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## Exploring Interprofessional Collaboration for the Management of Obstetric and Neonatal Emergencies in Selected District Hospitals in Rwanda

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A thesis submitted in partial fulfillment of the requirements for the Doctor of Philosophy degree in Health and Rehabilitation Sciences

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## **Abstract**

Interprofessional collaboration (IPC) is a care model in which different healthcare providers work together to achieve optimum patient outcomes. Ineffective IPC may lead to up to 70% of adverse events in obstetric care. In Rwanda, the need to reinforce effective IPC to improve maternal and neonatal outcomes was revealed following a maternal death audit conducted between 2009 and 2013. Also, in 2017, it was reported that 84% of maternal deaths were due to preventable causes, and 36% were due to delays within health facilities.

To improve maternal and newborn care quality in Rwanda, the ‘Training Support Access Model for Maternal Newborn and Child Health’ (TSAM-MNCH) project initiated mentorship programs in 2017. The purpose of this study was to explore IPC experiences among obstetric and neonatal care team members who participated in mentorship to explore the barriers and benefits in implementing IPC.

A qualitative descriptive case study design underpinned by a constructivism paradigm was used, semi-structured interviews were conducted with twenty-five healthcare provider mentees and five director generals of the five hospitals where mentorship was implemented.

The findings suggest that in general participants were not satisfied with the current IPC practice, they mentioned several challenges dominated by power relation issues affecting communication. Another challenge was a stressful work environment characterized by insufficient number of staff, lack of necessary equipment and lack of

motivation. Participants suggested training on IPC and the availability of protocols and guidelines to guide the clinical practice. Participant reported benefits of the TSAM mentorship program, included an increase in self-confidence and awareness of their own responsibilities, which also contributed to an improved working relationship.

The results from this study contribute to evidence for improvement in IPC practice. There is a need for policy makers, hospital managers, researchers, and health professional educators to create more systematic ways to improve IPC, including training on IPC and ensure IPC remains on the health priority agenda. Future studies should identify the number of maternal and neonatal deaths caused by a failure in effective collaboration and strategies to sustain the improvements in practice as a result of mentorship programs.

**Keywords:**

Interprofessional collaboration, Obstetric, obstetric care, maternity, neonatal emergencies, healthcare providers, Rwanda

## **Summary for Lay Audience**

It is widely known that effective collaboration between healthcare teams contribute to better patient outcome, whereas ineffective IPC may lead to poor health outcomes. Research has demonstrated that ineffective collaboration among healthcare professionals may contribute to up to 70% of adverse medical events. Within the context of Rwanda, the maternal death audit conducted from 2009 to 2013 highlighted the need to improve interprofessional collaboration to reduce the maternal and neonatal mortality rates.

In 2017, it has also been reported that 84% of maternal deaths were due to preventable causes and 36% were due to delays within health facilities. The intent of this research study was to examine the experiences of healthcare professionals working in maternity services to explore the challenges and benefits of applying interprofessional collaboration for the management of obstetric and neonatal emergencies. The study aimed also at understanding the experiences with TSAM mentorship program and IPC practice.

A qualitative descriptive case study design was used. The study recruited twenty-five healthcare professionals who participated in the mentorship program by the TSAM project in Rwanda, and five director generals of the five hospitals where mentorship was implemented, to elicit their perspectives on how to sustain IPC practice.

The findings indicated several barriers to effective IPC including issues of power relations affecting communication, stressful work environments characterized by insufficient number of staff, lack of necessary equipment and lack of motivation. Participants suggested trainings on IPC and availability of protocols and guidelines to guide the clinical practice. Participants appreciated the benefits of TSAM mentorship in

improving IPC practice. This study contributes to evidence for improvement in IPC to contribute to reduction in maternal and neonatal mortality rates in Rwanda

## **Co-Authorship Statement**

I, Assumpta Yamuragiye, acknowledge that this thesis was developed in collaboration with my PhD supervisor and committee members. In all the seven chapters, the primary contribution was made by me in terms of methodology, study design, research ethics board applications, conduction of the literature review, data collection, review and analysis of the data and writing the manuscripts.

The contribution of Dr Lloy Wylie was through supervision and guidance with substantial intellectual and editorial support. Contributions of supervisory committee, Dr Lorie Donelle, Dr Anne Elizabeth Kinsella were through further supervision, guidance, intellectual and editorial support. The second chapter of this thesis was accepted for publication in the Journal of Interprofessional Education and Practice and the primary contribution was made by myself. The supervisor and the committee assisted in intellectual and editorial support in crafting the work for publication.

## **Dedication**

This work is dedicated to my late grandparents, Mbiligi Felcien and Barukina Euphrasie. You educated me before I even started schools; you taught me how to believe in myself. You motivated me in a number of ways. Not necessarily that you understood what I was studying, you constantly asked me when I will complete my studies. It is sad that you left before I finally complete my PhD studies.

This work is also dedicated to my mum. You have always been there for me.

Finally, this work is dedicated to my husband and our children. No words can express how I feel when I think of you being behind my success.

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My special thanks go also to the TSAM project which received funds from Global Affairs Canada to have fully covered the total financial cost of the first two years of my studies. Without the TSAM project support under the lead of Emeritus Professor Dr David Cechetto, this work could not have been done. All TSAM project staff members both in Rwanda and Canada are here acknowledged.

I would like to extend my gratitude to the study participants who have accepted to share with me their experiences. Without their willingness to participate, this study could not have been done.

I am grateful for University of Rwanda especially the College of Medicine and Health Sciences (CMHS) to have released me during my studies. Special thanks go to Dr Jeanne Kagwiza acting principal of the CMHS for supporting me in undertaking my PhD studies at Western University. Many thanks to Dr Ruhato Banguti Paulin for assistance and recommendations for ethics application in Rwanda.

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## **List of Abbreviations**

CCT: Cross-Cutting Themes

CHWs: Community Health Workers

CIHC: The Canadian Interprofessional Health Collaborative

CMHS: College of Medicine and Health Sciences

CPD: Continuous Professional Development

DGs: Director Generals

DH: District Hospital

DHU: District Health Unit

Dr: Doctor

EmONC: Emergency obstetric and neonatal

GAC: Global Affairs Canada

HC: Health centers

HCPs: Health Care Professionals

HP: Health Posts

HIMS: Health Information Management System

IEC: Information Education and Communication

IPC: Interprofessional collaboration

IPE: Interprofessional Education

IPRC: Interprofessional Role Clarification

MDG: Millennium development goals

MMR: Maternal mortality rate

MoH: Ministry of Health

MPA Minimum Package of Activities

NCNM: National Council of Nurses and Midwives

NICU: Neonatal Intensive Care Unit

Ph.D.: Philosophy Degree

QDCS: Qualitative Descriptive Case Study

RBC: Rwanda Biomedical Center

RMDC: Rwanda Medical and Dental Council

SDGs: Sustainable development goals

SIT: Social Identity Theory

TSAM-MNCH: Training Support Access Model for Maternal Newborn and Child Health

UNICEF: United Nations International Children's Emergency Fund

UR: University of Rwanda

WHO: World Health Organization

## Chapter 1

### **1 Introduction and Overview of the Thesis**

Interprofessional collaboration is an important aspect to consider in delivering quality emergency obstetric and neonatal care. Failure of effective interprofessional collaboration leads to poor obstetric and neonatal outcomes and increased maternal and neonatal mortality rates (Guisse & Segel, 2015). This research aimed to explore IPC experience among healthcare professionals working in acute care settings in maternity services in the Northern province of Rwanda to advance evidence for improvement in interprofessional collaborative practice.

The project explored the working relationship from the perspective of health care professionals who benefited from a mentoring program offered by the Training Support Access Model for maternal newborn and child health (TSAM-MNCH) project in Rwanda, to understand the benefits of the mentoring program in improving IPC. This introductory chapter discusses the background information, problem statement, maternal healthcare system in Rwanda, TSAM project background and its mentorship program, study purpose, research questions, self-declaration and the organization of the thesis.

#### **1.1 Defining interprofessional collaboration**

Interprofessional collaboration (IPC) in healthcare settings can be defined as a working relationship in which healthcare providers from diverse backgrounds work together to provide cohesive, interdependent and complementary solutions to clients' needs to achieve optimum outcomes (D'Amour, Ferrada-Videla, San Martin Rodriguez, & Beaulieu, 2005). Etymologically, the word collaboration originates from the Latin verb

“collaborare” made by two Latin words: *col* which means together and *laborare* translated as work (Cambridge dictionary, 2017) The Cambridge dictionary defines collaboration as the situation of two or more people working together to create or achieve the same thing (Cambridge dictionary, 2017) .

Although various definitions of IPC exist, Orchard et al., (2005) defined the interprofessional collaborative practice as “ a partnership between a team of health professionals and a client in a participatory, collaborative and coordinated approach to shared decision-making around health and social issues”( P.1) According to the World Health Organization [WHO](2010), “collaborative healthcare practice happens when various professionals from diverse healthcare backgrounds provide comprehensive services by working with patients, their families, caregivers, and communities to deliver the highest quality of care across settings” (P.13).

Concepts that are frequently used to describe collaborative practice include sharing, partnership, interdependency and power (D’Amour et al., 2005). Furthermore, concepts such as coordination, teamwork and cooperation are also used to define the dynamic process of working together to achieve a common purpose (Smith, 2015). The term interprofessional collaboration has been used interchangeably with teamwork interdisciplinary collaboration, multidisciplinary collaboration, multiprofessional collaboration, transprofessional collaboration and transdisciplinary collaboration. However, all the terminologies have slight differences. For example, interprofessional and interdisciplinary are almost the same as they both mean the process of working together but they differ in that interprofessional refers to only professionals who come

from same or similar professions while interdisciplinary can also include nonprofessional staff as part of the team (Nancarrow et al., 2013).

According to McCallin (2014), the term ‘inter’ refers to some sort of interaction in a group, while ‘multi’ suggests a group working alongside each other without interacting. Thus, interprofessional seems to be a relatively general term. The term suggests a close interpersonal process in which members from diverse professions contribute to a common goal, which cannot be realized when individuals act alone (Mccallin, 2014).

The definition which will be used in this study is the one by D’Amour et al. (2005) who define IPC as a process of working together to achieve a common goal which involves sharing, partnership, interdependency and power, coordination, teamwork and cooperation. This study explored IPC practice among healthcare professionals who worked together to manage emergency obstetric and neonatal care. The study affords in depth understanding of the benefits, and the challenges faced by healthcare professionals in applying IPC practice in their everyday professional practice

## **1.2 IPC in obstetric and neonatal care.**

### **1.2.1 Key terms in obstetric and neonatal care**

Obstetric care deals with care provided to women during pregnancy, childbirth and the post-partum period. While gynecology and obstetrics are both medical specialties, they differ in that gynecology deals with reproductive health from the time of women’s first menstruation to menopause. Also, gynecology could involve treatments of diseases like cervical cancer, and diseases of the uterus, ovaries, fallopian tubes and vagina (McCarthy, 2010). Emergency obstetric care (EmOC) refers to all care provided to

women experiencing pregnancy and childbirth complications in order to save the lives of women and their babies. All of the five common causes of maternal deaths including hemorrhage, sepsis, unsafe abortion, hypertensive disorders, obstructed labor and newborn asphyxia are managed when providing EmOC (McCarthy, 2010).

Maternity care deals with care provided to women from pregnancy to childbirth. Therefore, maternity covers healthcare dimensions including preconception, prenatal and postnatal care. Regarding neonatal care, there are all types of care provided to newborns in neonatal care units (Carter et al., 2019). Emergency obstetric and neonatal care is critical to reducing maternal and neonatal death.

It is estimated that 15% of pregnant women develop complications during pregnancy, childbirth, or postpartum, which will require emergency obstetric care management. The quality of care delivered determines the outcome (Ameh & Van Den Broek, 2015; Otolorin, Gomez, Currie, Thapa, & Dao, 2015). Therefore, it is important that EmONC be provided by skilled healthcare workers working together toward a common goal. EmONC is provided by various professionals such as obstetricians, gynecologists, nurses, midwives, and others such as neonatologists and anesthetists (World Health Organization, 2018).

Although these professionals can have different philosophies of care, different belief systems, and ways to achieve the goals, the working relationship should be adequate to achieve optimum outcomes for mothers and babies. Thus, effective IPC is critical in addressing the necessary conditions to ensure that EmONC is managed efficiently (World Health Organization, 2018).

In obstetrics, there are usually two people who require care: The mother and the baby. Obstetric care aims to assist in the reduction of maternal and newborn mortality and morbidity rates (King & Scrutton, 2011). Additionally, in obstetrics, emergencies are inevitable, and a team of skilled birth attendants must work in collaboration to be effective. Although like in other specialties, in obstetrics, patients' outcomes rely on collaborative efforts from various professionals, no single profession can work alone and be successful (Guise & Segel, 2015).

### 1.2.2 **Benefits of IPC in obstetric care**

In general, IPC is believed to benefit patients, professionals, healthcare organizations and systems. For patients, studies have reported better acceptance of care, fewer clinical visits, higher degrees of satisfaction, and improved health outcomes (Dimitrios Siassakos et al., 2013). Other benefits include reduced medication errors thanks to improved communication, reduced mortality rate, and reduced length of stay and related costs. For health workers, working with a supportive team, sharing problems, enhancing communication leads to greater role clarity, improved satisfaction and motivation, as well as reduced staff turnover. In addition, collaborative practice can reduce the risk of duplication in care provision, greater continuity and coordination of care and therefore better quality of healthcare services (Mickan, Hoffman, & On, 2010).

Specifically, in obstetric care, in addition to general benefits, effective IPC between midwives, physicians and other obstetric care team members is necessary for provision of quality obstetric and neonatal care and therefore reduction of unnecessary death of mothers and their babies. Obstetric emergencies are unpredictable, and



successful management requires IPC between dedicated teams primarily composed of physicians, nurses, midwives, anesthetists and neonatologists. IPC helps to ensure the safety of mothers and their babies (Guise & Segel, 2015). In a study to examine the effect of IPC in obstetric care, Geary et al., (2018) identified a significant reduction in the frequency of reportable events and the associated costs in obstetric care as a result of an intervention to improve IPC. Similarly, in an ethnographic study to assess interprofessional boundaries in maternity care, Hunter & Segrott (2014) reported a reduction in unnecessary childbirth interventions as an advantage of IPC in obstetric care.

### **1.3 Background**

Research has demonstrated that failure in effective IPC in healthcare settings can be responsible for up to 70% of medical errors (Fewster & Barbara, 2006). According to the Canadian Interprofessional Health Collaborative(CIHC) (Bainbridge, Louise, Carole, & Victoria, 2010), IPC is a process which requires development and integration of a set of attitudes, behaviours, values and judgement necessary for collaborative practice. The CIHC developed six interprofessional competency domains: role clarification, patient/client/family/community-centered care, team functioning, collaborative leadership, interprofessional communication, and dealing with interprofessional conflict (Bainbridge et al., 2010) . A wide range of literature has demonstrated the importance of IPC in different disciplines, such as improved patient outcome, increased staff satisfaction, reduced communication errors, and reduced staff workload (Bosch & Mansell, 2015; Sawyer, Laubach, Hudak, Yamamura, & Pocrnich, 2013). For instance, a study conducted in the neonatal intensive care unit (NICU) demonstrated a positive

association with IPC and decreased neonatal deaths as well as readmission (Dunn et al., 2018).

IPC in maternity services can be tricky since different healthcare providers are exposed to distinct educational and professional backgrounds resulting in differing beliefs, values and world views. These differences in experiences can result in misunderstandings and varying interpretations between teams whose ultimate goal is to save the mother and baby. Therefore, this can negatively impact patient outcomes (Watson et al., 2016). Despite its importance, IPC is still a problem worldwide (Leathard, 2011). For instance, in a sentinel event alert of infant death and injury during deliveries conducted in the United States (U.S.), issues in communication were identified as a root cause in 72% of the 47 cases (Zwarenstein, Goldman, & Reeves, 2014).

Also, according to the World Health Organization (2008), 60% of medical errors are due to failure in effective communication among healthcare teams. Yet, communication and a client/ patient centered care approach are the two most important competencies among six IPC competency domains (Canadian Interprofessional Health Collaborative, 2010). A wide range of literature highlights difficulties in collaboration between nurses, midwives and physicians working in maternity services which results in compromised quality of care (Bridges, Davidson, Odegard, Maki, & Tomkowiak, 2011; Caricati et al., 2015; Hastie, Fahy, C., & K., 2011; Kirby, 2016; Madden Elaine, Marlene Sinclair, 2011; C. A. Orchard, 2010; Wieczorek, Marent, Dorner, & Dür, 2016). Collaboration difficulties have been revealed among physicians and nurses and other members of obstetric care teams. For instance, a study conducted at St. Michael's

Hospital in Canada revealed a lack of understanding of the role of anesthetists in the management of obstetric emergencies. In the study, this failure to understand the role of anesthetists had an impact on patient care. In contrast, it was argued that anesthetists could have had valuable and meaningful input into a patient's care, particularly during obstetric emergencies. The study found that this misunderstanding and the often-peripheral position of the anesthesiologist on the team, led to isolation of the anesthesiologists in their work, which had implications for effective communication, collaboration and the safe delivery of care (St. Michael's Hospital, 2011).

Similarly, another study conducted on the role of anesthetists in obstetric care revealed that a multidisciplinary approach is essential, with input from obstetricians, anesthetists, physicians, neonatologists and midwives to manage obstetric emergencies (Plaat & Wray, 2008). Given the complexity of obstetric and neonatal emergencies, which often rely on more than one medical team, teamwork skills are essential. Guise & Segel (2008) argue that medical doctors, nursing and other health care providers' training focuses on clinical knowledge and technical skills despite the importance of an IPC approach to care.

According to the WHO (2004), EmONC can be provided by a range of health professionals whose titles vary by country contexts. There is a consensus that these health care providers including nurses, medical doctors and other healthcare providers involved in obstetric care should be referred to as "skilled attendant" or, "skilled birth attendants", in order to avoid confusion (World Health Organization, 2004).

According to the World Health Organization (2004), A skilled birth attendant (SBA) is a midwife, physician, obstetrician, nurse or other health care professional who provides essential and emergency health care service to women and their newborns during pregnancy, childbirth, and the postpartum period. Even though these skilled birth attendants are from diverse backgrounds, with different levels and areas of experience, they must collaborate with mutual trust, role clarification, and effective communication to enable them to successfully fulfill their role in the management of obstetric and neonatal care (Nancarrow et al., 2013).

Globally, the maternal mortality rate (MMR) is still high, it is estimated that every day 830 women die because of preventable pregnancy and childbirth-related complications and 99% of these deaths occur in developing countries (World Health Organization, 2018). In 2015, there were 303,000 maternal deaths worldwide, with a significant variation between different regions. Sub-Saharan Africa represented 546 maternal deaths per 100,000 births compared to 12 maternal deaths per 100,000 births in developed countries (World Health Organization, 2018). Therefore, rapid progress in MMR reduction is needed especially in developing countries. One of the sustainable development goals (SDGs) is to reduce worldwide MMR to less than 70 deaths per 100,000 births by 2030, with no single country having an MMR higher than 140 deaths per 100,000 birth (World Health Organization, 2018). According to the World Health Organization (2018), each country should identify an effective strategy to implement to achieve SDG related to maternal and child health. On average, each country should

reduce the annual rate of MMR by at least 75% to achieve the SDG target of less than 70 maternal deaths per 100,000 births (World Health Organization, 2018).

In Rwanda, a maternal death audit conducted from 2009 to 2013 identified 1,060 maternal deaths, recorded through the national health information management system (HIMS) out of a total of 1,533,177 births in health facilities. The overall facility maternal mortality rate (MMR) was 69.1 per 100,000 live births (Sayinzoga et al., 2016). Furthermore, the audit identified a failure in team collaboration as one of the causes of the increased facility-based mortality rate (Sayinzoga et al., 2016). Consequently, the findings highlighted the need for IPC and quality health care services to reduce maternal mortality. Some of the primary leading causes of maternal death in Rwanda included hemorrhage, eclampsia, obstructed labor, sepsis, and complications of abortion (Sayinzoga et al., 2016).

The management of obstetric emergencies in district hospitals involves an IPC between teams, composed mainly of doctors, particularly general practitioners, nurses, midwives and anesthesia providers, which are commonly known as non-physicians anesthetists or anesthesia technicians in Rwanda (Livingston et al., 2014; Rwanda Allied Health Professionals Council Scope of practice for Non Physician Anaesthetists, 2017). However, no research has been conducted to assess how these teams collaborate to deliver better quality of care, though IPC is an essential aspect of achieving high-quality healthcare services. Ineffective IPC can increase maternal and newborn maternal mortality ratios (World Health Organization WHO, 2017; 2019). Even if the number of maternal deaths caused by a failure in collaboration was not revealed, the maternal death

audit conducted between 2009 and 2013 recommends improvement in IPC to achieve a better quality of maternal and newborn care.

Rwanda has made positive progress towards achieving many national health indicators: life expectancy increased from 55 years to 65 years; birth control and family planning increased from 31 percent to 42 percent; birth in health facilities increased from 69 percent to 91 percent, and the infant mortality rate went down from 50/ 1000 lives to 32/1000 lives birth (Rwanda Ministry of Health, 2018). Likewise, progress was made toward achieving the sustainable development goals (SDG) related to maternal and child health. According to the National Institute of the statistic of Rwanda ( 2015), the MMR has been reduced from 476/100,000 live births in 2010 to 320/100,000 live births in 2013 and 290/100,000 live births in 2015. However, despite this improvement, Rwanda still needs to do more to continue to reduce MMR to meet the acceptable standard.

According to the WHO in 2015, MMR should be reduced to 70 per 100,000 live births between 2016 and 2030 as part of the sustainable development goals (World Health Organization et al., 2015). One way of reducing maternal and neonatal mortality in Rwanda is by improving the availability, accessibility, quality, and use of services to treat complications that arise during pregnancy and childbirth (Sayinzoga et al., 2016).

Regarding neonatal mortality, it is estimated that worldwide around 7000 neonates die every day and 98% of these deaths happen in developing countries, with sub-Saharan Africa 10 times higher than the rest of the world (UNICEF, WHO, World Bank, 2019). Globally, approximately 2.5 million neonates died in 2018. Most of the causes of this

burden can be prevented by effective antenatal care, skilled birth attendants, and quality of emergency obstetric and neonatal care (UNICEF, WHO, World Bank, 2019).

The SDG target number 3 is to reduce the neonatal mortality rate to at least 12 per 1000 live births by 2030 (UNICEF, WHO, World Bank, 2019). Consequently, there is an urgent need to improve the quality of neonatal care to achieve this target. Further, there is no single profession that can work alone and achieve better quality of care. Consequently, there is a strong need for effective IPC to contribute to the achievement of SDGs related to neonatal and child mortality.

Again, in the context of Rwanda, the Rwanda demographic health survey (RDHS) 2014-2015 indicated an improvement in the neonatal mortality rate from 27/1,000 in 2010 to 20/1,000 in 2015 compared to the worldwide neonatal mortality of 31 death per 1,000 live births (National Institute of Statistics of Rwanda, Ministry of Health, Kigali, Rwanda, The DHS Program ICF International, Rockville, Maryland, 2015). Still, despite the progress made, there is a need to improve maternal and newborn care quality to accelerate the pace in reducing maternal and newborn mortality. Therefore, the target in Rwanda is to have the neonatal mortality rate at least at 18/1,000 in 2020 and 15/1,000 by the year 2024 (Rwanda Ministry of Health, 2018).

Knowledge, skills, and equipment are no longer enough to provide good obstetric and neonatal care. Thus, a need for effective IPC between different health care practitioners to enhance the quality of EmONC. Again, in the context of Rwanda, district hospitals are the first referral units for healthcare services and emergency obstetric and neonatal care is provided by an interprofessional team made up of medical doctors,

anesthetists, nurses and midwives. Every team member has a specific role depending on his/her scope of practice and professional background.

Medical doctors who are most of the time general practitioners at district hospital levels provide a range of care in various services and in terms of pregnancy and child-related care; these professionals are trained to deal with complicated cases, but more severe cases are referred to national referrals (Rwanda Ministry of Health, 2015). Nurses and midwives deal with uncomplicated pregnancies and child-birth-related care (Rwanda National Council of Nurses and Midwives, 2017). Anesthesia providers offer analgesia, adult and neonatal resuscitation, and anesthesia for surgical interventions such as caesarian sections and other operations performed at district hospital levels (Rwanda Allied Health Professionals Council Scope of practice for Non-Physician Anaesthetists, 2017). Although hospitals are only one piece in the overall pregnancy management, this study focused on collaboration among health care providers working in hospital based obstetric care, as the acute setting where clients with complicated health issues go. According to the maternal death audit conducted in 2009-2013, the MMR rate is high in hospital settings compared to other units including community and health centers (Sayinzoga et al., 2016).

#### **1.4 Problem Statement**

In Rwanda, EmONC in district hospitals involves interprofessional collaboration between team members, composed mainly of doctors, particularly general practitioners, nurses and midwives and anesthetist providers (which are commonly known as anesthesia technicians or Non Physicians anesthetists in Rwanda) (Livingston et al., 2014; Rwanda



Allied Health Professionals Council Scope of practice for Non Physician Anaesthetists, 2017). However, no research has been conducted to assess how these teams collaborate to deliver better quality of care.

Although IPC is a crucial aspect to consider in delivering quality healthcare services, ineffective IPC can increase the maternal and newborn maternal mortality ratio. The maternal death audit conducted in health facilities between 2009 and 2013 identified poor team collaboration between health care providers and patients as one of the root causes of maternal deaths. The audit recommended, among other recommendations to enhance IPC among healthcare teams as a way to improve the quality of care and contribute to maternal mortality reduction (Sayinzoga et al., 2016).

In 2017 the Training Support Access Model, Maternal, Neonatal, and Child Health (TSAM-MNCH) project in Rwanda started mentorship programs in health facilities intending to improve the quality of MNCH within selected provinces of Rwanda. In that mentorship, IPC was one of the essential components introduced within the mentorship program; chosen TSAM mentors received training on various cross-cutting themes, including IPC, gender and ethics. The overall purpose of this descriptive case study is to explore the IPC experience among healthcare providers mentees and how the TSAM mentorship program has shaped IPC practice.

TSAM- MNCH project provided mentorship programs to healthcare providers to improve MNCH in the Northern district hospitals. While mentorship has covered many aspects of MNCH, IPC was one of the important components that was focused on. However, despite almost three years of the TSAM mentorship program, little is known

about its impact on IPC practice. Therefore, this study is informative in contributing to an evidence for improvements in interprofessional practice. Moreover, the study identified the benefits, and barriers to the successful implementation of IPC in this setting, which could guide new interventions and evidence-informed policy development and strategies, by using data from the present study.

Furthermore, the study provides insight about effectiveness of the TSAM MNCH mentorship. This has the potential to contribute to healthcare system strengthening, as well as to assisting policy makers, administrators, and implementers, including TSAM-MNCH project, Rwanda Ministry of Health and hospitals, to address the challenges with IPC as a key component for quality healthcare service delivery in general and in EmONC in particular.

### **1.5 Overview of Healthcare System in Rwanda**

Rwanda is a small and mountainous landlocked country of 26,338 square kilometers located in sub-Saharan Africa region. The total Rwandan population was estimated at around 10,515,973 in 2015 (National Institute of the statistic of Rwanda, 2015). Based on the United Nations data, the Rwandan population will continue growing with an estimated population of 12,933,822 in 2020 (United Nations, 2015). About a third of the country is used for farming/ crop growth, translating to roughly 35 percent of the land cultivated.

The population density in Rwanda is the highest in Sub-Saharan Africa, representing around 416 inhabitants per square kilometer (National Institute of statistics, 2015). Rwanda's healthcare system is a pyramidal structure composed of three levels: the

main level, the intermediate level, and the peripheral level (Rwanda Ministry of Health, 2018). The main level comprises the Ministry of Health (MoH), Rwanda Biomedical Center (RBC), referral and teaching hospitals (Rwanda Ministry of Health, 2018).

The primary mandate of the MoH at the central level is to formulate policies and strategies, ensure monitoring and evaluation, capacity building and mobilization of resources, and coordinate activities at intermediate and peripheral levels as well as providing administrative and technical support (Rwanda Ministry of Health, 2018). The core functions of RBC include but are not limited to coordination of biomedical research activities, collaboration with both regional and international institutions to achieve strategic health goals and ensure availability of medicines and other medical supplies in all health facilities. The mission of the national referral and teaching hospitals is to provide tertiary care to the population (Rwanda Ministry of Health, 2018). The intermediate level is represented by provincial hospitals with a mandate of decreasing the demand at national referral hospitals.

The peripheral level is represented by the health district. It consists of an administrative office known as a district health unit (DHU), a district hospital (DH), a network of health centers (HC) and health posts (HP). The DHU organizes and coordinates health services in health facilities (DH, HC, HP) and the community (Rwanda Ministry of Health, 2018).

The Rwanda health care system is composed of 8 national referral and teaching hospitals, four provincial hospitals, 36 district hospitals, 499 health centers, and 476 health posts (Rwanda Ministry of Health, 2018).

A different package of activities have been defined at each level of the Rwandan healthcare system to provide equitable and quality health care services across the country (Rwanda Ministry of Health, 2015). For instance, at the community level, minimum package of activities (MPA) related to maternal and child health such as family planning, home visits, information, education and communication (IEC) are provided by community health workers (CHWs) supervised by health centers (Rwanda Ministry of Health, 2015). Other primary activities such as antenatal consultation, uncomplicated deliveries, postpartum care, and vaccination are provided by nurses and midwives at health posts and health centers.

At the district hospitals level, there is a complementary package of activities which include antenatal consultation of high risk pregnancies referred from health centers, family planning for referred cases, management of complex labor and deliveries, postpartum complications and management of newborns with complications after birth (Rwanda Ministry of Health, 2018). The complementary activities at district hospitals involve an IPC of healthcare professionals composed mainly of registered nurses and midwives with three to four year training from college, medical doctors who are usually general practitioners and other allied healthcare professionals including registered anesthesia providers with advanced diploma or bachelor's degree in anesthesia who are involved in resuscitations procedures and difficult deliveries requiring surgical intervention and anesthesia services (Rwanda Ministry of Health, 2018). Complicated cases that cannot be managed at district levels are referred to provincial hospitals for

advanced care by a specialized team composed of physicians, nurses, midwives, and other subspecialties (Rwanda Ministry of Health, 2015, 2018).

### **1.6 TSAM Project Background and Overview of its Mentorship in Rwanda**

The Training Support Access Model, Maternal, Neonatal, and Child Health (TSAM-MNCH) project in Rwanda was a four-year international development partnership project with funding provided to the University of Western Ontario (Western) by Global Affairs Canada (GAC) through the Government of Canada (Training Support Access Model for Maternal Newborn and Child Health, 2019).

