signature of interviewer Date

APPENDIX II: Informed Consent for -Midwives

MAKERERE UNIVERSITY COLLEGE OF HEALTH SCIENCES SCHOOL OF MEDICINE RESEARCH ETHICS COMMITTEE (SOM-REC) INFORMED CONSENT TEMPLATE FOR INTENDING RESEARCHERS

Title of the proposed study:

Barriers to nurse's participation in Continuous medical education in Arua regional referral hospital, in Arua city

Investigators:

Driciru Beatrice (EM, RM, DN, BME)

TEL: 0782783511/0701979665

Email: dricirubeatrice100@gmail.com

Arua regional referral hospital, in Arua city.

You are being kindly asked to take part in a research study

Background and rationale for the study:

This is to find out and document **the existing barriers to nurses' Participation in Continuous Medical Education in Arua Regional Referral Hospital**. This study will identify the gaps in continuous Medical Education and results will be used to develop strategies to improve attendance of CME. The study will also look at the recommendations based on the study's findings and this will be used when planning educational activities by the Uganda Nurses and Midwives Council (UNMC) and Allied health professional board in identifying areas that require attention in order to successfully equip them with the knowledge and skills. Continuous Medical Education

which serve to maintain, develop, or increase professional Performance and relationships that a health worker uses to provide Services for the patients, public or the Profession

A description of sponsors of the research project and the organizational affiliation of the researchers:

The study will be sponsored by the principal investigator who is a final year student of Master of Science in Health Professions Education

Purpose:

The purpose of the study is to explore existing barriers to nurses' participation in Continuous Medical Education in Arua Regional Referral Hospital. Your participation in this Research will identify Gaps in Training and practical Application of theory by the health workers in caring for the patients to improve their Knowledge and skills.

The estimated duration the research participant will take to in the research project:

Your participation in this study will be about fifty (50) minutes and we shall strictly ensure that it is done within this time.

Procedures:

You will be approached by a research assistant who will introduce to you the study and there request your participation by way of informed consent provided in this form. Once you agree to participate, audio recording will be used during in-depth interview

Who will participate in the study?

The study participants shall be 14 midwives, 18 nurses and 6 nursing administrators for the Key informative interview (KII).to provide quality information in a deep understanding the barriers to nurses participation in continuous Medical education in Arua regional referral Hospital. 50 minutes' Focus Group Discussion (FGD) will be used for nurses, midwives and BSN with each composing six to Seven members of the same cadre and key informative interviews for the Nursing Administrators.

Risks/Discomforts:

Your contribution in this study will not create any risk or discomfort for you

Benefits:

The benefit of participating in this study is that you will get chance to express yourself of the barriers to Nurses participation in continuous medical Education in Arua regional Referral Hospital. And the gaps will be used to strengthen CME in other health facilities and in entire scientific world

Confidentiality:

You will not be identified by the name or by your responses. Therefore, there is no possibility of your identity being known by the people outside this interview room. You will also be required not to extend the interview room outside. If deemed absolutely necessary, the local Research Ethic committee(REC)and Uganda National Council for Science and Technology(UNCST) as entities which may have access to private information that identifies the research participants by name.

Cost:

You will not incur any cost for participating in this study. The investigator will meet all the bill of costs.

Compensation for participation in the study:

There will be a compensation of 10000 (Ten thousand Ugandan Shillings) to each participant at the end of interview session. The participant who is injured during the study will be paid medical bill

Reimbursement:

Since the participants are at the study site, no reimbursement shall be given

Questions about the study:

In case of any question about the study, investigator can be reached at Tel.0782783511/0701977665 or email.dricirubeatrice100@gmail.com to answer the questions

Questions about participant's rights:

If you have question about your rights and safety as a participant, contact the chair school of medicine Research Ethics Committee (SOMREC) Prof, Ocama Ponsiano on 0772421190.

Statement of voluntariness:

Participation in the proposed study is voluntary and the participants may join on their own free will. The participants also have the rights to withdraw from the study any time without penalty.

