EXPERIENCES OF ATTENDING MATERNAL HEALTH EDUCATION SESSIONS AMONG WOMEN FROM THE ISLANDS OF LAKE KIVU, RUSIZI DISTRICT, RWANDA; A QUALITATIVE RESEARCH

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ABSTRACT

Background

The maternal mortality ratio in Rwanda remains high at 245 (2017) deaths per 100,000 live births (WHO, 2019). Besides improving maternal health, women's positive experiences during ANC and childbirth can create the foundation for healthy motherhood (WHO, 2016). Maternal health education is an useful intervention to promote health care, birth preparedness and reduce the maternal mortality rate. The purpose of this study is to identify the gaps and contribute to improving maternal health education to improve maternal health and positive experiences of women during pregnancy, childbirth, and post-natal period.

Research Methodology

Qualitative phenomenological research has been conducted to investigate the experiences of maternal health education sessions among women of reproductive age (15-49 years) from the islands of Gihaya, Nkombo, and Ishywa, Rusizi-district, Rwanda. Primary data has been collected through face-to-face verbal semi-structured interviews. All interviews were audio recorded and transcribed verbatim in English. The data was analyzed by open coding, axial coding, and selected coding.

Results and findings

The experiences are multidimensional and interlinked. From the data analysis, three main themes came up, which have been used to identify the women's experiences. The first theme is: 1. My life has improved. This theme shows the personal change and narratives of the participants. The second theme: 2. happiness and joy, whereby the participants describe their feelings. The third theme: 3. expectations, needs, and improvement, whereby the participants describe their expectations, needs, and improvement toward maternal health education.

Conclusion

Based on qualitative analysis of the data collected in the research area it can be concluded that the experiences of women on the islands of Gihaya, Nkombo, and Ishywa were mainly positive. Suggesting that maternal health education sessions contributed to a positive experience in pregnancy.

DECLARATION AND APPROVAL

I, Adriana Jacoba Lena Bergman hereby declare that this is my original work, is not plagiarized, and has not been submitted to any other institution for any award.

Student's name, Signature, and Date

Adriana Jacoba Lena Bergman

12-04-2024

Supervisor approval:

This is to certify that this Dissertation: EXPERIENCES OF ATTENDING MATERNAL HEALTH EDUCATION SESSIONS AMONG WOMEN FROM THE ISLANDS OF LAKE KIVU, RUSIZI DISTRICT, RWANDA; A QUALITATIVE RESEARCH, by Adriana Jacoba Lena Bergman, has been submitted with my approval as a supervisor.

SIGNED: DR. Robinson Ogwang.

10-4-2024

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LIST OF ACRONYMS AND ABBREVIATIONS / OPERATIONAL DEFINITIONS:

ANC:	Antenatal care is a routine health control of presumed healthy pregnant women without symptoms (screening) to diagnose diseases or complicating obstetric conditions, and to provide information about lifestyle, pregnancy, and delivery.
ANC coverage:	Antenatal coverage is the percentage of women aged 15-49 with a live birth in a given time who received antenatal care
Experience:	(The process of getting) knowledge or skill from doing, seeing, or feeling things. Experiences can be positive or negative. See 'positive' and 'negative'.
Health:	State of complete physical, mental, and social well-being and not the absence of disease or infirmity
Health Education:	Includes the communication of information concerning the underlying social, economic, and environmental conditions impacting health, as well as individual risk behaviors, and use of the health care system.
Income group:	Ubudehe categories (Feb 2015) Category 1: very poor and vulnerable citizens who were homeless and unable to feed themselves without assistance. Category 2: citizens who can afford some form of rented or low-class owned accommodation, but who are not gainfully employed and can only afford to eat once or twice a day. Category 3: citizens who are gainfully employed. Including small farmers or owners of small and medium-scale enterprises. Category 4: citizens classified as chief executive officers of big businesses, employees with full-time employment with organizations, industries or companies,

government employees, owners of shops and markets, etc. In 2020 a new categorization has been introduced in Rwanda which attempts to fairly re-classify households according to their socioeconomic status

Maternal health

Education Sessions: In this study, physical maternal health education sessions in villages. Different themes such as: nutrition in pregnancy, pregnancy complications, and risks, the importance of healthcare, birth preparedness, postpartum care, and family planning are being discussed.

Maternal Health: Refers to the health of women during pregnancy, childbirth, and the postnatal period, each stage should be a positive experience

MHE: Maternal Health Education, which can be provided through media, physical classes/training lectures, courses, webinars, and workshops to the target group. In this study, maternal health education stands for physical training for pregnant women.

Maternal morbidity: Any condition that is attributed to or aggravated by pregnancy and childbirth which harms the women's well-being and/ or functioning.

Maternal mortality: Deaths due to complications during pregnancy or childbirth or within 42 days of pregnancy.

MMR: Maternal mortality rate: number of maternal deaths per 100,000 live births

Negative: Not expecting good things, bad or harmful.

Observation: The action or process of closely observing or monitoring something or someone.

Phenomenology:	A phenomenology study explores what people experienced and focuses on their experience of phenomena.
PNC:	Postnatal care, care which is given to the mother and her newborn baby immediately after the birth of the placenta and for the first 6 weeks of life.
Positive:	Full of hope and confidence, or giving cause for hope and confidence.
Positive pregnancy experience:	Maintaining physical and socio-cultural normality, maintaining a healthy pregnancy for mother and baby (including preventing and treating risks, illnesses, and death, having an effective transition to positive labor and birth, and achieving positive motherhood (including positive maternal self-esteem competence and autonomy
Socio-Demographic Factors:	Characteristics of a population such as age, gender, ethnicity, education level, income, number of children, location, marital status etc.
SDGs:	Sustainable Development Goals, also known as the 17 Global Goals, universal call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity.

CHAPTER ONE

INTRODUCTION

1.1 Background:

Rwanda is a country situated in the East African region, bordered to the North by Uganda, to the East by Tanzania, to the South by Burundi, and to the West by the Democratic Republic of Congo. Rwanda's total area is Km2 26,338, with a population density estimated to be 445 people per km^2. The total population in 2019 was 12.3 million (gov't Rwanda, 2021).

Lake Kivu is one of the African Great Lakes and is situated between Rwanda and Congo. The area has one of the highest population densities and population growth rates in the African Great Lakes region. The lake basin has an approximate population of 2 million people. The population density around the lake is extremely high (350 people/km2) in Rwanda. The population growth rate is higher in Rwanda (3.5% per year) than in DRC (2.5 %). The majority of the population lacks clean water and has poor sanitation. Incidences of water-related illnesses such as cholera, are on the rise, especially on the DRC side and the HIV prevalence in the Kivu region (Western province of Rwanda) is higher than national averages in both riparian countries (Miriti, 2018).

Figure 1: Map of Rwanda with research area marked (Nationsonline, 2022)

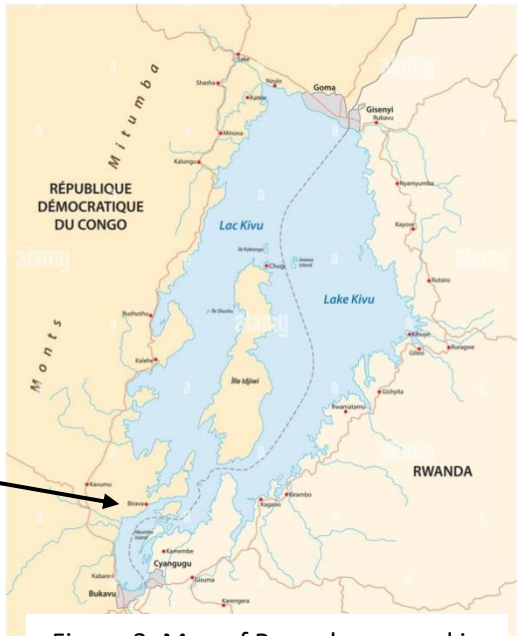

Figure 2: Map of Rwanda zoomed in arrow pointed to the research area (Nationsonline, 2022)

Approximately, 810 women die every day from preventable causes related to pregnancy and childbirth (WHO, 2019). Between 2000 and 2017 the maternal mortality ratio went down by 38% worldwide. Of all maternal deaths 94% occur in low and lower middle- income countries. Sub-Saharan Africa alone accounted for approximately two-thirds of maternal deaths (WHO, 2019). Since 2010, Rwanda has seen a 55 % decline in the maternal mortality ratio, an enormous success. Even though this drop, the maternal mortality ratio remains high at 245 (2017) deaths per 100,000 live births (WHO, 2019). This requires a significant level of effort if the Sustainable Development Goal on maternal deaths has to be achieved. Even with a high (91%) skilled birth attendance, the coverage of completed 4 antenatal care (ANC) visits remains low at 44% (UNFPA, 2019). While the current goal of 8 ANC visits uptake is even lower.

Globally antenatal care is advocated as the cornerstone for improving maternal health (Ngxongo, 2018). Besides improving maternal health, women's positive experiences during ANC and childbirth can create the foundation for healthy motherhood (WHO, 2016).

There are different risk factors that can cause poor ANC utilization in Rwanda such as: having an age of 31 and above, being a single woman, and being a woman with poor social support (Rurangirwa et al, 2017). Rwandese women who attended adequate (4) ANC visits reported a higher quality of life than women who didn't receive adequate ANC (Hatimana Regis et al; 2018).

Reducing obstacles for women to attend maternal health care is one of the critical components of improving maternal health. In Rwanda, there are different barriers to attending maternal health care, such as geographical and socio-economic dynamics in women's families and communities (Tuyisenge et al; 2018).

There are different strategies to improve maternal health care in Rwanda. Group ANC and group postnatal care (PNC) provide advantages to women and families. Increased knowledge, peer support, and more satisfying relationships with their providers are reported (Musabyimana et al, 2019). Besides that is Health education known as a useful strategy to reduce maternal mortality (Moreira, 2019). A study conducted in

South Sudan claimed that health education on birth preparedness improved skilled birth attendance, but not early post-natal care (Izudi, et al 2019) Another study done in India showed that health education can help women in their health awareness, and thus reporting of their health outcomes related to pregnancy and post-delivery health problems may be increased (Patra and Singh, 2013).

In Rwanda, health education is mostly done by health workers. Each village in Rwanda has a community health worker (CHW) a person known as a mobilizer for maternal health who is responsible for community-based interventions during and after childbirth, they provide health education (Bucagu, 2016) mostly one by one. Another place where to receive health education is during ANC. What we know is that the uptake of ANC is low in Rwanda and therefore, also the receiving of health education during ANC. In some places of Rwanda, community outreaches are organized by local health facilities and churches, to bring the information to the pregnant women and educate them from the village itself. This is in order to promote health and health facilities, improve knowledge on pregnancy, birth, and postnatal risks, promote family planning and nutrition, and improve maternal and neonatal health.