The project builds upon 16 years of partnership between the Western and the Rwandan health sector. The primary Canadian partner was Western University, with other collaborating institutions, including Dalhousie University, York University, University of British Columbia, British Columbia Institute of Technology and Simon Fraser University. The primary mission of the TSAM project was to improve maternal, newborn and child health (MNCH) in Rwanda by working with local partners including the Rwanda Ministry of Health (MoH), the National Council of Nurses and Midwives (NCNM), the Rwanda Medical and Dental Council (RMDC), the College of Medicine and Health Sciences (CMHS) at the University of Rwanda, and the Centre for Public Health and Development to improve health service access and delivery.

Additional TSAM collaborators include district hospitals, health centers, community health organizations, and regional nursing schools. The primary goal of the TSAM project was to work with health practitioners and health workers in Rwanda to practice safe, evidence-based, gender-sensitive, culturally appropriate and inter-

professional emergency MNCH care. Additionally, the TSAM program aimed to improve specialized care for mothers and children provided by nurses, midwives, and physicians.

Also, the TSAM target was to reinforce MNCH district training and mentoring and to advise the partners and the Ministries of Health and Education, as well other organizations with a vested interest in MNCH care, on the results of the TSAM project in order to align strategic plans and policies with gender-sensitive MNCH service delivery (Training Support Access Model for Maternal Newborn and Child Health, 2019).

In terms of management and administration, TSAM has a steering and an executive committee composed of one representative selected from each Project partner organization, including Rwanda medical and dental council (RMDC), the National Council of Nurses and Midwives (NCNM), the Centre for Public Health and Development, and the College of Medicine and Health Sciences (CMHS) at the University of Rwanda. The executive committee represents the highest level of decision-making body on the project working at the level of program approval with the aim to achieve harmonized and integrated outcomes in MNCH. The executive committee approves recommendations for program directions received from the steering committee. The executive committee champions the project in professional networks and activities, recommends qualified individuals for steering committee in order to successfully design Work Plans for project activities, acts in consultation with the steering committee to review and approve Work Plans to ensure they align with project outcomes and represent the most efficient and productive use of resources, ensures that the design of the Implementation Plan and Work Plans achieves the objectives of the planned activities and outcomes, and attends all Executive Committee meetings for the life-time of the project,

or when necessary, provides an alternate from the Partner organization (Training Support Access Model for Maternal Newborn and Child Health, 2019).

The TSAM project had six action teams including continuous professional development (CPD) action team, nursing and midwifery action team, cross cutting themes (CCT) action team, community health workers action team, research action team and policy action team. All action teams were composed of both Rwandan and Canadian team members. While Canadian teams acted as advisors and facilitators of steering and actions teams, Rwandan teams were considered as executive leaders of the project components and constantly updated and engaged in discussions about the project plans and ongoing activities.

TSAM provided mentorship programs for healthcare professionals in different services, including maternity in district hospitals of Rwanda's Northern and southern provinces. Initially, mentorship was initiated in five district hospitals: Byumba, Ruli, Nema, Kinyihira, and Rutongo. In May 2018, the TSAM extended mentorship activities to another five districts hospitals (Gakoma, Gitwe, Kabgayi, Kibirizi, and Ruhango) in the Southern province of Rwanda. The goal of the mentorship program was to enhance the quality of care in maternity services and thereby contribute to the reduction of maternal morbidity and mortality in Rwanda (Ngabonzima et al., 2020)

Mentors were selected based on collaboration between TSAM and health professionals' councils to identify experienced healthcare professionals who could volunteer to provide mentorship to less experienced professionals working in district hospitals in maternal and child health areas. Regarding mentees' selection, the TSAM

project collaborated with its assigned hospital managers to identify mentees who would undergo a mentorship program to build their capacity to handle maternal and child health care to improve maternal and child health in Rwanda. As a result, hospital managers submitted a list of mentees to the TSAM project (Ngabonzima et al., 2020).

Before the start of the mentoring programs, mentors were trained on different topics including cross cutting themes where IPC was of great consideration. The mentorship started in June 2017 with an overall objective of building the capacity of health care providers to handle maternal, newborn and child cases (Ngabonzima et al., 2020). Therefore, in the mentorship provided, IPC was an essential component. However, little is known about the experiences of those healthcare professionals' mentees on the implementation of IPC in their respective working places. The present study focused on the IPC experience among healthcare providers and the impact of the TSAM mentorship programme on IPC practice. The findings have the potential to assist policymakers, administrators, and implementers, including TSAM- MNCH project, Rwanda Ministry of Health and district hospitals, to address the challenges of integrating IPC as a critical component for quality healthcare service delivery. Lastly, the study will be informative in contributing to knowledge that can advance improvements in interprofessional practice.

### **1.7 Study Purpose**

The primary aim of this qualitative descriptive case study (Stake, 2010) was to understand the experience of healthcare providers working in maternity services in



applying an interprofessional collaborative approach for the management of obstetric and neonatal emergencies.

Exploring IPC experiences among healthcare professionals working in maternity services advances knowledge by identifying benefits and challenges to successful collaborative practice in this context. Also, this study aims to understand how TSAM mentorship has helped health care professionals' mentees improve IPC practice. Furthermore, the study aims to understand suggestions and strategies to achieve effective IPC drawing on study participants accounts. Although IPC also includes patients in their care, in the present study, the focus was on collaborative practice between providers themselves. Future research could involve patients and identify their role in collaborative practice.

### **1.8 Research Questions**

- 1) What are the IPC experiences of healthcare providers mentees within the TSAM mentorship training working in maternity services in Emergency Obstetric and neonatal care (EmONC)?
- 2) What are the challenges and barriers for IPC in EmONC?
- 3) What are the experiences of participating in the TSAM mentoring program on IPC practice?

- 4) What strategies are used to promote IPC in obstetric care from the perspective of hospital managers?

### 1.9 Self-reflexivity

Reflexivity is the process of reflecting critically on oneself as a researcher, the human as an instrument of research interpretation, and to situate the researcher within the research process. Self-reflexivity is a vital aspect to consider in qualitative research since where the researcher is coming from can influence the way she sees the phenomena under investigation (Crotty, 1998). Additionally, the researcher's professional background can stimulate interest and inform the perspectives shaping a research project. Consequently, I situate myself regarding this research work.

I have a master's degree in hospital and healthcare administration. When studying employee relations, I first reflected on my personal experience with interprofessional collaboration. I wondered why disparities in working relationships exist among healthcare professionals who share the same goal of providing optimum patient care. I also have a background in anesthesia. I worked as a registered anesthetist in district hospitals for two years.

We worked together with other team members to manage obstetric and neonatal emergencies. I have also worked in maternity service as a clinical nurse, commonly known as an associate nurse (enrolled nurse A2 level) in the Rwanda nursing and midwife

council. It is in this environment that I observed and experienced difficulties in team collaboration. Later, when I left clinical practice in a district hospital, I started to work as a clinical instructor at the University of Rwanda where I supervised anesthesia students during their clinical practice with rotations in various districts and referral hospitals.

During this time, I continued to observe the disparities in interprofessional collaboration among health care providers when managing obstetric and neonatal emergencies, which could sometimes negatively impact patients and professionals. Upon receiving a scholarship to conduct my research as a requirement to complete my PhD in health professional education, I knew that the TSAM- MNCH project provided training of mentors on IPC and mentorship were conducted in district hospitals in the Northern province of Rwanda.

Therefore, my interest was to develop an in-depth understanding of experience about IPC among healthcare providers mentees dealing with obstetric and neonatal emergencies. Also, my interest was to understand the barriers to effective collaborative practice as an important component to quality healthcare delivery. Furthermore, my interest was to understand how the mentorship program has shaped IPC in EmONC. I hope that this research will be informative in advancing an evidence base for improvements in IPC practice to achieve better quality of care

#### 1.10 **Organization of the thesis**

This thesis is organized in a monograph paper format and consists of seven chapters.

Chapter one provides an introduction, background, problem statement, overview of the healthcare system in Rwanda, overview of the TSAM project and its mentorship program, study purpose, research questions, self-declaration and organization of the thesis. Chapter two is a scoping review of IPC in hospital based obstetric care focusing on the African context.

The chapter is prepared as a manuscript published in the *Journal of Interprofessional Education and Practice* (2021). Chapter three describes the methodological approach of the study, with chapter 4, 5 and 6 presenting findings. Chapter four presents IPC experiences among healthcare professionals providing emergency obstetric and neonatal care in Rwanda. Chapter five presents participants perspectives on the benefits of a mentoring program on IPC in obstetric and neonatal care.

Chapter six presents suggestions to improve and sustain IPC practice in EmONC drawing on participants' perspectives. Lastly, in chapter seven, the conclusion, implications and direction for future research are discussed.

## Chapter 2

### **2 A scoping review of interprofessional collaboration in hospital-based obstetrical care with a particular focus on Africa**

This chapter presents a literature review in a scoping review format to map the existing literature on IPC in hospital based obstetric care focusing on the African context. This paper has been published in the Journal of interprofessional education and practice as: Yamuragiye, A., Wylie, L., Kinsella, E. A., & Donelle, L. (2021). A scoping review of interprofessional collaboration in hospital-based obstetric care with a particular focus on Africa. *Journal of Interprofessional Education & Practice*, 24(June), 100456. <https://doi.org/10.1016/j.xjep.2021.100456>.

#### 2.1 Abstract

This scoping review seeks to explore interprofessional collaboration (IPC) in the context of obstetric care in hospital settings in distinct geographical regions, with a particular focus on Africa. The aim is to identify the challenges, facilitators, and strategies of successful IPC practice in hospital-based obstetric care as found in the literature. The articles found identified three categories of challenges including interaction, systemic and organizational factors. IPC facilitators revealed were related to organizational culture and individual specific behaviors. The identified strategies to improve IPC in hospital based obstetric care were educational strategies and leadership support. Given that mechanisms that shape IPC are not the same in all healthcare systems, researchers, educators and policy makers and partners should identify the appropriate mechanisms to integrate,

implement and sustain IPC in hospital-based obstetric care across distinct geographical regions and particularly in Africa.

## 2.2 Introduction

Interprofessional collaboration (IPC) is an important aspect to consider in delivering quality healthcare services, as patient or client outcomes rely on various health practitioners collaborating with one another to provide optimum health care services. IPC has been defined as a model of care in which different healthcare providers work together to achieve a better patient outcome (D'Amour et al., 2005). According to the World Health Organization (WHO)(2010), “collaborative practice in healthcare happens when various professionals from diverse healthcare backgrounds provide comprehensive services by working with patients, their families, caregivers, and communities to deliver the highest quality of care across settings” (P.13). Effective IPC contributes to patient safety and reduces preventable adverse events and medication errors.

The Institute of Medicine estimated that 98,000 deaths occurred annually from medical errors alone, and more than half of them are traced to problems related to poor communication and ineffective team collaboration between healthcare providers ( Fraino et al., 2015). Moreover, a six-year survey conducted between 2002-2007 in ten hospitals in the North Carolina reported that 63% of hospitals' adverse events were due to medical errors (Landrigan et al., 2010). Medication errors have been identified as the third leading cause of death in the US, suggesting the importance of interprofessional collaboration to improve patient safety (Makary & Daniel, 2016). Furthermore, communication errors

have been identified as the main cause in 72% of all perinatal deaths (The Joint Commission, 2021).

In obstetrics, the branch of medicine that deals with pregnancy, childbirth and the postpartum period, failure in effective interprofessional team collaboration can contribute to increased maternal and neonatal mortality rates (Guise, 2008). Obstetrics is unique in that most of the time, there are two people who require care: the mother and the baby. IPC in obstetrics care aims to assist in the reduction of maternal and newborn mortality and morbidity rates ( King & Scrutton, 2011).

It is estimated that every day 830 women die because of preventable pregnancy and childbirth-related complications and 99% of these deaths occur in developing countries (World Health Organization, 2018). In 2015, around 303,000 women died and most of this maternal death happened in developing countries (World Health Organization, 2018).The majority of these deaths occurred in Sub Saharan Africa (World Health Organization, 2018). Even though there has been a decrease in the maternal mortality rate (MMR) by 44% between 1990 to 2015, there is still a need to do more to achieve the acceptable standard (Alkema et al., 2016). One of the strategies to achieve this target is through effective interprofessional collaboration among healthcare providers involved in obstetric care (Alkema et al., 2016).

IPC in maternity services can be difficult given that different healthcare providers are exposed to distinct educational and professional backgrounds resulting in differing beliefs, values and world views. These differences can result in misunderstandings and varying interpretations between team members, and have a negative impact on patient

outcomes and safety (Watson et al., 2016). Difficulties in collaboration between nurses, midwives and physicians, that result in compromised care in maternity services, have been widely documented (Bridges, Davidson, Odegard, Maki, & Tomkowiak, 2011; Caricati et al., 2015; Hastie & Fahy, 2011; Orchard, 2010; Wiczorek, Marent, Dorner, & Dür, 2016). Interprofessional collaboration difficulties in obstetrical care have also been identified with other healthcare team members. A study at St. Michael's Hospital in Canada for instance, revealed team members' lack of understanding of the role of anesthetists in the management of obstetric emergencies, which had a negative impact on patient care; the study suggested anesthetists input into patients' care would have been useful and important in such emergencies (St. Michael's Hospital, 2011).

Given the complexity of obstetric care, which often relies on more than one medical team, multiple professions such as nursing and midwifery, obstetrics, anesthesiology and neonatology are required to work together to achieve better outcomes (Guise, 2008). Some dimensions for team consideration in collaborative obstetric care include effective communication, situation awareness, task management, leadership role and clarity, and teamwork skills (Madden et al., 2011). Further, the patient is vital in obstetric team collaboration, as knowledge from lived experience is essential and constantly changing during pregnancy, labour and post-partum. As such, understanding every member of the interprofessional team's role is essential, and minimizes the occurrence of adverse events.



Despite calls for interprofessional collaboration, effective IPC is not occurring consistently in hospital settings worldwide (Rijnders, Jans, & Vries, 2019). The process of implementation, integration and sustainability of IPC is reported as a challenge despite its importance (Leathard, 2011). Even though it is difficult to achieve, it has been argued that IPC is necessary for optimal patient outcomes and that the development of IPC skills should occur at every stage of professional training (Reeves, Lewin&Espin, 2010). Some countries are reported as more advanced than others. Canada and Australia, for instance, have been reported as superior to other countries in promoting IPC in healthcare settings (Helmond et al., 2015). In the context of Africa, IPC in healthcare continues to be a challenge (Leathard, 2011). Examining research into IPC in Africa can contribute to the body of knowledge about IPC in this part of the world inform future IPC future policy.

To respond to this issue, a scoping review which is a relatively new approach to knowledge synthesis, was conducted to map the literature on IPC in hospital-based obstetric care and to identify gaps and evidence to inform improvement in IPC practice. This scoping review of IPC in hospital-based obstetric care focuses on challenges related to IPC implementation, integration, and sustainability. It compares strategies used to promote IPC in Africa with other geographic settings. The specific focus on obstetrics affords an in-depth analysis and discussion about challenges, facilitators, and strategies for effective IPC promotion in hospital-based obstetrical care in Africa.

### Purpose

The purpose of the review is to consider the current state of knowledge in the published literature related to:

- Challenges and facilitators to effective interprofessional collaboration in hospital-based obstetric care
- Strategies to promote IPC in hospital-based obstetric care
- Implications for advancing IPC in hospital-based obstetrical care in the African context

### 2.3 Methodology

A scoping review is defined as an approach to knowledge synthesis which aims “to examine the extent, range, and nature of research activity in a given field; to determine the value and appropriateness of undertaking a full systematic review; to summarize and disseminate research findings; and to identify research gaps in the existing literature” (Thomas et al., 2017, P.1). The following research questions were formulated to guide the review:

1. What are the challenges and facilitators identified in the literature for IPC implementation, in obstetrical care in hospital settings in various geographical areas, with a particular focus on Africa?
2. What are the strategies identified in the literature for effective IPC in the context of hospital-based obstetrical care in various geographical areas, with a particular focus on Africa?
3. What are the implications of the above for advancing IPC in hospital-based obstetric care in the African context?

In order to answer the research questions and achieve the purpose, a scoping review was conducted to identify about the research evidence related to the challenges,

facilitators and strategies for effective IPC in hospital-based obstetric care in distinct geographic regions, with a particular focus on Africa. The aim was to consider the implications for promoting IPC in the African context and formulate recommendations for future research. The focus on the African context was informed by the first author's experiences working as a nurse and as an anesthesia provider in hospital-based obstetric care in Rwanda, in addition to scholarly literature suggesting the potential for unique challenges with IPC in this region.

Five stages as suggested by Arksey & Malley (2005) were followed to guide the review. These included: 1) identification of the research question; 2) identification of relevant studies; 3) study selection; 4) data extraction; and (5) data synthesis.

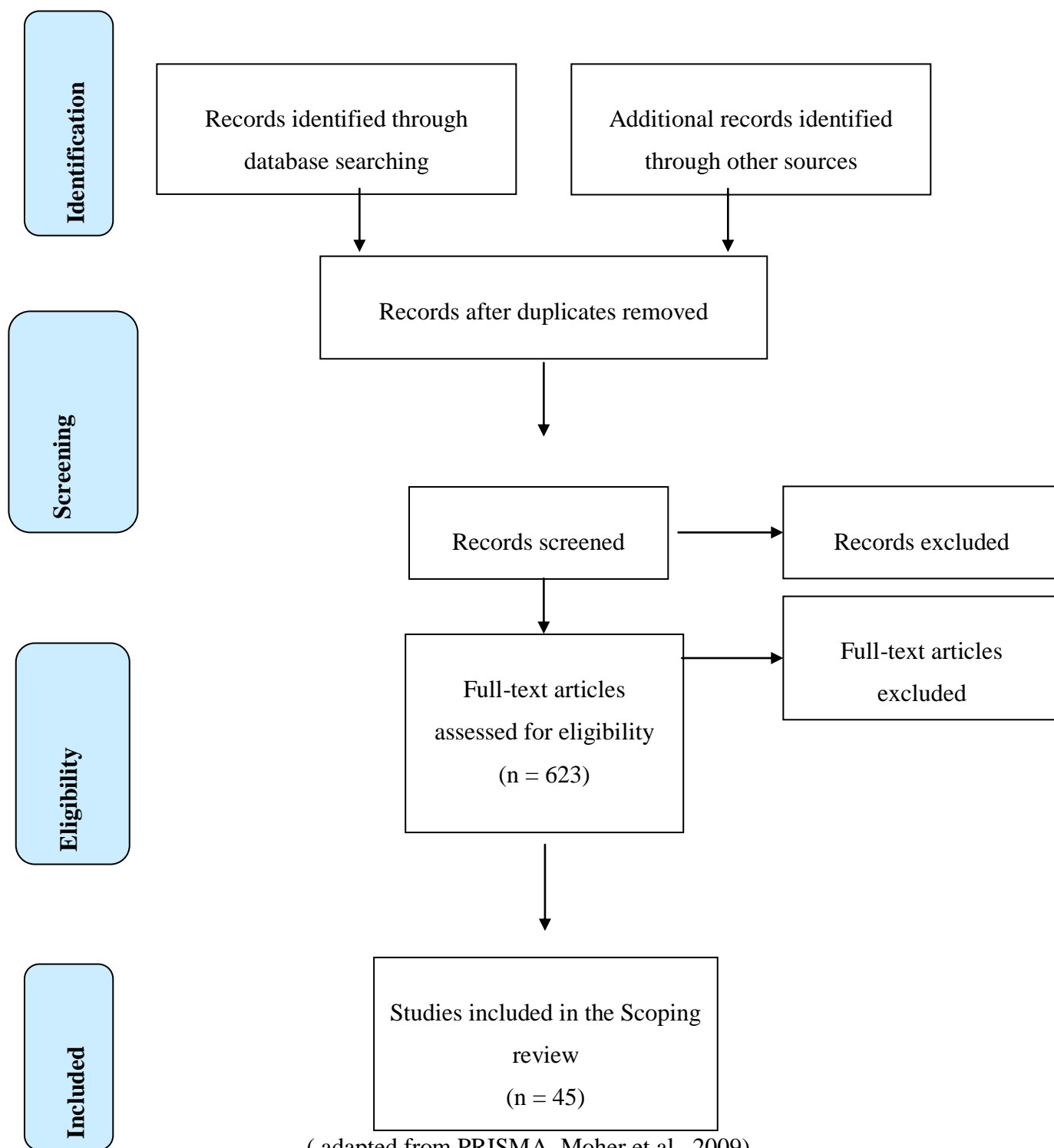
A reference librarian assisted to refine the search terms and an extensive search was conducted in the following electronic databases: SCOPUS, CINAHL, PUBMED, EMBASE, and WEB OF SCIENCE. Search engines such as Google and Google Scholar were also used to retrieve additional articles. The search was an iterative process involving modification of search terms until the final terms to identify relevant articles were determined. The keywords used for the literature search include:

- 1) Interprofessional collaboration OR teamwork OR interdisciplinary collaboration OR interprofessional relations OR patient care team OR collaborative models OR interprofessional communication
- 2) Obstetric OR obstetric care OR maternity
- 3) Hospital settings OR hospital OR hospital care
- 4) Africa OR Africa South of the Sahara, Western Africa, Southern Africa, Northern Africa, Eastern Africa, Central Africa. Additional search

criteria were used with the above key terms to focus the search on: 1) African geographic regions and/or 2) professions of nursing, midwifery, medicine, and/or anesthesia providers.

At the initial search, the title and abstract screening were conducted to decide whether an article was to be kept for a full review. The preliminary search yield 1825 articles on IPC in hospital-based obstetric care. A total of 223 duplicates were removed, and after removing duplicates and abstract screening, 623 were retained for a review of relevancy related to the inclusion/exclusion criteria. Finally, 578 articles which did not meet the inclusion criteria were removed and, a total of 45 articles were retained as the data set for analysis.

**Figure 1: Flowchart of study retrieval and selection process**

**PRISMA DIAGRAM**

To be included, articles met certain criteria: 1) Published in a peer-reviewed journal between January 2009 and March 2019; 2) written in English; 3) focused on interprofessional collaboration; 4) focused on Obstetrical care in a hospital setting; 5) Focused on professions of nursing, midwifery, medicine, and/or anesthesia providers. Were excluded articles: 1) focused on interprofessional collaborative education; 2) recommend IPC but did not directly study IPC; 3) discussed IPC in obstetrics in context of simulation studies; 4) involved collaboration between healthcare providers and obstetric patients; 5) focused on students and IPC in hospital-based obstetric care; and 6) focused on obstetric and community health workers. Mendeley software was used to manage the articles found. A data extraction template was developed in Microsoft Excel to record relevant information. The details recorded included: the title, research design, year of publication, a country in which research was conducted, research objective or research question, healthcare professionals involved, Journal of publication, the definition of IPC, challenges to IPC in obstetrics, facilitators to IPC in obstetrics, strategies used or recommended to promote IPC in obstetrics. Finally, descriptive and thematic analyses were conducted.

## 2.4 Results

### 2.4.1 Descriptive numerical analysis

The 45 articles included in the review were published between January 2009 and April 2019, with a large number published between 2014 and 2016 (Table 1)

**Table 1: Year of Publication**

<b>Year of publication</b>	<b>Frequency</b>	<b>%</b>
2019	2	4
2018	2	4
2017	5	11
2016	8	18
2015	7	16
2014	6	13
2013	2	4
2012	6	13
2011	4	9
2010	1	2
2009	2	4
<b>Total</b>	<b>45</b>	<b>100</b>

Twelve articles were from Africa with Nigeria being the most frequent African country represented. Thirty-three articles were identified from other geographical regions. In total, studies were conducted in 17 countries including 6 African countries and 11 countries from other continents (Table 2).

**Table 2 Country where the research was conducted**

<b>Countries</b>	<b>Frequency</b>	<b>%</b>
Australia	8	18
Canada	6	13
UK	6	13
USA	6	13
Nigeria	5	11
Ethiopia	2	4
South Africa	2	4
Chile	1	2
Botswana	1	2
Ireland	1	2
Kenya	1	2



Malawi	1	2
Nepal	1	2
Netherland	1	2
New Zealand	1	2
Norway	1	2
Sweden	1	2
Total	45	100

Most publications were in Australia, followed by the USA, Canada, and the UK.

Articles were published in 36 journals with the most frequent representation in the Journal of Interprofessional Care, the Obstetrics and Gynecology Clinics of North America Journal, and the Journal of Women and Birth (see appendices table 3).

**Table 3: Journal of Publication**

No	Journals	Number	%
1	Journal of Interprofessional care	3	7

2	Obstetrics and Gynecology Clinics of North America	3	7
3	Women and Birth	3	7
4	BMC Health Services Research	2	4
5	Journal of Advanced Nursing	2	4
6	Journal of Multidisciplinary Healthcare	2	4
7	Acta Obstet Gynecol Scand	1	2
8	Africa Journal of Nursing and Midwifery	1	2
9	African Journal of Primary Health Care	1	2
10	American Journal of Medical Quality	1	2
11	Anesthesia& Analgesia	1	2
12	Australian Health Review	1	2
13	Biomedical center Nursing	1	2
14	BMC Pregnancy and Childbirth	1	2
15	BMJ Quality & Safety	1	2
16	BMC Pregnancy and Childbirth	1	2

17	British Journal of Medicine & Medical Research	1	2
18	Canadian Journal of Anesthesia	1	2
19	Evidence Based Midwifery	1	2
20	Health Communication	1	2
21	Journal of Childbirth	1	2
22	Journal of Hospital Medicine	1	2
23	Journal of Midwifery & Women's Health	1	2
24	Journal of Obstetrics	1	2
25	Journal of Obstetric, Gynecologic & Neonatal Nursing	1	2
26	Journal of Entrepreneurship & Organization Management	1	2
27	International Journal of Caring Sciences	1	2
28	Matern Child Health Journal	1	2
29	Medsurg Nursing	1	2
30	Midwifery	1	2

31	Nigerian Journal of Medicine	1	2
32	Nursing Ethics	1	2
33	Nursing new Zealand	1	2
34	Postgraduate Medical Journal	1	2
35	Plos One	1	2
36	Sociology of Health & Illness	1	2
	Total	45	100

Most of the articles (37) were research-based, and eight were reviews of literature including five integrated reviews, one scoping review, and two narrative reviews. Fifteen studies used a quantitative research design while 18 articles used qualitative design. Only 4 studies used a mixed method approach. Most of the quantitative design studies used a cross-sectional descriptive design approach (10), with one clinical audit (1) and one descriptive survey (1). Three other quantitative studies did not mention the specific approach used.

Regarding studies that used qualitative research design, various methodologies were used: case study (4), ethnography (1), phenomenology (1), participatory action research (1), exploratory using critical incident approach (1), interpretive interactionism

(1). A number of qualitative studies (9) did not mention the specific methodology that was used. Data collection methods involved interviews, observation, and focus groups for the qualitative designs, while questionnaires were the primary means of data collection for the quantitative research designs

#### 2.4.2 Thematic analysis

The thematic analysis was guided by the research questions. Key categories related to challenges, facilitators, and strategies to IPC in hospital-based Obstetric care were identified. The findings were grouped into categories, and themes for ease of presentation (appendices Table4).

##### 2.4.2.1 Challenges to Effective IPC in Obstetric Care

Challenges identified were grouped into three categories including: Interactional factors, Systemic factors, and Organizational factors.

###### 2.4.2.1.1 a) Interactional factors:

Communication issues, issues of respect and trust, and individual specific behaviors were grouped into the category of interactional factors that affect IPC in obstetric care.

Although, communication is an important key aspect of successful collaboration, many of the papers in the review identified communication issues as a major challenge to IPC and described them in a variety of ways. Rijnders et al., (2019) conducted a quantitative cross sectional survey to evaluate the quality of the collaboration between maternity care team in Netherland. This study involved obstetricians, nurses and

midwives and reported limited opportunity for nurses and midwives to offer their perspective regarding obstetric patient care, while they thought that their input could have been important to patient outcomes. Likewise, a scoping study on what makes good collaboration and communication in maternity care, Helmond et al., (2015) reported ineffective communication between maternity care team members as negatively affecting the quality of maternity care delivered to patient. Similarly, in a cross sectional descriptive quantitative study conducted to assess nurses and doctors perception of interprofessional collaboration in Nigeria, Ogbonnaya (2016), identified that doctors seem to be considered full professions while others such as nurses are deemed as semi-professions and therefore have lower input in decision making. Additionally, a qualitative study that involved nurses, midwives and medical doctors including general practitioners and obstetricians in Australia, explored the importance of effective communication in interprofessional practice (Watson et al., 2016). The study (Watson et al., 2016) reported a lack of sharing of information as a result of the limited interactions between the obstetric care team, which was identified as a barrier to IPC. Furthermore, lack of confidence was also identified as a barrier to effective communication (Watson et al., 2016). O' Leary (2012) noted in a review of literature on teamwork in hospital based obstetric care that fear of being questioned about some aspect of care, or of not being listened to, contributed to some nurses and midwives become unable to communicate their thoughts. Likewise, a study on the effects of collaboration on obstetric patient outcomes conducted in three hospitals, and a study on overcoming barriers to effective teamwork in healthcare, identified lack of confidence as a barrier to effective interaction between nurses, midwives, and doctors but also between senior and junior doctors in

obstetrics and was associated with fear of being exposed as weak and as a result, a failure to ask for help when needed (Raab, 2013; Weller, 2014). In addition, a review on interdisciplinary teamwork in hospitals, O'Leary et al., (2012) highlighted situations where medical doctors overestimated how well their messages were understood by the rest of the obstetric care team, suggesting that this could be a reason for patients to miss what they were supposed to receive in their care.

Using a qualitative study, Hastie & Fahy (2011) assessed the contextual factors affecting IPC in delivery suite in Australia. The study involved nurses, midwives and doctors and suggested that maternity care teams agree that collaboration is required to provide quality obstetric care. However, the same study noted a difference in understanding what true collaboration means for different members of the health care team. For instance, nurses and midwives defined good communication and collaboration as working together in a friendly and supportive manner, whereas medical doctors, defined collaboration in obstetric care as situations where nurses give information for them to make a decision regarding patient care. The study reported that these discrepancies in perception affect communication (Hastie & Fahy 2011).