Dissemination of results:

You will get feedback on findings and progress of the study from the principal investigator

Ethical approval:

This study has been accredited and approved by the Makerere University School of Medicine Research Ethics Committee (SOMREC) which is accredited by the Uganda National Council for Science and Technology (UNCST)

Consent:**STATEMENT OF CONSENT**

..... has described to me what is going to be done, the risks, the benefits involved and my rights regarding this study. I understand that my decision to participate in this study will not alter my usual medical care. In the use of this information, my identity will be concealed. I am aware that I may withdraw at any time. I understand that by signing this form, I do not waive any of my legal rights but merely indicate that I have been informed about the research study in which I am voluntarily agreeing to participate. A copy of this form will be provided to me.

Name Signature of participant.....Date

Name Signature of interviewer.....Date

APPENDIX III: Informed Consent -BSN

**MAKERERE UNIVERSITY COLLEGE OF HEALTH SCIENCES
SCHOOL OF MEDICINE RESEARCH ETHICS COMMITTEE (SOM-REC)
INFORMED CONSENT TEMPLATE FOR INTENDING RESEARCHERS**

Title of the proposed study:

**BARRIERS TO NURSES PARTICIPATION IN CONTINUOUS MEDICAL
EDUCATION IN ARUA REGIONAL REFERRAL HOSPITAL, IN ARUA CITY**

Investigators:

Driciru Beatrice (EM, RM, DN, BME)

TEL: 0782783511/0701979665

Dricirubeatrice100@gmail.com

Arua regional referral hospital, in Arua city.

You are being kindly asked to take part in a research study

Background and rationale for the study:

This is to find out and document the existing barriers to nurses' Participation in Continuous Medical Education in Arua Regional Referral Hospital. This study will identify the gaps in continuous Medical Education and results will be used to develop strategies to improve attendance of CME. The study will also look at the recommendations based on the study's findings and the this will be used when planning educational activities by the Uganda Nurses and Midwives Council (UNMC) and Allied health professional board in identifying areas that require attention in order to successfully equip them with the knowledge and skills. Continuous Medical Education

which serve to maintain, develop, or increase professional Performance and relationships that a health worker uses to provide Services for the patients, public or the Profession

A description of sponsors of the research project and the organizational affiliation of the researchers:

The study will be sponsored by the principal investigator who is a final year student of Master of Science in Health Professions Education

Purpose:

The purpose of the study is to explore existing barriers to nurses' participation in Continuous Medical Education in Arua Regional Referral Hospital. Your participation in this Research will identify Gaps in Training and practical Application of theory by the health workers in caring for the patients to improve their Knowledge and skills.

The estimated duration the research participant will take to in the research project:

Your participation in this study will be about fifty (50) minutes and we shall strictly ensure that it is done within this time.

Procedures:

You will be approached by a research assistant who will introduce to you the study and there request your participation by way of informed consent provided in this form. Once you agree to participate, audio recording will be used during in-depth interview.

Who will participate in the study?

The study participants shall be 14 midwives, 18 nurses and 6 nursing administrators for the Key informative interview (KII). to provide quality information in a deep understanding the barriers to nurses participation in continuous Medical education in Arua regional referral Hospital. 50 minutes' Focus Group Discussion (FGD) will be used for nurses, midwives and BSN with each composing six to Seven members of the same cadre and key informative interviews for the Nursing Administrators.

Risks/Discomforts:

Your contribution in this study will not create any risk or discomfort for you

Benefits:

The benefit of participating in this study is that you will get chance to express yourself of the barriers to Nurses participation in continuous medical Education in Arua regional Referral Hospital. And the gaps will be used to strengthen CME in other health facilities and in entire scientific world

Confidentiality:

You will not be identified by the name or by your responses. Therefore, there is no possibility of your identity being known by the people outside this interview room. You will also be required not to extend the interview room outside. If deemed absolutely necessary the School of Medicine Research Ethics Committee (REC) and Uganda National Council for Science and Technology (UNCST) are regulatory entities which may have access to private information that identifies the research participants by name.

Cost:

You will not incur any cost for participating in this study. The investigator will meet all the bill of costs.