A positive pregnancy experience is defined as keeping physical and socio-cultural normality, keeping a healthy pregnancy for mother and child (including preventing and treating dangers, sickness and death, having an effective passage to positive labor and birth, and achieving positive motherhood (including positive maternal self-esteem competence and autonomy) (*Downe et al, 2016)*.

One of the places where the health facility and the church are conducting community outreaches to provide health education is in the Western province of Rwanda at the islands of Lake Kivu. The islands (Gihaya, Nkombo, and Ishywa) on this lake are rural. As in many places in the world, in Rwanda, the maternal mortality and morbidity rate in rural places is higher than in urban places (National Institute of Statistics of Rwanda [NISR] 2018). A reason to focus on rural areas is to improve maternal health.

The purpose of this study is to identify the gaps and contribute to improving health education to improve maternal health and positive experiences of women during pregnancy, childbirth and post-natal period.

1.2 Problem statement:

In Rwanda, despite the decline of 55% from 2000-2015, the maternal mortality rate is still high with 247 deaths per 100,000 live births (2017). The uptake of at least 4 ANC visits is low at 44 % (UNFPA, 2019). Maternal health education is a useful intervention to promote health care, birth preparedness and reduce the maternal mortality rate (Moreira, 2019).

Pregnant women who are hard to reach the Islands of Lake Kivu (Rwandan side) have their own language and cultural behaviors (Miriti, 2018). In the past years (2019-2022), maternal health education was provided to these pregnant women.

But what is their experience with this health education? Positive and negative experiences on attending maternal health education sessions can identify how maternal health education can be given most effectively. The negative and positive experiences can identify women's interest in maternal health education and find out how health education can be improved and more applicable to women. When maternal health education is more applicable, a higher impact of maternal health education is expected which can lead to a reduction of maternal mortality and morbidity but also lead to a more positive experience during pregnancy, childbirth, and the postnatal period. If the personal experience of maternal health education of women is known, then it is known what is going well and which aspects are targeted well in maternal health education.

From the literature, we know that health education has a positive impact on maternal health outcomes in rural areas (Moreira, 2019). What we don't know is what women's experiences are in health education. What is their opinion of maternal health education (MHE)? What is the experience of MHE in their personal lives? Which education is found useful or needless? Does MHE during pregnancy contribute to a positive experience in pregnancy, childbirth, and postnatal period? Gaps in literature, gaps that must be answered to provide useful health education to improve maternal health and positive experiences of women during pregnancy, childbirth, and post-natal period.

There is a gap in the literature about experiences of maternal health education in rural places. This shows us the academic need for research in this area. Gaps can reduce the effectiveness of maternal health education and therefore can make maternal health education useless. This research aims to explore the gaps in attending maternal health education sessions.

To make women interested in MHE and benefit from the positive outcomes of MHE it is important to connect to women's needs. Insight of women's perceptions of what they find important during MHE is necessary.

These topics and questions have never been attended before; the literature available is insignificant about the experiences of MHE sessions among women on the islands of Gihaya, Nkombo, and Ishywa, Rusizi district, Rwanda. In remote areas, MHE can be one of the key solutions for improving maternal health. The information this research provides cannot be missed. It provides the most valuable information to improve MHE and therefore maternal health outcomes such as maternal morbidity, -mortality, neonatal morbidity, and -mortality.

1.3 Objectives:

The main objective is to explore the experiences of attending maternal health education sessions among women on the islands of Gihaya, Nkombo, and Ishywa, Rusizi district, Rwanda.

1.4 Specific objectives:

1. To identify the positive and negative experiences of maternal health education provided in the last 6 months among women of reproductive age (15- 49 years) on the islands of Gihaya, Nkombo, and Ishywa.
2. To assess personal narratives about maternal health education provided in the last 6 months from women of reproductive age (15- 49 years) on the islands of Gihaya, Nkombo, and Ishywa.
3. To assess the challenges or gaps in attending maternal health education among women of reproductive age (15- 49 years) on the islands of Gihaya, Nkombo, and Ishywa.
4. To gain insight into perceptions of critical and essential items of maternal health education sessions among women of reproductive age (15- 49 years) from the islands of Gihaya, Nkombo, and Ishywa

1.5 Research questions:

1. 'What are the experiences of attending maternal health education sessions the last 6 months among women of reproductive age (15- 49 years) from Gihaya, Nkombo, and Ishywa Island, Rusizi district, Rwanda?'
2. What are the personal narratives about the experience of maternal health education of women from the islands Gihaya, Nkombo, and Ishywa, Rusizi district, Rwanda?'
3. 'What are the challenges in attending maternal health education among women of reproductive age (15- 49 years) from Gihaya, Nkombo, and Ishywa Island, Rusizi district, Rwanda?'
4. 'What are perceptions of critical and essential items of maternal health education sessions among women of reproductive age (15- 49 years) from Gihaya, Nkombo and Ishywa Island, Rusizi district, Rwanda'.

1.6 Scope

The study focuses on the experiences of women of reproductive age (15-49 years) who received maternal health education sessions in the past 6 months on the islands of Gihaya, Nkombo, and Ishywa. The study doesn't explore any other experiences of (past) pregnancies and information given to mothers at any other time. The reason for this boundary is to not mix up different experiences and take those experiences into the results of the experiences of attending the maternal health education sessions.

1.7 Justification and significance

We know that maternal health education is an effective strategy to improve maternal health. We also know that increased knowledge in pregnancy leads to increased use of maternal health services (Moreira, 2019). Professional response to women's needs and information during pregnancy leads to positive experiences (Nillson et al 2013). There is an information gap in the literature on what women experience when attending maternal health education sessions. This research must be done because it creates vital information on how to improve maternal health education. Effective maternal health education is an important part of improving maternal health. Never before has research been done about the experiences of maternal health education sessions among women on the islands of Lake Kivu, Rwanda.

1.8 Theoretical framework

Cambridge Dictionary (2022) defines 'experience' as something that happens to you that affects how you feel. Brightspot describes experiences as activities + interactions + mental state = experience.

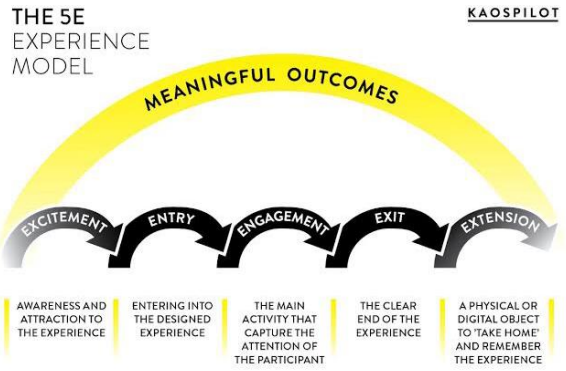

Figure 3: the 5E experience model, (Conifer, 2022).

An experience is a combination of the activities someone is engaged in, their interaction with the information, environment, objects, and other people, and their mental state (Brightspot, 2013). Different theories

describe experiences. The 5E framework describes the phases of an experience as entice, enter, engage, exit, and extend. It creates an experience map and is a model used for how experiences are made (Conifer, 2022).

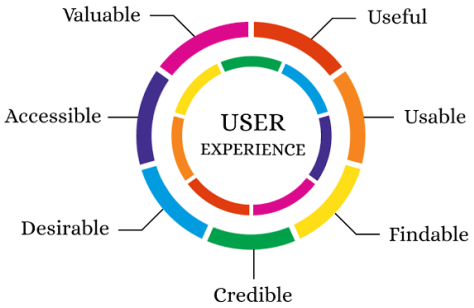

Figure 4: 7 factors of user's experience (Morville, 2004).

The AEIOU framework is often used for ethnographic observational research where the activities, environment, interactions, objects, and users are described. Its two primary functions are to code data and to develop building blocks of models that ultimately address the objectives and issues of a client (Robinson, 1991).

In this study, research is done about the experiences of attending maternal health education sessions among women from Gihaya, Nkombo, and Ishywa Island, Rusizi district, Rwanda. Theories such as the 5E framework and the AEIOU framework can help describe the experiences of women in the study. To understand the experiences of the women in the study we must know the factors which are influencing experiences. According to Peter Morville, there are 7 factors that influence user experience. The seven factors are: useful, usable, findable, credible, desirable, accessible, and valuable (Morville, 2004). The theory of the 7 factors is useful in this research. Are the maternal health education sessions useful? Are they usable, findable, credible, desirable, accessible, and valuable? If yes, this contributes to a positive experience, if no, this contributes to a negative experience.

Deng describes the influencing factors of an experience slightly differently by saying that experience is mainly determined by the user's perceptions of its usefulness (Deng et al, 2015).

A positive pregnancy experience is described by Downe as keeping physical and socio-cultural normality, keeping a healthy pregnancy for mother and baby (including preventing and treating dangers, sicknesses, and death, having an effective shift to positive labor and birth and achieving positive motherhood (including positive maternal self-esteem competence and autonomy) (*Downe et al, 2016)*.

Research has shown that socio-demographic factors such as the number of children, economic status, age, social status, education level, and area of residence influence maternal health and knowledge in pregnancy (Wulandari and Laksono, 2020). Combining these theories, the following theories are important in this study and should be included. The theory of Brightspot is about the interaction with the activity, the other people and their mental state, the seven influencing factors of Morville, socio-demographic factors, and the overall experience of pregnancy.