Issues of respect and trust were also identified as challenges affecting collaboration in obstetrics in hospitals. Several studies suggested that the maternity care team benefits from being open to discussions and to the consideration of different views about obstetric patients care to contribute to quality obstetric care delivery (Chau et al., 2017; Downe, Finlayson, & Fleming, 2010b; Fung et al., 2017). However, Behruzi et al., (2017) in a study that involved nurses, midwives, obstetricians and gynaecologists to

understand barriers to effective IPC in a Quebec hospital, revealed a lack of trust and honest discussions between team members which were reported to cause doubt about other professionals' ability and expertise. Similarly, an integrated literature review on how to create a collaborative culture in maternity service, reported a disrespect and lack of trust among maternity team members (Downe, Finlayson, & Fleming, 2010). The review involved midwives, obstetricians and anesthesiologists and also reported the lack of understanding of the nature of collaboration among maternity care team (Downe, Finlayson, & Fleming, 2010).

Individual-specific behavior, where some people were not willing to collaborate, was pointed out as a barrier to effective collaboration in obstetrics care in a number of studies (O'Leary, Sehgal, Terrell, & Williams, 2012; Pecci et al., 2012; Raab, Will, Richards, & O'Mara, 2013; Rijnders et al., 2019; Weller, Boyd, & Cumin, 2014; Wieczorek et al., 2016; Wrammert, Sapkota, Baral, Kc, & Målqvist, 2017). For instance, Rijnders et al., 2019 in a study to examine the quality of collaboration between members of the maternity care team, reported that some maternity service providers were working in isolation and manifested difficulties in collaboration. Additionally, it was pointed out that some team members criticized their colleagues in annoying ways which discouraged the group who were being criticized and disrupted effective collaboration. On the other hand, the same study highlighted that other team members showed a positive attitude toward collaboration and provided help and support whenever needed (Rijnders et al., 2019).



#### 2.4.2.1.2 b) Systemic factors

A number of systemic factors were identified as affecting collaboration in the studies. These related to power imbalances, professional identity/ professional socialization, historical development of professionals, differences in philosophy of care and expectations, and differences in understanding what collaboration means.

Power relation issues were identified as an important challenge to collaboration in the literature. For instance, a qualitative study conducted in South Africa to understand midwives and obstetricians perception regarding IPC in maternity in private hospitals, Wibbelink & James, (2015), reported that obstetricians are considered as the ones who bring the business and therefore think that they contribute to income revenue to hospitals better than the rest of the team. Additionally, the same study identified a limited opportunity for IPC to happen caused by obstetricians who think that they are responsible for almost everything and ignore input from another obstetric care team including nurses, midwives and anesthesia providers (Wibbelink & James, 2015). Also, the medical model of care was highlighted as a contributing factor to power related issues and therefore a challenge to true collaboration (Watson et al., 2016). Power dynamics were also reported to affect the interaction between obstetric care team which have a negative effect on communication and as a result, there is a risk of some professionals to feel a low status and lack of confidence and ownership of patient care (Helmond et al., 2015; Wiczorek et al., 2016).

The literature revealed that in the context of healthcare professions, the process of socialization within a specific profession occurs with the learning process since

professionals learn specific skills for their professions that shape their professional identities. Yet, this socialization process makes some professionals consider themselves as better than others which in turn can lead to a lack of willingness to interact, value and respect others within a team (Ayala, Binfa, Vanderstraeten, & Bracke, 2015; Forster, Alan J. Irene, Fung, Sharon Caugher, Lawrence oppenheimer, Cathy Beach, kaveh G. Shojania, 2015; Fung, Downey, Watts, & Carvalho, 2017; Hunter & Segrott, 2014; Lane, 2012; Romijn, Teunissen, Bruijne, Wagner, & Groot, 2018; Watson et al., 2016; Weller et al., 2014). The literature identified that most of the disciplines involved in obstetric care learn independently of each other hampering the ability to work as a unified and collaborative team (Hunter & Segrott, 2014; Lane, 2012; Watson et al., 2016). Yet, most of authors argue that professionals should consider their professional identity but also learn about others as they share the same patients and knowing their role and scope of practice will allow a harmonized collaboration (Hunter & Segrott, 2014; Lane, 2012; Watson et al., 2016).

The historical background of hierarchy in some professions such that they give orders rather than collaborate toward a common goal was also identified as a root cause of power imbalance and ineffective communication in obstetric care (Behruzi et al., 2017; Chau et al., 2017; Downe et al., 2010; Fung et al., 2017; Hastie & Fahy, 2011; Helmond et al., 2015; Lane, 2012; Lee et al., 2016; Rijnders et al., 2019; Smith, 2015)

The difference in philosophy of care and expectations, the difference in understanding what collaboration means affect collaboration in different ways which make collaborative practice in obstetric care an area of competition rather than

collaboration (Watson et al., 2016). Hunter & Segrott (2014) and Watson et al.,( 2016) argue that any change in the maternity care system to improve collaboration are considered from a medical perspective as challenging the status quo which create the conflict in a model of care.

#### 2.4.2.1.3 c) Organizational factors

A number of studies suggested that for effective IPC to occur there is a need for leadership support which depends on organization culture. The literature pointed to less support from authorities in hospital-based obstetric care across different geographical regions which affected the implementation and integration of successful collaborative practice, particularly in resource deficient contexts (Burke, Grobman, & Miller, 2013; O’Leary, Sehgal, Terrell, & Williams, 2012; Raab, Will, Richards, & O’Mara, 2013; Rönnerhag, Severinsson, Haruna, & Berggren, 2019). For instance, Munro et al.,( 2013) argue that leaders in obstetric care should encourage a model of care which support shared care practice. Additionally, when conflicts in relation to collaborative practice arise in obstetric care, leaders should manage conflicts in a fair way to encourage effective collaboration to occur ( Chipeta et al., 2016; Dimitrios Siassakos et al., 2013; Downe et al., 2010; Helmond et al., 2015; Olajide, Asuzu, & Obembe, 2015).

Unfair distribution of benefits to staff such as trainings, lack of right resources to provide care which lead team to work in a stressful environment, lack of clear scope of practice for different professionals as well as failure to avail the guidelines, protocols and communication tools were identified particularly in articles from the African context (Ee,

Al, & Joo, 2014; Falana, Afolabi, Adebayo, & Ilesanmi, 2016; Kermode et al., 2017; Ogbonnaya, 2016; Olajide et al., 2015)

Poor team coordination, lack of formal structure to share the care plans, limited understanding of others role were also identified as challenges to IPC. These were identified as causing ambiguity in a role, and creating risks for patients not receiving the care they are supposed to receive. When considering the limited understanding of others role, the literature highlighted the limited understanding of the anesthesia assistant role in obstetric care and the overlap in scope of practice with nurses and midwives (Lam et al., 2018). Likewise, Munro, Kornelsen, & Grzybowski (2013) identified the confusion about role and responsibilities between physicians and nurses and the lack of formal structure supporting shared care practices in maternity services.

#### 2.4.2.2 Facilitators to Effective IPC in Obstetric Care

Facilitators were grouped into two main categories related to organizational culture and individual-specific behavior

##### 2.4.2.2.1 a) Organizational culture

A number of the articles identified specific features related to organizational culture that served as facilitators to IPC in Obstetric Care. Organization factors highlighted in the literature included the availability of guidelines, structured communication tools, availability of resources, strong administrative support, trainings and IPE, orientation of new staff, acknowledgment of equality in power between individuals, safe patient staff ratio as important promoters of IPC in obstetric care (Lane, 2012; Watkins et al., 2017; Wieczorek et al., 2016'; Romijn et al., 2018; Weller et al.,

2014). When communication tools and guidelines are available, interactions among obstetric care team become easy and every obstetric care team member try his best to follow guidelines which reduces the risk of unnecessary conflicts (Dimitrios Siassakos et al., 2013)

According to Pecci et al., (2012); Chipeta et al., (2016), administration in obstetric care should encourage obstetric care team members to speak up when there are IPC issues to break power relation issues and promote effective collaboration

#### **b) Individual-specific behavior**

The literature highlighted individual-specific positive attitudes as a key influence in successful IPC. This included willingness to collaborate, focus on a client-centered approach, operate within the scope of practice, strong mutual respect between team members, and clear understanding of the principles of teamwork as well as roles and responsibilities (Hunter & Segrott, 2014; Lane, 2012; Watson et al., 2016)

#### 2.4.2.3 Strategies to Improve IPC in Obstetric Care

Strategies to improve IPC in obstetric care were grouped into two categories:

##### 2.4.2.3.1 Educational strategies

Educational strategies to improve IPC in obstetric care were discussed from two perspectives: Pre-service and clinical practice. In the pre-service context, the literature suggested that when training future healthcare professionals, curricula should include not only specific skills for each profession but also IPC as an important aspect which will

enable professionals to enter practice being ready to collaborate with one another (Lam et al., 2018).

IPE was also discussed in all articles as an important strategy to promote IPC. IPE can be organized in both pre-service and actual in-service practice. For effective IPC to happen, people must learn about and with others to enable them to understand other team members roles and responsibilities but also rethink on their own boundaries (Raab et al., 2013; Rönnerhag et al., 2019). IPE was also proposed as a means to allow professionals to change their stereotypic mode of thinking about other professionals which can lead to more effective collaboration (Raab et al., 2013; Rönnerhag et al., 2019). In the in-service period, continuous professional development was pointed out in a couple of articles as an effective strategy to strengthen the successful IPC. Different trainings focusing on IPC can be organized to allow professionals to be reminded about the benefits of IPC. Some teaching methods such as case studies and use of simulation scenarios have been proposed as successful strategies (Hastie et al., 2011; Raab et al., 2013; Wiczorek et al., 2016). Mentoring programs where experienced professionals can help inexperienced individuals were proposed especially in the literature from Africa as a strategy to sustain IPC practice (Chipeta et al., 2016).

#### 2.4.2.3.2 Leadership support

Strong leadership commitment was frequently identified as key to creating a conducive environment for successful collaboration in the maternity area (Behruzi et al., 2017; Downe et al., 2010; Mohammed et al., 2012; Raab et al., 2013; Dimitrios Siassakos et al., 2013). Leadership support can occur in different ways varying from simple and

easy strategies to more complex strategies. For instance, creating a shared team room for staff and sharing educational sessions can improve staff relationship through creating opportunities for contact (Hastie et al., 2011). Leaders in obstetric care can support and promote IPC by organizing staff training on IPC and create a conducive environment with necessary resources for IPC to occur (Behruzi et al., 2017; Downe et al., 2010; Mohammed et al., 2012; Raab et al., 2013; Dimitrios Siassakos et al., 2013). The use of standardized checklists in obstetric care was identified as potentially beneficial to improve communication (Burke et al., 2013; Fung et al., 2017; Lam et al., 2018; Weller et al., 2014). Similarly, the use of non-blame incident analysis was identified as having the potential to remove barriers to collaboration (Helmond et al., 2015; Watson et al., 2016). Further, a number of papers suggested that leadership has an important role to play in ensuring that positive feedback and effective supervision is provided to personnel and that availability of necessary resources is in place for effective collaboration to happen (Downe et al., 2010).

#### 2.4.3 IPC in the African Context

Drawing from articles in the African context, there were twelve articles dealing with IPC in hospital based obstetric care, representing 25% of the articles included in this review. The articles were from 6 African countries namely, Nigeria, South Africa, Ethiopia, Botswana, Malawi and Kenya, suggesting that some parts of Africa are better represented in IPC investigations in obstetrics than others. The findings from the twelve articles were similar in a number of ways to other geographical regions. However, gender issues were particularly highlighted as an important factor in impacting collaboration compared to other geographical regions. Amsalu, Boru, Getahun, & Tulu, (2014)

identified gender as a barrier to collaboration in obstetric care highlighting that according to the culture, there is no equity in roles between men and women, which extends to professional practices. Similarly, Falana et al., (2016), pointed out that there are more male doctors than female doctors and that nursing is a female dominated profession which makes nurses feel obligated to follow doctor's instructions without participation in decision making. Likewise, medical doctors give instructions without considering input from nurses or midwives, which negatively affects IPC in obstetric care. Gender issues were also discussed in other context but amplified in literature from African contexts

Even though, some of the challenges in the African literature were similar to other geographical regions, the issues of inadequate funding and not focusing on strengthening the healthcare system but rather focusing on curative approaches and prevention of diseases, were pointed out as barriers to the promotion of effective IPC in the African context (Chipeta et al., 2016; Hailu, Kassahun, & Kerie, 2016; Sabone et al., 2019; Swanepoel, Qumbu, Ellapen, Paul, & Strydom, 2018).

Like in literature from other geographical regions, the articles on IPC in obstetrics in Africa revealed a lack of knowledge about the concept of IPC among health care professionals and a lack of a legal framework about IPC (Falana et al., 2016; Ogbonnaya, 2016; Olajide et al., 2015). A discrepancy on how different healthcare professions perceive effective IPC was reported in the literature, where obstetricians were reported to feel like they are responsible for almost everything and nurses and midwives feel that they are excluded in the decision making (Ellapen, Swanepoel, Qumbu, Strydom, & Paul, 2018). Similarly, anesthesia providers reported that their input was not valued, despite



their important role in obstetrical emergencies and neonatal resuscitation (Ellapen et al., 2018).

Another barrier to effective collaboration that was revealed from African context was a huge difference in salaries between different health care professionals (Hailu et al., 2016; Kermode et al., 2017). Stressful working environment with a lack of necessary resources, work over load and insufficient numbers of healthcare professionals were among other factors negatively impacting collaboration (Sabone et al., 2019). When healthcare professionals are exhausted, they are not in a good mood to collaborate and communication can be hard when interacting with people who are tired or overloaded.

Another challenge that was pointed out was the way managers interact with staff. First, when managers do not have equal consideration for staff and privilege one group more than others, it creates poor collaboration between staff (Chipeta et al., 2016). Secondly, the way managers address staff, the lack of positive feedback or an approach which focuses on blame which, when something wrong happens, resulting in managers ignoring all the good things that professional have done before. This creates staff demotivation which in turn negatively impact collaborative practice (Chipeta et al., 2016).

In order for staff to develop a spirit of teamwork, (2016) highlights a need for motivation in terms of money and acknowledging the work done and providing staff training. Therefore, leadership support is important to facilitate a conducive environment for IPC in obstetric care (Chipeta et al., 2016).

The articles dealing with IPC in obstetric care in the context of Africa did not focus on initiatives to facilitate IPC. However, among the few articles that discussed on IPC facilitators, it was found that the commitment to teamwork and a client-centered approach to care enabled effective collaboration in maternity care.

Like in literature from other geographical regions, the literature on IPC in hospital-based obstetric care in Africa suggested IPE as an effective strategy to achieve IPC. Many authors Kermode et al., (2017); Sabone et al., (2019); Wibbelink & James, (2015) suggested that health professional curricula developers should identify ways to include IPE in the programs to expose students in healthcare professions to collaborative practice early in their career. This was not only in the literature in the African context but also widely supported in other literature across other geographical regions. The usefulness of IPE in promoting IPC practice has been widely explored in the literature. Therefore, there is a need to organize and implement IPE for health care professionals at school and in clinical practice (Olajide et al., 2015; Kermode et al., 2017; Sabone et al., 2019; Wibbelink & James, 2015).

Other proposed strategies to promote IPC focused, for instance, on introducing new staff in obstetric care team (Olajide et al., 2015) and on the job training for staff in obstetric care (Ee et al., 2014; Olajide et al., 2015). In addition, many articles proposed the formulation of professional guidelines or protocols as practical strategies to promote consistency of practice, team policies and standards. These should be used as a means to coordinate activities in obstetric care. Additionally, they suggested formulating a legal

framework that states the roles of the obstetricians and midwives and other professionals involved in obstetric care. This should be enforced by the different registration bodies to ensure sustainability and appropriate implementation (Kermode et al., 2017; Sabone et al., 2019; Wibbelink & James, 2015).

The articles suggested the need to continue research to understand the barriers to collaboration in obstetric care and other hospital settings (Kermode et al., 2017). It was also suggested to consistently scan IPC environment among obstetric care teams in hospitals to resolve issues as soon as they arise (Amsalu et al., 2014). One of the recommendations about salaries was an article that recommended the government increase healthcare professionals' salaries to improve motivation (Ogbonnaya, 2016). The discrepancies in salaries among professionals should be explored to resolve the inequity and contribute to effective IPC in hospital-based obstetric care (Ogbonnaya, 2016).

Mentorship was also proposed as an effective strategy to promote IPC in the context of obstetric care. Seniors professionals can consistently mentor junior staff to upgrade their knowledge and skills and collaboration practice which will improve the quality of obstetric care (Amsalu et al., 2014; Ogbonnaya, 2016). The final strategy identified was in relation to the availability of funding to promote IPC. According to Olajide et al., (2015) financial budgets should be mobilized to organize staff training and to conduct research in the area of IPC

## 2.5 Discussion and Implications

The purpose of this scoping review was to describe the current state of the published literature with regard to challenges, facilitators, and strategies for effective IPC in hospital-based obstetric care, with a particular focus on the African context. The findings have potential implications for policymakers, future researchers, educators and practitioners in obstetric care, and may offer insights into strategies to integrate implement and sustain IPC practice and contribute to quality obstetric care delivery especially in Africa.

One overarching theme that permeated many of the findings was related to the hierarchical nature of health professions and who has power to make and guide clinical decisions in interprofessional contexts. This raises questions concerning how to create environments in which different disciplinary perspectives are empowered to contribute to clinical decisions, and to share perspectives and knowledge across professional boundaries.

Most articles discussed how hierarchies in medical models of care work against IPC. Unfortunately, the ways to break down such barriers were not discussed.

Despite that many articles have suggested IPE as effective strategy to improve IPC in clinical practice, Orchard ( 2010) demonstrated how though is to do IPE. Similarly, the World Health Organisation (2013) argue that professional culture and professional socialization constitute a barrier to IPE and collaborative practice, suggesting that hierarchy issues should be broken down and knowledge from all health professionals should be valued and taken into consideration.

### 2.5.1 Implication for Practice

Identifying and summarizing the challenges, facilitators and strategies to effective collaboration in obstetric care in hospitals could potentially make professionals in obstetric care aware of the barriers to effective collaboration and understand the benefit of effective collaboration. The findings will stimulate practitioners in obstetric care to improve the collaborative practice which will provide optimum obstetric care to patients.

### 2.5.2 Implication for Research

The majority of identified articles focused on IPC between physicians and nurses and midwives, in obstetrics. Despite the focus on particular professions, the relationships between other obstetric care team should also be explored. Collaboration between nurses and midwives or between general practitioners and obstetricians, or between senior doctors and junior doctors can be examined.

### 2.5.3 Implication for Education

The findings from this scoping review identified a lack of understanding or disparities in understanding among obstetric care team about the concept of IPC. This highlights the need for interprofessional education to allow future healthcare professionals to develop an understanding of IPC before they enter professional practice. IPE should occur at every stage of professional training and this implies health professional curricula to include the IPC component. It is not only in pre-service that IPC can be learned, but there is also a need to provide continuous professional development in clinical practice to enable professionals to consistently practice IPC. Different pedagogical approaches such as case studies and simulation scenarios have been proposed

by the literature as useful strategies to teach IPC. Health professional education should empower professionals to develop confidence to speak up and own the value of their knowledge in contexts where hierarchies exist.

#### 2.5.4 Implication for Policymakers

The literature highlighted leadership support as essential for implementation and the sustainability of IPC. These include policy makers to develop policies and guidelines to allow the collaborative practice to happen. Policymakers should also ensure that the scope of practices of different professionals is aligned to do not cause any confusion among professionals working in the same area of expertise. Furthermore, considering the benefit of IPC, Policy makers should ensure that IPC remains a priority in health agenda

#### 2.5.5 Implications for the African Context

Implications mentioned above are also applicable for moving IPC forward in the African context. However, specifically, the findings of this scoping review highlight that approximately 25% of the articles (12 out of 45) on IPC in hospital-based obstetric care were from the African context. Although this is a considerable number, the articles are skewed by geographic regions, with different cultures of care. Therefore, there is a need to conduct more research in particular regions to identify the factors affecting collaboration and to address them to contribute to better obstetric care delivery. Challenges and strategies to achieve successful collaboration are specific to various

settings which highlights the need to scan the IPC environment among the obstetric care team and resolve problems as soon as they are raised. Given the preponderance of research into barriers to IPC, future research could explore IPC experiences among healthcare professionals in maternity services to identify the facilitators, and strategies to integrate, implement and sustain IPC in their practice. Given that most of the articles focused on collaboration between midwives and physicians, other categories of health care providers such as nurses and anesthesia providers could also be examined.

#### 2.5.6 Limitations

The limitation of this scoping review could be the fact that the only articles considered for review were those published in English. This can be a reason to miss important findings available in other languages. Another limitation is related to the scarcity of literature in the African context where after an extensive search we only got 12 articles and most of them were from Nigeria, it was hard to draw conclusions based only on 12 articles. The process of interpretation and categorization of challenges, facilitators, and strategies to IPC could have had subjectivity as there was an overlap in categorization of IPC challenges, facilitators and strategies. Additionally, IPC has various meaning which could have caused to miss some articles when conducting a literature search. For instance, the term “anesthesia non-technical skills” was used in one article to explain interprofessional collaborative practice between anesthetists and other obstetric care team members (Lam et al., 2018).

## 2.6 Conclusion

This scoping review identified the current knowledge on challenges, facilitators, and strategies to achieve a successful IPC in hospital-based obstetric care. Forty-five articles reviewed identified that IPC in obstetrics is still suboptimum across different geographical regions and different strategies have been proposed to achieve effective IPC. Challenges were related to organizational structure, the historical development of professions and lack of IPC in education curricula. IPE in health professional education, as well as continuous professional training, was recommended by all authors as effective strategies to promote IPC in obstetrics. Given the fact that challenges and strategies are different depending on the context, researchers, health professional educators, and healthcare managers should identify the barriers to implementation of IPC and find solutions accordingly. Given the fact that even developed countries are still facing suboptimum IPC, Africa as a developing region should put emphasize in promoting IPC in all healthcare settings, especially in obstetric care to contribute to maternal and neonatal death reduction and achieve the health-related sustainable development goals.



## Chapter 3

### **3. Methodology and methods**

This chapter describes the systematic process used to conceptualize, plan, collect and analyze data in this study. In addition, the epistemological position underpinning this study will also be provided. Furthermore, the theoretical and conceptual frameworks of IPC and how they informed the research process will be provided along with this chapter.

In Rwanda, the mentorship program by the TSAM project was organized in 2017 to improve maternal and child health. Considering the new initiative that was underway, there was a need to assess the impact of the intervention on IPC practice from the perspective of the healthcare providers who participated in the mentorship program. Therefore, part of this study was to provide a way to evaluate the TSAM intervention on IPC in obstetric and neonatal care. Therefore, a qualitative descriptive case study design (Stake, 2010) underpinned by a constructivism paradigm was used to assess IPC in practice across multiple sites.

Since the researcher was interested in the aspect of IPC within the TSAM mentorship, IPC theoretical and conceptual frameworks were valuable in providing the lens through which data collection process and data analysis could be conducted. Detail description of the frameworks used will be provided in the following sections.

### **3.1 Justification for constructivism paradigm**

Denzin and Lincoln (2017) propose three paradigms to inform qualitative inquiry: positivism, interpretivism, and constructivism. Paradigms may be viewed as basic beliefs or worldview that philosophically guides the researcher to explore what knowledge is (ontology), the relationship between what we know and what we see or how we know what we know (epistemology) and the process for studying the knowledge (methodology) (Denzin & Lincoln, 2017).

Constructivism seemed to be an appropriate philosophy to underpin this study, which aimed to explore IPC among HCPs dealing with EmONC from the perspective of professionals who went through a mentorship program by the TSAM project. According to the constructivism paradigm, truth is constructed and depends on one's perspective, which also depends on interpretive meaning (Denzin & Lincoln, 2003). One of the advantages of constructivism is a close collaboration between the researcher and participants to enable participants to tell their stories. Through this process, participants describe their views about reality enabling the researcher to understand participants experiences (Guba & Lincoln, 1994). In this study, a paradigm that allows participants to share their interpretations of the meaning of the situations and events was necessary to help the researcher to understand the IPC experience among HCPs working in EmONC context. Constructivism allowed the researcher to gather the participants perspectives of IPC experiences and challenges that metrics and statistics data could not have described. The research goal in constructivism is to rely on participants' views about the phenomena under study and construct meaning through information exchange (Creswell, 2007). Thus, constructivism was chosen as an appropriate approach since this research aimed to

understand the subjective meaning of IPC experiences of TSAM mentoring on IPC practice as participants interact in the real world around them.

Positivism claims that truth is objective and predictable (Crotty, 1998). Therefore, this paradigm was not adopted for this study given that understanding participants experience in this research required eliciting participants interpretations about the meaning of one's own experience.

Interpretivist philosophy claims that in order to understand the phenomena under study, a researcher must grasp the meaning that constitutes that action (Schwandt, 2000). The process of finding meaning is linked to researchers own interpretation. Furthermore, interpretive philosophy involves understanding meanings/ context and processes as perceived from different perspectives trying to understand individuals and social meaning (Crowe et al., 2011). Thus, in this study, interpretivism was an important consideration.

The constructivism paradigm has informed the choice of the theoretical and conceptual framework in this study. In constructivism philosophy, knowledge is co-created between participants and the researcher. Accordingly, the social identity theory and the intergroup contact theory as well as the Canadian interprofessional competency framework were chosen to give the lens through which the researcher would use to collect and analyze data to participate in co creation of the meaning of the data.

Intergroup contact theory has informed the selection of the case study approach as an appropriate design considering the purpose of the study. According to ICT, properly

managed contact between professionals with the same goal lead to improvement in collaboration.

In this study, three categories of professionals, including nurses and midwives, medical doctors, and anesthesia providers, participated in the mentorship program by the TSAM project. In that mentorship, mentees were working together to improve the quality of EmONC. Therefore, mentees constitute a bounded unit to be considered a case for the study. Details description of the frameworks used and how they informed the research will be provided in the next sections

### **3.2 Theoretical frameworks**

Social science theories provide a lens through which particular behaviours in society can be analyzed (Crotty, 1998). Two theories underpinned this study: Intergroup contact theory (ICT) and social identity theory.

ICT was first described by Allport (1954) and later modified by Pettigrew (2002). Allport (1954) argues that properly managed contact between groups should reduce problems and lead to effective interaction, contributing to the achievement of the shared goal. While the theory has been used in various fields such as education and psychology, it is also a theoretical framework that frequently underpins the concept of collaboration in healthcare settings. In this study, three categories of healthcare professionals work together in maternity services and share the same goal: better patients outcomes. The specific focus is EmONC which mainly involves nurses and midwives, medical doctors

and anesthesia providers who get involved, especially when it comes to resuscitation procedures and surgical operations involving general and regional anesthesia techniques. Effective interaction between these teams leads to improved EmONC (Cornthwaite, Edwards, & Siassakos, 2013). According to Allport (1954), positive effects of intergroup contact occur only in a situation marked by four key conditions: equal group status within the situation, common goals, intergroup cooperation, and the support of authorities, law, or custom.

Accordingly, in this study, during interviews, questions and probing questions were asked to participants to understand how professionals value the professions of others, how professionals make communication, collaboration, team work and decision making as a unified team. The data analysis was also assessing whether there was leadership support to improve the collaboration. The ICT was a sound theoretical framework in this study to guide the interview questions and data analysis

Pettigrew (2002) specified four processes to achieve a positive contact: learning about the out-group, changing behavior, generating effective bonds, and in-group reappraisal. The idea of bringing people with different perspectives and views together, as proposed by Pettigrew(2002) is following what Crotty ( 1998) and Jaye ( 2002) propose when discussing multiple worldviews. Bringing people with different beliefs together may allow each person to explain their point of view, which will not necessarily lead to the same understanding but at least may allow others to know that there are other perspectives and therefore create a sense of acceptability and tolerance of others.

Therefore, ICT was a theoretical framework to consider in framing this study since mentees who participated in the present study work together to provide EmONC in district hospitals. In this study, three categories of professionals were working together and during the data collection, participants were asked to discuss how their perspectives are considered and how they were valued and respected in the collaborative team.

Social identity theory is also another theoretical framework that grounds this study. The theory focuses on individual's sense of who they are in relation to their group memberships. Individuals of the same group recognize their identity and derive self-esteem from their membership in the particular group. SIT recognizes collaboration as enhancing professional identity for members of the same group (Tajfel, 2010). Though, the process of socialization and belonging to the same group is positive in a sense, it increases the differences between groups and, at the same time, increases the similarities within the same group. The fact of one group seeing itself as similar and different from others can cause members of one group to discriminate other group members and consider themselves better than the others, which may lead to poor team collaboration and failure to achieve the goal (Tajfel, 2010). Therefore, to enhance collaboration, team members must know themselves and learn about, from, and with others to come up with a unified group. In the context of healthcare professions, the process of socialization within a specific profession occurs with the learning process since professionals learn specific skills unique to their professions that shape their professional identities (Khalili, Orchard, Laschinger, & Farah, 2013). On the other hand, there is a need to learn about other professionals sharing the same area of expertise given that, in practice, the client's needs

cannot be met by a single profession alone. Therefore, to achieve effective collaboration, health professionals should have a dual identity: where they keep their social identity and learn how to interact, value and respect others within a team (Khalili et al., 2013). The TSAM mentoring program focused on training healthcare professionals in the IPC concept to encourage mentees to develop capabilities around dual identities in obstetric care and to recognize the benefits of considering others as important as they are in terms of EmONC.

Consequently, SIT theory was an appropriate lens through which the TSAM intervention to improve IPC practice could be evaluated. Mentees were asked how the TSAM mentorship has influenced their IPC practice, and the probing questions were related to how participants perceive themselves in relation to their group membership. Accordingly, during data analysis, the researcher would assess whether mentees have developed a dual identity and have considered other team members as important as they are in their practice. Also, the researcher asked a question related to IPC experience as experienced by each category of professionals. The analysis used a SIT to understand how professionals feel themselves in relation to other group members from the question related to their IPC experience.

Furthermore, data analysis was also focusing on how participants perceive others concerning collaborative practice. From the responses, challenges to effective collaboration such as issues around scope of practice, role clarification, and issues of power relations were identified. Moreover, the impact of TSAM mentorship was determined where participants felt that they had increased their confidence and that other

team members had improved the way they used to respond when called for help. Therefore, SIT was an important theoretical framework to consider in framing this study.

### **3.3 Conceptual frameworks for IPC**

This study draws on the IPC framework developed by the Canadian Interprofessional Health Collaborative [CIHC], (2010). The framework highlights six competent domains for collaborative practice: role clarification, patient/client/family/community-centered care, team functioning, collaborative leadership, interprofessional communication, and dealing with interprofessional conflict.