Compensation for participation in the study:

There will be a compensation of 10000 (Ten thousand Ugandan Shillings) to each participant at the end of interview session. The participant who is injured during the study will be paid medical bill

Reimbursement:

Since the participants are at the study site, no reimbursement shall be given

Questions about the study:

In case of any question about the study, Driciru Beatrice can be reached at Tel.0782783511/0701977665 or email.dricirubeatrice100@gmail.com to answer the questions

Questions about participant's rights:

If you have question about your rights and safety as a participant, contact the chair School of Medicine Research Ethics Committee (SOMREC) Prof, Ocama Ponsiano on 0772421190.

Statement of voluntariness:

Participation in the proposed study is voluntary and the participants may join on their own free will. The participants also have the rights to withdraw from the study any time without penalty.

Dissemination of results:

You will get feedback on findings and progress of the study from the principal investigator

Ethical approval:

This study has been approved by the Makerere University School of Medicine Research Ethics Committee (SOMREC) which is accredited by the Uganda National Council for Science and Technology (UNCST)

Consent:**STATEMENT OF CONSENT**

..... has described to me what is going to be done, the risks, the benefits involved and my rights regarding this study. I understand that my decision to participate in this study will not alter my usual medical care. In the use of this information, my identity will be concealed. I am aware that I may withdraw at any time. I understand that by signing this form, I do not waive any of my legal rights but merely indicate that I have been informed about the research study in which I am voluntarily agreeing to participate. A copy of this form will be provided to me.

Name Signature of participant.....Date

Name Signature of interviewer.....Date

APPENDIX IV: Informed Consent -Administrators

MAKERERE UNIVERSITY COLLEGE OF HEALTH SCIENCES SCHOOL OF MEDICINE RESEARCH ETHICS COMMITTEE (SOM-REC) INFORMED CONSENT TEMPLATE FOR INTENDING RESEARCHERS

Title of the proposed study:

**BARRIERS TO NURSES PARTICIPATION IN CONTINUOUS MEDICAL
EDUCATION IN ARUA REGIONAL REFERRAL HOSPITAL, IN ARUA CITY**

Investigators:

Driciru Beatrice (EM, RM, DN, BME)

TEL: 0782783511/0701979665

Dricirubeatrice100@gmail.com

Arua regional referral hospital, in Arua city.

You are being kindly asked to take part in a research study

Background and rationale for the study:

This is to find out and document **the existing barriers to nurses' Participation in Continuous Medical Education in Arua Regional Referral Hospital**. This study will identify the gaps in continuous Medical Education and results will be used to develop strategies to improve attendance of CME. The study will also look at the recommendations based on the study's findings and the this will be used when planning educational activities by the Uganda Nurses and Midwives Council (UNMC) and Allied health professional board in identifying areas that require attention in order to successfully equip them with the knowledge and skills. Continuous Medical Education

which serve to maintain, develop, or increase professional Performance and relationships that a health worker uses to provide Services for the patients, public or the Profession

A description of sponsors of the research project and the organizational affiliation of the researchers:

The study will be sponsored by the principal investigator who is a final year student of Master of Science in Health Professions Education

Purpose:

The purpose of the study is to explore existing barriers to nurses' participation in Continuous Medical Education in Arua Regional Referral Hospital. Your participation in this Research will identify Gaps in Training and practical Application of theory by the health workers in caring for the patients to improve their Knowledge and skills.

The estimated duration the research participant will take to in the research project:

Your participation in this study will be about fifty (50) minutes and we shall strictly ensure that it is done within this time.

Procedures:

You will be approached by a research assistant who will introduce to you the study and there request your participation by way of informed consent provided in this form. Once you agree to participate, audio recording will be used during in-depth interview

Who will participate in the study?

The study participants shall be 14 midwives, 18 nurses and 6 nursing administrators for the Key informative interview (KII).to provide quality information in a deep understanding the barriers to nurses participation in continuous Medical education in Arua regional referral Hospital. 50 minutes' Focus Group Discussion (FGD) will be used for nurses, midwives and BSN with each composing six to Seven members of the same cadre and key informative interviews for the Nursing Administrators.