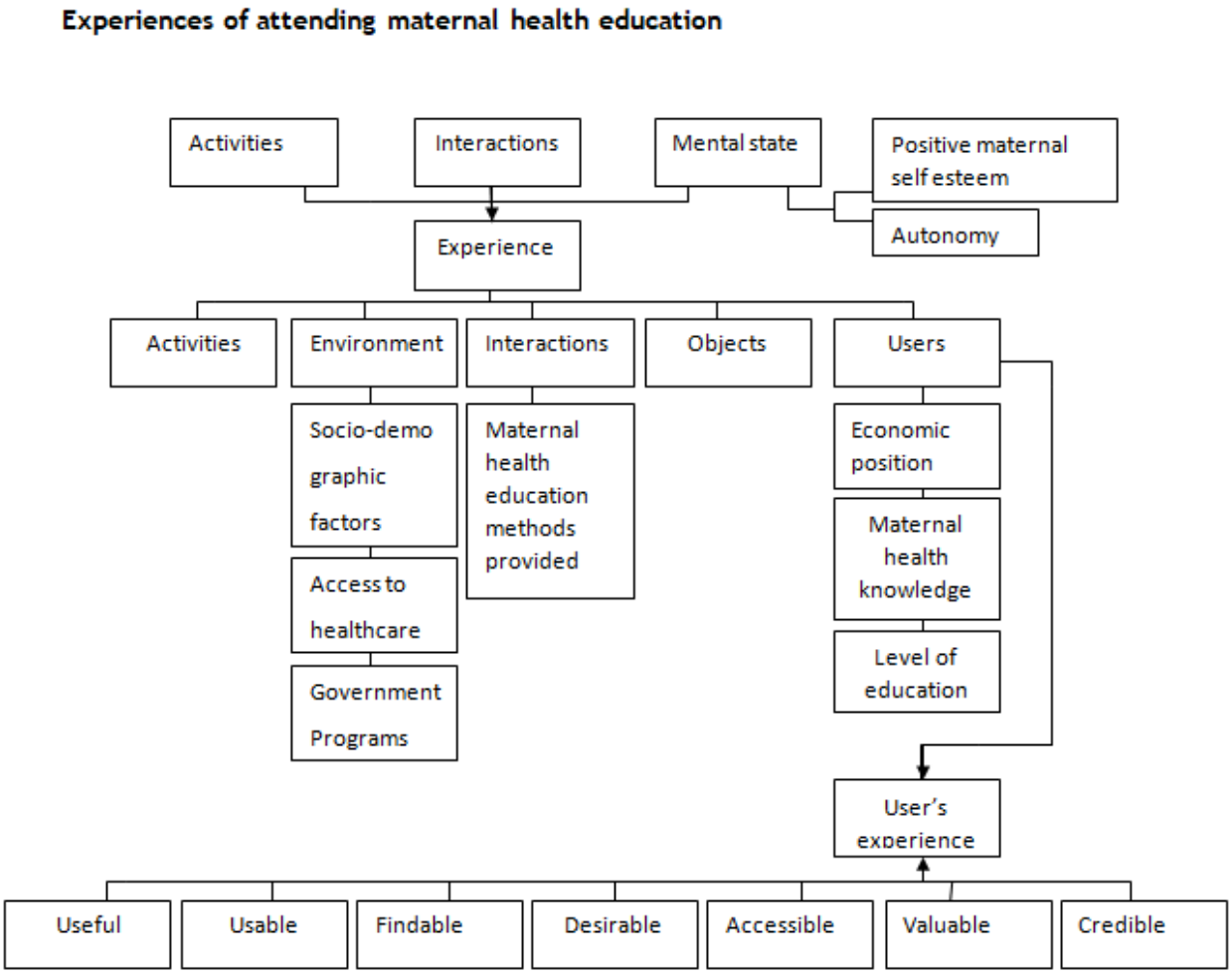

Figure 5: Theoretical Framework

This figure shows the relationships and connections between different theories to describe experiences (Morville, 2004), (Brightspot, 2013), (Robinson, 1991), (Downe et al, 2016) and (Wulandari and Laksono, 2020). An experience is built on activities, interactions, and the mental state. Positive maternal self-esteem and autonomy contribute to a healthy mental state. Activities, the environment, interactions, objects, and users also make an experience. The user's experience is positive if the user finds the experience useful, usable, findable, desirable, accessible, valuable, and credible.

CHAPTER TWO:
LITERATURE REVIEW

2.1 Introduction

The research question in this study is 'What are the experiences of attending maternal health education sessions among women from Gihaya, Nkombo, and Ishywa island, Rusizi district, Rwanda'? A literature review has been done on maternal health in Rwanda, maternal health education, and experiences during pregnancy, childbirth, and the postpartum period. First of all the term maternal health needs to be explained especially the maternal health in Rwanda. What is the situation, how are they progressing and what are the challenges in maternal health in Rwanda? In this study, maternal health education is a keyword and, therefore a necessary subject for literature review. How is maternal health education provided? What are the outcomes of maternal health? This study focuses on maternal health education with community-based group sessions. Besides improved physical maternal health outcomes, the WHO describes the importance of a positive pregnancy experience in their recommendations on antenatal care for a positive pregnancy experience (WHO, 2016). What are the factors of experiences during pregnancy, childbirth, and postnatal period? A literature review has been done on experiences during pregnancy, childbirth, and the postnatal period.

2.2 Maternal Health

Maternal health refers to the health of women during pregnancy, childbirth, and the postnatal period, each stage should be a positive experience, ensuring women and their babies reach their full potential or health and well-being (WHO, 2017)

Approximately, 810 women die every day from preventable causes related to pregnancy and childbirth (WHO, 2019). Between 2000 and 2017 the maternal mortality ratio went down by 38% worldwide. Of all maternal deaths 94% occur in low and lower middle- income countries. Sub-Saharan Africa alone accounted for approximately two-thirds of maternal deaths (WHO, 2019). Since 2010, Rwanda has seen a 55 % decline in the maternal mortality ratio – an enormous success. Even though this drop, the maternal mortality ratio remains high at 245 (2017) deaths per 100,000 live births (WHO, 2019) and requires a significant level of effort, if the

Sustainable Development Goal on maternal deaths of 70 per 100,000 live births in 2030 has to be achieved. Even with a high (91%) skilled birth attendance, the coverage of completed 4 antenatal care (ANC) visits remains low at 44% (UNFPA, 2019). While the current goal of 8 ANC visits uptake is even lower

Globally antenatal care is advocated as the cornerstone for improving maternal health (Ngxongo, 2018). Besides improving maternal health, women's positive experiences during ANC and childbirth can create the foundation for healthy motherhood (WHO, 2016). Motherhood is the state or time being a mother (Cambridge Dictionary, 2022). Safe motherhood means ensuring all women receive the care they need to be safe and healthy throughout pregnancy and childbirth. Motherhood should be a fume of expectation and joy for women, their family and the community (Bardan, 2020). Unsafe motherhood consists of maternal mortality or morbidity due to preventable pregnancy and childbirth complications.

Maternal death can have direct and indirect causes. Direct causes of maternal death occur mostly as an effect of a problem of the pregnancy, delivery, or mismanagement of either of these. Indirect maternal mortality is a pregnancy-related death in a person who has already a health issue that was not related to the pregnancy. Post-partum hemorrhage, infections, abortions, eclampsia, and delayed labor are the main reasons for maternal death. Indirect causes of maternal death are malaria, anemia, HIV/ AIDS, and cardiovascular sickness.

Socio-economic factors such as age, access to resources, and income are important indicators of maternal death. Basic care and family support maternal health. Social disservice and social exclusion are influencing maternal well-being negatively. The absence of skilled medical care during labor, transportation issues, the number of births in history, and the absence of antenatal care add all to maternal mortality (Mugenzi et al, 2022).

A study done in 2018 describes the trends in maternal health in Rwanda using the 2014-'15 Demographic and Health Survey (DHS) Rwanda (Assaf et al, 2018). This study analyzed DHS data for 15 key trends or signs of maternal health: six related to antenatal care, three related to delivery, one related to postnatal care, and five related to barriers to accessing medical care. Three background characteristics:

women's education level, wealth index, and region were also analyzed. The study shows that there is a significant distinct in women's education, wealth index, and region on different maternal health indicators. There are significantly increased inequalities by wealth for being told about the signs of pregnancy complications. Accessing medical care when sick, getting money for treatment, and distance to a health facility, were significantly less frequently reported in 2014-'15 than in 2010. The two key barriers: getting permission to go, and not wanting to go alone, did not change. The evidence suggests that wealth disparities are widening (Assaf et al, 2018). This study shows the importance of this study as the research area is in an underprivileged region with women with low education status and -wealth. The background characteristics and key barriers studied are used in the study as they explain the reason for the different outcomes.

2.3 Maternal Health Education:

Health education is known as a useful strategy to reduce maternal mortality (Moreira, 2019). In 2014, the Maternal Health Task Force consulted 26 global maternal health researchers to identify, constant and critical knowledge gaps to be filled, to reduce maternal morbidity and mortality and improve maternal health. The researchers pointed out the need for research on health systems to find out models that prevent the main causes of maternal death and sustain quality and coverage over time (Kendall and Langer, 2015). In this research, personal maternal health knowledge gaps are studied to improve maternal health and reduce maternal morbidity and mortality.

Health education can be provided in different ways. A qualitative study done in Tanzania explored the maternal health information-seeking behaviors of women of reproductive age. The study showed that women receive most of their health information from non-professionals including traditional birth attendant community health workers, and family members (Kassim, 2021). A descriptive cross-sectional survey also done in Tanzania assessed the health information literacy skills of women of childbearing age in rural Lake zone, Tanzania. The study found that most rural women in the study area have low levels of health information literacy. The causal relationships between health information literacy and women's socio-demographic factors indicated a positive statistically significant effect ($p<.01$) of women's level of

education, income, ownership of means of communication, and access to health facilities on their level of health information literacy (Kassim and Ndumbaro, 2021).

A recent cross-sectional study done in 2022 aimed to determine the relationship between health literacy and empowerment during pregnancy. Maternal health literacy refers to the ability of mothers to access understand, appraise, and apply information on mother and child health care during pregnancy, at childbirth, and in the postpartum period. In the study, there was a significant direct correlation between overall health literacy ($r = 0.26$; $p < 0.001$) and access ($r = 0.18$; $p = 0.001$), understanding ($r = 0.11$; $p = 0.038$), evaluation ($r = 0.18$; $p = 0.001$), and decision-making ($r = 0.33$; $p < 0.001$) with empowerment during pregnancy. Based on the multivariate linear regression model, empowerment during pregnancy improved with increasing health literacy ($B = 0.16$, 95% CI = 0.09 to 0.23; $p < 0.001$). This shows that there is a direct link between health literacy and its dimensions of empowerment during pregnancy (Tavananezhad et al, 2022).

One of the methods of maternal health education is community-based health literacy. A study conducted in South- Sudan claimed that health education on birth preparedness improved skilled birth attendance, but not early post-natal care (Izudi et al 2019). A study done in Kenya confirms these outcomes. It evaluated the effects of community-based women's health education groups on facility-based deliveries and other maternal, newborn, and child health (MNCH). A cluster randomized controlled trial showed that participation was associated with significantly improved MNCH outcomes compared with the standard of care. (Maldonado et al, 2020). A study done in India claims that health education can help women in their health awareness and thus reporting of their health outcomes related to pregnancy and post-delivery health problems may be increased (Patra and Singh, 2013). Another study conducted in India evaluated the impact of the integrated microfinance and health literacy (IMFHL) program on the knowledge of maternal danger signs in marginalized women from one of India's most populated and poorer states - Uttar Pradesh. A microfinance-based women-only self-help group (SHG) members receiving health literacy were 27% more likely to know all danger signs as compared with SHG members only (Ahmad et al, 2021). This means that health literacy contributes to increased knowledge. This knowledge can lead to improved maternal health.

Information about danger signs in pregnancy is often one of the topics of maternal health education. But what are the determinants of knowledge of pregnancy danger signs? Research done in Indonesia studies the determinants of knowledge of pregnancy danger signs. The sample size of this study was 85832 women of childbearing age (15-49 years old). The results showed that urban women were 1.124 times more likely to understand pregnancy dangers than rural women. The more educated the woman, the higher the knowledge of the pregnancy danger signs. Women with six or more children were 0.815 times more likely to understand the danger signs than primiparous. Media exposure also has a positive effect on women's understanding of pregnancy danger signs (Wulandari and Laksono, 2020). The determinants, education, age, number of children, place of residence, etc. are therefore also included in this study.