The six competent domains have informed the data analysis process, especially in identifying the challenges to effective collaboration. Participants were asked to discuss the obstacles to effective IPC from their perspectives. During data analysis, the competent domains have been used to regroup the different categories of IPC challenges. For instance, when participants discussed how they could give a specific drug that falls within their scope of practice and later being blamed for providing that drug, it was easy to identify that interprofessional role clarification was challenged and, therefore, role clarification as a challenge. Similarly, when discussing the challenges regarding how a plan can be made and the concerned team members were not informed about the plan, or handover report, which could not be done for different reasons, keeping in mind the six competent domains, it was easy for the researcher to identify that interprofessional communication was challenged and therefore consider it as a challenge to effective IPC.

Also, client-centered and other IPC competencies were used as a lens to classify the challenges met in IPC practice when analyzing the data from interviews with participants.

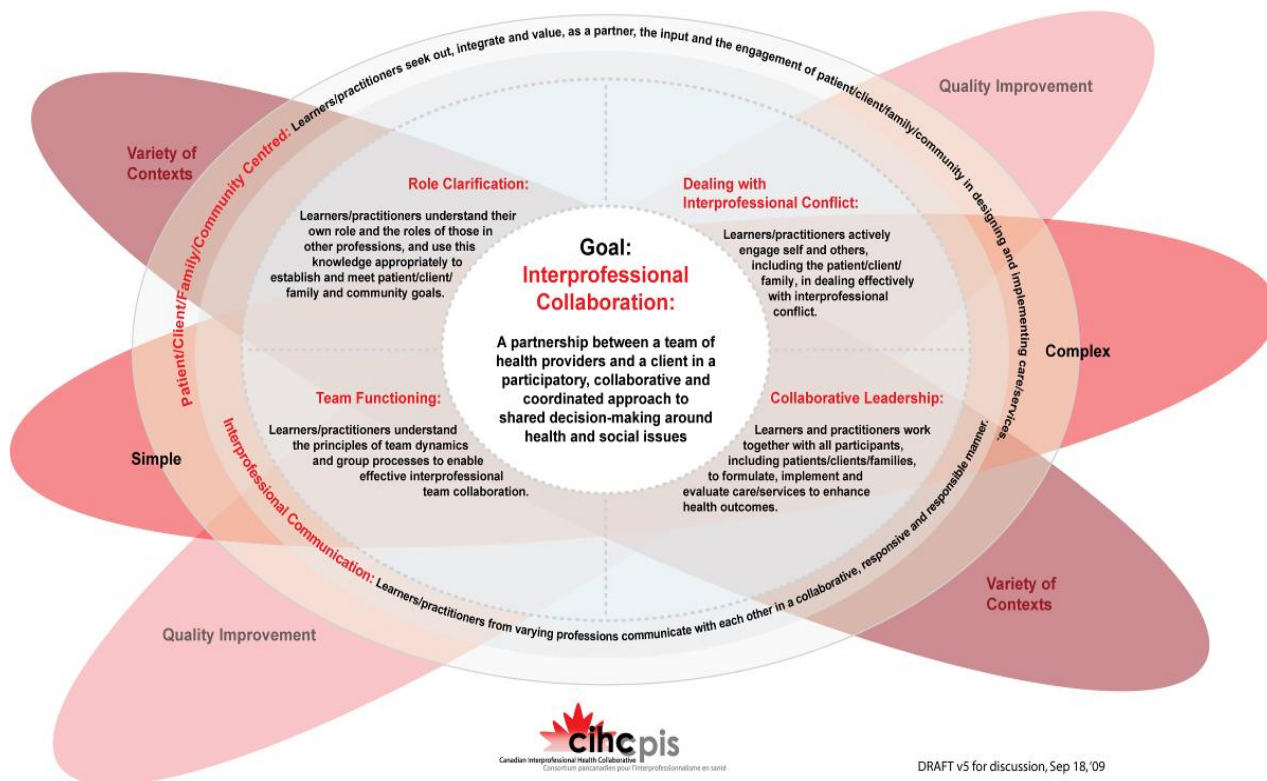


While the literature suggests that culture plays an important role in shaping the IPC practice Schmitt et al.,( 2011) , the application of the Canadian IPC framework in the context of Rwanda as a lens to analyze the challenges to IPC has aligned well with the issues around IPC competencies raised in this study. Data collected in relation to IPC challenges were matching the Canadian description regarding the ideal for effective IPC to occur.

While the application of each competent domain is dependent on each other, the CIHC (2010) provided descriptors and explanations of each domain individually to shed light the interprofessional practice and learning among different stakeholders including educators, policy makers, accreditors, researchers, administrators, learners and regulators. Interprofessional Communication and patient /client /community/family centered care are the core domains that support and influence other four domains.

## **Figure 2 National Interprofessional Competency Framework**

## National Interprofessional Competency Framework



(Canadian Interprofessional Health Collaborative, 2010 P.11).

### Role clarification

In a well-functioning collaborative practice, practitioners should understand their own role and the role of others and consider knowledge and skills brought by others in the clinical practice. Ideally, each professional listens to other colleagues to identify where knowledge and skills are needed in order to work in their full scope of practice. In addition, practitioners should identify who has the knowledge and skills needed to address the needs of the patients for a more appropriate use of resources and equitable distribution of workload. To achieve this, effective communication using appropriate language and in a respectful way is required (Bainbridge et al., 2010). Even though

interprofessional role clarification (IPRC) has been identified as important competency in collaborative practice in healthcare, literature suggests that IPRC is still a challenge to achieve for effective IPC. For example, (2020) studied IPRC among 238 healthcare professionals in rural and smaller communities, identified a gap in IPRC and revealed personal resources such as self-efficacy and consciousness as factors affecting IPRC in collaborative practice.

In this study, participants were asked how they identify their own roles within the team. Also questions related to factors impacting their IPC practice were asked and during data analysis, the role clarification competency has helped as a lens to analyze how IPRC was challenged. For instance, how IPR was challenged by lack of awareness about others scope of practice and the communication issues.

### **Patient/client/family/community-centered care**

Individuals are encouraged and expected to participate in their care. Patients are considered as experts in their lived experience and their own experience can contribute to the planning of their care (Bainbridge et al., 2010). Therefore, in a well-functioning collaborative practice, patients should be given enough information and be encouraged to participate in shared decision making about their care. Orchard, (2010) defines interprofessional client centered collaborative practice as “a partnership between a team of health professionals and a patient where the patient *retains control over his/her care* and is provided *access to the knowledge and skills of team members* to arrive at a *realistic team shared plan of care* and *access to the resources* to achieve the plan” p.249 However, there is still a gap for patients to be involved in their care. In the article on

collaborative practice, Orchard (2010) argues that patients are frustrated with not being listened to when expressing their opinions about their care. On the other side, some patients are surprised by how they could be healthcare team members. On the healthcare providers side, when patients question or discuss their care with providers, it could be regarded as challenging the knowledge and power of the provider ( Orchard & Bainbridge, 2016). There is a need to conduct research, identify barriers, and address them to contribute to effective patient involvement in his care.

Although client /patient-centered competency was not mainly assessed for this study to understand their involvement in their care, the competency was considered during data analysis to understand what participants were perceiving in terms of the importance of focusing on clients/ patients as important to improve collaboration. Therefore, the competency was used to analyze the participants' responses to the interview question related to suggestions to improve IPC, where client-centered care was identified as an important aspect to consider in improving IPC practice in EmONC.

### **Team functioning**

To support collaborative practice, the team members should understand the process of team development, set the principles of working together and having a working relationship characterized by mutual respect and trust, availability, communication and attentive listening. The team should respect and be agreeable to the working values and practice ethics and share a common goal to work together to respond to the patient/client's needs. Members of the collaborative team should understand the principles of team dynamics and reflect on their effectiveness in meeting the clients'

needs (Canadian Interprofessional Health Collaborative, 2010). It is recommended that team members have effective communication skills and role clarification to achieve the common goal successfully (Schmitt et al., 2011).

In this study, the researcher asked questions related to team functioning and how participants were working as a unified team to understand weather participants understand the principles of team dynamics in IPC practice.

### **Collaborative leadership**

Although collaboration reflects working together, in well-functioning IPC teams, each individual team member should be accountable for his own action. The collaborative leadership domain supports shared decision making and leadership. Roles and responsibilities should be determined depending on the scope of practice of each member of the collaborative team. To sustain collaborative leadership, a team should identify a leader to provide and coordinate group activities, enabling the interdependent working relationships to provide quality care and optimum patient outcomes (Canadian Interprofessional Health Collaborative, 2010 ; Orchard & Bainbridge, 2016).

The collaborative leadership competency was assessed in this study in the interview question related to IPC experience. The participants' responses were analyzed using the six IPC competencies lens including the collaborative leadership competency to understand how EmONC team collaborate to deliver optimum patients' outcome.

### **Interprofessional communication**

Interprofessional communication reflects an exchange of information respectfully within collaborative teams using verbal and nonverbal communication. Communication implies consultation, negotiation, discussions to generate a common understanding regarding patient care (Orchard & Bainbridge, 2016). According to the Canadian Interprofessional Health Collaborative (2010), interprofessional communication is crucial, and it is a competent core domain that supports and influences all other IPC competent domains. Accordingly, the interview questions and probing questions were focusing on how is the communication among team providing EmONC. The specific question regarding factors impacting collaboration enabled the researcher to understand how communication was challenged among study participants.

### **Dealing with interprofessional conflict**

In collaborative practice, conflicts may be seen as unfavorable. However, when well-managed, conflicts may be an opportunity to improve collaborative practice and contribute to the quality of healthcare services provided to clients. There are many sources of conflicts in clinical practice; practitioners may experience conflicts around different philosophies of care, different goals and different professional roles. However, what matters is how to manage the disagreements. Constructive interactions are recommended to achieve effective collaborative practice and members of the teams should have a willingness to collaborate and positive behaviors. A well-managed conflict should not be a win-lose situation. Instead, a win win situation characterized by the co-creation of shared solutions that team members can all support. It is recommended that everyone's voice in a team should be heard to achieve conflict resolution (Canadian

Interprofessional Health Collaborative, 2010). In this study, the questions related to IPC conflict and how conflicts are managed was asked to understand from participants' perspectives how the IPC competencies are affected.

While the CIHC defines six competency domains in IPC, Schmitt et al., (2011) highlight four competent domains, including Values/Ethics for Interprofessional Practice, Roles/Responsibilities Competency, Interprofessional Communication, Teams, and Teamwork. When comparing the competencies described by the CIHC, the description of each competent domain is almost similar to what CIHC provides (s) as descriptors of the competencies except that some competencies have been grouped together. However, in the framework provided, ethical values have been given a more significant emphasis with the argument that ethical values are both professional and interprofessional. Moreover, values and ethics are patient-centered, grounded in shared purpose to achieve the common goal (Schmitt et al., 2011).

It is not only CIHC (2010) conceptual model in the literature that describes IP; For example, there is a conceptual framework developed by D'Amour et al. (2008) which is characterized by four key dimensions such as shared goals and vision, internalization, formalization and governance. This conceptual framework highlights team identity, shared team commitment, role clarity, interdependence, and integration necessary for effective IPC. Similarly, Reeves et al., 2018 developed another conceptual model of collaborative practice in health care characterized by four dimensions: Organizational, Procedural, Relational, and Contextual (Scott Reeves, Simon Lewin, Sherry Espin, 2010). This perspective on the dimensions of collaborative practice is similar to what Smith (

2015) describes in the conceptual framework for IPC between midwives and physician. Moreover, Smith (2016) explained that within four dimensions, twelve components describe the collaborative in healthcare: shared power, trust, respect, role clarity, reciprocity, commitment, shared vision, shared decision making, communication, coordination, synergy and shared interests (Smith, 2016). Each dimension is described below:

### **Shared power**

Power-sharing should be based on knowledge and skills rather than hierarchy. The misuse of power, creation of hierarchies, and favoring the interests of one over the other can negatively affect the working relationship, which eventually hinders the independence of one group, thereby limiting the potential for collaboration. Working together does not hinder the independence of a particular profession (Smith, 2016).

### **Respect**

Respect is an appreciation of knowledge and skills others bring to the collaborative practice. Even if the philosophy of care is different, collaborative teams should be respected by all practice members to achieve the common goal (Smith, 2016).

### **Trust**

Trust is the ability to believe in the ability and reliability of others in professional practice despite their different perspectives in professional practice. Trust builds



flexibility and negotiation in practice, contributing to successful collaboration and enabling better outcomes ( Smith, 2016).

### **Role Clarity**

In truly collaborative practice, members of the collaborative teams should know their scope of practice and their professional boundaries and understand the scope of other partners in the collaborative team ( Smith, 2016).

### **Reciprocity**

Reciprocity is defined as mutual responsibility and accountability between partners, evidenced by each profession meeting its obligation to the partnership. Members of the collaborative practice can count on both professions to meet their obligations to the practice reciprocal relationships foster trust.

### **Commitment**

Commitment is the determination or dedication to achieve success despite obstacles. When professionals are committed to their job, they feel valued and are more likely to stay and work in the collaborative practice rather than leave ( Smith, 2016).

### **Shared vision**

Professionals agree on the goals in the collaborative practice.

### **Shared decision making**

Shared decision-making reflects the ability of professionals and patients/ clients/ individuals to work through issues to come up with an agreement. Professionals in collaborative practice work in partnership to develop solutions to problems that affect the collaboration ( Smith, 2016).

### **Communication**

Communication reflects information sharing, and it is an important element in collaboration. Exchanging information can be done through verbal or nonverbal communication such as handover reports, medical documentations etc. ( Smith, 2016).

### **Coordination**

Coordination reflects the ability to work together in harmony with task assignments, distribution of resources, long and short-term care planning. Successful coordination depends on trust and role clarification ( Smith, 2016).

### **Synergy**

Efforts that are brought together lead to successful outcomes in collaborative practice. Goals are better achieved when relationships are strengthened in collaborative practice rather than if individuals attempt to achieve the same goals independently (Smith, 2016).

### **Shared interests**

Shared interest is defined as combining resources such as knowledge, skills, assets, and finances within collaborative practice. Collaborative practice benefits from shared interests (Smith, 2016). All of these concepts have guided the interviews in this study.

For example, the first question on the semi-structured interview guide was:

Tell me about your experience with interprofessional collaboration in the management of obstetric and neonatal emergencies?

The answers to this question have helped to elucidate how participants shared power, how they built respect and trust, the role clarity, reciprocity, commitment, shared vision, shared decision making, communication, coordination, synergy, and shared interests. Also, the challenges to comply with these IPC concepts were identified from participants' stories about their IPC experience.

Another question on the interview guide with DGs reflecting the IPC concepts was the first and the second questions

Q1: What is your perception of interprofessional collaboration (IPC) in Emergency Obstetric and neonatal care (EmONC).

- a) Probe: What are the Positive elements of IPC
- b) Probe: What are the Challenges with IPC at your hospital?

Q2: Tell us about strategies you use to promote interprofessional collaboration among healthcare professionals dealing with emergency obstetric and neonatal care?

These questions have helped to elucidate the perspective of the hospitals' DGs regarding IPC practice among healthcare professionals dealing with EmONC at their hospitals and their strategies to improve and sustain IPC practice. The IPC concepts guided the analysis of the answers to identify the current state of IPC and how strategies used could contribute to the achievement of the IPC concepts, which in return could help to achieve ideal IPC practice

### **3.4 Justification of a descriptive qualitative case study design**

The qualitative descriptive case study methodology is the best approach for program evaluation. In this study, the researcher wanted to collect the stories of people involved in implementing the TSAM intervention on IPC. Also, qualitative descriptive case study methodology provides a rich description when little is known about a phenomenon of interest. Furthermore, QDCS can help see if respondents understand the IPC concepts and what they mean translated into their practice.

Accordingly, this study used a qualitative descriptive case study design (Stake, 2010) to understand IPC experiences among different professionals working together to manage obstetric and neonatal emergencies. The study sought to elicit the perspectives of health professionals working in maternity services in northern district hospitals of Rwanda who have had mentoring from mentors with training in IPC concepts. The case study design was used for the TSAM program evaluation to assess the impact of the mentorship on IPC practice.

Qualitative descriptive case study (QDCS) design ( Stake, 2010) was deemed as the best approach to generate a deep understanding of the lived experience of the phenomena under investigation (Yin, 2012). QDCS provides a comprehensive overview of specific events experienced by individuals or groups, and it is based on naturalistic inquiry and a commitment to study something in its natural state. According to Yin (2012), when using QDCS design, the researcher uncovers the everyday life experiences of participants by staying close to their reported or observed events.

A qualitative case study is a useful approach when the study aims to understand complex phenomena happening within a specific social context (Stake, 1995). QDCS can be used to describe, explain, explore events or phenomena in everyday life in which they occur (Yin, 2012). IPC is a complex daily occurrence in healthcare settings requiring the best approach to explore. Case study is a suitable methodology for exploring the complexity of IPC experiences in the natural environment and with case study design; the researcher examines the case as a bounded unit within a specific context.

. According to Stake (2005), case study methodology is an appropriate design when the researcher has no control on the event, and when research questions such as what, how and why are being asked. Additionally, case study methodology is a valuable approach for program evaluation Since the researcher can identify the impact of an intervention as well as the effectiveness of a given program (Yin , 2012). Consequently, given the nature of the research questions in this study, the qualitative descriptive case study design was deemed an appropriate approach to advancing understanding about how obstetric care teams collaborate to deliver better EmONC and how the TSAM project mentorship

program influenced IPC among professionals working in maternity services in the district hospitals in the Northern Province of Rwanda.

There are many other types of case study research. For example Yin (2012) categorizes case studies as descriptive, explanatory, exploratory, and multiple case studies, while Stake (1995) describes case studies as intrinsic, instrumental, and collective. Each of the different types have distinctions. Therefore, the researcher must consider which type to use depending on the study's overall purpose. For example, if the researcher intends to describe, explore, or compare cases, a distinct approach would be conducted. Accordingly, a descriptive case study design was used to describe the IPC experiences from the perspectives of healthcare professionals who participated in the TSAM mentorship. The researcher expected that this approach would clarify how the TSAM project mentorship has influenced the IPC practice in EmONC in the specific district hospitals where intervention has been implemented. Also, the approach would provide the data regarding the challenges to the implementation of IPC practice from the perspective of professionals who participated in the TSAM mentorship programs.

### **3.5 Case definition**

Case definition is an important step in qualitative case study research to provide characteristics, delimitation and scope of the specific phenomena to investigate (Merriam, 1998; Stake, 2010; Yin, 2012). Stake (2005) defines the case as a unit of analysis that a researcher investigates in its bounded context. Defining a case should be guided by the researcher's interest in relation to the event to investigate. Thus, a case can be a person, a program, a group, a specific policy, and so on. Consequently, in this study, IPC obstetric

care teams that went through TSAM mentorship program in five district hospitals were considered the case. The team comprises healthcare professionals involved in EmONC, including nurses and midwives, medical doctors, and anesthesia providers who received mentoring program by TSAM project referred to mentees in this study.

Ideally, the study should have compared the IPC experiences before and after mentorship programs. However, this study started while the intervention by the TSAM project was already underway. The researcher took a pragmatic decision to conduct the research and assess from the perspective of mentees how the obstetric care team collaborates to deliver EmONC.

This was a limitation as in the data; participants focused on what was going on in the post-intervention period, trying to focus on how the mentorship has influenced their IPC practice. However, if the data was conducted before the intervention, the data would have spoken about IPC practice before the initiation of the mentorship to improve IPC practice. Consequently, it was difficult to compare the IPC experience before the intervention to IPC practice after mentorship had started. There could also be a recall bias effect because all that could be remembered were what were going on within the mentorship period. To overcome those limitations, questions regarding IPC experience in general before mentorship started have been asked and the researcher used to ask probing questions to try to stimulate the participants to speak about how IPC used to look like before mentorship.

### **3.6 Case selection and Participant Sampling**

In a qualitative descriptive case study, case selection is an important aspect to consider in addressing the research question (Stake, 2005; Yin, 2012). Since the case is comprised of participation in the TSAM mentorship program, a purposive sampling using a convenience approach in accordance with qualitative descriptive case study design was used to recruit mentees working in maternity services in the Northern Province of Rwanda (Stake, 2005). The inclusion criteria were restricted to healthcare professionals who were mentoring by the TSAM Project and willing to participate. Healthcare professionals working in maternity who did not participate in the mentoring program and healthcare professionals who were on leave during the data collection period were excluded. A list of mentees and their email addresses and phone contacts was obtained from the TSAM project manager, and the researcher made potential participants aware of the opportunity to participate in the study using the email address and phone contact. For mentees and DG who agreed to be part of the study, the researcher met them in person at their workplaces, explained the research study, then fixed an appointment to meet for signing of the consent form and the interview. As three categories of healthcare professional mentees at five District Hospitals were involved in the study, the sample included two people from each category. The researcher expected to recruit six participants at each district hospital for five districts hospitals. The total number of mentees was anticipated to be approximately thirty. However, there were some hospitals where some mentees were no longer working at the particular hospitals and some mentees did not volunteer to participate in the study. For these reasons, the total number of mentees was twenty-five including ten nurses and midwives, six medical doctors and



eight anesthetists. Also, the study involved interviews with the five Directors Generals of the five hospitals where the mentorship programs took place to elicit their perspective about the strategies, they use to promote IPC in obstetric care.

### **3.7 Study setting**

Rwanda is a small landlocked country located in East Africa in the sub-Saharan region. Rwanda has five provinces including North, East, South, West and Kigali city. The five provinces are divided into 30 administrative districts which in turn are also divided into sectors. This study was conducted in five district hospitals located in three administrative districts in the Northern province of Rwanda. In partnership with the Rwanda Ministry of Health, TSAM- MNCH project provided mentorship programs in five district hospitals to improve maternal and child health. Therefore, healthcare providers working in these hospitals have participated in the mentoring program since May 2017 to address the challenges related to maternal and newborn care in a broad sense. In this mentorship, IPC was one of the components introduced in the training of the mentors who were tasked with translating that knowledge to their mentees.

### **3.8 Data collection process**

Before conducting the study, ethical approval was obtained from both the research ethics board at the University of Western Ontario, Canada and the College of Medicine and Health Sciences, institution review board (IRB) at the University of Rwanda.

In the Rwandan healthcare system, a district hospital is coordinated by the District Health Unit under the responsibilities of a Mayor of the administrative district. Accordingly, the authorization to have access to participants in district hospitals and

permissions from Mayors of three administrative districts where five district hospitals are located were requested and granted in district hospitals where the research was conducted.

The main method of information gathering in this study was one on one interviews using semi-structured interviews guide (Appendix F& H) and demographic questionnaires (appendix G). Interviews were audio recorded and then transcribed into a written form to be studied in detail. Each interview was approximately 60 to 90 minutes in length. The semi- structured interview guides that were used have been used for similar studies assessing collaboration in health care settings (Kirby, 2016; Smith,2016 . However, the guides were modified based on the literature to adapt it to the context of district hospitals in Rwanda, and to include aspects of collaboration related to ethics and gender. This was important to the TSAM project since gender and ethics were part of the training added to IPC components. Data collection was conducted from September to December 2018.

The theoretical frameworks used in this study have informed the development of semi structured interview guide. For instance, many questions and probing questions were guided by the social identity theory which focuses on individuals and who they are in relation to the team members. Accordingly, participants were asked to discuss their IPC experience as experienced by themselves with other collaborative team members.

Specifically, the first question from the interview guide was: Tell me about your experience with interprofessional collaboration in obstetric and neonatal emergencies? And the probing questions were: have these been Positive or negative experiences and

why? In the responses to this question, participants discussed how they experienced the IPC practice. In the data analysis, the SIT provided the lens to use to analyze the data. The researcher was trying to identify how each category of professionals could consider itself concerning other team members in terms of IPC experience.

Furthermore, Questions number 4, 5, and 6 were also guided by the SIT.

Q4: What do you perceive as barriers of IPC at your working place?

Q5: In which ways do think IPC could be improved at your working place?

Q6: How are you satisfied with IPC in your working place?

All these questions were to highlight the perception of the healthcare professionals according to their perspective and how they see themselves in relation to their particular group members.

One of the strengths of qualitative descriptive case study design is the use of multiple data sources (Crowe et al., 2011; Yin, 2012). Thus, field notes were taken during actual interviews to give meaning and help to understand the IPC experience among professionals dealing with emergency obstetric and neonatal care. Also, reflexive journaling was carried out during data collection and analysis to capture the researcher's reflections and feelings while interviewing participants and to capture impressions gathered during reading and analyzing transcripts (Merriam, 1998). After all interviews were transcribed, the researcher contacted participants to share with them the emerging interpretations of the information provided to make sure the researcher has understood

properly the experience shared by participants. This second contact was also an opportunity for the researcher to invite participants to share further information and elucidate their perspectives on the emerging interpretations. Ideally, the focus group discussions were to be considered as a source of data. However, considering that the participants were different in terms of qualifications and professional identity with different beliefs, the researcher reflected on how power dynamics could play a role and make some participants keep quiet and not give their perspective. Therefore, focus group discussions were removed as a data collection method.

### **3.9 Ethical considerations**

This study was submitted for approval at the University of Western Ontario research ethics board and the University of Rwanda College of Medicine and Health Sciences ethics review board. As participation was voluntary, participants consented to participate in the study. Participants were informed that they had the right to withdraw from the study at any time they would wish and were informed that there (would be) no anticipated negative impacts associated with not participating in the study. The confidentiality and anonymity of their data were guaranteed, and each participant was associated with a code or pseudonym instead of their name (for example, participant number one was named P1, etc.). Similarly, the names for hospitals where participants were working were not reported, they were also represented by code (for example the first participant at the first hospital was called H1 P1). The interviews were conducted in a comfortable location for the participant where only the interviewer and the participant

were present. Participants were also assured that all information recorded would be kept confidential, with only the researcher and the research team having access to the data. Data were saved in a computer that is password protected.

### **3.10 Rigor considerations**

Given the constructivism paradigm has been used to underpin this study, criteria posited by Tracy (2010) and Guba, and Lincoln (1994), were adopted. Guba and Lincoln suggest the criteria of credibility, conformability, dependability, and transferability, as suggested by (Guba & Lincoln, 1994. According to Tracy (2010), credibility refers to trustworthiness achieved through the researcher accurately representing participants' experiences.

To ensure credibility in this study, the researcher used semi-structured interviews to gather information from healthcare professionals who participated in TSAM mentoring program. During actual interviews, the researcher used probing questions such as: “could you tell me more about that.., provide me with an example where you faced difficulties in collaboration , to understand more the participant experience”. Also, the researcher would rephrase and ask for clarifications during interviews to confirm that she understood correctly what the participants were telling her.

Additionally, the sample involved participants from different categories to ensure credibility through data triangulation. Furthermore, in order to enhance credibility, member checking was conducted with participants by presenting them with preliminary themes to ensure that researcher's interpretation reflected participants' perspectives and

the opportunity to clarify the meaning and provide new or additional information (Tracy, 2010).

Confirmability in qualitative research refers to the extent to which the findings are the product of participants' perspectives, not the researcher's biases, motivation, or interest (Lincoln, & Guba, 1985). In this study, the researcher kept reflexive journals throughout the research process to document the feelings and thoughts during interviews, listening audio recording, reading interview transcripts, and data analysis phase (Lincoln & Guba, 1985).

Dependability as one of the quality criteria in qualitative research refers to stability and consistency of a research process within a specific period of time. Dependability represents the extent to which the findings from research would be similar if another person replicates the same study (Tracy, 2010). In this study, initially, the researcher did a double coding where a set of data were coded and then after a period of time, the researcher returned and coded the same data to compare the results. After that step, the researcher collaborated with the supervisor and both of them independently coded a set of data and then meet together to come to consensus on emerging themes and categories. Also, research transcriptions, documents, findings, interpretations, and recommendations were kept and are accessible to other researchers, for conducting an audit trail.

Transferability refers to the extent at which the research can be applicable to other context and this can be ensured by providing thick description of the context (Guba & Lincoln, 1994). In reference to thick description, Tracy (2010), defines it as a detailed

account of field experiences in which the researcher makes explicit the patterns of cultural and social relationships and puts them in context because any single behavior or interaction, when divorced from its context, could mean any number of things. Thus, in this study, the researcher provided details on the settings and the case under study to give enough information on other researchers in similar context. Also, direct quotes representing participants experience were provided to allow readers reach informed decision.

### 3.11 Data analysis

Merriam (1998) defines data analysis as a process of making sense out of the data which involves consolidating, reducing and interpreting what participants have said and what the researcher has seen and read. According to qualitative case study design, interviews recorded were transcribed into a written form to be studied in detail and content analysis was done to identify emergent themes (Colorafi & Evans, 2016; Sandelowski, 2010; Stake, 2010). Nvivo software pro version 12 was used to organize data. Data analysis started with the researcher's impressions and intuition during data collection in response to the research questions. The analysis progressed with data collection and became intense once all data were collected.

Constructivism philosophy has guided the data analysis. In constructivism philosophy, knowledge is co-created between the researcher and the participants, and the researcher seeks to understand the experiences from the perspectives of the research participants. Accordingly, the insider and outsider knowledge of the researcher has guided the process of data analysis. Also, the theoretical frameworks used have informed the data analysis

process.

The SIT, which considers the consequence of personal and social identities for individual perception and group behavior, was helpful in data analysis. The theory encouraged the researcher to explore and analyze the collaborative practice between the EmONC team to understand how each category of professionals experiences the IPC practice compared to other group members. Therefore, SIT has enabled the researcher to consider the findings from each category of participants and analyze using that particular lens and find what was going on in terms of IPC experiences from nurses and midwives, anesthesia providers, and medical doctors respectively.

Also, the Canadian interprofessional collaboration framework informed the process of coding the data. Given that we were assessing IPC competencies, we used this framework to analyze these competencies. In that way, it was easy to identify from the data the IPC competency affected, which enabled identifying challenges to effective IPC. For instance, study participants could discuss how they give a drug and be blamed for doing that while they thought it was within their scope of practice. Therefore, considering the CICH competencies, it was easy to identify that the interprofessional role clarification was challenged.

The processes of data analysis involved going back and forth into data collected to become familiar with participants' shared IPC experiences and their perspectives on the benefits of TSAM mentorship program in improving IPC among professionals dealing with EmONC.



Throughout all data analysis processes, the researcher read and re-read transcripts, reflexive notes, field notes, listened to audio recordings, and highlighted important points to have the impression of main ideas. Also, the researcher collaborated with the supervisor during the data analysis phase, and when satisfied with the essence of data and main ideas captured, they were labeled as themes. Finally, the researcher selected the appropriate quotes in the themes identified. The findings are presented in the next chapters.