Risks/Discomforts:

Your contribution in this study will not create any risk or discomfort for you

Benefits:

The benefit of participating in this study is that you will get chance to express yourself of the barriers to Nurses participation in continuous medical Education in Arua regional Referral Hospital. And the gaps will be used to strengthen CME in other health facilities and in entire scientific world

Confidentiality:

You will not be identified by the name or by your responses. Therefore, there is no possibility of your identity being known by the people outside this interview room. You will also be required not to extend the interview room outside. If deemed absolutely necessary the School of Medicine Research Ethics Committee (REC) and Uganda National Council for Science and Technology (UNCST) are regulatory entities which may have access to private information that identifies the research participants by name.

Cost:

You will not incur any cost for participating in this study. The investigator will meet all the bill of costs.

Compensation for participation in the study:

There will be a compensation of 10000 (Ten thousand Ugandan Shillings) to each participant at the end of interview session. The participant who is injured during the study will be paid medical bill

Reimbursement:

Since the participants are at the study site, no reimbursement shall be given

Questions about the study:

In case of any question about the study, Driciru Beatrice can be reached at Tel. 0782783511/0701977665 or email.dricirubeatrice100@gmail.com to answer the questions

Questions about participant's rights:

If you have question about your rights and safety as a participant, contact the chair School of Medicine Research Ethics Committee (SOMREC) Prof, Ocama Ponsiano on 0772421190.

Statement of voluntariness:

Participation in the proposed study is voluntary and the participants may join on their own free will. The participants also have the rights to withdraw from the study any time without penalty.

Dissemination of results:

You will get feedback on findings and progress of the study from the principal investigator

Ethical approval:

This study has been approved by the Makerere University School of Medicine Research Ethics Committee (SOMREC) which is accredited by the Uganda National Council for Science and Technology (UNCST)

Consent:**STATEMENT OF CONSENT**

..... has described to me what is going to be done, the risks, the benefits involved and my rights regarding this study. I understand that my decision to participate in this study will not alter my usual medical care. In the use of this information, my identity will be concealed. I am aware that I may withdraw at any time. I understand that by signing this form, I do not waive any of my legal rights but merely indicate that I have been informed about the research study in which I am voluntarily agreeing to participate. A copy of this form will be provided to me.

Name Signature of participant Date

Name Signature of interviewer Date

APPENDIX V: Interview Guide- Nurses

Introduction

Tick where appropriate in the box provided

Part I: Socio demographic characteristics of the respondents

1. Sex of the respondent
 - a. Male ☐
 - b) Female ☐
2. Age in years.....
3. Highest level of education
 - a. Certificate in Nursing ☐
 - b. Diploma in Nursing ☐
 - c. Certificate in Midwifery ☐
 - d. Diploma in Midwifery ☐
 - e. Bachelor in Nursing ☐
 - f. Master in Nursing ☐
4. Years of experience
 - a. Less than 1 year ☐
 - b. 1-3 years ☐
 - c. 4-6 years ☐
 - d. 7-10 years ☐
 - e. More than ten years ☐
5. In which department do you work in the Arua RR hospital
 - a. Outpatient department ☐
 - b. Paediatrics ward ☐
 - c. Maternal and Child Health ☐
 - d. Medical ward ☐
 - e. Surgical ward ☐
 - f. Isolation war ☐

Part II: Barrier to participation in CME activities

1. What is your opinion on Continuous Medical Education?
2. What may influence your continuous medical education?
3. What were your difficulties and challenges during continuous medical education?
4. How do you cope? Who or what helped you during these periods?
5. What support do you need in the process of continuous Medical Education?