The aim of health education during antenatal care is to provide advice, education, reassurance, and support, address and treat minor problems of pregnancy, and provide effective screening during pregnancy. A review done by A Al Ateeq and A Al-Russaiess (2015) showed that after exploring current practices the need for more organized educational activities are needed to ensure high quality and client satisfaction.

Recent research done in Rwanda (Kpienbaareh, 2022) examined the association between women's knowledge and the utilization of maternal health services. Results showed that women with no knowledge were less likely to utilize ANC services within the first trimester (odds ratio [OR] = 0.76 $p< 0.01$), achieve the WHO recommended minimum of 8 ANC visits [OR] = 0.66, $p< 0.01$) and deliver at a health facility (OR = 0.77, $p < 0.10$). The recommendation was to restructure existing maternal health care programs to include rigorous maternal health education. This study shows the need to research the experiences of attending maternal health education sessions among women from the islands of Lake Kivu, Rusizi district, Rwanda to improve the knowledge of Rwandese women and the utilization of maternal health services which will improve maternal health in general.

Besides face-to-face group maternal health education, digital patient education is an upcoming strategy to improve maternal health information literacy. A systematic review has been done on the role of digital patient education in maternal health.

Thirty-eight out of fifty-five studies (69%) showed significant client outcomes, with increased knowledge (83.3%), emotional benefits (73.7%), and behavioral changes (60.6%) as the main benefits. Video produced the highest rate of positive patient outcomes compared to texts with images and SMS (Schnitman et al, 2020). Different studies confirm the effectiveness of videos in maternal health education. A study done in rural communities in Eastern Uganda evaluated the practicability of using videos made by local community groups in local languages. This is a channel for increasing knowledge practices and the use of maternal and child health messages among women. It showed that the videos are effective in improving knowledge, attitudes, practices, and use of maternal and child health messages among rural semi-illiterate communities (Mutamba, WaIshywa, and Namutamba, 2020). A study done in Indonesia showed the effect of health education using video and brochures on maternal health literacy. The study found an increase in average maternal health literacy provided with video media compared to maternal health literacy given with standard treatment. This suggests that health education intervention using video has a higher impact on the development of maternal health literacy compared with using a brochure (Prawesti, Haryanti, and Lusmilasari, 2018). Besides videos, other digital methods have been studied. Qualitative research done in Uganda studied the access to mobile phones and people's interest in receiving audio-based maternal health lessons delivered via a toll-free telephone line. 98% Of the women showed interest in receiving these health lessons, and all (100%) of the men. This provides a new potential method in maternal health education and is there for reducing maternal morbidity and mortality (Roberts et all, 2015).

2.4 Experiences during pregnancy, childbirth, and postnatal period

Experiences are the knowledge or skills from doing seeing or feeling things (Cambridge Dictionary, 2022)

Phenomenological research is a qualitative research approach that helps in describing the lived experiences of an individual (Harappa, 2022).

To understand the experiences of the women in the study we must know the influencing factors on experiences. According to Peter Morville, 7 factors influence user experience. The seven factors are: useful, usable, findable, credible, desirable, accessible, and valuable (Morville, 2004). Are the maternal health education sessions useful? Are they usable, findable, credible, desirable, accessible, and valuable? If yes, this contributes to a positive experience, if no, this contributes to a negative experience.

A positive pregnancy experience is defined as keeping physical and socio-cultural normality, keeping a healthy pregnancy for mother and baby (including preventing and treating dangers, sickness and death, having an effective passage to positive labor and birth, and achieving positive motherhood (including positive maternal self-esteem competence and autonomy) (*Downe et al, 2016)*.

Happiness is a positive experience. Research done by Jallo et al (2021), studied the bio-behavioral correlates of pregnant African- American women. The study's purpose was to examine potential relationships of both positive (happiness) and negative (stress, anxiety, and depressive symptoms) emotions and pro-inflammatory cytokines. Findings in this study suggested that pregnant African-American women may experience higher stress and depressive symptoms than women in more heterogeneous backgrounds. Research suggests that positive emotions may have a beneficial impact on the stress process and pregnancy outcomes (Jallo et al, 2021). Do women of the islands of Rwanda also experience stress and depressive symptoms, and what is the effect on maternal health education?

A qualitative study done in Pakistan, explored women’s experiences of health care during pregnancy and childbirth to understand factors contributing to prenatal deaths in Pakistan (Ahmed et al, 2020). In this research three interrelated themes came up, poor access to care during pregnancy and birth, unavailability of appropriate health services, and poor quality of care during pregnancy and birth. The study explores the experiences of mothers attending maternal health education sessions from places

where there is poor access to care. These themes can guide us to learn more about these experiences.

Birth preparedness is often one of the topics of maternal health education. Birth preparedness and complication readiness education is a successful strategy to reduce maternal fear of childbirth (Spice et al, 2009). Antenatal care in developing countries is often inadequate and not specific to prepare primigravid women for childbirth and they experience high levels of childbirth fear during the late pregnancy period (Spice et al, 2009). High levels of fear cause negative experiences during pregnancy. Childbirth fear among women who are expecting their first child originates from personal, family, ineffective traditional counseling, and inadequate antenatal childbirth instructions (Berlington, Munkhondya, Honghong, 2020). A study from Kenya agrees with these results and describes the contributing factors to prenatal fear of childbirth. In the cross-sectional analytical study, 254 pregnant women and their spouses participated. Approximately half of the pregnant women and almost half of their spouses reported a high fear of childbirth. Other results revealed a significant relationship between fear of childbirth among pregnant women and variables such as level of education ($p = 0.022$), parity ($p < 0.001$), previous mode of childbirth ($p < 0.001$), going for a routine prenatal check-up ($p < 0.001$), and having a positive feeling about the expected delivery ($p < 0.001$) (Onchonga, 2021). Across cross-sectional study done in Tanzania aimed also to assess the prevalence of fear of childbirth (FoB) but also depressive symptoms (DS) among pregnant women and determine predictors of each and both, focusing on socio-demographic and obstetric predictors. The study showed that prevalence rates of FoB and DS among pregnant women were 15.1% and 17.7%, respectively. Not having a formal education, having only primary education, being aged above 30 years, being single, being nulliparous, having experienced obstetric complications, and having a lack of social support from a male partner during previous pregnancy and childbirth were predictors of FoB and DS during pregnancy. (Massae et al, 2021). Comparing the study of Onchonga (2021) and the study of Massae, et al (2021) the reported prevalence of fear of childbirth in pregnancy in Kenya is reported much higher compared then reported in Tanzania, whereby Onchonga (2021) describes a prevalence of 58.6% and Massae et al (2021) reported a prevalence of 15.1%. Determinants and predictors of prenatal fear of

childbirth such as education level, parity, and previous mode of delivery were reported in both studies.

Birth preparedness and complication readiness education is a successful strategy to reduce maternal fear of childbirth (Spice et al, 2009). Within this research information about the experiences of maternal health education can provide specific information. Are feelings of fear also recognized in Rwanda? How can maternal health education reduce fears and negative experiences during pregnancy?

The study of Massae et al (2021) describes the lack of social support from a male partner during pregnancy as a predictor of prenatal fear of childbirth and depressive symptoms. A study conducted in the USA confirms the importance of partner support during pregnancy. The research studied the associations of antenatal partner support with psychological variables, smoking behavior, and pregnancy outcomes in two socio-economically distinct pre-birth cohorts. The study showed that there are higher levels of antenatal anxiety, depression, and smoking among pregnant women who report low partner support (Cheng et al, 2016). Male involvement is therefore an important factor in improving the experiences of women during pregnancy, childbirth, and the postpartum period.

Qualitative research to evaluate influencing factors of positive birth experiences has been done with 14 Swedish women. Results showed that to feel confident about first childbirth, women wanted to be confirmed and seen as a unique individual by professionals and their partners. If professionals responded to the individual women's needs of support the women more often had a positive birth experience (Nillson, et al 2013). This study explores the individual needs of maternal health education, which can give mothers a positive experience during pregnancy, childbirth, and postnatal.

Research conducted in Pakistan studied pregnant women's and healthcare providers' views on the role of patient-provider communication in experiences of antenatal anxiety within a low-resource setting. The study shows that patients reported feelings of anxiety stemming from a belief that they received lower quality information from antenatal providers at public hospitals than patients received from antenatal providers at private hospitals. An experience that they partially described to their

low socio-economic status. Communication between pregnant women and antenatal providers that is warm normalizes patient fears and integrates patients' interpersonal and financial considerations can mitigate pregnant women's experiences of anxiety and reduce barriers to accessing antenatal care in Pakistan's public healthcare facilities (Kazi et al, 2021). This means that communication with health providers is a determinant of a positive experience during pregnancy.

2.5 Summary

Maternal health has improved in the last few years in Rwanda. Even though it has improved the maternal mortality rate remains high at 245 (2017) deaths per 100,000 live births (WHO, 2019). Research shows that wealth disparities are widening (Assaf et al, 2018). Health education is known as a useful strategy to reduce maternal mortality (Moreira, 2019). The importance of maternal health education in rural areas is shown in several studies but research shows the need for more organized educational activities to ensure high quality and client satisfaction. This means that there is a gap in organized educational activities. A study recommends restructuring existing maternal health care programs and including rigorous maternal health education. To follow this recommendation it is important to know what the personal experiences of women about maternal health education provided on the islands of Lake Kivu, Rwanda are. This information can create evidence to improve existing maternal health education programs or help by creating these programs. Research has shown different contributing factors to negative experiences during pregnancy, labor, and postpartum period such as childbirth fear and depression (Berlington, Munkhondya, Honghong, 2020), (Spice et al, 2009) and (Massae et al, 2021). Maternal health education seems to be preventive for such negative experiences but there is insignificant literature if maternal health education on the islands of Lake Kivu, Rwanda contributes to a positive experience, or if women experience any negative experiences during maternal health education. This research can provide specific information about feelings, and positive and negative experiences of maternal health education provided.

CHAPTER THREE:

RESEARCH METHODOLOGY

3.1 RESEARCH DESIGN

Qualitative phenomenological research was conducted to investigate the experiences of maternal health education sessions of women of reproductive age (15- 49 years) from the islands of Gihaya, Nkombo, and Ishywa, Rusizi district, Rwanda. This method was chosen to receive in-depth information and answers about the experiences of the participants.

3.2 Area of study

The study was conducted on the islands of Gihaya, Nkombo, and Ishywa, Rusizi district, Rwanda. The total population of Rwanda is 13.28 million (2021), whereby 52% are female and about 2.6 million (19.6%) people are women of reproductive age (between 15 and 49 years old). Gihaya Island has an approximated population of 1230 (2021), Nkombo Island 20.000 (2019), and Ishywa Island 2600 (2018) inhabitants. This makes the approximated total population of the three islands: 23.830. If 19.6% of this population is female in reproductive age (15-49 years) we have an approximated study population of 4670 women in reproductive age on the three islands. Rwanda follows a universal health care model which provides health insurance through the mutuelles de santé, it is a community-based health insurance scheme whereby all women have access to primary care such as ANC, assisted deliveries, and PNC. Health services are provided through the public sector and government-assisted health facilities (GAHF)'s (Ngamjije, 2020). Respondents were accessed in the community by community health workers.