## Chapter 4

### **4. Interprofessional collaboration experience among healthcare professionals providing emergency obstetric and neonatal care in Rwanda**

This chapter presents the findings from interview questions related to IPC experience from participants' perspectives. This study section aimed for an in-depth understanding of IPC experiences among healthcare professionals providing EmONC. Participants were asked to talk about their experiences with interprofessional collaboration in the management of obstetric and neonatal emergencies, factors impacting their IPC practice on processes, and the benefits and challenges of effective IPC. In total twenty-five healthcare professionals including medical doctors who were all general practitioners with bachelor's degree in medicine and surgery (n=6), nurses and midwives(n=10) and most of them had an advanced diploma, anesthesia providers (n=9) with an advanced diploma in anesthesia participated in semi-structured interviews. Interviews were conducted in Kinyarwanda and translated to English by the researcher who is fluent in both languages. All participants worked in maternity services in five

district hospitals in the northern province of Rwanda. The participants work together while they are register in three different professional councils. All participants were mentees in the TSAM mentorship program in Rwanda, where IPC was a primary focus.

**Table 4: Summary of participant’s category and number from each hospital**

Administrative districts/Location of hospitals	Hospitals	Category of health care professionals who participated in the study	Number
District 1	H1	nurses and midwives	2
		Medical doctors	2
		Anesthetist	2
	H2	nurses and midwives	2
		Medical doctors	0
		Anesthetist	2
District 2	H3	nurses and Midwives	2
		Medical doctors	1
		Anesthetist	2
	H4	Nurses and midwives	2
		Medical doctors	2
		Anesthetist	1
District 3	H5	Nurses and midwives	2

		Medical doctors	1
		Anesthetist	2

Regarding demographic characteristics of participants, twelve participants were female while thirteen were male; most were between 27-35 years old. The youngest was 27, and the oldest was 48. Most participants held an advanced diploma in nursing or anesthesia. Regarding medical doctors, all were general practitioners holding a bachelor's degree in medicine and surgery. The work experience in the maternity department ranged from one to five years for most participants.

After going through the data multiple times and grouping the main ideas together, we identified four major themes describing IPC experience among participants: 1) (Dis) satisfaction with IPC, 2) Benefits of IPC, 3) Challenges 4) Gender and IPC, 5) Ethical dilemmas in IPC.

### **Theme 1: (Dis) satisfaction with IPC**

Experience with IPC was different from one participant to another. This theme captured appreciation and dissatisfaction about IPC experience among healthcare professionals providing EmONC. Some research participants expressed a positive experience with interprofessional collaboration in the management of obstetric and neonatal emergencies. However, most participants had a negative experience with IPC among the team involved in EmONC; they were not satisfied with how they collaborate in their practice. Even those few participants who seem to be satisfied felt that IPC is not optimum. Surprisingly, the findings identified several quotes from different participants

in their different categories and hospitals, which had in common that they estimate the collaboration at 80% when asked if they were satisfied with IPC practice for EmONC.

*“...collaboration between nurses, midwives, doctors, and anesthesia providers is fine. However, I cannot say that it is very good at 100% but I can estimate it at 80% “. H5P2*

Also, some participants expressed their satisfaction with IPC despite other factors that made their created challenges for collaboration, as one participant said: *We do not have any problem; the collaboration is fine, the only problem is the geographical location of our hospital, and the shortage of staff that make collaboration suboptimum. (H4P4)*

While some participants appreciated the IPC situation, many others expressed a negative experience with IPC and associated the lack of IPC with poor outcomes to the mother and the baby:

*Humm, in our collaboration between nurses, anesthetists, and doctors, we have some issues, which sometimes has a negative impact on the mother and their babies. (H5P3)*

Some participants expressed poor satisfaction, as indicated by one of the participants:

*I do not feel quite happy about the current situation, we work together, but we do not collaborate enough. (H1P4)*

In general, despite the general interest in effective IPC, most of the participants in this study were not satisfied with current IPC practice suggesting a need to improve collaboration to contribute to the effective working relationships, staff satisfaction, and better outcomes in obstetric and neonatal care.

### **Theme2: Benefits of IPC in EmONC context**

Participants in this study mentioned several benefits of effective collaboration, including organizational benefits such as reduced hospital stay and cost, better

accessibility to care for patients, and reduction of maternal and neonatal mortality rates. Also, participants discussed team benefits such as improved coordination, efficient use of resources, and effective communication. Furthermore, additional benefits were staff and patient satisfaction and greater role clarity. In general, benefits of IPC highlighted by participants were for the healthcare team, patients, and institutions.

On healthcare team benefits, one participant said: *IPC is important, it reduces the stress, the work is done smoothly and there is also effective time management (H5P3)*

Concerning the benefits of effective IPC for patients, one participant said: *“When there is an effective collaboration, you do not hesitate to ask for help. Thus, the clients benefit from our collaboration.”(H2P2)*. The same participant further enhanced her perspective: *“The improved collaboration has helped us, especially in obstetrics and neonatal emergencies; the maternal and neonatal mortality rate has reduced. Those who were dying due to poor communication and information sharing have reduced”’(H2P2)*.

Focusing on how IPC has reduced neonatal and maternal mortality rates, participants gave some examples such as neonatal asphyxia, which have been reduced due to improved collaboration between medical doctors and the rest of the obstetric care team.

Other examples that came in the findings were how when team members respond quickly to call, which improves patient outcomes. For instance, when anesthetists or physicians were called for acute fetal distress, they could delay coming, and as a result they could extract a baby with a low Apgar score. However, when there is an effective collaboration, the concerned team responds quickly to an emergency call and may pull a baby with a good Apgar score.

When considering the benefits of IPC for the hospitals as healthcare settings, most participants expressed the better quality of care due to an effective collaboration which leads to hospitals having a good reputation. One participant said: “*when staff collaborates well, they provide better service in general, which enhances the hospital public image*” (HIP4).

Almost all participants recognized the benefits of effective collaboration for healthcare professionals, institutions, and obstetric and neonatal patients. Participants listed several benefits of effective IPC indicating the interest they had in improving despite several barriers as indicated in the next section.

### **Theme3: Challenges to IPC**

When asked about IPC experiences, the responses to this question were dominated by challenges related to collaboration. Participants discussed several challenges to effective collaboration. Some participants reported that the challenges met led to failure in effective collaboration which can contribute to poor obstetric and neonatal quality of care and result in negative impact on clients’ outcome and satisfaction as well as an increase in neonatal and maternal mortality rates.

#### **Subtheme 1: Issues of power relations**

Power relations were highlighted by many participants, especially midwives, as an important barrier to effective collaboration. Medical doctors, in particular, were identified as least collaborative among all healthcare providers. For instance, one midwife said: “*At our working place, a doctor is like an absolute king.*” (H2P5). To further

enhance this perspective, the same participant said: *“The only thing the doctor wants to do, is to be given the results. The doctor behaves like that because he considers himself the boss whose orders are not to be discussed.”* Thus, power dynamics was one of the overarching problems to collaboration to the point that many participants, especially midwives and nurses, expressed fear of speaking up and contributing to discussions about patient care as indicated by one of the participants:

*“We, nurses, and the midwives do fear doctors because we take them superior towards us.*

*If it happens that a doctor makes a mistake, we do not talk because of fear, and we hide problems we meet”.H2P5*

### **Subtheme 2: The issue of respect and trust**

A good collaboration should be characterized by mutual respect and trust among healthcare professionals who share the same goal. However, the findings from this study revealed the lack of respect and trust among obstetric team members, which make collaboration less effective. One participant said: *“...Another thing that makes collaboration not to be effective is that some people do not value ideas from others, when you raise your idea it is ignored and you feel you are not given a consideration”.* (H2P4) Also, lack of respect and trust was discussed by anesthesia providers as one participant said:

*“They(doctors) do not want to consider our input. When we try to discuss, it is very hard to come up with the same understanding. We are always in conflict with doctors in theatre room”.* (H3P2)

Respect and trust issues were discussed by almost all categories of professionals even between senior and junior doctors as one participant said: *“There are some senior doctors who do not care about collaboration and sometimes show disrespect to junior doctors. So, those behaviors are the barriers to a good collaboration among the team members”*. (H2P2)

### **Subtheme 3: Communication issues**

Many participants in this study were not satisfied with the communication between the team members; one participant said: *“There is also a communication problem, a pre-anesthesia visit may be recommended in a patient file, and no anesthetist is informed, so, in that case, there is a challenge due to poor communication between the team”*. (H5P3)

Communication problems were discussed in a variety of ways, for instance, concerning a lack of trust as one participant indicated

*“When you are new in the service, you write a drug and behind your back, the midwives call another doctor and say this doctor has written such a drug, the doctor also, instead of contacting his colleague he says do not give that drug or do not do what he is telling you. or else he can say, it is fine you give that drug. So, if there was a good collaboration we could discuss together and maybe the new doctor has argument or nurses also can help him to correct if there is a mistake”*. (H4P2)

### **Subtheme 4: Role clarity and Scope of practice**

Participants discussed the problem of some team members who are not aware of others' scope of practice which can cause ambiguity in roles and therefore be a source of conflict among team members.



One participant said: “...you may give some oxytocin to increase contractions, and that is within our scope of practice but when the doctor comes, he may start to ask why you gave that oxytocin, who told you to do that, and you start to have conflicts”. (H4 P5)

Also, some participants were not aware of their own scope of practice, as one participant said:

“..... You sometimes realize that we do not know our scope of practice and other colleagues do not know our role either(H5P2)”.

#### **Subtheme 5: Lack of knowledge, skills, and self-confidence**

A large number of participants pointed out knowledge, skills, and confidence in all three categories of professionals. One participant said “you may examine a pregnant mother and find out that there is acute fetal distress, and you call for intervention, then when the team comes, they find that there is no distress. So, the next time when you call the doctor, he may not come while it is this time an obvious fetal distress” (H5P2). Many other participants further enhanced this perspective, especially in the category of midwives who do not chart or mention what they found from assessment for fear of finding different results from other team members. As was mentioned by one participant:”...For example, a midwife could do a vaginal examination and could not let the doctor know that she already did the examination for the fear that the doctor may come up with different results; rather ask the doctor to make his assessment as if it was not done before. (H1P1)

Another perspective on how a lack of knowledge and skills affects collaboration was raised by one participant in the category of an anesthetist who said:

*“... as anesthetists, when we request for minimum laboratory investigations to have an idea on the patient conditions to enable us to make an anesthesia plan, the rest of the team does not understand why it is important which may cause quarrels between us”.*( H3P2)

Also, participants emphasized how confidence plays a role in IPC. One participant said: *“when you call for a sound reason and you can explain clearly the problem, the doctors come and there is no dispute while when you fail to explain or to chart properly patient information, you always have interaction problems”.*( H4P5)

Lack of knowledge and skills was identified as creating interprofessional conflicts between teams especially because it appears hard for some staff to come up with a common understanding with regard to true emergency cases. One participant said: *“There is also a challenge of identifying a real obstetric emergency because they only consider obvious obstetric emergencies while there are some other emergencies that are ignored. This always creates conflicts between the obstetric care team. I think we need to learn how to differentiate emergencies to normal cases and consider all emergencies without ignoring others”.*(H5P3)

### **Subtheme 6: Other factors impacting collaboration**

Several other barriers to effective IPC such as lack of conducive environment with a shortage of staff, lack of adequate resources, individual character, lack of motivation and lack of IPC in educational curricula, were mentioned by participants.

In relation to individual personality one participant said: *“Another thing I can say is that collaboration depends on individual character. In some cases, we try to work alone instead of working with those with problems”*.H2P2

Regarding the shortage of staff, one participant said: *“The big barrier of collaboration is an insufficient number of staffs. The communication becomes difficult, they are overloaded and when you tell them something may not even want to hear from you because they are tired”*. H4P5

The shortage of staff was one of the common challenges mentioned by participants in all three categories and at all five hospitals. One participant said: *“We face the problem of shortage of staff, they may call for help when you are already taking care of another case which causes delays to provide necessary support”*. H4P4

Another participant said: *“Midwives are too few compared to the work they are demanded to do, the midwife has the responsibility to receive the emergency cases brought by ambulances. She is the one to be there during delivery. She has also the task of monitoring pregnant women in labor; she should be the one to receive the newborn in the delivery room. She has also the responsibility of monitoring the patient in the recovery room”*. H2P5

In relation to lack of necessary equipment, one participant said: *“We can fix a target to reduce the number of neonatal asphyxia, but after some time we can realize that there was no reduction due to lack of necessary equipment. In such situations, neonatal asphyxia will continue to be a problem despite an improvement in collaboration”*.H2P4

Another barrier to collaboration mentioned by several participants was motivation.

*“There is no motivation because salaries are very little when comparing to what our colleagues receive while we are the ones to have too much work. I think if I could get another opportunity to go to study, I can no longer take midwifery as a field of study”.*

*H4P5*

The same participant enhanced further her perception of motivation and said: *“We need motivation, not only in terms of money but also positive feedback and how they address to us at least thank us for the job done and blame what is to be blamed”.*

Lack of IPC in educational curricula was also another identified barrier to IPC. Many participants highlighted the lack of IPC components in educational curricula which would support professionals understanding and facilitation of IPC practice. One participant said that interprofessional collaboration remains a challenge because people have not been trained about that since the early stage *of training H2P7*. The same participant continued: *“IPC concept doesn’t appear in health professional curricula, health professional students do not learn how they should interact with other professionals at the hospital. When they enter the profession, they are obliged to collaborate even if they are not trained to do so” H2P7*.

#### **Theme 4: Gender issues in IPC**

This theme summarizes the perspective of participants with regard to gender issues in IPC. When asked if they faced gender issues in IPC, most of the participants expressed that they have never faced any gender issues in IPC. As indicated by one participant:

*“I don’t think there is a gender issue in our collaboration. I have never met gender issues at our working place and never heard anyone complaining about it”. (H1P1)*

However, among the few participants who responded that they have experienced gender issues, they revealed important findings related to the working relationship between male and female midwives. For instance, one midwife said:

*“Gender issues can be observed, you realize that the distribution of tasks is somehow gender-based. An example is in relation to internal assistance during surgical operations, most of the time men are the one to assist, and when we call for some female midwives, they refuse with the argument that men should be the one to provide such service”.*  
(H3P2)

Furthermore, a problem identified was male midwives thinking that they are better at acting quickly than female midwives:

As one male participant said:

*“There is always the problem of gender, women don’t act so fast. However, resuscitation of the newborn should be quick and on time to prevent eventual problems that may occur due to delay”.* (H1P4)

To further enhance this perspective, the same participant said *“For example, a baby may show signs of distress and you notice that the female midwife is acting slowly; so, you decide to give support and act quickly”* (H1P4).

Similarly, female midwives expressed that males are strong in lifting patients than them:

*“There is some time where we feel like lifting a patient requires man’s force, so, the administration should increase the number of male midwives here because most of us are female”.* (H4P5)

Besides, there are many participants who expressed that they never have gender issues, however, when we analyzed their narratives, gender issues were present. For instance,

one participant said: *“There are no gender-based problems here, we work in gender complementarities. As an example, I am a male midwife here, and I work hard and use all my force and receive the same salary as the woman midwives even though we don’t use the same effort. But I never complain about it”*. (H2P5)

Another concern highlighted by many participants was the doctor’s preference in relation to who should work with them between male and female midwives. Although the number of male midwives is few compared to female midwives, medical doctors who are mainly male were reported to prefer to work with male midwives than female midwives: *“biologically male and female are different, so you may have some doctors who want to work with males nurses because they are stronger and can act very quickly than females”*. (H5P2)

### **Theme 5: Ethical issues in IPC**

When asked to share their experiences regarding ethical dilemmas in IPC, participants expressed ethical issues in relation to working in an emergency with limited resources, especially the shortage of staff. One participant said:

*“it happens that more than one emergence case comes at the same time when there is only one doctor”*. (HIP1) This perspective was also enhanced by another participant who said:

*“We may have an acute fetal distress and when the patient is under anesthesia, they bring another very urgent patient and, in that case, you become unable to know the right thing to do like both of patients need urgent anesthesia management while you are alone”* (H5P3). The same participant continued to further elucidate her perspective and said:

*“There is also the time that we must transfer the patient to referral hospital and when you go in an ambulance, you face a challenge of leaving the hospital without any available anesthetist and you think about what could happen in case another emergency comes. So, we face many dilemmas”. (H5P3)*

Also, the ethical dilemma happens within the interprofessional team to determine which course of action should be taken and who is responsible for coming up with the final decision, sometimes requiring hospital management to become involved. For instance, one participant said:

*“We do face ethical dilemmas in our interprofessional team, and when it happens we report it to the clinical director, and sometimes to the director-general of the hospital who can help to come up with the right decision”. (H2P2)*

Another issue related to ethical dilemmas is related to the negotiation of power where a team might not know which course of action is right, as one participant expressed: *“We always meet ethical dilemma. As long as there is always someone who considers himself a chief boss, we face a dilemma. We may have a doctor telling a midwife to keep trying and monitor the labor while we have been with the mother and know that she needs surgical intervention. Unfortunately, it is not up to us to take the final decision, So, we face a dilemma to either obey and have risks for the patient or disobey and start developing quarrels with doctors”. (H2P5)*

Again, an ethical dilemma happens in the situation marked by patients who refuse some aspects of care, and sometimes an interprofessional team does not sit together and come up with a final decision, which causes concerned staff to continue suffering from stress due to lack of interprofessional collaboration. For instance, one participant said: *“when*

*Jehovah witness patients refuse blood transfusion while they are in need, ethical dilemma come in to decide whether to give a transfusion to those Jehovah witnesses despite their refusal or to just assist them dying! We do face many ethical dilemmas in our practice”.* (H4P3)

Several cases of ethical dilemma were highlighted by participants: for instance, one participant gave a scenario:

*“Some days ago, we received a case that refused to sign the consent for every care. She refused even the next of kin to sign her consent. She was in labor and was unable to deliver normally, the caesarian section was decided, and we were unable to find out what to do until we decided to enforce some aspect of care. I am not sure if what we did was right but those are dilemma we face, and the whole team face a challenge to know how to handle those problems”.* (H4P5)

Also, another participant said:

*“We can have a mother with fetal death with a bad presentation, and we get confused about the right decision to take whether to do a caesarian section or not doing it. We may have a doctor saying, why should we go into the theatre while the baby is already dead?”.* (H5P2)

### Discussion

This section aimed at advancing understanding of IPC experiences among healthcare professionals delivering EmONC in district hospitals in the Northern Province of Rwanda. It is important to understand how the team involved in EmONC collaborates to identify challenges to effective collaboration. The findings from this study can be used to strengthen the healthcare provision system by building the capacity for improvement



and enhance effectiveness and efficiency in maternal and newborn mortality rate reduction to meet the SDG in relation to maternal and child health.

All participants in this study completed a mentorship program with the TSAM project, which focused on improving IPC as a key component of improving maternal and neonatal care quality. All participants appreciated the intention of IPC practice and the potential impact on maternal-infant care; this was further enhanced by their participation in the TSAM mentorship program. However, their experience of IPC practice contrasted in many ways from the IPC practice ideals.

Most of the participants did not experience IPC in a meaningful way, IPC was not enacted well among the health professionals teams who participated in the study. The poor satisfaction about collaboration in maternity care is not only for Africa or Rwanda, it is also a global problem. Watson et al., (2016) in their study conducted in Australia to assess the importance of communication in interprofessional collaboration, identified poor satisfaction about collaboration among clinicians in maternity care. Similar findings were also revealed in a study conducted in the Netherlands by Rijnders et al., ( 2019 ) suggesting a need to improve collaboration since poor satisfaction can cause staff turnover and lack of motivation to deliver optimum obstetric care.

According to ICT, properly managed contacts lead to a reduction of prejudice and improved collaboration between team members working to achieve the same goal. Therefore, the concerned group needs to bring together their biases and allow the contact effect to happen. For instance, Hastie et al., (2011) in a study conducted in Australia has proposed simple strategies such as sharing the tea room to improve the contact among professionals and

contribute to effective collaboration. In this study, there is also a need to identify effective strategies to improve IPC

On the other side, the SIT focuses on how individuals see themselves in relation to the group membership and proposes how the groups working in similar areas of expertise could learn about others to reduce prejudice (Khalili et al., 2013) . However, Orchard, (2010) argues that the process of socialization within the profession leads to increased differences between professionals,, which may lead to increased intolerance and as result failure to achieve a desirable collaboration among professionals working in the same area of expertise. There is, therefore, a need to work on the process of socialization within the professions and organize interprofessional education to train future health professionals about collaboration early in their career

Participants in this study, discussed team benefits such as improved coordination, efficient use of resources, and effective communication. Furthermore, several other benefits of effective IPC, including organizational benefits such as reduced hospital stay and cost, better accessibility to care for patients, reduction of maternal and neonatal mortality rates, were mentioned by participants.

The findings are in accordance with other studies on the benefits of improved collaboration in health care services and obstetric care in particular. For example, Hastie & Fahy (2011) in their interpretive interactionism study in the delivery suite in Australia, identified better patient outcomes associated with good collaboration. However, the same study identified that failure in good IPC caused negative effects on both patients and

healthcare providers including but not limited to increased length of stay, stress, and increased health care cost.

The study suggested developing intervention strategies to promote IPC among obstetric care teams especially midwives and doctors. Also, another recent study in a birth center in Quebec identified reduced health care cost, and improved clients and staff satisfaction as benefits of effective IPC among teams involved in obstetric and neonatal care (Behruzi et al., 2017). It is unfortunate that despite participants in this study, and other similar studies understanding the usefulness of effective IPC, desired collaborative practice is still hard to achieve.

In this study, several challenges to effective IPC in EmONC include stressful work environment due to a shortage of staff, lack of necessary equipment, issues of power relation, lack of respect and trust, lack of role clarity, and lack of self-confidence were identified by the study participants. Many participants discussed an overreaching barrier to effective collaboration as power dynamics between medical doctors and other professionals, especially midwives.

Power relations affect other competencies of collaboration, for instance, it affects communication and as a result, failure for the patient to receive better quality of care. Moreover, when analyzing narratives from participants, the findings indicate how power dynamics fuel a lack of respect and trust and devaluing of others' professions.

The findings in this study are similar to other studies. For instance, a study conducted in Nigeria on the causes of conflict between nurses and midwives indicated that nurses and midwives desired more influences which were considered as challenging medical doctors' power and autonomy from medical doctors' perspective (Olajide et al.,

2015). Similarly, a study conducted in Australia on the importance of effective communication among clinicians in maternity care settings, identified that any change in collaboration to involve more nurses and midwives in decision making was considered as a threat to medical professionals (Watson et al., 2016).

The fact that midwives were mainly the ones to complain about power dynamics in their working relationships, could probably be explained that patients are received first by midwives in Rwandan healthcare systems. Therefore, opportunities to interact with medical doctors are increased as compared to the anesthesia team. Besides, anesthesia providers in district hospitals in the Rwandan health care context are also non-physician anesthetists who deliver anesthesia and resuscitation procedures when called by midwives. Accordingly, during their interviews anesthetists also indicated some disagreement with medical doctors in the operating theatre related to suggesting laboratory investigations before anesthesia procedure or decisions on anesthesia technique of choice; this may be due to the fact that they are non-physician anesthesia providers which led to lack of trust from medical doctors' (Lam et al., 2018).

On one hand, the SIT focuses on how individuals feel themselves in relation to their group membership. This can explain in this study how midwives and anesthesia providers feel with regard to medical doctors who work together with them. However, according to SIT, there is a need to learn about others to achieve a desirable collaboration (Tajfel & Turner, 1979). Accordingly, in this study, there is a need for different professionals to know about the scope of practice of their colleagues to avoid conflicts.

On the other hand, conflicts are normal among healthcare professionals since there are different methods to achieve goals in obstetric care and professionals in obstetric care

come from different philosophies of care (Downe et al., 2010). However, teams who practice IPC would have enhanced skills to address conflict resolution that included consideration of knowledge from different professionals.

Ideally, within IPC practice the knowledge and skills each profession brings should be discussed in a respectful manner and appreciated by all members of the team. The role clarity should be emphasized and inputs that other team members bring in the team should be valued if they are experts in their professions. In a study conducted to assess the quality of teamwork in obstetric care, it was revealed that input from anesthesia team was less valued while it could have been important especially in emergency obstetric situations (Guise & Segel, 2015).

Practitioners in obstetric care are educated, trained and licensed to be independent providers who may collaborate with other care providers based on the patients' needs. Therefore, effective collaboration appears to facilitate quality of care and optimize patient outcomes.

Another barrier to effective IPC was a stressful work environment with a lack of necessary resources both human, equipment, and financial resources as well as lack of motivation. Lack of necessary resources also appeared to cause many ethical dilemmas in IPC practice. Similar findings were revealed in a study conducted in Botswana on the ethical challenge of nurses' and physicians' collaboration. In the same study, Sabone et al., (2019) reported difficulties in communication caused by a stressful work environment where a shortage of staff affected staff mood and as a result negative behaviors to effective communication. Similar findings were also found in another study conducted in

Ethiopia where a stressful work environment affected communication and increased tension between nurses and physicians (Hailu et al., 2016). The issue of stressful environment affecting IPC was mainly identified in literature from the African context, suggesting the need to create a conducive environment and the availability of necessary resources to promote IPC.

Several other challenges to effective IPC such as lack of self-confidence, lack of knowledge and skills, individual character, and lack of IPC content in education curricula were identified from participants' interviews. However, for lack of confidence, all participants in this study underwent a mentorship program to empower and help them to increase their knowledge and skills in EmONC. This would most likely improve confidence in their knowledge to contribute to the delivery of better quality of obstetric care services.

The lack of IPC in educational curricula suggests a need for health professional education to revise and integrate IPC in future health professional education. Other strategies such as interprofessional education ( IPE ) and continuous professional training could be alternatives to mitigate IPC challenges in obstetric care contexts.

When considering gender and IPC, most of the participants highlighted that they do not face any gender issues in IPC. However, for some participants even if they think that there is no gender problem when analyzing their stories, it was clear that there were some gender problems related to female midwives who consider male midwives as manpower and able to lift patients better than them. Also, despite the fact that midwives either male or females are paid the same, male midwives think that they should receive higher payment than the female midwives. Moreover, there was gender-bias choice

regarding medical doctors' preferences to work with male midwives as well as in task distribution when nominating staff to assist in the operating theatre for caesarian sections or other surgical interventions in maternity. There were no gender problems identified in the anesthesia team and medical doctors' teams and the reason could probably be further investigated.

The findings in this study are different from a study conducted on IPC in obstetrics in Nigeria where issues of gender were seen to be related to nursing and midwives considered as female-dominated professions making nurses and midwives who are mostly female to obey medical doctors orders as male to abide by the culture (Ogbonnaya, 2016).

We believe that the strong political commitment that promotes gender equity in Rwanda is probably the reason why gender issues were not observed among our study participants. For instance, Rwanda has was reported as the world leader in terms of women in parliament ( 62 % after 2018 parliament elections)(Zara, 2018).

### Conclusion

IPC is an important aspect to consider in delivering quality EmONC since patient outcomes rely on collaborative effort from different healthcare professionals. This chapter aimed at understanding IPC experiences to explore the barriers and benefits in implementing the IPC among three categories of professionals working in maternity services to contribute to evidence for improvement in collaborative practice and to contribute to the reduction of the maternal and newborn mortality rate and achieve the SDGs related to maternal and child health. Participants in this study mentioned several benefits of effective IPC in obstetrics. However, most of them were not satisfied with the

IPC situation among them. They mentioned several barriers to effective collaboration, including a stressful working environment characterized by a shortage of staff and lack of other resources, power relations, lack of respect and trust, communication issues and role clarity, lack of confidence, and lack of knowledge and skills. According to the WHO (2012), each setting should identify an effective strategy to improve IPC to increase the quality of healthcare services. Therefore, there is a need to address the barriers identified to achieve a desired collaborative practice.

### Limitations

This study considered three categories of professionals while many other types of professionals participate in the management of EmONC at district hospitals in Rwanda. For instance, ambulance drivers, pharmacists and supporting staff. However, the three categories involved are the most important teams in obstetric care in maternities, and improvements in their collaboration could contribute significantly to quality EmONC.

Another limitation is related to the fact that participants in this study were all professionals who underwent mentorship programs where IPC was a great focus suggesting that participants in this study had a prior understanding of the IPC concept. Therefore, including participants who did not participate in mentorship could have brought different results. Moreover, the study was conducted after the intervention had started. It would have been better to conduct a pre and post-intervention study to compare the IPC experience before mentorship and the experience after mentorship have been implemented. To overcome this challenge, we asked participants their IPC experience in



general during actual interviews even before the mentorship. However, there could be a recall bias effect and the results would be different to what they could have told us while experiencing the event if research had been contacted before mentorship.

Also, fewer medical doctors (n=6) participated in this research compared to other categories of professionals (nurses and midwives (n=10) anesthesia providers (n=9). Having an increased number of physician participants could have probably brought other perspectives.

#### Recommendations and implications

In this study, several challenges to IPC were identified, which implies policymakers and health professional educators to identify strategies to address the challenges of having IPC as a key component for quality healthcare service delivery. According to the Canadian IPC framework, there are six competencies for effective IPC: role clarification, team functioning, interprofessional communication, patient/client/community-centered care, interprofessional conflict resolution, and collaborative leadership. The results from this study demonstrate how the IPC competencies are challenged. Consequently, the CIC framework which is ideal for collaborative practice to occur, indicates a strong need for policymakers and practitioners to find a way to assist healthcare professionals in practice to achieve the IPC competencies

## Chapter 5

### **5 Benefits of a mentoring program on IPC in obstetric and neonatal care in Rwanda**

The purpose of this section is to understand from HCPs who participated in the mentoring program, the benefits and challenges of TSAM mentorship on IPC practice in Obstetric and neonatal emergencies. Thus, this chapter presents the results from interview questions related to the experience of participation in a mentorship program in improving IPC.

Within the context of Rwanda, the maternal death audit conducted between 2009 and 2013 identified, among other causes of maternal deaths, poor team collaboration between health care providers as well as patients. The audit recommended enhancing health care team collaboration, improving the quality of care, and contributing to maternal mortality reduction (Sayinzoga et al., 2016). As a result, many interventions are being conducted across the healthcare system, including from the community level to tertiary level of care to reduce the high maternal and neonatal mortality rate (MNMR).

Unfortunately, though, maternal and newborn mortality is high in hospital settings, indicating a need to improve the quality of care. In 2009, the Rwandan Ministry of Health (MOH) began a 5-year audit (2009 – 2013) to monitor facility based maternal mortality. The audit indicated a mortality rate of 69.1/ 100,000 live birth in Rwandan hospitals (Bucagu, 2016).

IPC enhances quality of care, and good quality of care depends, in part, on the team working together in an IPC approach. One strategy proposed by the Rwandan Ministry of health to improve maternal newborn quality of care and reduce hospital based maternal and neonatal mortality rate was mentorship (Anatole et al., 2013).