Part III: Strategies for promoting nurse's participation in CME

6. Suggest some strategies for promoting nurse's participation in CME activities

APPENDIX: VI: Interview guide – Midwives

Introduction

Tick where appropriate in the box provided

Part I: Socio demographic characteristics of the respondents

6. Sex of the respondent

a) Male ☐

b) Female ☐

7. Age in years.....

8. Highest level of education

a) Certificate in Nursing ☐

b) Diploma in Nursing ☐

c) Certificate in Midwifery ☐

d) Diploma in Midwifery ☐

e) Bachelor in Nursing ☐

f) Master in Nursing ☐

9. Years of experience

a) Less than 1 year ☐

b) 1-3 years ☐

c) 4-6 years ☐

d) 7-10 years ☐

e) More than ten years ☐

10. In which department do you work in the Arua RR hospital

a) Outpatient department ☐

b) Paediatrics ward ☐

c) Maternal and Child Health ☐

d) Medical ward ☐

e) Surgical ward ☐

f) Isolation ward ☐

Part II: Barrier to participation in CME activities

7. What is your opinion on Continuous Medical Education?

8. What may influence your continuous medical education?

9. What were your difficulties and challenges during continuous medical education?

10. How do you cope? Who or what helped you during these periods?

11. What support do you need in the process of continuous Medical Education?

Part III: Strategies for promoting nurse's participation in CME

12. Suggest some strategies for promoting nurse's participation in CME activities

APPENDIX VII: Interview guide –BSN

Introduction

- Tick where appropriate in the box provided

Part I: Socio demographic characteristics of the respondents

1. Sex of the respondent

a) Male ☐ b) Female ☐

2. Age in years.....

3. Highest level of education

- a) Certificate in Nursing ☐
b) Diploma in Nursing ☐
c) Certificate in Midwifery
d) Diploma in Midwifery
e) Bachelor in Nursing ☐
f) Master in Nursing ☐

4. Years of experience

- a) Less than 1 year ☐
b) 1-3 years ☐
c) 4-6 years ☐
d) 7-10 years ☐
e) More than ten years ☐

5. In which department do you work in the Arua RR Hospital?

- a) Outpatient department ☐
b) Paediatrics ward ☐
c) Maternal and Child Health ☐
d) Medical ward ☐
e) Surgical ward ☐
f) Isolation ward ☐

Part II: Barrier to participation in CME activities

6. What is your opinion on Continuous Medical Education?

7. What may influence your continuous medical education?

8. What were your difficulties and challenges during continuous medical education?

9. How do you cope? Who or what helped you during these periods?

10. What support do you need in the process of continuous Medical Education?

Part III: Strategies for promoting nurse's participation in CME

11. Suggest some strategies for promoting nurse's participation in CME activities

APPENDIX VIII: Interview guide –Administrators

Introduction

Tick where appropriate in the box provided

Part I: Socio demographic characteristics of the respondents

1. Sex of the respondent

a) Male

☐

b) Female

☐

2. Age in years.....

3. Highest level of education

a) Certificate in Nursing

☐

b) Diploma in Nursing

☐

c) Certificate in Midwifery

☐

d) Diploma in Midwifery

☐

e) Bachelor in Nursing

☐

f) Master in Nursing

☐

4. Years of experience

a) Less than 1 year

☐

b) 1-3 years

☐

c) 4-6 years

☐

d) 7-10 years

☐

e) More than ten years

☐

5. In which department do you work in the Arua RR Hospital?

a) Outpatient department

☐

b) Paediatrics ward

☐

c) Maternal and Child Health

☐

d) Medical ward

☐

e) Surgical ward

☐

f) Isolation ward

☐

Part II: Barrier to participation in CME activities

13. What is your opinion on Continuous Medical Education?

14. What may influence your continuous medical education?

15. What were your difficulties and challenges during continuous medical education?

16. How do you cope? Who or what helped you during these periods?

17. What support do you need in the process of continuous Medical Education?

Part III: Strategies for promoting nurse's participation in CME

18. Suggest some strategies for promoting nurse's participation in CME activities

APPENDIX IX: Interviews guide for KII-Administration

Introduction

Tick where appropriate in the box provided

Part I: Socio demographic characteristics of the respondents

11. Sex of the respondent

a) Male ☐ b) Female ☐

12. Age in years.....

13. Highest level of education

- a) Certificate in Nursing ☐
- b) Diploma in Nursing ☐
- c) Certificate in Midwifery ☐
- d) Diploma in Midwifery ☐
- e) Bachelor in Nursing ☐
- f) Master in Nursing ☐

14. Years of experience

- a) Less than 1 year ☐
- b) 1-3 years ☐
- c) 4-6 years ☐
- d) 7-10 years ☐
- e) More than ten years ☐