3.3 Source of information:

The source of information used in this research was primary data, collected through face-to-face verbal semi-structured interviews from the field.

3.4 Population and sampling techniques:

The total population of women of reproductive age (15-49 years) on the islands was estimated at 4670 women. The target population in this research was about 250 pregnant women from 15 to 49 years old, with experiences in maternal health education living on the islands of Gihaya, Nkombo, and Ishywa, Rusizi district, Rwanda.

The non-probability sampling method 'purposive sampling' has been chosen to obtain rich information. A sample size of 15 women who followed at least 2 maternal health education sessions was selected from the existing most up-to-date attendance lists of the maternal health education sessions.

Women who attended at least 2 training sessions have been chosen for them to have enough experience and not a one-time experience which could have been a coincidence. The goal of the sample size was the attainment of theoretical and data saturation, which has been reached.

3.4 Procedure for data collection:

Data collection has been found place from the 19th of March 2022 to the 26th of March 2022 on the islands of Gihaya and Ishywa. Data collection from the women of Nkombo Island has been done from Kamembe, Rusizi district, Rwanda. After selecting the sample, 15 participants were asked by local community health workers to join the research. All of them were willing to participate. The participants were asked by local community health workers what their preference of venue for the interview was. The women of Gihaya Island (5) chose the local Anglican Church on the island. The women of Nkombo(6) island chose the Anglican cathedral, Cyangugu diocese at Kamembe. The women of Ishywa Island (4) chose the local nursery on the island as a venue for the interviews. Before the interviews, an explanation about the research was individually given to the participants and informed consent papers were signed (appendix f). The interviewer asked questions in English, and the experienced translator translated the questions into Kinyarwanda and the local dialect to the participant. The participant answered in Kinyarwanda and local dialect and the translator translated this into English to the interviewer. Chosen for this approach is because the local language on the islands is only a spoken and not a written language.

The interviews have been recorded. In total 15 semi-structured interviews have found place. The average length of the interviews was 16 minutes and 45 seconds, with a range from 12:23 to 22:23.

3.5 Data collection instruments:

A topic list (Appendix C) was used as a data collection instrument to guide the interviews. The topic list was made with the guidance of the theoretical framework (figure 5). Whereby the following topics fitted as 'users' information: age, number of children, economic status, work position, marital status, education level. The topic 'engagement in maternal health education' fitted in 'interactions and activities. Negative and positive experiences were guided by the 'user experience' of Morville (2004) (figure 4). The topics 'challenges in maternal health education' and 'involvement of husband' fitted at 'environment' and 'autonomy'. The topic 'feelings about maternal health education fitted as 'mental state'. The topic list was tested on a test- interview with the translator. During this interview, two extra topics were added. These topics are 'feelings about maternal health education sessions and 'involvement of husbands'.

3.6 Quality and error control:

Several methods have been applied to guarantee the quality of this research and reduce possible errors. During qualitative research information bias is a risk. In this study the risk of recall bias was reduced by the inclusion criteria set, to only select participants with an experience not more than 6 months ago. The researcher had no conflict of interest and worked with an independent translator which reduces the risks of interviewer bias. The topic list has been pre-tested to reduce biased questions such as leading questions, misunderstood questions, and unanswerable questions. To reduce report bias, the interviews have been audio recorded and transcribed verbatim. Data analysis has found a place independently by the researcher and controller colleague student to triangulate and improve the quality of the research.

3.7 Data processing and analysis:

All interviews were audio recorded and transcribed verbatim in English. The Grounded Theory of Glaser & Strauss (1967) is an inductive methodology that provides systematic guidelines for gathering, synthesizing, analyzing, and conceptualizing data for theory construction and is used in this research for data analysis. The researcher and controller open-coded, axial coded, and selected coded the interviews and field notes independently in Microsoft Word. After discussion, they agreed on themes to group key data. To structure the codes, labels, and themes code trees have been made (Appendix E). The codes were descriptions or labels of specific ideas identified as the transcript was read.

3.8 Ethical Considerations:

Ethical approval has been obtained from the research ethics board of the Uganda Christian University (REC). The study has been approved through an expedited review held on 7/3/2022 (Appendix A). Access to the community of the research area in Rwanda has been granted by the local leader of the area (Appendix B). Before conducting the interviews, information letters have been given to the participants and oral and written consent has been obtained before conducting the interviews. Participants have been assured of voluntary participation, confidentially, anonymity, and freedom to withdraw from the study at any time.

Data, audio recordings, verbatim interviews, and analyzing drafts are saved online for 10 years. The names and backgrounds of the participants are known by the researcher through the informed consent forms. In the research paper, each participant got a number instead of their names, to keep the participant's names and background anonymous and their information confidential. The researcher has no conflict of interest.

3.9 Methodological constraints:

The study has several methodological constraints. One of its limitations was the use of a translator whereby the researcher didn’t receive firsthand information from the participants but from the translator. This limitation has been reduced, by using an

experienced translator who speaks the local dialect, Kinyarwanda, and English fluently. The research was a time-consuming process whereby the data collection at the islands was influenced by external factors such as weather conditions and transport issues.

CHAPTER FOUR:

STUDY RESULTS

4.1 Characteristics of Study Participants

Table 1: Characteristics of participants

	Age	Marital status	Educational level	Income group	No of children *	Gestational age	ANC visit	Training visits
1	23	Single	S3	2	G1P0	7 months	2	2
2	22	Married	P4	1	G2P1A1	3 months	1	3
3	35	Married	None	2	G8P7A5	7 months	?	3
4	33	Single	S2	2	G1P1A1	Not pregn	3	3
5	35	Married	S1	1	G6P3A3	Not pregn	4	2
6	31	Married	P6	3	G6P4A4	8 months	3	3
7	29	Married	P5	3	G3P1A1	2.5 months	0	3
8	35	Married	P3	1	G5P4A4	4 months	1	6
9	25	Married	P5	2	G3P2A2	4 months	1	3
10	35	Married	P3	2	G5P3A3	3 months	0	2
11	19	Married	P5	2	G1P0	8 months	3	2
12	26	Married	P2	2	G3P2A2	7 months	2	3
13	22	Married	P3	2	G2P1A1	7 months	3	2
14	30	Married	None	2	G5P4A2	8 months	2	2
15	23	Married	P1	2	G3P2A2	6 months	2	2

**G which stands for Gravid (the number of pregnancies), P stands for Pareous (the number of times given birth), A stands for alive (the number of children alive).*

As shown in Table 1, 15 women of reproductive age participated in the study. Of these participants, 13 were married and 2 were single. All of the women had received at least 2 maternal health education sessions. Five (5) women came from the island of Gihaya, 4 from Ishywa Island, and 6 from Nkombo Island (table 1). When the women were asked about the source of maternal health information they received, almost all women gave the maternal health education sessions as their main and first source. Other sources were the health facility, antenatal care, radio, community health workers, and community meetings. Informal sources of information such as family and friends were mentioned 4 times. 2 women said explicitly that they don't receive maternal health information at antenatal care visits.

"I just get information at the training, even at the clinic they didn't tell me anything." (11)

Different topics of maternal health information at the maternal health education sessions were described by the women. Family planning, nutrition, and breastfeeding were the most discussed topics. Other topics were personal hygiene, newborn care, pregnancy complications, birth preparedness, and postnatal information.

"The good thing I learned is about breastfeeding, and when to give extra feeding to the child, and how I can take care of the child at least up to two years." (8)

The experiences in maternal health education sessions among women from the islands of Lake Kivu, Rwanda are multidimensional and interlinked. From the data analysis, three main themes came up which are explaining the experiences of the women. The first theme is: My life has improved (1), the second one: happiness and joy (2), and the third one: expectations, needs, and improvement (3)

4.2 My life has improved

In this theme, the experiences of the women are described. Overall women experienced the maternal health education sessions as positive. Ten of the women described personal narratives through experiences at home. Their life improved after

joining the maternal health education sessions. They got to know the information they didn't know before they started to understand their bodies and compared life with the information they received. Some women reported that they started to understand the importance of visiting a health facility while pregnant. The maternal health education sessions brought a change to their life.

"*The training helps me to understand how the body can change*" (3)

"*So, my first training it was my first pregnancy, so I was taught about how to prepare for birth, so when I felt the pains, I realized, I compared it with the lessons from the training, oh this must be contractions and I started to prepare my mind for birth. Then also the post-natal training, immediately after birth training, how I should breastfeed, and care for the baby, this helped me. Because I was new in motherhood.*" (9)

Six (6) women described that they were encouraged to visit a health facility. They experienced getting knowledge as positive. Meeting and interacting with fellow mothers was another positive experience for some women. Three women explained that they got to know how to maintain personal hygiene. They found a place to ask questions about the pregnancy and received helpful advice. Compared to other sources of maternal health information they described the information from the maternal health education sessions as deep information. A woman described that through the sessions she was removed from the rejection from the community.

"*Maternal health education has removed us from the rejection of the community, because when we're trained, the trainers see us how we are, they take their time. For me, after getting the knowledge of the situation where I was in, I was also helped by getting access to the hospital.*" (5)

In this research negative experiences are expressed mostly in problems and challenges or specific negative experiences. When asked about negative experiences during maternal health education sessions most women described that they didn't find any problems or challenges.

"I have not realized any problems, I like the program and I like to attend, I have no challenge" (8)

Most women didn't have negative experiences, although four women remarked that they didn't like it that they were informed of the sessions late, the trainers delayed, or that the training was off-topic. Others described that the training is few. A woman described that she experienced people shouting during the training sessions as negative. One woman described that there are negative stories from the community about the training sessions; this is seen as a challenge. Another challenge a woman described was that she was stopped from going to the training by her husband.

"One of my challenges is that I am stopped by my husband If he doesn't know what I am going to do." (4)

Two women experienced the training sessions as positive but didn't experience any change yet in their personal lives. They explained that they found the training useful but were still looking for ways to implement the information in their personal lives. Poverty was one of the mentioned reasons for not implementing the information.

4.3 Happiness and Joy

The second theme is about the feelings, participants experienced due to the training sessions. The participants didn't describe any negative feelings towards the maternal health education sessions. The participants only described positive feelings about the maternal health education sessions. The most described feelings were happiness and joy. Women felt happy to get a chance to receive knowledge. The knowledge received during the maternal health education sessions gave the women positive feelings. Besides knowledge, a chance to ask questions about pregnancy, birth, and the postnatal period also resulted in positive feelings.

"I didn't know about some of the things, and I was supposed to go and ask someone about it but now I got a place where I can get information. I feel lucky." (7)

Women on the islands live in some kind of isolation, the training sessions get them out of this isolation Three participants described that one of the reasons for their feelings of happiness and joy was to be with other mothers during the sessions, they felt happy to share their experiences.