Mentoring is a concept and practice related to formal or informal support, guidance, coaching, teaching, being a role model, counseling, advocating, networking, and sharing. Mentoring occurs within and/or outside the clinical setting, and includes personal and career guidance (Freedman, 2009). Mentoring has been defined as a one-on-one, long-term, trusting relationship that develops over time between a novice and an experienced practitioner. This relationship aims to provide support during transition periods, guidance in teaching and learning, increase coping skills, and offer a safe environment for sharing and discovery (Freedman, 2009).

A mentor is an experienced practitioner who establishes a caring relationship with a novice practitioner as a trusted counselor, guide, role model, teacher, and friend, and provides opportunities for personal and career development, growth, and support to the less experienced individual. A mentee is a novice practitioner or an experienced individual in the midst of changing jobs or careers, who benefits from the aforementioned skills and characteristics of a more experienced practitioner willing to help the novice in his/her personal and career journey (Freedman, 2009).

The usefulness of mentorship in improving interprofessional collaboration has been widely discussed in the literature. For instance, a study conducted in Tanzania to improve maternal and newborn health through clinical mentoring, reported an improvement in communication among nurses and midwives which contributed to patient safety (Ojemeni et al., 2017). Similarly, a study conducted in Rwanda by Anatole et al (2013) about mentorship to improve quality care supported the importance of mentorship in improving a number of healthcare quality indicators including interprofessional

collaboration. Also, in their study on mentorship and quality of care, Kirk, Sweeney, Neil, Drobac, & Manzi (2015) reported that effective mentorship leads to improvement of quality of care. Schwerdtle, Morphet, & Hall (2017), in a scoping review on healthcare practitioners' mentorship and quality of care in low- and middle-income countries, revealed the effectiveness of mentorship in improving the quality of health care through improvement in the working relationship among professionals.

In 2016, the Training Support Access Model for Maternal, Newborn, and Child Health in Rwanda (TSAM-MNCH), funded by Global Affairs Canada (GAC), began a 4-year international development and partnership project to promote health systems improvement and reduction in maternal and child mortality. Building upon 16 years of partnership between Western University and the Rwandan health sector, TSAM-MNCH was a collaborative project between Rwanda and Western university, with other collaborating Canadian Universities including York University, University of British Columbia, and Dalhousie University.

The TSAM-MNCH has been intricately involved with professional councils, academic and government partners to develop and deliver a Mentorship Model and Program for health care professionals to improve quality of MNCH focusing on addressing the challenges related to maternal, newborn and child health in Rwanda. The TSAM project collaborated with the Rwanda Ministry of Health (MOH) and professionals' councils to select volunteers in different categories including nurses, midwives, gynecologists and obstetricians, pediatricians, anesthetists to be mentors in

district hospitals. Different characteristics needed to be met in order to be selected as mentors:

**Table 5: Characteristics of mentors**

Number	Characteristic
1	Qualified, competent and experienced in own area of specialization with clinical proficiency and capacity to make decisions
2	Demonstrated willingness to mentor other clinicians through on-site visits
3	Capacity and desire to motivate the mentee to perform well
4	Familiarity with and ability to conduct procedures in accordance with clinical standards and guidelines
5	Ability to facilitate a case discussion
6	Ability to communicate clearly and effectively with staff including provision of constructive, timely, and interactive feedback
7	Ability to gather and analyze data
8	Be a role model and champion of best practices within their own facility
9	Being available and committed to mentorship
10	Demonstrated ability to transfer knowledge and skills

11	Interested in clinical mentorship
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(Ngabonzima et al., 2020, P.7)

Mentors completed an education workshop to prepare them for their work and they were educated about their role as mentors as well as how to support mentees and encourage them to engage in reflective practice (Ngabonzima et al., 2020).

Experts from both Rwanda and Canada provided preparatory trainings to equip mentors with skills to fulfill their role as mentors in practice. Considering that, IPC was an important aspect to consider, mentors received trainings on key cross-cutting concepts such as ethics, gender and IPC. Mentors were tasked with translating that knowledge to their mentees (The Training Support and Access Model., 2019)

Also, prior to mentoring, at the completion of educational workshops, mentors had a one day field visit to assess the clinical sites where they would be mentoring and be introduced to hospital managers to have initial contacts. In the TSAM model, mentorship visits happened once a month and mentors worked together with mentees for three consecutive days. The mentors' teams worked as interprofessional teams comprised of four professionals composed of an obstetrician, a nurse or midwife, an anesthetist and a pediatrician (The Training Support and Access Model., 2019).

Mentors were paired with mentees sharing the same area of expertise. For instance, an experienced anesthetist would work with a less experienced anesthetist and similarly, a senior nurse or a midwife would work with a less experienced nurse or

midwife. Likewise, a gynecologist and a pediatrician would also work with a general practitioner to provide coaching and build capacity by increasing knowledge and technical skills. Primary mentor activities included bedside teaching, discussion on case management, presentations of various maternal and newborns care topics in morning staff meetings, operating theatre skills reinforcement, training of mentees using simulations, participation in developing and implementing quality improvement projects (Ngabonzima et al., 2020)

Mentorship started in June 2017. Initially five district hospitals in the Northern province of Rwanda, including Byumba, Kinihira, Nemba, Ruli, and Rutongo, were selected based on the Ministry of Health and those hospitals were assigned to the TSAM - MNCH project. Almost one year later in August 2018, mentorship programs were also initiated in five additional district hospitals, namely Gakoma, Gitwe, Kabgayi, Kibirizi, and Ruhango in the Southern province of Rwanda (Ngabonzima et al., 2020) .

Regarding mentees selection, the TSAM project collaborated with the management of the assigned district hospitals to develop a list of mentees from the five district hospitals. The mentees included three categories of professionals: nurses and midwives, medical doctors who are general practitioners in district hospitals in Rwanda and anesthetists. In total, 75 mentees benefited from mentorship visits until June 2019 and the total number of mentorship visits were 11 at the time of the research. During the visits, mentors worked with interprofessional teams in maternity services composed by nurses and midwives, gyneco-obstetricians, anesthesiologists/ anesthetists and pediatricians. Mentors worked hand in hand with mentees and the ratio was one mentor to

one mentee. At the end of each visit, mentors had a debriefing session with mentees to discuss improvements in professional practice in a friendly and supportive manner to assist mentees in skills development (The Training Support and Access Model., 2019).

Although the TSAM mentorship programs have not only focused on IPC, but also different aspect of MNCH in a broad sense, the purpose of this study was to understand from healthcare professionals who participated in the TSAM mentoring program, how the mentorship program has influenced their IPC practice among the team involved in management of obstetric and neonatal emergencies. Although mentorship programs were being implemented in both northern and southern provinces of Rwanda, this study focused only on the five districts hospitals in the Northern province of Rwanda because mentorship in that particular region was initiated earlier than the other part of the country. Conducting research after implementation of the mentorship program could contribute to knowledge which can be useful for policy makers, administrators and implementors to guide improvement. Therefore, the findings could inform TSAM management as well as hospital managers, policy makers and Ministry of health about the benefits of a mentoring programs and contribute to the extension of mentoring programs at a national level. Also, the findings contribute to the body of knowledge in response to the scarcity of literature around mentorship in limited-resource settings. Furthermore, the findings could inform others who might wish to implement mentorship programs in similar settings.

### Findings

The findings from this part of the study originated from thirty healthcare professionals including twenty-five mentees and five director generals from five district



hospitals who participated in semi-structured interviews. Mentees were in three categories including, anesthesia providers (n=9), nurses and midwives (n=10) and medical doctors (n=6). Twelve participants were female while thirteen were male, most were between 27-35 years old. The youngest was 27 and the oldest was 48. Most participants hold an advanced diploma in nursing or anesthesia.

Regarding medical doctors, all were general practitioners holding a bachelor's degree in medicine and surgery. The work experience in the maternity departments ranged from one to five years for most participants. For director generals, all were medical doctors and 4 of them were male with only one female.

Four major themes related to IPC experience and TSAM mentorship were identified from health care professionals dealing with EmONC:

- 1) TSAM mentorship experience
- 2) Benefits of TSAM mentorship on IPC practice
- 3) Challenges with mentoring programs and IPC improvement
- 4) Suggestions to improve TSAM mentorship

### **Theme1: TSAM mentorship experience**

Mentorship is a process in which mentors and mentees work together to acquire new knowledge, skills and confidence (Shaikh, 2016). According to Freedman (2009), mentorship should be characterized by respect and trusting relationships. It is an opportunity for both mentors and mentees to learn and develop their professional competency to improve quality health care delivery.

This theme encapsulates the experience of TSAM mentees specific to IPC.

Almost all participants from five district hospitals expressed a positive experience with TSAM mentorship and its impact on IPC. They mentioned that they learned from their mentors' experience as one participant said: "*The mentorship itself is a good model of interprofessional collaboration. The team of mentors comes as an interprofessional group composed of obstetricians, anesthesiologists, pediatricians, midwives. When we see how they interact, it teaches us how we should be collaborating. Thus, we learn from their experiences*". (H2P4)

## **Theme2: Benefits of TSAM mentoring program on IPC practice**

### **Subtheme1: Improved collaborative practice**

Most of the participants mentioned how the mentorship program has helped them to improve their collaborative practice in postoperative pain management, patient hygiene, management of postpartum hemorrhage, infection control, etc. in maternity. One participant said:

*"I think mentorship especially that one for TSAM project has been very important to us. Together as a team concerned with patient pain management, we collaborate effectively to manage the postoperative pain."*(H4P4)

Participants appreciated the value of mentorship in reducing difficulties in collaboration. Participants' noted a significant improvement in experiences with team misunderstanding since mentorship started.

*" In case of cesarean section, we used to delay to contact anesthetist or there should be a misunderstanding between midwives and medical doctors, but since mentors came, there is a significant improvement in collaboration". (H1P2)*

Also, participants mentioned a reduction of interprofessional team conflicts, as mentioned by one participant:

*"Before they initiated the mentorship, there were always conflicts related to doctors and anesthesia providers who used to do not come when we called them. But after mentorship, when we call somebody he just comes without delay unless he is busy with other duties. Such kinds of conflicts have reduced". ( H4P5)*

Also, participants expressed a reduction in a delay to provide patient care, as one participant said:

*"We are benefiting from mentorship, collaboration has improved since the mentorship started, there no delay and the patient receives the quality of care as needed without wasting time and this is very different to what we used to do before" (H4P5).*

Most participants expressed how TSAM mentorship training has helped them improve communication especially handover reporting, and charting patient information; mentors reminded mentees to use checklists to manage obstetric and neonatal emergencies *"... the mentorship has helped us to improve in completing the patient file. We chart all necessary patient information which has also improved the way we were taking care of our patients"(H3P5).*

Also, participants appreciated the TSAM mentoring training in improving communication

*“They (mentors) have also shown how to communicate effectively which helped us to improve our communication when managing obstetric and neonatal emergencies. Mentors have also reminded us to use checklists which helped us to improve our practice. The mentorship was very helpful ”. (H4P3)*

Participants expressed improvement in terms of power dynamics between medical doctors and the rest of the obstetric care team as one participant mentioned: *“Before the medical doctor used to dictate and now mentors are reminding them the benefit of effective collaboration, the mentors propose the right way to proceed. So, slowly, bad routines are getting removed and mindsets are changing. So, mentorship is very important for us”* (H1P4)

### **Subtheme 2: self-confidence**

Participants, especially midwives, expressed how the mentoring program has helped them to improve their confidence and change their mindset as one participant said:

*“ .....we could not tell the doctor that we have performed a vaginal examination, in the fear of finding different results, but now we have corrected ourselves and we can tell him what we have found and let him perform an exam just to verify whether he will come up with similar results. So, the mentorship made us change our mind. We collaborate more”(H1P1).*

It was not only midwives who expressed their increase in confidence level, but mentorship was reported to help also general practitioners in improving their confidence as mentioned by one participant:

*"The mentorship is very beneficial, especially for us general practitioners, we meet very challenging cases and we learn how to manage them"(H3P4).*

Additionally, most participants pointed out that TSAM mentorship training has helped them in understanding their responsibilities which improved their level of confidence in the management of obstetric and neonatal emergencies.

*"Mentorship has been of great importance. Everyone has understood his responsibility"*  
(H1P1)

Also, participants appreciated the benefits of a mentoring program, especially because it is different from other types of training where they only learned about theories without practicing them, and where opportunities for improvement in the field were available. One participant said:

*"Regarding mentorship, it is very different from other types of training because in routine training, they put us in a room and give us only theories but in mentorship, we work together with mentors and when you commit a mistake, he corrects it immediately and you learn from that mistake. I realize that mentors are committed and willing to help as much as they can" (H2P3).*

**Theme3:** TSAM mentorship challenges related to improvement in IPC practice

When asked about challenges in mentorship related to improvement in IPC practice, participants mentioned various challenges including issues around IPC sustainability related to healthcare professions who keep moving, looking for jobs elsewhere, and who do not stay in one hospital. One participant said: "*We have a challenging problem of staff that cannot stay in one place; they keep moving from one hospital to another. Therefore, IPC skills received from the mentoring program are no longer useful to our hospital*". (H5P7)

Another challenge was the duration of mentorship. Most of the participants highlighted that every mentorship visit lasted for three days, which was insufficient from participants' perspectives. One participant said: "*The only thing is that mentorship takes a short time. It is only for three days. We as mentees we have that need for knowledge and we realize that three days are not enough*". (H4P1)

Furthermore, participants talked about the issue of a long interval between visits with a risk of forgetting what they have been taught during the last visit, as mentioned by one participant: "*...it takes a long time for mentors to come back. There is a long time between their visits with a risk of forgetting what they have taught us*" (H4P1)

According to some participants, there are a lack of protocols and guidelines in some aspect of care which make them miss supporting documents to retain with knowledge received from mentoring programs. One participant said: "*sometimes we miss the support to retain the information provided, there are no protocols or guidelines, in the maternity service*" (H4P2)

Participants also mentioned the issue of coordination, and they highlighted that they don't have the right schedule for mentorship visits which makes them not be organized and get ready for visits.

*"We do not have the right coordination, we must have a well-established plan. We are called unexpectedly, and we do not know when the mentors will come back. Sometimes we are in our leave, and we are called"* (H4P2).

Despite TSAM mentorship benefits on IPC, participants expressed the issue of shortage of staff as negatively affecting IPC practice in a variety of ways. *"The main challenge we have is the insufficient number of medical workers. For instance, only one medical doctor can be available for the entire hospital, so when he is doing an operation, other cases which need his intervention are not treated and will wait for him and the rest of the team will also be waiting"* (H1P7)

Participants also expressed failure in accomplishing best practices due to an insufficient number of medical personnel. For instance, a medical doctor may leave exhausted and fail to make a handover report, which can negatively affect the continuity of patient care.

One participant said:

*"A doctor may leave without availing the handover report showing what has been done, what remains and what is expected to be done with of cause a risk on the patient".* (H4P7)

**Theme 4: Suggestions to improve mentorship and improve IPC practice from mentees and Hospital directors' perspectives**

Most of the participants in this study highlighted the need to increase the number of visits and reduce the time between mentorship visits. One of the participants said: *"It would be better to increase the number of mentorship visits and reduce the time between the visits"*. (H4P1)

Some participants appreciated the benefits of the TSAM mentorship program and suggested that mentorship should be organized for all staff. One participant said: *"I would suggest that every staff should undergo a mentorship program"*. (H3P5)

This perception was further enhanced by some participants who suggested receiving certificates indicating that they have completed the mentorship program, as one participant said:

*"I also suggest that we can be given certificates attesting that we have benefited from these types of training. It's something that we can put in our CV"*. (H4P2)

Additionally, participants suggested availing protocols that can guide their practice and allow better collaborative practice. One participant mentioned: *"It would be better if they could avail protocols or even display them on the wall in maternity service so that we are reminded about what should be done. Anyone can check those protocols and organize his work"* (H4P2).

### **Discussion, implications, and limitations**



Despite almost three years that the TSAM mentoring program was in place, no study was conducted to understand how the program has contributed to improving IPC among healthcare professionals involved in EmONC. Although the mentorship program has covered many aspects of care to improve maternal, newborn, and child health in Rwanda, IPC was an important component of the mentoring program. This part of the study was conducted as part of a broader series of program evaluation studies and has focused on IPC, as the quality of EmONC cannot be achieved without effective collaboration between various healthcare professionals (Raab et al., 2013). Reported here are the findings regarding the impact of the TSAM mentorship training program on IPC practice from the perspective of mentees and hospital managers. This study also conveyed participants' perspectives of the challenges experienced, and offered suggestions to improve the TSAM mentorship program specific to IPC.

This study highlighted that mentorship was helpful and contributed to improved collaborative practice and self-confidence among professionals working in maternity services. These findings are supported by a scoping review of the mentorship of healthcare professionals in low and middle-income countries (Schwerdtle et al., 2017). In the review, mentorship was identified as effective in contributing to improved quality of care (Schwerdtle et al., 2017). The effectiveness of mentorship programs in improving the quality of care in general and IPC, in particular, is widely discussed. For instance, Amsalu, Boru, Getahun, & Tulu (2014) in a study to understand the attitudes of nurses and physicians toward collaboration in Ethiopia, proposed mentorship as an effective strategy to improve health professional collaboration. According to the study, when

senior professionals mentored junior staff, it increased their confidence, knowledge, and skills, which improved collaborative practice. Also, mentorship, especially in the obstetric care context, improves quality of care in different aspects, including improvement in communication and working relationship in general (Olajide et al., 2015). Ensuring positive quality of care results in positive clients' outcomes and experience during the process of care as well as reducing harm. In the context of district hospitals of Rwanda, increased quality of care in obstetric and maternity in general could reduce the number of referrals from district hospitals to higher level of care and as a result improve quality of care at minimum costs (Rwanda Ministry of Health, 2018).

However, despite its usefulness, the short duration of mentorship was identified by participants in this study, and this is similar to what was reported in a study conducted in Uganda to understand mentees experience. In the study, Ssemata et al., (2017) reported insufficient time allocated to mentorship as a barrier to successful mentorship and therefore recommended more time and more structure for the mentorship programs. However, there is no indication of an optimum time frame for mentorship programs.

A study conducted in Rwanda to understand midwives and nurses experience in participating in continuous professional development (CPD) workshops demonstrated improvement in collaborative practice as a result of participating in the trainings, suggesting the need for CPD either in the form of mentorship or other kind of trainings (Uwajeneza, Babenko-Mould, Evans, & Mukamana, 2015). However, the study focused only on nurses and midwives while the present study focused on three categories of healthcare professionals including medical doctors, anesthesia providers, nurses, and

midwives. Furthermore, the CPD was organized in the form of training delivered in a classroom setting session which is different from mentorship where mentors work together with hands-on with their mentees in a clinical setting.

The usefulness of mentorship in improving IPC and quality of healthcare services has been widely discussed in the research literature, suggesting a need for a mentoring programs in health services to increase self-confidence in clinical decision making, improve the working relationships especially in maternity care where there is a need to care for two people: the mother and the baby, which requires more than one profession to be successful (Flexman & Gelb, 2011; Freedman, 2009 ; Ojemeni et al., 2017).

The findings from this study should be useful for mentoring program organizers, implementers including those in the TSAM-MNCH project as well as policymakers, administrators, and Rwanda Ministry of Health and district hospitals management to improve mentoring programs to contribute to improved IPC as one of the strategies to improve quality of services and contribute to the reduction of maternal and newborn mortality rate in Rwanda. Additionally, policymakers could consider the TSAM mentorship model and its associated results about IPC to plan for healthcare system strengthening in terms of improving maternity staff working relationships. Further, the study contributes to knowledge about mentorship and IPC in EmONC and can inform others looking to improve their mentoring program.

Despite the valuable findings from this study, there are some limitations to acknowledge. First, the findings cannot be generalized as the study focused on specific district hospitals that benefited from the TSAM mentorship program. However, similar

settings and similar programs can consider the study findings and methodology and apply them in similar contexts. Another limitation is related to a specific focus on mentees' and hospital directors' perspectives, which did not allow understanding the IPC experience from other healthcare professionals who did not participate in mentorship programs.

#### Conclusion and recommendation for future research

This section aimed to explore the benefits of the TSAM mentoring program on IPC practice. The findings indicated that participants perceived improved collaborative practice, including interprofessional communication, interprofessional conflict resolution, and increased self-confidence, which also contributed to the improved working relationship among teams involved in EmONC. Moreover, the section identified challenges related to the short duration and long interval between visits as barriers to successful mentoring program and improvement in IPC practice. Suggestions were made to contribute to improvements in IPC. Future research should assess the strategies to sustain IPC practices and explore IPC experience among professionals who did not participate in mentorship programs. Furthermore, the findings indicated high staff turnover in district hospitals in Rwanda, especially medical doctors, as negatively affecting collaborative practice. The shortage of medical staff contributes to lack of conducive environment for IPC, therefore, future research should investigate the causes of high turnover in district hospitals in Rwanda.

## **Chapter 6**

### **6 Suggestions and strategies to improve and sustain IPC in EmONC from study participants' perspectives.**

#### Introduction

This section discusses the findings from semi-structured interview questions related to suggestions to improve IPC from mentees' perspectives. The section also draws from hospital managers' responses when asked the strategies used to sustain IPC practice. There are questions on how effective collaboration could be achieved. However, few studies have proposed strategies to achieve effective collaboration. Thus, this indicates

that there is a compelling need to investigate useful strategies to achieve successful collaboration.

Downe et al. (2010) conducted a literature review on creating a culture of collaboration in maternity care in the United Kingdom, Australia and the United States. They cited effective conflict resolution, mutual trust, open communication as essential factors to achieve a successful collaboration. Similarly, Orchard et al. (2005) discussed role clarification, role valuing, trusting relationship, and power-sharing as enablers of successful collaboration. However, in both articles, (Downe et al., 2010); Orchard et al. (2005), the authors argued that philosophical differences between professions lead to separate beliefs that hinder successful IPC.

Another useful strategy frequently cited as essential to foster collaboration is interprofessional education (IPE) (Downe et al., 2010; Lee et al., 2016; Romijn et al., 2017). According to the World Health Organization (2010), “IPE occurs when two or more professions, learn about, from, and with, each other to enable effective collaboration and improve health outcomes” P.13. The usefulness of IPE is widely supported in the literature as a fruitful way of bringing together different healthcare professionals and creating an opportunity to learn about other professions to enable the development of improved understandings of others’ roles and scopes of practice and therefore increase empathy and respect for others. Therefore, IPE should be introduced early in professional training to enable future health professionals to graduate prepared for collaboration. However, Orchard (2010) demonstrated how challenging it is to do IPE and argued that

different philosophies and professional cultures lead to a diverse understanding of others' roles.

The World Health Organization, (2010) recommended some useful mechanisms to foster collaboration in healthcare settings including institutional support such as a governance model, structured protocols and shared operating procedures. Additionally, other mechanisms could include working culture mechanisms such as communication strategies, conflict resolution, shared decision-making process and environmental mechanisms such as resources and facilities. However, since health care systems are not shaped in the same way, in the framework for action on IPC, the World Health Organization, (2010) argues that the recommendations highlighted were suggestive and every single country should identify useful strategies to implement and improve IPC in order to achieve optimum patients' outcomes.

In the context of Rwanda, IPC in obstetric care is important since different professionals work together to manage EMONC and to the best of my knowledge, there is no study conducted on IPC practice. Therefore, investigating the suggestions and strategies to achieve successful IPC could provide useful recommendations to foster collaborative practices and improve patient outcomes in obstetric care. Accordingly, this section aims to better understand ways to improve IPC in obstetric care, from study participants' perspectives. The study also aims to advance understanding of the strategies used by hospital managers to improve and sustain IPC practice. Understanding these suggestions and strategies could be important contributions to knowledge, with potential to strengthen the healthcare system and build capacity to improve IPC, enhance

effectiveness and efficiency in IPC practice, deliver quality obstetric care, and reduce maternal and neonatal mortality rates.

Two themes emerged from data about suggestions and strategies to sustain IPC

#### Theme1: Suggestions to improve IPC from mentees' perspective

This theme encapsulates suggestions made by research participants who participated in mentorship by TSAM project in Rwanda.

##### Sub theme one: Training on IPC

Participants in this study suggested training as an effective strategy to improve IPC in their practice. They suggested training in various ways, from simple training to complex training, such as continuous professional development in which IPC topics can be discussed.

*“I think there is a need for continuous pieces of training on IPC, and they should focus on the aspect of communication, which should be a solution to the sustainability of IPC “. (H4P3)*

Also, orientation and training of new staff was suggested by many participants to improve IPC in obstetrics. One participant said:

*“To improve the interpersonal collaboration, there is a need to train current staff and orient new staff on IPC”. (H2P1)*



Likewise, regular meetings where staff can discuss the IPC situation was proposed by participants.

*“I think there is a need for regular IPC meetings, it would be better to keep reminding the staff about IPC, provide some training and make the follow up because some time (sometimes) we learn things and we do not continue to practice what we have learnt when there is no follow up”. (H3P1)*

Further, as social identity theory suggests, one group can see it as similar and see it as different from others, making particular groups consider themselves as better than others (Tajfel, 2010). Thus, participants who are non-physicians (anesthesia providers, nurses and midwives) in this study thought that medical doctors needed more training in IPC than other health professional groups.

*“...I think something should be done on the side of doctors. Doctors should be trained more about the interprofessional collaboration. They (doctors) must understand that everyone has his role to play. They (doctors) must be told that the success of some aspects of care depends on the success of previous ones.....”. (HIP4)*

#### Sub-theme two: Leadership support

Leadership has an important role to play in order to promote and sustain successful collaboration among different professionals in obstetric care but also in other hospitals settings in general (Behruzi et al., 2017; Downe et al., 2010; Mohammed et al.,

2012; Raab et al., 2013; Dimitrios Siassakos et al., 2013). In this study, participants highlighted the need for leadership support to achieve successful collaboration: Participants suggested that leadership should ensure enough staff to create a conducive environment with necessary resources to support IPC practice; including availability of guidelines and protocols. Furthermore, participants recommended that when staff are exhausted, they are not in a good mood to collaborate. One participant said:

*If we could have enough staff, the collaboration would be useful. (H3P5)*

Moreover, from participants' perspectives, leadership should organize training on IPC and ensure adequate supervision to achieve successful collaboration: "...*leadership has to find a way to motivate employees like offering them training and do close supervision*". (H2P4)

Additionally, participants suggested that the administration intervene in conflict management fairly and bring together the concerned team when there are collaboration issues.

*When there is a problem related to IPC, leadership should call upon those concerned and find out what went wrong. For instance, they can bring together anesthesia providers and medical doctors and take one case and discuss everyone's role and find out the better way to understand each other. (H3P2)*

Also, participants suggested having positive feedback and non-blame incident analysis to promote effective IPC: "*There is the time when we do a good job, and nobody recognizes our effort, but when a straightforward problem arises, they bring the blame game to the*

*level that they even ignore all the good things you have done” (H4P5). To further enhance her perspective, the same participant said: We need motivation, not only in terms of money but also how they address to us at least thank us for the job done. I would suggest positive feedback. They should be thankful for what went well and addressed what was wrong after.*

Lastly, the availability of protocols was suggested as important to guide the practice in some aspects of care in obstetrics and improve collaborative practice. One participant said:

*“...if there were protocols, for instance if they could say the management of post-partum hemorrhage should follow this algorithm that would be important to the entire team” (H5P2)*

#### Subtheme three: Other suggestions

Participants proposed some other suggestions such as use of *Client centered approaches* to achieve successful IPC in EmONC.

*“.....We should consider the patient as the center of interest and in that way, the patient would come first. For example, if you are called to take an intravenous line you should not say that those who are calling can also take it. You should think about the patient first and then come to provide the support as needed”. (H5P2)*

Also, participants suggested to improve communication:

*“... When communication is well done, collaboration happens. When you give the right information on time it improves collaboration. There is a great need to improve the communication side”. When you describe the problem concisely it becomes very clear to the rest of the team. (H2P4)*

Additionally, conducting an environment scan of the IPC environment was also suggested as effective strategy to improve collaboration:

*“the first step would be to do the research in order to identify at which level is the interprofessional collaboration between medical staff, then improvement must be done systematically based on the finding”. (H2P1)*

#### Theme two: Strategies used by hospital managers to improve and sustain IPC practices

This theme encapsulates the strategies used to promote IPC in five district hospitals as mentioned by Hospital Director Generals in interviews. Strategies were different and varied from one hospital to another. On the other hand, similar strategies such as trainings and improvement in communication were mentioned by all Director Generals.

##### Subtheme one: Ensure effective communication:

When asked about strategies used by hospital managers to improve IPC, all participants revealed a need to improve in communication and one participant said: *“I requested all the members of medical staff to break the silence and talk whenever they encounter*

*collaboration problems.* The same participant further elaborated his perspective and said, *I advised nurses not to fear to defend their position if the proposition is clearly scientific* (H2P7)

#### Subtheme two: Training and IPC meetings

Another strategy that all five participants pointed out was training. However, some DG mentioned that they were planning to organize those trainings, but it was at the stage of ideas by the time research was conducted.

*Our strategy is to organize training about this issue, (IPC). Those trainings (would) emphasize the importance of inter personnel collaboration in our institution.* (H3P7).

Still, on trainings as strategy, most participants suggested inviting experts in IPC to assist and provide training on IPC.

*“Experts in IPC should be invited and give us pieces of training”.* (H1P7)

Another strategy was to organize IPC meetings that gave positive results in improving IPC practice according to participants.

*Another strategy is to organize several meetings debating about IPC. Those meetings have been fruitful. It was through such meetings that the decision that midwives would go with ambulances for maternity cases because general nurses revealed how uncomfortable they were when handling maternity cases.* ( H3P7)

### Subtheme three: avail enough staff

According to participants, IPC practice improvement and sustainability could be better achieved if hospitals could have sufficient staff. Managers expressed how they try their best to advocate for hospitals to have enough staff. One participant said:

*We ask the district administration through the health unit to increase the number of medical personnel in the hospital. The advocacy has begun and even the Ministry of Health is informed about our concern. (H4P7)*

### Subtheme four: other strategies

One of the strategies proposed was an audit of maternal and neonatal deaths. When analyzing the cause of deaths, the cause of poor collaboration can be easily identified, and the concerned staff talked to as a way to improve care.

*“We have initiated an audit committee that analyzes the causes of death of newborns or their mothers. The audit team identifies the weakness in the service we deliver, including IPC problems”. (H3P7)*

Also, fair distribution of resources and equal consideration of personnel were highlighted by one participant as an effective strategy that was put in place to avoid conflict among staff and encourage successful collaborative practice.