15. In which department do you work in the Arua RR hospital

- a) Outpatient department ☐
- b) Paediatrics ward ☐
- c) Maternal and Child Health ☐
- d) Medical ward ☐
- e) Surgical ward ☐
- f) Isolation ward ☐

Part II: Barrier to participation in CME activities

19. What is your opinion on Continuous Medical Education?

20. What may influence your continuous medical education?

21. What were your difficulties and challenges during continuous medical education?

22. How do you cope? Who or what helped you during these periods?

23. What support do you need in the process of continuous Medical Education?

Part III: Strategies for promoting nurse's participation in CME

24. Suggest some strategies for promoting nurse's participation in CME activities

Thanks for your participation

APPENDIX X: The proposed budget

S/N	Item Description	Unit price (UGX)	Quantity (No. Of units)	Amount (UGX)
Proposal Development				
1	Printing and photocopying	100	1500	150,000
2	Airtime	50000	1	250,000
3	Internet (20GB)	50,000	3	150,000
4	IRB Application	370,000	1	370,000
5	Transport	100,000	1	100,000
Subtotal for proposal development		1,020,000		
Data Collection				
1	Stationery	100	2000	200,000
2	Research assistants	700,000	2	1,400,000
3	Airtime	100,000	1	100,000
4	Compensation for participants	10,000	38	380,000
5	Transport	400,000	2	800,000
Subtotal for Data Collection		2,880,000		
Data Entry and Analysis				
1	Data entrants	500,000	2	1,000,000
2	Internet (20GB)	50,000	1	50,000
Subtotal for Data analysis		1,050,000		
Dissertation report writing				
1	Printing dissertation drafts for supervisors	10,000	10	100,000
2	Printing copies of dissertation for IRB and department.	20,000	4	80,000
3	Airtime	30,000	1	30,000
4	Transport	100,000	1	100,000
Subtotal for Dissertation report writing		310,000		
Dissemination of Findings				
1	Final copies of dissertation for dissemination	40,000	7	280,000
2	Transport	200,000	1	200,000
Subtotal for Dissemination of results		480,000		
Miscellaneous				100,000
BUDGET GRAND TOTAL		5,840,000		

APPENDIX XI: Research work plan

ITEMS COVERED	OCT 2022	NOV 2022	DEC 2024	DEC 2024	DEC 2024	DEC 2024	DEC 2023	DEC 2024	JAN 2024
Formulating & approval of topic									
Research proposal writing									
Submission of research proposal									
Data collection and analysis									
Report writing									
Report approval & submission									
Dissemination of results									

APPENDIX XII: Introduction Letter

MAKERERE UNIVERSITY
P.O. Box 7072 Kampala, Uganda
E-mail: paediatrics@med.mak.ac.ug
Tel: +256 - 414-531875
Fax: 256-41-532204

**COLLEGE OF HEALTH SCIENCES
SCHOOL OF MEDICINE
DEPARTMENT OF PAEDIATRICS & CHILD HEALTH**

DéceMBER 18, 2024

The Hospital Director
Arua Regional Referral Hospital
Arua City, Uganda

Dear Sir,

Re: Introducing Ms. Beatrice Driciru, Registration Number 2019/HDO7/23915U

This is to introduce to you the above named Master student at Makerere University College of Health Sciences. She is required to carry out a research study as part of the requirements for the award of a Masters' of Science in Health Professions Education (MSchPE).

She successfully defended her research proposal to the Department of Paediatrics and Child Health and the School of Medicine Research and Ethics Committee approved the proposal and granted her permission to proceed with data collection.

The topic of her approved proposal is "Barriers to Nurses participation in Continuous Medical Education activities in Arua Regional Referral Hospital, Arua City".

The purpose of this communication is to kindly request you to allow her to conduct the research for her thesis at the institution.

Your cooperation will be highly appreciated.