"When I am called for the training, I always feel joy, I feel happy. Because I am fellowshipping with other pregnant mothers, we can share our lives. When we are on the island, we're in a kind of isolation of just our home, because everyone is busy looking for what to eat, but when we meet together we feel happy." (10)

Another reason for positive feelings was preparedness. Through the knowledge acquired, women could prepare themselves for their pregnancy, their birth, and the postnatal period. This made women feel competent and happy. Through the maternal health education sessions some women noticed that they felt happy because they had a chance to change. They got the knowledge and got to know their unknown harmful behaviors. By knowing these behaviors they got a chance to change them and improve their own and their children's health. This made them happy.

4.4 Expectations, needs and improvements

In this theme expectations, needs, and improvements are described. When the women were asked about expectations from maternal health education most women gave examples from which topics they would like to know more about. A list of different topics came up (table 2). The most mentioned topics the women wanted information about were breastfeeding, birth preparedness, pregnancy complications, and behaviors during pregnancy. Other topics mentioned were: how to care for the baby, the relationship between environment and pregnancy, family planning, development of the (un) born baby, complementary feeding, postnatal period, pregnancy symptoms, and hygiene and preconception advice.

"I am eager to know how I should take care of my baby, and how I can behave during the pregnancy. Because I have no idea about it." (1)

"For me, I am expecting to learn how to prepare for birth, how to space my children, and this period of six months of breastfeeding, how do you breastfeed exclusively." (6)

The topic needs to be trained about	Times mentioned in interviews
Breastfeeding	8
Pregnancy complications	5
Birth preparedness	5
Behavior during pregnancy	4
Complementary feeding	3
Postnatal period	3
Development of (un)born baby	2
Family planning	2
Pregnancy symptoms	2
How to care for a baby	1
Relationship between environment and pregnancy	1
Hygiene	1
Preconception advice	1

Table 2: Topics needs to be trained about

The participants explained that they expected to receive knowledge at the maternal health education sessions. Most women came up with examples of what they wanted to know but some women would be fine with whatever the trainers taught them during the maternal health education sessions.

A few women described that they would find it helpful if the training continued after pregnancy. A training session in the postnatal period after 6 months of birth as a follow-up.

"In maternal health education, they should include training after birth for around 6 months to protect early feeding of the child. Also, how they can get breast milk because that is a common problem on the island? But also, feeding for the mum, they need to understand how it can affect the unborn child." (12)

Eight women described the involvement of husbands as an important improvement of the maternal health education sessions. For most women, their husbands must understand how they need to treat their wives during pregnancy. Some participants

highlighted that the involvement of the husband in a training session about family planning was important.

"Even the husband should be trained, especially in family planning, also about the pregnancy" (4)

"*It would be better if the husbands are also involved because they need to understand how to treat the pregnant mum."* (14)

Another improvement mentioned by the participants was the frequency of the maternal health education sessions. Five (5) participants said that they would like to see increased frequency of the sessions. One (1) participant was specific and said that she wanted the training sessions to be twice a month. Participants reported that clear communication about the day and time of the training sessions is important. An improvement mentioned was to always communicate clearly about the day and time of the maternal health education sessions. Two (2) participants described the improvement of reaching more women. Because of the positive experiences, they wished that more people could be reached and benefit from the sessions.

CHAPTER FIVE:

DISCUSSION OF FINDINGS

5.1 Discussion

This study explored the experiences of attending maternal health education sessions among women on the islands Gihaya, Nkombo, and Ishywa, Rusizi district, Rwanda. Three different themes came up, ‘my life has improved’, ‘happiness and joy’, and ‘needs and improvements’.

Variables such as socio-demographic factors, economic factors, maternal health knowledge, and maternal health education methods have been described as characteristics of the participants. These factors were described in the theoretical framework (figure 5) as users' information, environment, interactions and activities. The participants came mainly from a low-income group, from a remote- and underprivileged area. Maternal health knowledge was mostly obtained through maternal health education group sessions and community health workers. These results do not fit with the theory of (Kassim, 2020) whereby women obtained their maternal health information literacy merely from non-professional and informal sources, including community health workers, traditional birth attendants, and family members. Remarkable is that some participants explicitly said that they didn’t receive any maternal health education at antenatal visits. This result builds on the existing evidence of Spice et al (2009) who describe that antenatal care in developing countries is often inadequate and not specific to prepare primigravida women for childbirth (Spice et al, 2009). The health facility available in the area is a Government Assisted Health Facility (GAHF) whereby women receive their antenatal visits, and deliver and receive postnatal care. Although some women mentioned antenatal care as a source of information, some women didn’t experience this, and this leaves improvements in government health programs.

In this research maternal health education is provided through non-digital methods. Research has shown that digital methods of maternal health literacy has positive outcomes on maternal health knowledge, attitudes, practices and use of maternal and child health messages among rural semi- illiterate communities (Mutamba,

Walshywa and Namutamba, 2020) (Schnitman et al, 2020) and (Prawesti, Haryanti, Lusmilasari, 2018). Digital methods and social media of maternal health education have not been mentioned by the participants. This suggests that social media and digital methods are not widely used on the islands. It doesn't mean that this cannot be a useful strategy in maternal health education on the islands Gihaya, Nkombo, and Ishywa, more research is needed on this area.

1. The objective to identify positive and negative perceptions of maternal health education has been reached. Insight has been gained on the positive and negative experiences of attending maternal health education sessions. Several factors of the seven factors of experience of Morville (2004) described in the theoretical framework (figure 5) have been described by the participants. The participants described the sessions as useful, credible, accessible, and valuable. This contributed to a positive experience. Maternal health education sessions caused feelings of happiness and joy during the pregnancy to the participants. Research supports the notion that positive emotions in pregnancy may have a beneficial impact on the stress process and maternal outcomes (Jallo et al, 2021). The participants in the study had several contributing factors to develop the negative experience of childbirth fear in pregnancy and depressive feelings (Massae et al,2021)(Onchonga, 2021). Most of the participants had only primary education or no formal education at all, had few antenatal visits, some of them being single, and some being nulliparous. Although these risk factors none of the participants described the negative experience of child birth fear or depressive feelings. This result might suggest that the maternal health information literacy the women of Gihaya, Nkombo and Ishywa received, created empowerment, access, understanding and decision making during pregnancy which is in line with the theory of (Tavananezhad et al, 2022). These characteristics might have prevented them from child birth fear and depressive feelings during their pregnancy. Overall the experiences of attending maternal health education sessions were positive. Negative experiences of attending the maternal health education session were practical issues, such as starting late or not being informed.
2. The objective to assess personal narratives from mothers about maternal health education sessions have been studied. Almost all the participants described

personal change. They felt that their life had improved through knowledge, and access to healthcare and started to understand their bodies. These results are corresponding with the results of Tavananezhad (2022). Whereby she describes that there is a direct link between health literacy and its dimensions with empowerment during pregnancy (Tavananezhad et al, 2022). This statement also supported the theoretical framework (figure 5), whereby positive maternal self-esteem and autonomy contribute to a positive experience during the pregnancy.

3. The objective of assessing challenges in attending maternal health education sessions on the islands of Lake Kivu has been researched. The study shows that the challenges experienced by the participants were minimal. One of the participants described her challenge of being stopped by her husband to attend the maternal health education sessions. This key barrier of 'getting permission to go' is also described in the study of Assaf (2018). The study of Massae et al (2021) describes the lack of social support from male partners during pregnancy as a predictor of prenatal fear of childbirth and depressive symptoms. Another study shows that there are higher levels of antenatal anxiety, depression, and smoking among pregnant women who report low partner support (Cheng et al, 2016).

4. The objective to gain insight into perceptions of critical and essential items of maternal health education sessions has been studied. Most of the participants would see it as an improvement if husbands could be involved in the maternal health education sessions. This is in line with existing literature which describes that male involvement is an important factor of improving the experiences of women during pregnancy, childbirth, and the postpartum period (Cheng et al, 2016). The participants would like to see a higher frequency of the maternal health education sessions and would like to see a follow-up training within 6 months after birth. Other needs of the participants were expressed in topics which they wanted to be trained about. This research contributes to literature and practice of maternal health literacy. The data of this study contributes a clearer understanding of the importance of maternal health literacy and the needs of maternal health literacy among pregnant women in rural areas with a

low socio-economic status. The results of this study should be taken into consideration how to improve the experiences during pregnancy.

CHAPTER SIX:
CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

As maternal health education is known as a useful strategy to improve maternal health and reduce maternal mortality, it is unknown what the experiences of women on maternal health education are. This research aimed to explore the experiences of attending maternal health education sessions among women of reproductive age (15- 49 years) on the islands Gihaya, Nkombo, and Ishywa, Rusizi district, Rwanda.

Through interviews in depth information has been obtained. Therefore the methodology in this research has been effective in answering the research question.

The study has generated new knowledge about experiences on maternal health education and has thereby filled the gap of literature about this particular topic.

1. The research has given specific knowledge about positive and negative experiences. Based on qualitative analysis of interviews held in the research area it can be concluded that the experiences of women on the islands of Gihaya, Nkombo, and Ishywa were mainly positive. Suggesting that maternal health education sessions contributed to a positive experience in pregnancy.
2. Through personal narratives, results show that the participants experienced improvements in their lives. The training sessions caused them joy and happiness.
3. The research has given information about challenges and gaps in maternal health education. The participants shared their expectations, needs, and ideas for improvements. The main expectations and needs were training about the postnatal period after them giving birth, the inclusion of partners into maternal health education and higher frequency of trainings.
4. Insight is gained in perceptions on what mothers find important during maternal health education. Topics that the participants wanted to be trained about were: breastfeeding, birth preparedness, pregnancy complications, and behaviors during pregnancy.

The study has contributed to new information about the practice of maternal health education as it is guiding practitioners in the needs and expectations of pregnant women on maternal health education.

There are several limitations in this study. Although data saturation was obtained, the generalizability of the results is limited due to a small sample size in a specific location. The reliability of the study might have been impacted by language barriers, whereby the researcher was not speaking the local languages and used a translator who was in between the researcher and the participant. During the interviews two topics were added to the topic list, which limited the measure in data collection. The researcher is originating from the Netherlands, Europe and the participants from Rwanda, Africa. The researcher is aware of possible cultural bias whereby the researcher and the participants were originating from different cultures and countries. Whereby from both sides possible prejudices where present. The qualitative approach of this research makes it that this research is not statistically representative.

6.2 Recommendations:

This study suggests that maternal health education contributes to a positive experience in pregnancy. Positive experiences in pregnancy can create the foundation for healthy motherhood. Therefore, it is recommended to enroll in organized maternal health educational activities in rural areas to ensure a positive experience in pregnancy and improve the health of mothers.

1. Based on the conclusions, health education practitioners in Rusizi district, Rwanda should consider including the topics of breastfeeding, birth preparedness, pregnancy complications, and behaviors during pregnancy in their maternal health education.
2. The study shows the personal narratives and positive changes about maternal health education of mothers, this is calling for further research to establish statistical significance about the impact of maternal health education and ways to perfect maternal health literacy in pregnancy as a strategy to improve maternal health and experiences in pregnancy.