*“As leaders, we should not be biased; we should treat all workers in the same way. Always search for balance. For example, when it is the matter of advantages of participating in training. Everyone should be given the same chances”. (H5P7)*

Lastly, to identify the gap and address it accordingly, research was pointed out as a strategy that was in a plan to sustain and promote IPC practice. *“It would be better to research in order to identify at which level is the interprofessional collaboration between medical staff. The improvement must be done systematically based on the state of present situation.” (HIP7)*

This section aimed at understanding suggestions from research participants to improve IPC in EmONC. Also, the purpose was to understand the administration’s commitment to promote and sustain IPC. The findings highlighted a couple of suggestions from participants. Surprisingly, suggestions aligned with the strategies the hospital administrations were planning to initiate. Interestingly, it was noticed that hospital administrations had good ideas such as trainings and regular meetings to promote IPC. Unfortunately, most of these plans were not yet implemented at the time when the research was conducted. Besides, leadership support is essential to achieve successful IPC (Munro et al., 2013). Therefore, a need to have a more systematic approach to IPC would be useful.

Even though participants in this study did not talk about IPE (as the term was likely new to them), they suggested training in different forms, which were similar to interprofessional education. According to ICT, when different team members are learning together, it reduces prejudice and lead to improved collaboration suggesting a need for IPE to bring together different professionals and contribute to improve IPC (Khalili et al., 2013). Similarly, the SIT also proposes to learn about others to reduce prejudice and allow collaborative practice to happen (Khalili et al., 2013). In general, suggestions to

improve IPC highlighted by participants were similar to other studies in a number of ways. For example, Helmond et al., (2015) in her scoping study on how to improve collaboration suggested the need for IPE to improve collaboration. However, on the other hand, Baker et al., (2011) demonstrated how difficult is to organize IPE since the medical model of care is still in the form of hierarchy. According to Baker et al., (2011), there is a need to address the hierarchy issue to achieve effective IPC.

Most participants discussed the need for availability of sufficient healthcare professionals to create a conducive environment for IPC. They argued that when professionals are tired and exhausted, it negatively impacts collaboration since communication becomes difficult. Similarly, Sabone et al.(2019) and Hailu et al. (2016) in their studies in Botswana and Ethiopia, respectively identified findings related to the context of limited resources countries. Fortunately, in this study, hospital managers, in their interviews, pointed out that they were engaged in advocacy with concerned authorities to find a solution to the identified problem of shortage of staff.

Communication and client centered approaches are the two most important competences in IPC practice (Canadian Interprofessional Health Collaborative, 2010). Interestingly, in this study it was suggested to improve communication and participants suggested to develop a more client centered approach. The same findings were identified in other studies that have investigated IPC in obstetrical care teams (Burke et al., 2013; Fung et al., 2017; Lam et al., 2018; Weller et al., 2014). Furthermore, these same studies, proposed some useful strategies to improve communication such as use of checklists in obstetric care. Moreover, in this study, participants did not suggest how effective



communication could be achieved. However, the use of checklists during different obstetric procedures could also be as important as in other studies to reduce barriers to communication. For instance, when performing caesarian sections or other operating procedures in obstetric care, surgical safety checklists could be used to improve communication and make sure everything is right in terms of communication.

Also, communication competence is affected by power dynamics in IPC practice (Helmond et al., 2015; Wiczorek et al., 2016). Therefore, this could be mitigated to achieve a successful collaboration. One of the strategies identified from hospital directors to promote IPC was to encourage nurses and midwives to break silence and speak up when there are communication issues as a result of power dynamics. However, one of the concerns is why health professional education is not empowering graduates to stand and own the value of their knowledge in the context where hierarchy exists. Working together in successful collaboration does not hinder the independence of their profession.

Different other strategies such as conducting an environmental scan of the IPC environment, and fair distribution of resources, were suggested by participants and were also mentioned by hospital managers as strategies to implement to promote and to sustain IPC in obstetric care. Similar strategies were proposed in a study conducted in Kenya where Kermode et al., (2017) suggested to the need for ongoing research to continually understand barriers to collaboration and overcome them as identified. Likewise, in Ethiopia, Amsalu et al.,( 2014) found scanning IPC environments in obstetric care as an effective way to sustain IPC practice.

### Recommendations from researcher's reflection

After analyzing interviews from participants, the researcher reflected on suggestions and strategies from participants' perspectives to improve IPC and stimulate her idea to formulate recommendations based on the findings. Even though participants in this study were exposed to mentorship programs to improve maternal and newborn quality healthcare services where IPC was one of the critical components, it was clear that the concept was not yet fully understood by some of the participants suggesting a need to train professionals working in obstetric care about the concept and usefulness of IPC practice.

The best approach would be to integrate the concept of IPC in health professions education curricula so that future health professionals would graduate ready to engage in collaborative practices. On one hand, it is logical that health education curricula cannot change whenever new findings are released. However, on the other hand, considering the importance of the matter, change can be adapted as needed. Besides, continuous professional trainings could be a best alternative for health professionals who are already in practice to continuously remind them and make them aware of the IPC concept.

Even though professionals are working in the same areas and have common goals, some groups were seeing them as better and different from others in terms on how they need to improve the collaborative practices. For instance, when asked about suggestions to improve IPC practice, nurses and midwives in this study mentioned that doctors need more IPC training. On one hand, the medical model where physician is considered as a leader in decision making could probably make non physicians professionals working

together with physicians see themselves as not having enough influence. On the other hand, social identity theory focuses on how people from the same group consider themselves as unified and expert than others and take them as different. The process of socialization in the profession makes professionals develop their identity in particular ways which shape how they behave in their professional practice (Tajfel, 2010). However, SIT proposes to learn about others as a solution to overcome such differences and to allow for effective collaboration to occur (Tajfel, 2010). Therefore, there is a need to organize interprofessional education so that professionals working in the same area of expertise should know about others and their roles to improve collaborations.

In the present study, it was revealed that non-physicians, considered medical doctors as not having collaborative spirit. Yet, the difference in perception about what collaboration means to different professionals could also be a barrier to a true collaborative practice. A qualitative study conducted in Australia to assess collaboration in delivery suites, identified that while nurses and midwives considered collaboration as working together in a supportive and friendly manner, for medical doctors, collaboration in obstetric care means a situation where nurses and midwives collect information for them to make decisions about patient care (Hastie et al., 2011).

Although the present study did not particularly assess how participants define collaboration, when considering field notes taken during interviews, it is very probable that there are different perceptions about what collaboration means. Thus, a need to plan for training to align perceptions about what collaboration means to different professionals working together in obstetric care.

Furthermore, according to intergroup contact theory, for a group to have a collaborative practice, there must be equal status within the group, common goals, intergroup cooperation, and support from institution (Pettigrew, Tropp, Wagner, & Christ, 2011). Therefore, recognizing that professionals in obstetric care, despite their diverse backgrounds and different level of trainings, share the same goal of improving patients' outcomes, is important. Thus, there is a need to break down issues of power relations and consider the unique and important contributions of different members of the team as equally important as far as the patient outcome is concerned. Also, support from authorities is important to allow supportive conditions for IPC contact to occur. For example, a simple strategy such as sharing the same tea room for staff can bring professionals to consider themselves as a unified team and allow informal contact to happen and therefore reduce prejudice (Hastie et al., 2011).

The mentorship process could also be an essential strategy to improve collaborative practice as experienced professionals work together with junior professionals and are their role models. This can also improve collaboration and allow staff to develop confidence and improve collaborative practices.

Leadership support is essential to promote IPC. Therefore, leadership should ensure that different professionals working in the same areas of expertise are aligned to avoid confusion and allow effective collaboration to occur. Also, leadership should ensure that IPC remains a priority in the health agenda. Moreover, policies and guidelines are essential in guiding practices. Consequently, leadership should ensure the availability

of policies, protocols, and guidelines to allow successful collaboration among health professionals.

## **Chapter 7**

### **7 Conclusion, implications, and directions for future research**

#### **7.1 Summary of the thesis**

The WHO (2010) recommended that countries conduct studies to identify barriers to successful collaboration in healthcare settings to strengthen the healthcare system and deliver optimum quality care. Further, there is also a need to accelerate the pace in reducing preventable maternal and neonatal mortality rates to achieve the SDG related to maternal and child health. A scoping review on IPC in obstetric care focusing on Africa identified too few studies discussing IPC in obstetric care in Africa.

It is such a small representation of the African continent as a whole, which can justify the need to conduct more research on IPC in obstetric care (Yamuragiye, Wylie, Kinsella, & Donelle, 2021). In the context of Rwanda, there has been a progressive improvement in

the reduction of maternal and neonatal mortality rates. However, there is a need to continue to work toward achievement of the SGD related to maternal and child health.

EMONC is an important component in overall maternal and child health.

Moreover, the quality of EMONC cannot be achieved without adequate collaboration between professionals dealing with emergency obstetric and neonatal care. This study explored IPC as one of the critical components to achieve high-quality EMONC. The purpose was to understand IPC experiences to identify barriers to successful collaboration and provide helpful information as evidence to improve IPC, strengthen healthcare delivery, improve patients' outcomes, and reduce maternal and neonatal mortality. The study was significant in advancing knowledge about barriers to successful collaboration in the context of obstetric care in Africa. Moreover, the study suggested interventions that could be useful to achieve successful collaboration.

Four main research questions guided this study:

- 1) What is the IPC experience of healthcare providers mentees working in maternity services in Emergency Obstetric and neonatal care (EmONC)?
- 2) What are the challenges and barriers for IPC in EmONC?
- 3) What are the experiences of participating in the TSAM mentoring program on IPC practice?
- 4) What strategies are used to promote IPC in obstetric care from the perspective of hospital managers?

Given the nature of the research questions in this study, the qualitative descriptive case study design was used. It was an appropriate approach to advance understanding about how the obstetric care team collaborates to deliver better EmONC and how the TSAM project mentorship program has helped improve IPC among professionals working in maternity services in five district hospitals in the northern province of Rwanda. Twenty-five HCPs, mentees, and five director generals of the five hospitals where mentorship was implemented were invited for one-on-one semi-structured interviews. Data were recorded and then transcribed and analyzed to identify emergent categories and themes.

In general, participants were not satisfied with their current IPC practice; they mentioned several challenges dominated by power relation issues affecting communication. Another challenge was a stressful work environment characterized by insufficient staff, lack of necessary equipment, and motivation. Therefore, participants suggested training on IPC and the availability of protocols and guidelines to guide the clinical practice. Further, participants appreciated the benefits of TSAM mentorship in improving their self-confidence and awareness of their responsibilities, which also contributed to improved working relationships among team members involved in EmONC. However, they mentioned the challenges related to limited mentorship duration and suggested an increase in the frequency and duration of mentorship training. When considering the strategies used by hospital managers to promote and sustain IPC practices, the findings revealed that hospital managers had good ideas to promote collaborative practices. For instance, they mentioned strategies such as organizing

training on IPC and encouraging nurses and midwives to speak up and stand on their knowledge. However, the strategies identified were not yet implemented, indicating no mechanism to sustain IPC in place, suggesting a need to create a more systematic way to improve IPC practice.

## **7.2 Implications**

IPC has been proven as one of the critical components in improving quality healthcare service delivery and strengthening healthcare systems. Considering advantages, which include but are not limited to improved patients' outcomes, staff satisfaction, reduced workload, reduced medication errors, improved communication, reduced mortality rate, reduced length of stay and related costs, there is an excellent need for IPC research, especially in obstetric care, where failure in effective collaboration can affect maternal and neonatal mortality and morbidity rates. However, in Rwanda's context, to the researcher's knowledge, there has not been any other research conducted to explore IPC among healthcare professionals in obstetric care. Thus, this study has multiple implications for informing policymakers, administrators, researchers, and health professionals on the current IPC barriers to drive the change and improve collaborative practice.

### **7.2.1 Implications for clinical practice**

From the perspectives of participants', it was clear that the lack of IPC affects the quality of clinical care. For instance, some participants discussed how failure in IPC caused delays in providing necessary care, which affect mothers and their babies'



outcomes. Also, participants discussed how poor communication jeopardizes the chance for the patient to receive the best quality of obstetric care. Furthermore, there is a lack of trust where some study participants felt that their input is not valued, making them lose interest in contributing to patient care. This study provides helpful information for practitioners in clinical practice on the current IPC situation, which could stimulate the willingness to improve to achieve cultural changes in the practice environment.

Conducting the present study has identified IPC challenges, making study participants aware of the gap in IPC practice in obstetric and neonatal care and improvement plan. This study will be presented to professionals in clinical practice, administrators, policy makers and the TSAM members which will raise awareness of the challenges and avenues for improvement.

### **7.2.2 Implications for health professional education**

One of the findings in this study was a challenge related to the lack of IPC components in education curricula. For instance, the findings show a lack of confidence for some team members in IPC practice, which suggests a need for health professional education to equip future professionals with skills and information about how they can engage differently in terms of standing up for their knowledge as far as collaborative practice is concerned. Furthermore, respondents in this study suggested integrating the concept of IPC into the health education curricula, which could include addressing the challenges of respect and trust, issues of communication, role clarity, and issues of power relations. Having health professional education curricula with IPC competencies could equip future healthcare professionals with IPC knowledge and skills to allow improved collaborative practice in clinical care.

Moreover, the findings from this study suggest a need to organize continuous IPE sessions to train future healthcare providers ready for collaborative practice after their studies. With IPE, participants in the study suggested that mutual respect and trust, interprofessional role clarification, and effective communication can shed light on collaborative clinical practice. Further, IPE has been proven to improve IPC, improve patient outcomes, and strengthen healthcare systems (World Health Organization, 2010a).

### **7.2.3 Implication for Policymakers**

This study identified barriers such as a lack of policies and guidelines suggesting a need to develop policies and guidelines to support collaborative practices. For instance, some participants discussed the management of postpartum hemorrhages, arguing that there could be reduced interprofessional conflicts or delays to provide the necessary care if there were protocols and algorithms to follow. Therefore, policymakers should develop policies and protocols to improve IPC practice.

Also, an issue was identified of conflicts related to overlap in scope of practice between professionals working together. Therefore, policymakers should ensure that different professionals' scope of practice are aligned to avoid confusion among professionals working in similar expertise areas. Furthermore, policymakers should ensure that IPC remains a priority health agenda.

#### **7.2.4 Implications for research**

This study's results demonstrated the way IPC is challenged. The results from this study inform the development of interventions for IPC improvement in EmONC. For instance, each hospital setting could have an IPC committee that could regularly scan the IPC environment in obstetric care and continue improvement depending on the specific results.

#### **7.2.5 Direction for future research**

This study opens up endless possibilities in IPC investigations that can inform a research program. For example, as health professional educators and researchers, in collaboration with necessary authorities, we could work on future research exploring the impact of improved collaboration through mentoring programs in EMONC on patient outcomes concerning maternal and neonatal mortality rates. Also, the long-term sustainability of IPC as a result of mentorship could be explored. Furthermore, we could extend this research across the country, or to other countries, to expand narratives on barriers to successful collaboration in obstetric care from maternity care providers' perspectives.

#### **7.3 Overall strengths and weaknesses**

The overall strengths in this study reside in the methodological approach used to conduct the study, and the richness of the data elicited through this approach. A qualitative descriptive case study was used to advance understanding of the IPC experience among professionals working in maternity services, the experiences of participating in TSAM mentorship programs in IPC practice, the strategies to promote

and sustain IPC practice from hospital managers. Hence, the qualitative method was appropriate to uncover participants' everyday life experiences by staying close to their reported or observed events and understanding complex phenomena within a specific social context.

A descriptive case study design allowed the researcher to describe the IPC experience among healthcare professionals who underwent mentorship programs by TSAM projects. The approach provided an in-depth analysis of mentees' experience about IPC, which provided helpful information to advance knowledge about IPC to strengthen Rwanda's healthcare systems. However, since all participants underwent mentorship programs, we cannot exclude the possibility of providing the desirable responses regarding how the mentorship changed their IPC practice.

To mitigate such challenges, the researcher assured participants that the information provided would be kept confidential, and there would be no negative consequences for sharing relevant information from their perspectives. The researcher also explained to participants that she was an independent researcher without a straight link to the project that provided mentorship and the hospital where participants worked.

Another weakness could be the unequal response rate from medical doctors compared to other categories of professionals. For example, without considering directors generals of the hospitals who also were medical doctors, only 6 medical doctors of 25 mentees participated in the study. The increased number of their responses would likely have offered further insights.

This study considered only mentees who were expected to have a prior understanding of IPC issues since they benefited from mentoring programs with mentors trained on IPC concepts. Therefore, investigating IPC experience from non-mentees healthcare professionals could have brought a different perspective.

Although a qualitative design was a useful approach in this study, assessing the collaborative practice using a quantitative approach could also bring valuable insight through quantifiable and numerical data. Furthermore, a comparative analysis using a mixed-method approach would be useful in providing valuable results.

This study considered healthcare professionals working in maternity services and did not involve patients. However, the World Health Organization (2010), in the framework for action on interprofessional education and collaborative practice, states that “collaborative healthcare practice happens when various professionals from diverse healthcare backgrounds provide comprehensive services by working with patients, their families, caregivers, and communities to deliver the highest quality of care across settings” (P.13). Consequently, future research could include patients’ perspectives to investigate their IPC experience and provide helpful information for improving quality obstetric and neonatal care in the Rwandan context.

Furthermore, the study considered only professionals who underwent mentorship programs in maternity services. Therefore, including perspectives from other professionals who have not been involved in mentorship programs could also be an alternative way to explore IPC practice. A study comparing mentees and non-mentees could provide other useful data in examining the IPC experience. Furthermore, a

comparative study between hospitals that received mentoring versus those that never had a mentoring program could bring further insights into mentoring program benefits.

IPC is a vast concept that could be explored in its distinct components to better understand the moment of collaboration in patient care. For example, participants in the study discussed how communication was challenged in different aspects of care. One of the examples discussed by study participants was the caesarian section which the medical doctors and midwives could schedule with a failure to inform anesthesia providers. At the same time, some pre-anesthetic visits could be requested before the procedure. The failure of communication could create conflicts and delays in providing quality patient care.

Another example in the findings was the poor understanding of some participants regarding their contribution to obstetric and neonatal care. For instance, some midwives discussed giving oxytocin to accelerate the labor and being blamed for this not being their role. The findings showed so much going on in IPC in general that could be explored in detail. Thus, investigating or assessing further domains could provide information that could improve and strengthen the healthcare system through IPC improvement. For instance, interprofessional communication, client-centered care, role clarification, team functioning, collaborative leadership, and interprofessional conflict resolution could be explored individually to identify which domain is primarily affected and to find an effective intervention to address the identified problems.

As mentioned in the introduction chapter, few distinctions are used to explain healthcare professionals' context of working together. While interprofessional collaboration refers to the dynamic process in which professionals with complementary

backgrounds and skills share the same goal to improve patient care, terms such as interdisciplinary collaboration mean the context of both professionals and nonprofessionals who are part of the healthcare team (Nancarrow et al., 2013). Thus, there is a need to expand research and include those categories of non-clinical professionals who contribute to emergency obstetric and neonatal care management, such as ambulance drivers, pharmacists, admittance clerks, and others. During data collection, essential data were identified that would not be part of the analysis, as they were outside the present study's objectives. For instance, participants mentioned system billing and difficulty collaborating with admittance clerks as delaying the provision of EmONC. Additionally, they mentioned ambulance drivers who can delay emergency cases when called from health centers or are not trained in first aid skills. Therefore, expanding the research and conducting an interdisciplinary collaboration studies could be an approach to investigating collaborative practice from a more holistic view.

The maternal death audit conducted in Rwanda from 2009 to 2013 indicated an overall facility maternal mortality rate of 69.1 per 100,000 live births (Sayinzoga et al., 2016). Accordingly, this thesis focused on obstetric care in hospital settings as maternal death is high in hospitals within Rwanda. However, the hospital plays only a small, but essential, part in the overall pregnancy. Therefore, expanding research on IPC to include community health workers, patients/clients, and health care providers to consider nine months before birth would be another approach to investigate a considerable component of obstetric and maternal and childcare, and expand the analysis of collaboration across the whole pregnancy.

As mentioned, the possibilities for a research program in IPC investigation are huge. Ethical tensions in interprofessional practice could also be explored. We realized that ethical tensions could be explored further during our data collection and perhaps be a stand-alone research topic. For instance, study participants reported the challenges they face to know which course of action to take and who is responsible for coming up with the final decision in different situations. Also, another ethical tension reported was in relation to working in emergency situation with limited resources. Furthermore, gender and IPC could also be another topic to explore in-depth. During data collection, gender was not explicitly investigated. However, it was clear that further investigation of collaboration using the gender lens could reveal significant findings from the data collected.

The findings suggested IPE as an essential aspect to promote IPC practice. Thus, as a health professional educator and researcher, this stimulated my interest in collaborating with my colleagues to see how we can initiate a research program and implement continuous professional development in IPC, which would also have an interprofessional education component to prepare our students and future health care professionals for collaborative practice. Furthermore, collaborating with health professionals' councils and the Rwanda Ministry of Health would be another approach to improving IPC practice. Further, health care professionals in the country register from different professional councils, and they require CPD credits in order for them to renew their license to practice. It is within this framework that modules could be developed to train practitioners and increase the CPD credits. Moreover, some hospital managers in



interviews suggested having experts in IPC investigations provide staff training to improve as another approach to ensure knowledge translation that continuously supports quality improvement in IPC.

#### **7.4 The unique contributions the thesis makes to the research literature**

This study was the first in the Rwandan context to identify challenges of effective collaboration in EmONC. This study's unique contributions to knowledge reside in the advancing understanding of the challenges and benefits of successful collaboration in Rwanda. Examining research into IPC in Rwanda can contribute to the body of knowledge about IPC in this part of the world to inform IPC future policy. Given that few literatures are discussing IPC in Africa, this piece will be added to other literature on Africa. Qualitative research is not generalizable; however, given that a detailed description of the context has been provided, researchers could consider this research to inform their future research in a similar context. Therefore, this study contributes to the research literature on IPC in EmONC. The findings fill a knowledge gap and contribute to scholarly work to strengthen healthcare systems through IPC improvement.

Another significant original contribution to knowledge from this study would be to advance understanding of the impact of the mentorship program to improve IPC practice. The TSAM mentorship model was unique for the Rwanda and similar context could base on the present study in relation to how the TSAM mentorship has influenced IPC practice to reach informed decision. Also, the findings contribute to the body of knowledge in response to the scarcity of literature around mentorship in limited-resource

settings. Furthermore, the findings could inform others who might wish to implement mentorship programs in similar settings.

Lastly, an extensive literature review in a scoping review format conducted to inform this study has contributed to the body of knowledge in identifying and summarizing the IPC challenges in hospital based obstetric care in distinct geographical regions, with a particular focus on Africa.

### **7.5 Conclusion**

This study explored IPC experience among professionals working in obstetric care in district hospitals in Rwanda. It aimed to explore the IPC experience among HCPs and understand how the mentoring program by the TSAM project in Rwanda has helped them improve IPC practice. The findings indicated several barriers to effective collaboration and the benefits of TSAM mentorship in improving collaboration. Also, the study provided suggestions and strategies to improve IPC practice. Thus, this study contributes to knowledge about how to improve IPC as one of the critical components of quality healthcare delivery. Furthermore, this study was the first to identify challenges to effective collaboration in obstetric care in Rwanda. Therefore, the findings fill a knowledge gap and contribute to scholarly work to strengthen healthcare systems through IPC improvement.

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## Appendices

**Appendix A: Email Script for Study Participant****Email Script for Study Participants**

Hello,

You are invited to participate in a study being carried out by conducted by Assumpta Yamuragiye a PhD candidate in Health and Rehabilitation Sciences, under the supervision of Dr. Lloy Wylie, a professor in Public Health at Western University in Canada. This study is part of the TSAM project, under the leadership of Dr. David Cechetto. This study aims to understand the experience of healthcare providers in Rwanda working in maternity services in applying an interprofessional collaboration approach for the management of obstetric and neonatal emergencies.

As healthcare professionals dealing with Emergency Obstetric and Neonatal care (EmONC), who have been involved in mentoring program by TSAM- MNCH project, we would like to know your IPC experience as a key component to deliver quality of EmONC.

If you choose to participate in the study, you will be invited to participate in focus group discussion and interviews. The aim is to provide your experience about IPC in management of obstetrics and neonatal emergencies which will provide clarity regarding IPC, the barriers to the successful implementation of IPC, as well as the knowledge translation of mentors which will reflect the effectiveness of the mentorship provided.



There is no compensation for participating in the study. However, your responses will help to address the barriers to effective collaborative practice and improve the quality of healthcare delivered to patients with obstetric and neonatal emergencies, this will help to improve the work experience.

Your responses will be kept anonymous. Any information you provide will be grouped with responses from other participants. Direct quotes may be used to illustrate specific opinions; however, these will not be attributed to any specific person or organization.

Feel free to contact me if you have any questions or comments.

Thank you in advance for your participation.

Sincerely,

Assumpta Yamuragiye, PhD (ca)

████████████████████

and

Dr. Lloy Wylie, PhD

Assistant Professor

Schulich Interfaculty Program in Public Health

Departments of Psychiatry, Pathology, Anthropology and Health Sciences

Western University

████████████████████

**Appendix B: Letter of information and consent form****LETTER OF INFORMATION AND CONSENT**

**Study Title: Exploring Interprofessional collaboration in management of obstetric and neonatal emergencies in selected district hospitals in Rwanda. Experience of healthcare providers working in maternity services**

**Name of Principal Investigator:**

Dr. Lloy Wylie, PhD, Assistant Professor, Schulich Interfaculty Program in Public Health  
Departments of Psychiatry, Pathology, Health Sciences and Anthropology, Western  
University

Assumpta Yamuragiye, PhD Candidate  
Health and Rehabilitation Sciences, Western University

**Name of Sponsor**

Training Support Access Model, Maternal, Neonatal, and Child Health (TSAM-MNCH)  
project funded by Global Affairs Canada

**Conflict of Interest**

There are no conflicts of interest.

**Number of participants:** Thirty

Interviews will be audio recorded and personal identifiers such as full name, age, email, gender will be collected from participants. However, identifiers will be removed prior to analysis, and respondents will be identified with a number.

Participating or not participating in the study will not affect neither your employment or your enrollment in mentorship program.

Participants will be required to speak in English or Local language (Kinyarwanda)

### **Aims**

This study seeks to understand the experience of healthcare providers working in maternity services in applying an interprofessional collaboration approach for the management of obstetric and neonatal emergencies.

### **Introduction**

You are being invited to participate in this research study on interprofessional collaboration among health care providers involved in management of obstetric and neonatal emergencies because you have participated in mentorship programs provided by TSAM project of MNCH in Rwanda.

Interprofessional collaboration (IPC) is a model of care in which different healthcare providers work together to achieve a better patient outcome. Emergency obstetric and neonatal care (EmONC) requires more than just skills and equipment, in order deliver better quality of care, healthcare providers must work in a collaborative approach to be effective. TSAM-MNCH project provided mentorship programs to healthcare providers working in maternity services, and in this mentorship, IPC was an extremely important

component. Mentees have had mentoring from mentors with training in IPC concepts and the mentorship program was implemented to continue improving the quality of care in maternity services and thereby contribute to the reduction of maternal morbidity and mortality in Rwanda.

### **Background/Purpose**

This study aims to gain a better understanding of the experiences of healthcare professionals mentees working in maternity services to explore the barriers and benefits in implementing the IPC in EmONC. The results from this study will provide clarity regarding IPC, the barriers to the successful implementation of IPC, as well as the knowledge translation of mentors ( Knowledge translation defined as dynamic and iterative process that includes synthesis , dissemination, exchange and ethically sound application of knowledge to improve health, provide more effective health services and products, and strengthen the health care system) which will reflect the effectiveness of the mentorship provided. This will in turn help the programs organizers as well as policy makers, administrators, and implementers including TSAM- MNCH project, Rwanda Ministry of Health and district hospitals to address the challenges with having IPC as a key component for quality healthcare service delivery.

### **Study Design**

This study will use a qualitative descriptive case study design to understand how different professionals work together in an interprofessional approach to manage obstetric emergencies. It will be determined from the perspective of health professionals working in maternity services in northern district hospitals of Rwanda who have had mentoring from mentors with training in IPC concepts by TSAM- MNCH project. Data will be obtained from semi structured interviews.

### **Procedures**

A sample of participants will be invited to participate in an interview using a semi structured Interview guide and interviews will take approximately 1 hour and will be done one on one and will be audio recorded and transcribed. Transcripts will be anonymized to ensure confidentiality of research participants. Data gathered from interviews and focus group discussions will be analyzed for the purpose of the study, using qualitative analytical tool.

### **Voluntary Participation**

Your participation in this study is voluntary. You may decide not to be in this study, or to be in the study now and then change your mind later. You may leave the study at any time. You may refuse to answer any question you do not want to answer, or not answer an interview question by saying “pass”.

### **Withdrawal from Study**

You can withdraw from this study at any time with no repercussions or explanation required. If you decide to withdraw from the study, the information that was collected before you leave the study will still be used in order to help answer the research question. No new information will be collected without your permission. If you decide to withdraw from the study, you have the right to request withdrawal of information collected from you.

### **Risks**

There are no known or anticipated risks or discomforts associated with participating in this study.

### **Benefits**

Giving care providers an opportunity to share their experience will help to address the barriers to effective collaborative practice and improve the quality of healthcare delivered to patients with obstetric and neonatal emergencies, this will help to improve their work experience.

### **Confidentiality**

Confidentiality will be protected throughout the different stages of the research, so participants will be protected from any repercussions from their comments / views. Transcripts from interviews will have identifiers removed prior to analysis, and respondents will be identified with a number. Confidentiality cannot be guaranteed for participation in focus groups. Interview transcripts will be done by Assumpta Yamuragiye, and data will be kept for seven years and then be destroyed. Data will also be transported from Rwanda to University of Western Ontario where the student researcher is undertaking her studies. Representatives of The University of Western Ontario Health Sciences Research Ethics Board may contact you or require access to your study-related records to monitor the conduct of the research. All informed consent will be kept in a locked cupboard where only research team will have access to.

### **Costs**

There are no costs for participation in this study.

### **Compensation**

Participants will not be compensated.

### **Rights as a Participant**

You do not waive any legal rights by signing the consent form.

### **Questions about the Study**

Contact Assumpta Yamuragiye at [REDACTED] or Dr. Lloy Wylie at [REDACTED], extension [REDACTED], or [REDACTED] if you have any questions or concerns that may be raised by participating in the study or questions that may be raised by being a research participant.