Sincerely,

S. Kiguli
Prof. Sarah Kiguli
MSchPE Programme Coordinator
Paediatrics Department, School of Medicine



APPENDIX XIII: Clearance Letter

TEL: 047 6420018/0476420246
IN ANY CORRESPONDENCE ON
THIS SUBJECT PLEASE QUOTE:
ARRH /355/1
Email: aruarefhosp@gmail.com



MINISTRY OF HEALTH
Arua Regional Referral Hospital
Office of the Hospital Director
P. O. Box 3,
ARUA, Uganda.

4th February, 2025

Driciru Beatrice,
Makerere University, College of Health Sciences,
Department of Paediatrics & Child Health,
P. O. Box 7072,
Kampala - Uganda.

Dear Beatrice,

ADMINISTRATIVE CLEARANCE FOR STUDY TITLED "BARRIERS TO NURSES PARTICIPATION IN CONTINUOUS MEDICAL EDUCATION ACTIVITIES IN ARUA REGIONAL REFERRAL HOSPITAL, ARUA CITY."

I have received your proposal on the study with the above title along with your letter of introduction from Makerere University, College of Health Sciences, Department of Paediatrics and Child Health seeking for permission to conduct a research study at Arua Regional Referral Hospital. Upon our review of the study documents you submitted for administrative clearance, Arua Regional Referral Hospital is pleased to grant you permission to proceed with the study.

You are required to uphold all ethical standards accordingly in relation to patient care and institutional practices. Kindly share with us the results of the study upon completion.

A kind reminder to you and your research assistants is to ensure that proper infection prevention practice is clearly adhered to during your data collection.

We wish you well in your study.

Yours sincerely,

Dr. Aniku Gilbert
Research and Ethics Committee



Copy: - Senior Executive Consultant
- REC File

APPENDIX XIV: REC Letter



04/12/2024

To: Beatrice Driciru

Makerere University

Type: Initial Review

Re: Mak-SOMREC-2024-944: BARRIERS TO NURSES PARTICIPATION IN CONTINUOUS MEDICAL EDUCATION ACTIVITIES IN ARUA REGIONAL REFERRAL HOSPITAL ARUA CITY

I am pleased to inform you that at the 194 convened meeting on 27/08/2024, the MAK School of Medicine REC (Mak-SOMREC) meeting voted to approve the above referenced application.
Approval of the research is for the period of 04/12/2024 to 04/12/2025.

As Principal Investigator of the research, you are responsible for fulfilling the following requirements of approval:

1. All co-investigators must be kept informed of the status of the research.
2. Changes, amendments, and addenda to the protocol or the consent form must be submitted to the REC for re-review and approval **prior** to the activation of the changes.
3. Reports of unanticipated problems involving risks to participants or any new information which could change the risk benefit: ratio must be submitted to the REC.
4. Only approved consent forms are to be used in the enrollment of participants. All consent forms signed by participants and/or witnesses should be retained on file. The REC may conduct audits of all study records, and consent documentation may be part of such audits.
5. Continuing review application must be submitted to the REC **eight weeks** prior to the expiration date of **04/12/2025** in order to continue the study beyond the approved period. Failure to submit a continuing review application in a timely fashion may result in suspension or termination of the study.
6. The REC application number assigned to the research should be cited in any correspondence with the REC of record.
7. You are required to register the research protocol with the Uganda National Council for Science and Technology (UNCST) for final clearance to undertake the study in Uganda.

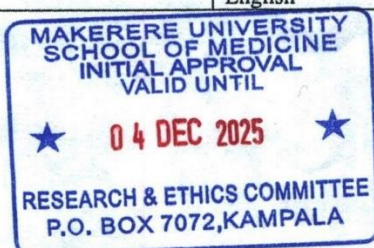
The following is the list of all documents approved in this application by MAK School of Medicine REC (Mak-SOMREC):

No.	Document Title	Language	Version Number	Version Date
1	Clean copy of proposal	English	1	2024-10-25
2	Clean copy of consent form	English	1	2024-10-25
3	Data collection tools	English	Version 1	2024-04-01

Yours Sincerely

Prof. Ponsiano Ocama

For: MAK School of Medicine REC (Mak-SOMREC)



APPENDIX XV: Map of Uganda Showing Arua District and Arua RR Hospital