3. This research, only studied the maternal health literacy method, community maternal health education. Future studies should also take other methods of maternal health literacy into account.

This study has confirmed the importance of maternal health education, discussed in previous research (Izudi Jonathan, et al 2019) (Tavananezhad et al, 2022), (Maldonado et al, 2020). The study has provided new evidence of the effects of maternal health education on a positive experience in pregnancy as described in the 'Recommendations on antenatal care for a positive pregnancy experience' (WHO, 2016).

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Appendices:

a. REC approval

UGANDA CHRISTIAN UNIVERSITY

A Centre of Excellence in the Heart of Africa

07/03/2022

To: Adriana Bergman

Uganda
Christian
University0773
688331

Type: Initial Review

Re: UCUREC-2021-244:Experiences of attending maternal health education sessions among women fromthe islands of lake Kivu, Rusizi district, Rwanda , ,

I am pleased to inform you that the Uganda Christian University REC, through expedited review held on

07/03/2022 approved the above referenced study.

Approval of the research is for the period of **07/03/2022** to **07/03/2023.**

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

1. All co-investigators must be kept informed of the status of the research.
2. Changes, amendments, and addenda to the protocol or the consent form must be submitted to the REC for re-review and approval **prior**to the activation of the changes.

3. Reports of unanticipated problems involving risks to participants or any new information which couldchange the risk benefit: ratio must be submitted to the REC.

4. Only approved consent forms are to be used in the enrollment of participants. All consent forms signed byparticipants and/or witnesses should be retained on file. The REC may conduct audits of all study records,and consent documentation may be part of such audits.

5. Continuing review application must be submitted to the REC **eight weeks** prior to the expiration date of**07/03/2023** in order to continue the study beyond the approved period. Failure to submit a continuingreview application in a timely fashion may result in suspension or termination of the study.

6. The REC application number assigned to the research should be cited in any correspondence with the RECof record.

7. You are required to register the research protocol with the Uganda National Council for Science andTechnology (UNCST) for final clearance to undertake the study in Uganda.

The following is the list of all documents approved in this application by Uganda Christian University REC:

No.	Document Title	Language	Version Number	Version Date
1	Data collection tools	English	2/22	2022-02-01
2	Informed Consent forms	English	1/22	2022-01-

Yours Sincerely

Peter WaIshywa

For: Uganda Christian University REC

b. Community approval

EGLISE ANGLICAN DU RWANDA
(ANGLICAN CHURCH OF RWANDA)
DIOCESE OF CYANGUGU
P.O Box 52, Cyangugu - Rwanda
Tel: 0786459106 E-mail: earcyangugu@gmail.com
Website:www.eardiocesecyangugu.org

Date: 01/03/2022

TO: Jacoline Bergman
Email: jacolineb@hotmail.com
Tel: +25677368831

RE: **PERMISSION TO CONDUCT RESEARCH IN OUR LOCAL CHURCH COMMUNITIES**

We take this opportunity to first greet you in the name of Jesus Christ Our Lord and Saviour.

In reference to you letter dated 20/02/2022 requesting for permission to conduct research and access Gihaya Parish, Nkombo Parish, Bugumira Parish and Ishywa Parish communities all located in Nkombo and Gihundwe Sectors on Lake Kivu Islands in the process of conducting your research regarding you Master's degree studies in Public Health Leadership at Uganda Christian University,

We would like to inform you that your request was positively considered. You will be required to work with the local pastors who will introduce you to the local community leaders and to the community members.

We wish you all the best as you conduct your research.

Yours faithfully,

ANGLICAN CHURCH OF RWANDA * CYANGUGU DIOCESE *

Rt. Rev. KAREMERA Francis

Bishop-Anglican Church of Rwanda

Cyangugu Diocese

c. Topic list

UGANDA CHRISTIAN UNIVERSITY

A Centre of Excellence in the Heart of Africa

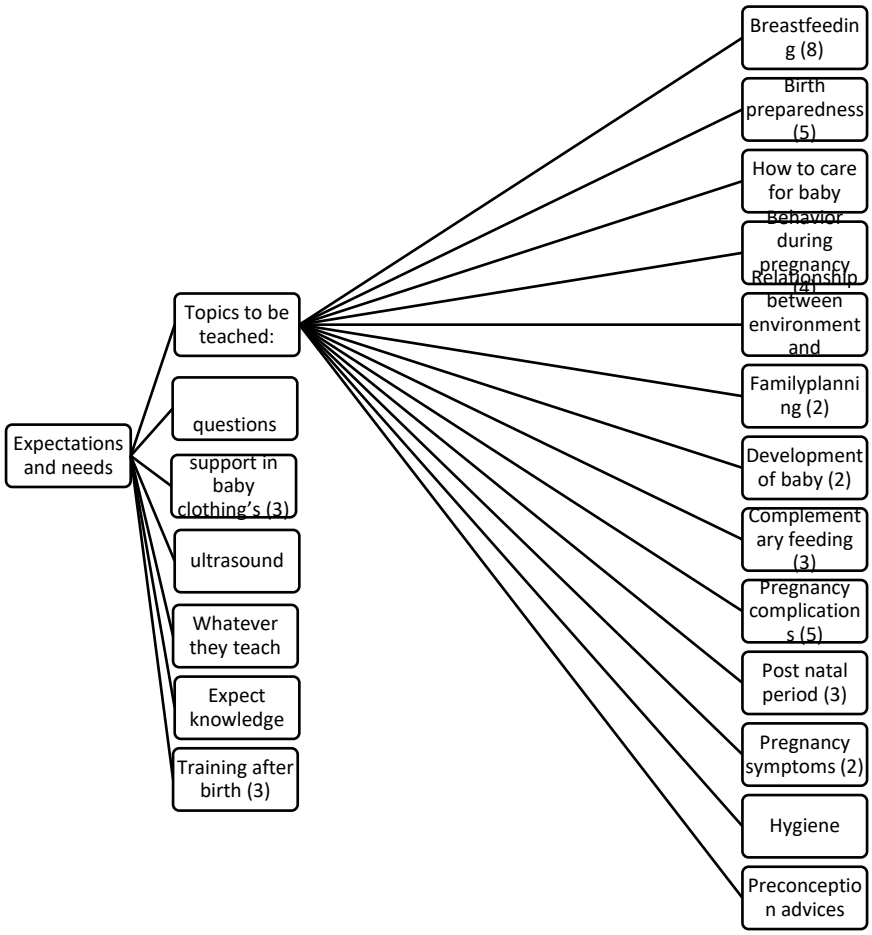
Topic list for collecting data for women with experiences on maternal health education from the islands of lake Kivu, Rusizi district, Rwanda Adriana J. L. Okello- Bergman, Uganda Christian University

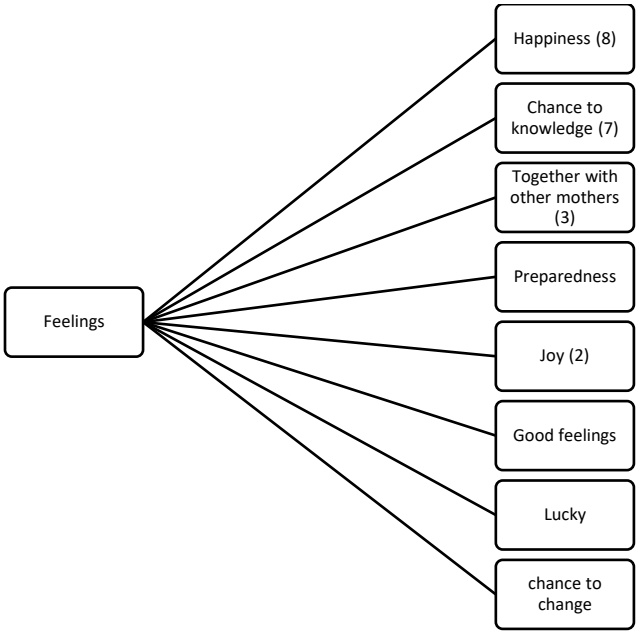
research: Experiences of attending maternal health educations sessions among women from the islands of lake Kivu, Rusizi district, Rwanda.

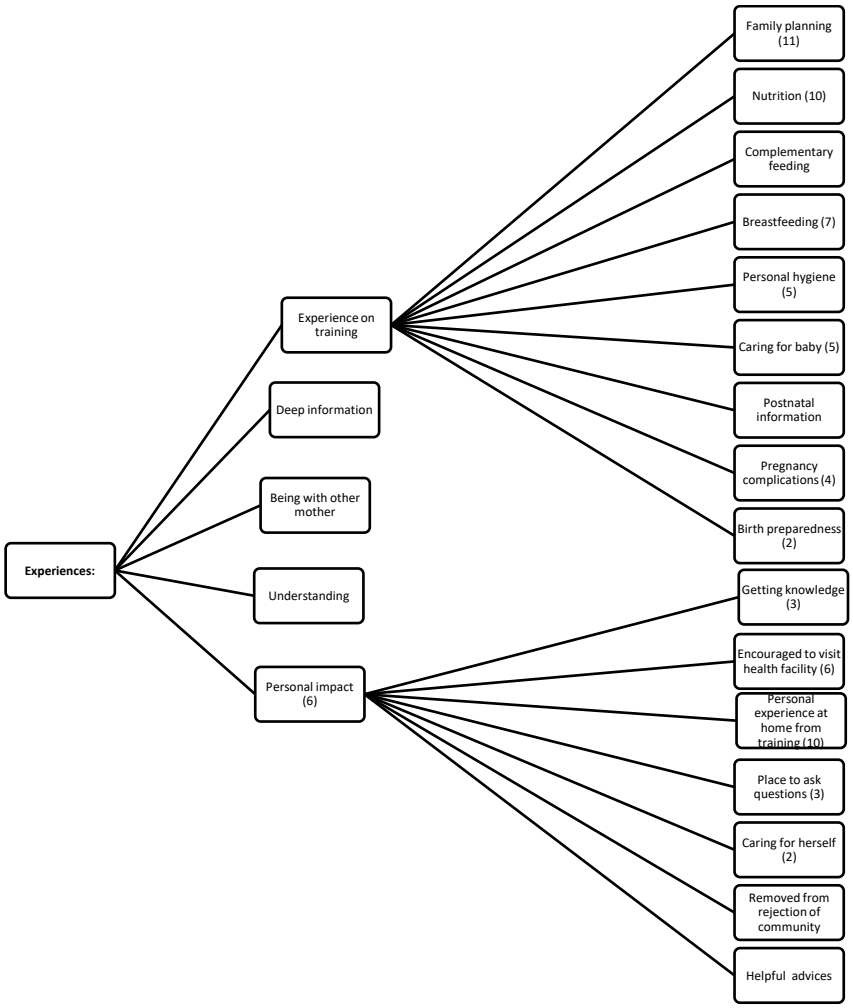
- Age
- Amount of children
- Economic status
- Work position
- Marital status
- Education level
- Engagement in maternal health education
- Needs and expectations on maternal health education
- Past experiences on maternal health education
- Personal needs on maternal health education
- Negative experience on maternal health education
- Positive experiences on maternal health education
- Challenges in maternal health education
- feelings about maternal health education
- Thought of involvement of husband in maternal health education