If you have any questions about your rights as a research participant or the conduct of this study, you may contact The Office of Research Ethics [REDACTED], email: [REDACTED]

**PARTICIPANT CONSENT**

**Study Title: Exploring Interprofessional collaboration in management of obstetric and neonatal emergencies in selected district hospitals in Rwanda. Experience of healthcare providers working in maternity services**

For the interviews:

- I agree to have my interview audio recorded.
- I have read the letter of information, have had the nature of the study explained to me and I agree to participate. All questions have been answered to my satisfaction.

---

Participant Signature

Date (yyyy/mm/dd)

---

Printed Name of the Participant signing above.

Date (yyyy/mm/dd)

---

Signature of Person Obtaining Consent

Date (yyyy/mm/dd)

---

Printed Name of Person Obtaining Consent.

Date (yyyy/mm/dd)



**Appendix C: Ethical approval Western**



# Western Research

**Date:** 10 July 2018

**To:** Dr. Lloy Wylie

**Project ID:** 111981

**Study Title:** Interprofessional collaboration in management of obstetric and neonatal emergencies in selected district hospitals in Rwanda. Experience of healthcare providers working in maternity services

**Application Type:** HSREB Initial Application

**Review Type:** Delegated

**Full Board Reporting Date:** August 7, 2018

**Date Approval Issued:** 10/Jul/2018

**REB Approval Expiry Date:** 10/Jul/2019

Dear Dr. Lloy Wylie

The Western University Health Science Research Ethics Board (HSREB) has reviewed and approved the above mentioned study as described in the WREM application form, as of the HSREB Initial Approval Date noted above. This research study is to be conducted by the investigator noted above. All other required institutional approvals must also be obtained prior to the conduct of the study.

**Documents Approved:**

Document Name	Document Type	Document Date	Document Version
Email Script for Study Participants IPC	Email Script	Received July 5, 2018	1
Info and Consent letter- IPC in obstetric and neonatal emergencies July 5 2018	Written Consent/Assent	04/Jul/2018	1
interview guide	Interview Guide		
Letter Script for Study Participants IPC	Letter Document	Received July 5, 2018	1
Research proposal IPC version 30th June	Protocol	Received July 5, 2018	

No deviations from, or changes to, the protocol or WREM application should be initiated without prior written approval of an appropriate amendment from Western HSREB, except when necessary to eliminate immediate hazard(s) to study participants or when the change(s) involves only administrative or logistical aspects of the trial.

REB members involved in the research project do not participate in the review, discussion or decision.

The Western University HSREB operates in compliance with, and is constituted in accordance with, the requirements of the TriCouncil Policy Statement: Ethical Conduct for Research Involving Humans (TCPS 2); the International Conference on Harmonisation Good Clinical Practice Consolidated Guideline (ICH GCP); Part C, Division 5 of the Food and Drug Regulations; Part 4 of the Natural Health Products Regulations; Part 3 of the Medical Devices Regulations and the provisions of the Ontario Personal Health Information Protection Act (PHIPA 2004) and its applicable regulations. The HSREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000940.

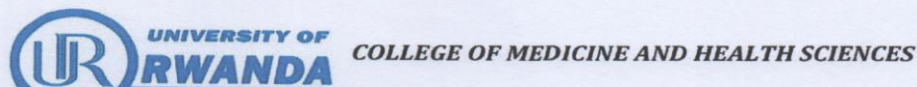
Please do not hesitate to contact us if you have any questions.

Sincerely,

Karen Gopaul, Ethics Officer on behalf of Dr. Joseph Gilbert, HSREB Chair

**Note:** This correspondence includes an electronic signature (validation and approval via an online system that is compliant with all regulations).

## Appendix D: Ethical approval IRB University of Rwanda CMHS



### CMHS INSTITUTIONAL REVIEW BOARD (IRB)

Kigali, 10<sup>th</sup> /07/2018

YAMURAGIYE Assumpta  
School of Health Sciences, CMHS, UR

#### Approval Notice: No 251 /CMHS IRB/2018

Your Project Title *"Interprofessional Collaboration In Management Of Obstetric And Neonatal Emergencies In Selected District Hospitals In Rwanda. Experience Of Healthcare Providers Working In Maternity Services."* has been evaluated by CMHS Institutional Review Board.

Name of Members	Institute	Involved in the decision		
		Yes	No ( Reason)	
			Absent	Withdrawn from the proceeding
Prof Kato J. Njunwa	UR-CMHS		X	
Prof Jean Bosco Gahutu	UR-CMHS	X		
Dr Brenda Asiimwe-Kateera	UR-CMHS	X		
Prof Ntaganira Joseph	UR-CMHS	X		
Dr Tumusiime K. David	UR-CMHS	X		
Dr Kayonga N. Egide	UR-CMHS	X		
Mr Kanyoni Maurice	UR-CMHS	X		
Prof Munyanshongore Cyprien	UR-CMHS	X		
Mrs Ruzindana Landrine	Kicukiro district		X	
Dr Gishoma Darius	UR-CMHS	X		
Dr Donatilla Mukamana	UR-CMHS	X		
Prof Kyamanywa Patrick	UR-CMHS		X	
Prof Condo Umutesi Jeannine	UR-CMHS		X	
Dr Nyirazinyoye Laetitia	UR-CMHS	X		
Dr Nkeramihigo Emmanuel	UR-CMHS		X	
Sr Maliboli Marie Josee	CHUK	X		
Dr Mudenge Charles	Centre Psycho-Social	X		

After reviewing your protocol during the IRB meeting of where quorum was met and revisions made on the advice of the CMHS IRB submitted on 6<sup>th</sup> June 2018, **Approval has been granted to your study.**



Please note that approval of the protocol and consent form is valid for **12 months**.

You are responsible for fulfilling the following requirements:

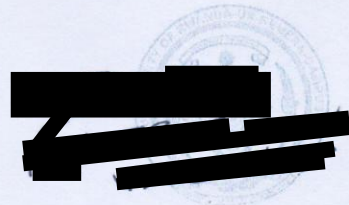
1. Changes, amendments, and addenda to the protocol or consent form must be submitted to the committee for review and approval, prior to activation of the changes.
2. Only approved consent forms are to be used in the enrolment of participants.
3. All consent forms signed by subjects should be retained on file. The IRB may conduct audits of all study records, and consent documentation may be part of such audits.
4. A continuing review application must be submitted to the IRB in a timely fashion and before expiry of this approval
5. Failure to submit a continuing review application will result in termination of the study
6. Notify the IRB committee once the study is finished

Sincerely,

Date of Approval: The 10<sup>th</sup> July 2018

Expiration date: The 10<sup>th</sup> July 2019

*Fac* Professor Kato J. NJUNWA  
Chairperson Institutional Review Board,  
College of Medicine and Health Sciences, UR



Cc:

- Principal College of Medicine and Health Sciences, UR
- University Director of Research and Postgraduate Studies, UR



**Appendix E: Letters from the administrative districts to authorize data collection**

REPUBLIC OF RWANDA



NOTHERN PROVINCE  
 GAKENKE DISTRICT  
 PO BOX 152 RUHENGERI  
 E-mail: [gakenkedistrict@minaloc.gov.rw](mailto:gakenkedistrict@minaloc.gov.rw)

Gakenke, 29/08/2018  
 N° 44/07.04.02/DHU

Assumpta YAMURAGIYE  
 UR/CMHS/School of Nursing and Midwifery /KIGALI  
 Contact: [REDACTED]  
 Email: [REDACTED]

Re : Study Approval.

Dear Assumpta,

Reference is made to your letter of 27<sup>th</sup> August 2018, requesting an authorization to carry out a study at both Ruli and Nemba district hospitals.

We are pleased to let you know that you are given a go ahead to start your study aiming at assessing interprofessional collaboration in management of obstetric and neonatal emergencies in district hospital.

Sincerely,

[REDACTED]  
 NZAMWITA Deogratias

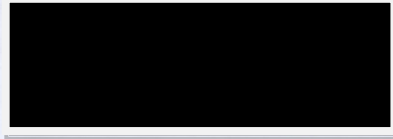
Mayor of GAKENKE District



Cc :

- Vice Mayor in charge of Social Affairs/GAKENKE
- Acting Executive Secretary of District/GAKENKE
- Director General of Nemba and Ruli hospital/GAKENKE
- Director of Health Unit/GAKENKE
- Acting Head of health center (All)/GAKENKE.

Pour accord



REPUBLIC OF RWANDA



NORTHERN PROVINCE  
RULINDO DISTRICT  
Ref:Health Unit

Rulindo 30/08/2018  
N° 585/07.0401.04

To: Mrs Assumpta YAMURAGIYE

RE: PERMISSION TO CONDUCT A STUDY

Reference made to your letter requesting a permission to conduct a study entitled "Interprofessional collaboration in management of obstetric and neonatal emergencies" in Kinyihira and Rutongo hospitals from 30<sup>th</sup> August 2018 to 15<sup>th</sup> February 2018, I would like to inform you that you are allowed to conduct the above said study.

I also take this opportunity to request you to provide a copy of a study report to the management of Rulindo district after its completion.

Sincerely,



Emmanuel KAYIRANGA

Mayor of Rulindo District

CC:

- Governor of the Northern Province
- DG of Kinyihira provincial hospital
- DG of Rutongo district hospital





NORTHERN PROVINCE

GICUMBI DISTRICT

E-mail: [gicumbidistrict@gicumbi.gov.rw](mailto:gicumbidistrict@gicumbi.gov.rw)

To the Chairperson Institutional Review Board  
College of Medicine and Health Sciences, UR

**Subject:** Your request of data Collection for student.

Dear Sir,

We are pleased to inform you that YAMURAGIYE Assumpta, a student at University of Rwanda, School of Health Sciences is permitted to carry out the research data collection for his research entitled "*Interprofessional collaboration in management of obstetric and neonatal emergencies in selected district hospitals in Rwanda. Experience of healthcare providers working in maternity services*".

  
MPAYIMANA Epimaque

Executive Secretary of Gicumbi District

Cc:

- ✓ Mayor of Gicumbi District
- ✓ YAMURAGIYE Assumpta



**Appendix F: Interview guide for mentees**

During the audio-recorded interview you are asked to refrain from disclosing information that will identify you or others. Should any identifying information be disclosed during the interview, it will not be included in the transcript

**Study title: Exploring Interprofessional collaboration for the management of obstetric and neonatal emergencies in selected district hospitals in Rwanda. Experience of healthcare providers working in maternity services**

**Questions:**

Q1: Tell me about your experience with interprofessional collaboration in management of obstetric and neonatal emergencies?

Probe: have these been Positive or negative experience and why?

Q2: In which ways IPC contributed in the management of obstetric and neonatal emergencies in your current work place?

a) Probe: What factors impact this collaboration?

b) Probe: valuing professions of others, communication, collaboration, team work, decision making

Q3: What are the benefits of IPC from your perception?

Q4: What do you perceive as barriers of IPC at your working place?

Q5: In which ways do think IPC could be improved at your working place?

Q6: How are you satisfied with IPC in your working place?

Q7: In Which way mentorship programs improved the IPC among team involved in management of obstetric and neonatal emergencies

Q8: Tell me an example of a time you had an ethical dilemma in management of obstetric emergencies

Q9: Tell me an example of a time you faced a gender issue in IPC in management of Obstetric and neonatal emergencies?

**Appendix G: Demographic questions**

Gender

Female

Male

Age in years: ..... Years:

Working place:

District hospital: .....

Service..... Unit.....

Please provide some information about yourself

Profession:

Anesthetist

Medical doctor

Nurse

Midwife

Level of education

Diploma

Bachelor's Degree

Master's Degree

Others (Specify): .....

Years of experience as a health care professional range:

Less than 1:

From 1 to 5 years:

From 5 to 10 years:

Above 10 years

In maternity units

Less than 1 year

From 1 to 5 years

From 5 to 10 years

Above 10 years

In your current unit

Less than 1 year

From 1 to 5 years

From 5 to 10 years

Above 10 years

## **Appendix H: Interview guide with DGs**

**Project title: Exploring Interprofessional collaboration for the management of obstetric and neonatal emergencies in selected district hospitals in Rwanda. Experience of healthcare providers working in maternity services**

### **Questions**

Q1: What is your perception about interprofessional collaboration (IPC) in Emergency Obstetric and neonatal care (EmONC).

- c) Probe: what are Positive elements with IPC
- d) Probe: What are Challenges with IPC at your hospital?

Q2: Tell us about strategies you use to promote interprofessional collaboration among healthcare professionals dealing with emergency obstetric and neonatal care?

- a) Probe: what is hospital administration commitment regarding IPC among healthcare professionals involved in EmONC?

Q3: How do you see the sustainability of IPC in EmONC practice at your hospital?

Q4: Do you have any other comment about IPC to share with us?

## **Appendix I: Research documents in Kinyarwanda**

### **Ibaruwa imenyeshya**

Muraho! Nitwa Yamuragiye, Assumpta ndi umunyeshuri muri univerte ya Western Ontario muri Canada ndabamagarira kugira uruhare muri ubu bushakashatsi

### **Inyito y'ubushakashatsi**

imikoraniye y'abavuzi mu kwita kubayeyi n'impinja mu gihe cyo kubyara: uko abavuzi bakora muri maternite babona imikoraniye hagati yabo

**Uhagarariye inyigo:** Assumpta Yamuragiye, Umunyeshuri muri univerte ya Western Ontario muri Canada

### **Ubutumire bwo Kwitabira Ubushakashatsi**

Kubera ko witabiriye amahugurwa, turagutumira mu kugira uruhare mu bushakashatsi bugamije kureba imikoraniye y'abaganga mu kwita ku babyeyi n'impinja bafite ibibazo byihutirwa mu gihe cyo kubyara

### **Impamvu y'Urwandiko**

Uru rwandiko rurakumenyeshya ibyo ukeneye kumenya kugirango ubashe gufata icyemezo cyo kwitabira ubu bushakashatsi ku bushake

### **Icyo ubushakashatsi bugamije**

Ubu bushakashatsi bugamije kumva imikoraniye y'abavuzi bita ku babyeyi n'impinja mu gihe cyo kuvuka kuko imikoraniye ari ingenzi mu gutanga ubuvuzi bwiza

### **Ibigomba Kuzuzwa n’Uwitabiriye ubu Bushakashatsi**

Agomba kuba yarakorewe amahugurwa n’ umushinga TSAM MNCH akaba anakorera muri materenite mu bitaro by’uturere mu ntara y’amajyaruguru

### **Ibishobara Gutuma Umuntu Atitabira ubu Bushakashatsi**

kuba uri mu kiruhuko mu gihe cy’ubushakashatsi cyangwa kuba utarahuguwe n’umushinga TSAM

### **Imigendekere y’ubushakashatsi**

Niba wemera kwitabira ubu bushakashatsi, urasabwa kuzuza urupapuro rw’umwirondoro no kugirana ikiganiro cy’iminota hagati ya 60 na 90 n’umushakashatsi. Ikiganiro kizabera ahantu uzihitiramo nko ku kazi kawe cyangwa ahandi hakubereye heza.

### **Ibyago cyangwa Ingaruka**

Nta byago cyangwa ingaruka biteganijwe bishobora guterwa no kwitabira ubu bushakashatsi

### **Inyungu Zishoboka**

Inyungu zishoboka harimo ko gutanga amakuru ku mikoranire y’abavuzi bita ku babyeyi mu gihe cyo kubyara bizagaragaza akamaro amahugurwa (mentorship) yamaze kandi bikazanatuma abafata ibyemezo bakemura ibibazo byabangamira imikoranire kugirango turusheho gutanga ubuvuzi bunoze tugabanya imfu z’ababyeyi n’abana bakivuka

### **Ibihembo**

Nta bihembo biteganyijwe muri ubu bushakashatsi

### **Kwitabira ubushakashatsi ku bushake**

Kwitabira ubu bushakashatsi bituruka ku guhitamo. Ushobora kwanga kubwitabira, kureka gusubiza bimwe mu bibazo cyangwa guhagarika gukomeza muri ubu bushakashatsi igihe icyo aricyo cyose kandi ibyo nta ngaruka byakugiraho.

### **Ibanga**

Amakuru yose azatangwa n’abazitabira ubu bushakashatsi azaguma ari ibanga kandi azaba

ashobora kubonwa n’abakora ubu bushakashatsi gusa. Nuramuka uhisemo kuva muri ubu bushakashatsi mbere y’uko inyigo y’amakuru watanze itangira, amakuru watanze azavanwa mu

yandi kandi akurwe mu bubiko bw’ubushakashatsi. Amakuru yose azava muri ubu bushakashatsi azabikwa imyaka itanu nyuma yaho ajugunywe mu buryo bwabugenewe. Mu gihe uzaba uganira n’umushakashatsi anagufata amajwi, uzirinde kuvuga amakuru yagaragaza uwo uriwe cyangwa undi muntu uwo ari we wese. Uramutse ugize amakuru utanze agaragaza uwo uri we ntabwo azashyirwa mu bizifashishwa muri ubu bushakashatsi. Abahagarariye ikigo gishinzwe ubushakashatsi muri kaminuza ya Western Ontario bashobora kugira icyo bakubaza cyangwa bareba ku makuru watanze ajyanye n’ubu bushakashatsi mu rwego rwo kugenzura imigendekere yabwo.



### **Gutangaza ibizava mu bushakashatsi**

Mu gutangaza ibizava muri ubu bushakashatsi nta zina ryawe cyangwa iry'aho ukorera

rizatangazwa. Niba ushaka kubona kopi y'iby'ingenzi bizava muri ubu bushakashatsi, utange

izina ryawe na nimero yawe ya telephone ku rupuro rutandukanye n'urwo wemereraho

kuzitabira ubushakashatsi.

### **Ku bindi bisobanuro**

Niba hari ibindi bibazo bijyanye n'ubu bushakashatsi, mwabaza uhagarariye ubushakashatsi, Mrs. Assumpta YAMURAGIYE on Tel: [REDACTED].

Ku bijyanye n'uburenganzira ku muntu ugira uruhare mu gutanga amakuru ku bushakashatsi; mushobora kubaza Profeseri Jean Bosco GAHUTU kuri telefone igendanwa [REDACTED]

[REDACTED] niwe uyobora ibijyanye no gutanga uburenganzira ku bushakashatsi muri Kaminuza y'u Rwanda, College y'ubuvuzi.

Muraka kanya mushobora kubaza ibibazo mwifuza bijyanye n'ubu bushakashatsi!

Mbere y'ibibazo bifatwa mu majwi, uzasabwa gusinya urwandiko rwo kwemera ku bushake kwitabira ubu bushakashatsi.

Uru rwandiko ni urwawe ushobora kuzakoresha mu gihe kiri imbere bibaye ngombwa.

### **Kwemera gutanga amakuru**

Nasomye amakuru ajyanye n'ubushakashatsi bugiye gukorwa bwitwa imikoranire y'abaganga batandukanye mu gufasha ababyeyi n'abana bakivuka mu gihe cyo kubyara.

Nagize igihe guhagije cyo gusobanuza kandi ibibazo nabajije byose byasubijywe.

Nemeye nta gahato kugira uruhare muri ubu bushakashatsi ntanga amakuru

Izina ry'ubazwa \_\_\_\_\_

Umukono w'ubazwa \_\_\_\_\_

Umunsi, itariki, ukwezi umwaka \_\_\_\_\_

### **Uhagarariye ubushakashatsi**

Ndemeza ko ubazwa muri ubu bushakashatsi yahawe igihe gihagije cyo kubaza amakuru kubijyanye n'ubu bushakashatsi kandi ibibazo yabajije byose byasubijywe. Ndemeza ko nta gahato kabayeho mu kwemera kugira uruhare muri ubu bushakashatsi.

Izina ry'uhagarariye ubushakashatsi \_\_\_\_\_

Umukono \_\_\_\_\_

Umunsi itariki n'umwaka \_\_\_\_\_

### **Ibibazo bijyanye Umwirondoro**

Imyaka ufite:

Twagusabaga kuzuza kuri uru rupapuro umwirondoro wawe

Igitsina:

Gabo: .....

Gore: .....

Imyaka: .....

Ibitaro ukoramo:.....

Serivice..... Unite.....

**Umwuga wawe:**

Utanga ikinya

Umuganga(Dogiteri)

Umuforomokazi

Umubyaza

Amashuri wize:

Icyiciro cya mbere cya kaminuza (Diploma)

Icyicaro cya kabiri cya kaminuza (Bachelor's Degree)

Icyiciro cya gatatu cya kaminuza (Master's Degree)

**Uburambe mu kazi nk'umuvuzi**

Less than 1 year muni y'umwaka

From 1 to 5 years: Kuva ku mwaka umwe kugera kuri itanu

From 5 to 10 years : hagati y'itanu n'icumi:

Above 10 years hejuru y'icumi

**Muri materenite**

munsi y'umwaka

hagati y'umwaka umwe n'itanu

hagati y'itanu n'icumi

hejuru y'icumi

### **Aho ukorera ubu**

munsi y'umwaka

hagati y'umwaka umwe n'itanu

hagati y'imyaka itanu n'icumi

hejuru y'imyaka icumi

**Umuyoboro w'ibazwa ku bayobozi b' ibitaro**

**Inyito y'ubushakashatsi: Imikoranire hagati y'abavuzi bita ku babyeyi n'impinja zifite ibibazo cy'ingutu.**

Q1: Ni gute mubona imikoranire hagati y'abavuzi bose barebwa no kwita ku babyeyi n'impinja bafite ibibazo by'ingutu?

- a) Ikibazo cy'inyongera: ni ibiki mubona mwashima cyangwa mubona ari byiza mu mikoranire y'abavuzi bashinzwe kubungabunga ababyeyi n'impinja
- b) Ni izihe mbogamizi zirebana n'imikoranire mubona hano mu bitaro byanyu?

Q2: Ni izihe ngamba mukoresha kugirango imikoranire hagati y'abavuzi bita ku babyeyi n'impinja zabo ibe myiza?

- a) Ikibazo cy'inyongera: Ubuyobozi bufasha gute abakozi kugira imikoranire myiza?

Q3: Ni gute se mubona imikoranire myiza yashoboka ku buryo burambye(ikaba nk'umuco mwiza uranga abakozi) hano ku bitaro byanyu?

Q4: Hari ikindi mwumva watubwira ku bijyanye n' imikoranire hagati y'abakozi barebwa no kwita ku babyeyi n'impinja mwumva tutavuzeho?

### Appendix J: Challenges, facilitators and strategies to achieve effective IPC.

Categories	Themes	Authors
Challenges:		
Interactional factors	Communication issues, Issues of respect and trust, Individual behaviors	Behruzi, Klam, Dehertog, Jimenez, & Hatem, 2017; Downe, Finlayson, & Fleming, 2010; Dimitrios Siassakos et al., 2013; Fung et al., 2017; Hastie & Fahy , 2011; Helmond et al., 2015; Hutchinson, 2017; Lee et al., 2016; Madden et al., 2011; O’Leary et al., 2012; Pecci et al., 2012; Raab, 2013; Rijnders et al., 2019; Siassakos et al., 2010;; Smith, 2015; Watkins, Nagle, Kent, &; Watson, Heatley, Gallois, Kruske, et al., 2016 ; Weller, 2014; Wieczorek et al., 2016; Wrammert et al., 2017
Systemic factors	Power Imbalances, professional identity/ professional socialization, historical development of professions, differences in philosophy of care	Ayala, Binfa, Vanderstraeten, & Bracke, 2015; Behruzi et al., 2017; Fung et al., 2017; Chau et al., 2017; Downe, Finlayson, & Fleming, 2010; Helmond et al., 2015; Hunter

Organizational factors	<p>and expectations, difference in understanding what collaboration means</p> <p>Lack of leadership support, Unfair distribution of benefits such as trainings, Heavy workload,</p> <p>Stressful environment due to lack of resources, Scope of practice,</p> <p>Poor team coordination, Lack of formal structure of shared plans,</p> <p>Limited understanding of others' role</p>	<p>&amp; Segrott, 2014; Lane, 2012; O'Leary, Sehgal, Terrell, &amp; Williams, 2012; Pecci et al., 2012; Romijn, Rijnders et al., 2019; Teunissen, Bruijne, Wagner, &amp; Groot, 2018; Rönnerhag, Severinsson, Haruna, &amp; Berggren, 2019; Dimitrios Siassakos et al., 2013; Watson et al., 2016; Weller, 2014; Wibbelink &amp; James, 2015; Wieczorek et al., 2016</p> <p>Behruzi et al., 2017; Burke, Grobman, &amp; Miller, 2013; Chau et al., 2017; Fung, Downey, Watts, &amp; Carvalho, 2017; Chipeta, Bradley, Chimwaza-Amanda, &amp; Mcauliffe, 2016; Dimitrios Siassakos et al., 2013; Ee et al., 2014; Falana et al., 2016; Falana, Afolabi, Adebayo, &amp; Ilesanmi, 2016; Fawcus et al., 2015; Hastie &amp; Fahy, 2011; Hunter &amp; Segrott, 2014; Kermode et al., 2017; Lam et al., 2018; Munro, Kornelsen, &amp; Grzybowski, 2013; Ogbonnaya, 2016; Olajide, Asuzu, &amp; Obembe, 2015; O'Leary et al., 2012;; Pecci et al., 2012; Raab, Will, Richards, &amp; O'Mara, 2013; Rijnders et al., 2019; Romijn, Teunissen, Bruijne, Wagner, &amp; Groot, 2018; Rönnerhag et al., 2019; Schölmerich et al., 2014; Wieczorek et al., 2016;</p>
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<p>Facilitators:</p> <p>Organizational culture</p>	<p>Availability of guidelines,</p> <p>Use of structured communication tools, Availability of resources including time and strong administrative support, Training,</p> <p>Operate within the scope of practice,</p> <p>Better staffing level, Orientation of new staff, Acknowledgement of interdependence and equality in power between obstetric care team members,</p> <p>Clear understanding of team members role and responsibility,</p> <p>Strong mutual respect between obstetric care team and creation of IPE committee</p>	<p>Lane, 2012; Romijn et al., 2018; Watkins et al., 2017; Weller et al., 2014; Wieczorek et al., 2016</p>



Individual behavior	Willingness to collaborate, focus on a client-centered approach	Lane, 2012; Hunter & Segrott, 2014; Mohammed et al., 2012; Watson et al., 2016; Wrammert, Sapkota, Baral, Kc, & Målqvist, 2017
Strategies: Educational strategies	Curricula, IPE, Continuous professional development trainings	Chipeta, Bradley, Chimwaza-Amanda, & Mcauliffe, 2016; Downe et al., 2010; Hastie & Fahy, 2011 Lam et al., 2018; Mohammed et al., 2012; Raab, Will, Richards, & O'Mara, 2013; Rönnerhag et al., 2019; Watkins et al., 2017; Watson, Heatley, Gallois, Kruske, et al., 2016; Wieczorek et al., 2016; Wrammert et al., 2017
Leadership support	Developing Guidelines and protocols,  Conflict management,  Orientation of new staff,	Ansari & Phillips, 2009; Behruzi, Klam, Dehertog, Jimenez, & Hatem, 2017; Downe, Finlayson, & Fleming, 2010; Dimitrios Siassakos et al., 2013; Helmond et al., 2015; Mohammed et al., 2012; Raab, 2013; Sabone et al., 2019

	Allocation of funding	
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## Curriculum Vitae

<b>Name:</b>	Assumpta Yamuragiye
<b>Post-secondary Education and Degrees:</b>	<p>The University of Western Ontario London, Ontario, Canada 2017- Present PhD candidate HPE</p> <p>The University of Rwanda Kigali, Rwanda 2015- 2017 M.H. A</p> <p>The Kigali Health Institute Kigali, Rwanda 2009-2011 BSc (Hons) Anesthesia</p> <p>The Kigali Health Institute Kigali, Rwanda 2001-2004 Advanced diploma in Anesthesia</p>
<b>Honours and Awards:</b>	<p>TSAM project Scholarship 2017- 2019 Africa Health Institute 2019</p> <p>Western Graduate Research Scholarship (WGRS) 2019-2021</p>
<b>Related Work Experience</b>	<p>Teaching Assistant the University of Western Ontario 2020-2021</p> <p>Assistant Lecturer The University of Rwanda 2017-Present</p> <p>Tutorial Assistant The University of Rwanda 2012-2016</p> <p>Clinical Instructor Kigali Health Institute 2006-2011</p>

Registered Anesthetist  
Kabgayi District hospital  
2004-2006

Clinical Nurse (Associate Nurse)  
Kabgayi District hospital  
1999-2001

### **Publications:**

1. **Yamuragiye, A.**, Wylie, L., Kinsella, E. A., & Donelle, L. (2021). A scoping review of interprofessional collaboration in hospital-based obstetric care with a particular focus on Africa. *Journal of Interprofessional Education & Practice*, 24(June), 100456. <https://doi.org/10.1016/j.xjep.2021.100456>
2. **Yamuragiye, A.**, Ntirenganya, F., Tumusiime, D., Mukangendo, M., Bisrat, D. T., & Wong, R. (2020). Improving starting time in operating rooms of a tertiary hospital in Rwanda: a quality improvement project. *Rwanda Journal of Medicine and Health Sciences*, 2(3), 289. <https://doi.org/10.4314/rjmhs.v2i3.13>
3. Mukangendo, M., Nzayirambaho, M., Hitimana, R., & **Yamuragiye, A.** (2018). Factors Contributing to Low Adherence to Community-Based Health Insurance in Rural Nyanza District, Southern Rwanda. *Journal of Environmental and Public Health*, 2018. <https://doi.org/10.1155/2018/2624591>
4. **Yamuragiye, A.**, Ibambasi, A., Mutuyimana, A., Mutuyemariya, O., & Nsereko, E. (2013). Short communication: Injury Profile in an Emergency Department at a Referral Hospital in Kigali, Rwanda. *Rwanda Journal of Health Sciences*, 2, 61–62.
5. Nsereko, E., Bavuma, C., Tuyizere, M., Ufashingabire, C., Jmv, R., & **Yamuragiye, A.** (2013). Illness Perceptions and Depression in Relation to Self-care Behaviour among Type 2 diabetes Patients in a Referral Hospital in Kigali-Rwanda. *Rwanda Journal of Health Sciences*, 2, 1–9.

### **Presentations**

1. Yamuragiye, A. (2019) Interprofessional Collaboration in Management of Obstetric and Neonatal Emergencies in Rwanda. Convention 2019 Theme:

Connect. Collaborate. Catalyze 45th biennial convention Washington DC, Poster presentation

2. Yamuragiye, A..(2019) "Quality Improvement Project to Improve" On-Time Surgical Starts" in a Referral Hospital in Kigali, Rwanda 2019, Oral presentation in 45 Biennial convention organized by sigma theta in Washington DC from 16-20 November
3. Yamuragiye, A. (2019) Exploring interprofessional collaboration in maternity services. Health and rehabilitation sciences conferences, Western Ontario, London, Canada, Poster presentation