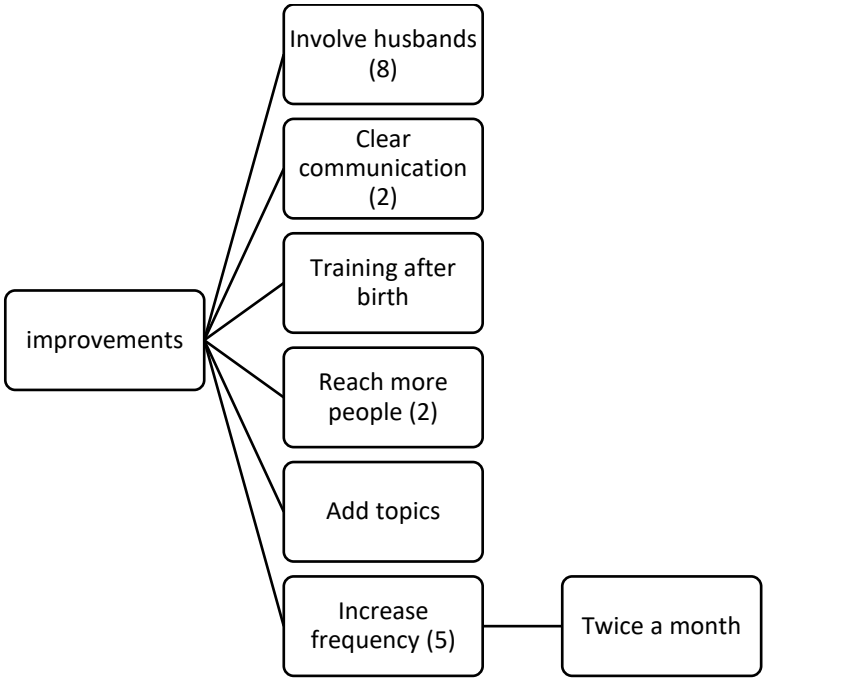
d. Photographs from the field

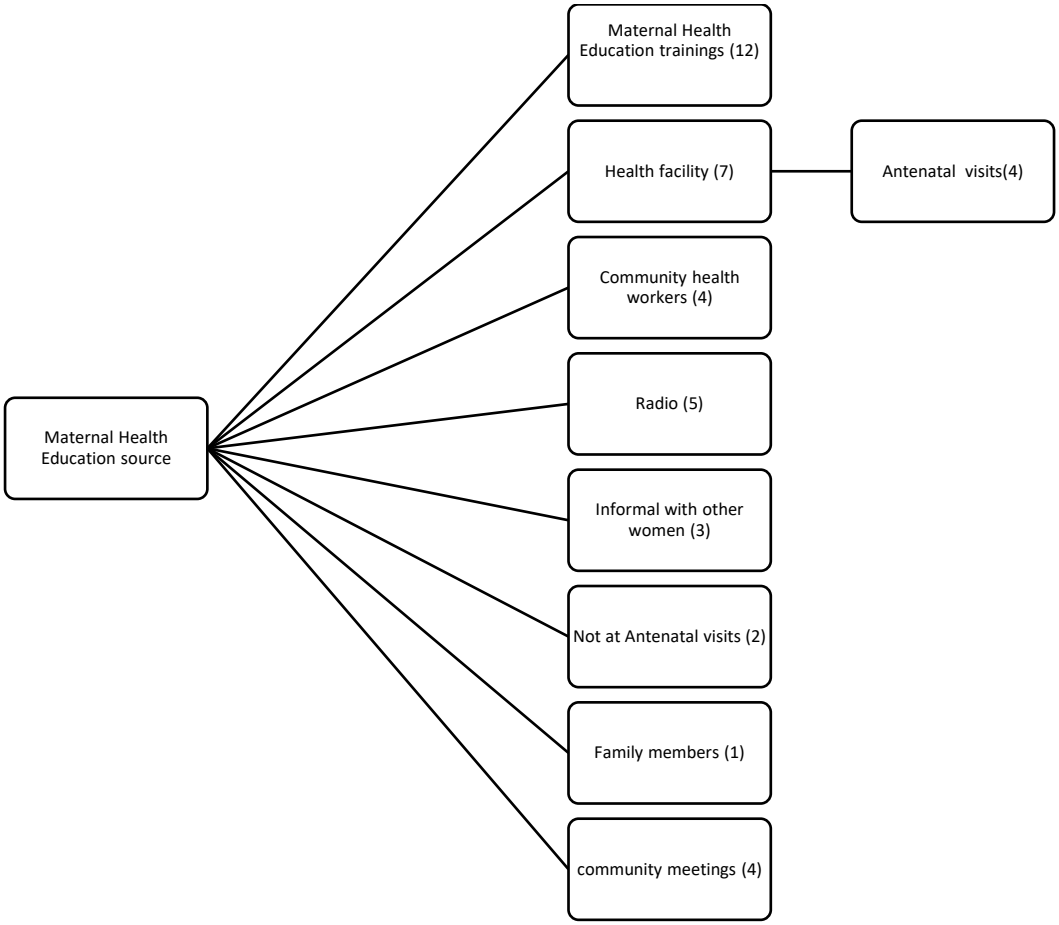
e. Code trees

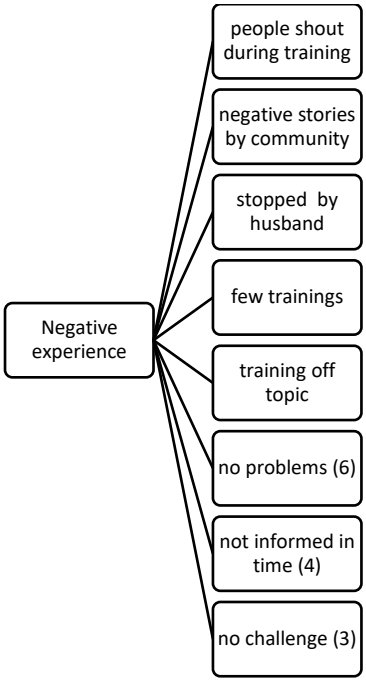

Expectations and needs
Topics to be teached:
questions
support in baby clothing's (3)
ultrasound
Whatever they teach
Expect knowledge
Training after birth (3)
Breastfeeding (8)
Birth preparedness (5)
How to care for baby
Behavior during pregnancy (4)
Relationship between environment and
Familyplanning (2)
Development of baby (2)
Complementary feeding (3)
Pregnancy complications (5)
Post natal period (3)
Pregnancy symptoms (2)
Hygiene
Preconception advices


Feelings
Happiness (8)
Chance to knowledge (7)
Together with other mothers (3)
Preparedness
Joy (2)
Good feelings
Lucky
chance to change


Experiences:
Experience on training
Deep information
Being with other mother
Understanding
Personal impact (6)
Family planning (11)
Nutrition (10)
Complementary feeding
Breastfeeding (7)
Personal hygiene (5)
Caring for baby (5)
Postnatal information
Pregnancy complications (4)
Birth preparedness (2)
Getting knowledge (3)
Encouraged to visit health facility (6)
Personal experience at home from training (10)
Place to ask questions (3)
Caring for herself (2)
Removed from rejection of community
Helpful advices


improvements
Involve husbands (8)
Clear communication (2)
Training after birth
Reach more people (2)
Add topics
Increase frequency (5)
Twice a month


Maternal Health Education source
Maternal Health Education trainings (12)
Health facility (7)
Antenatal visits(4)
Community health workers (4)
Radio (5)
Informal with other women (3)
Not at Antenatal visits (2)
Family members (1)
community meetings (4)


Negative experience
people shout during training
negative stories by community
stopped by husband
few trainings
training off topic
no problems (6)
not informed in time (4)
no challenge (3)

f. Signed informed consent papers

①

You can ask me any more questions about any part of the research study, if you wish to. Do you have any questions?

Part II: Certificate of Consent

(This section is mandatory) I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have been asked have been answered to my satisfaction. I consent voluntarily to be a participant in this study

Name of Participant [illegible]
Signature of Participant ______
Date 21/3/22

If illiterate

I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Print name of witness______________ Thumb print of participant Signature of witness______________
Date ______________________

Statement by the researcher/person taking consent

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands.
I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this ICF has been provided to the participant.
Name of Researcher Adriana J.L. Bergman

Signature of Researcher______________
Date 21/3/22

22

(2)

You can ask me any more questions about any part of the research study, if you wish to. Do you have any questions?

Part II: Certificate of Consent

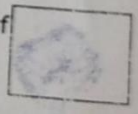
(This section is mandatory) I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have been asked have been answered to my satisfaction. I consent voluntarily to be a participant in this study

Name of Participant Gakuru Francine
Signature of Participant _____
Date 21/3/22

If illiterate

I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Print name of witness [illegible] Thumb print of participant Signature of witness _____
Date 21/03/2022



Statement by the researcher/person taking consent

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands.
I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this ICF has been provided to the participant.
Name of Researcher Adriana J.t Bergman

Signature of Researcher _____
Date 21/3/22

22

(3)

You can ask me any more questions about any part of the research study, if you wish to. Do you have any questions?

Part II: Certificate of Consent

(This section is mandatory) I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have been asked have been answered to my satisfaction. I consent voluntarily to be a participant in this study

Name of Participant Lorraine Fravane
Signature of Participant _____
Date 21/03/2022

If illiterate

I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Print name of witness Habamungu Eric Thumb print of participant Signature of witness _____
Date 21/03/2022

Statement by the researcher/person taking consent

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands.
I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this ICF has been provided to the participant.
Name of Researcher AJL Bergman
Signature of Researcher _____
Date 21/3/22

22

(4)

You can ask me any more questions about any part of the research study, if you wish to. Do you have any questions?

Part II: Certificate of Consent

(This section is mandatory) I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have been asked have been answered to my satisfaction. I consent voluntarily to be a participant in this study

Name of Participant NJABANKOMEYE YESTINE
Signature of Participant _____
Date 22/3/22

If illiterate

I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Print name of witness_____ Thumb print of
participant Signature of witness_____
Date _____

Statement by the researcher/person taking consent

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands.
I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this ICF has been provided to the participant.
Name of Researcher A.J.L. Bergman

Signature of Researcher _____
Date 21/3/22

5

You can ask me any more questions about any part of the research study, if you wish to. Do you have any questions?

Part II: Certificate of Consent

(This section is mandatory) I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have been asked have been answered to my satisfaction. I consent voluntarily to be a participant in this study

Name of Participant Kumiliya Ekaniyome
Signature of Participant _____
Date 21/3/2022

If illiterate

I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Print name of witness_____ Thumb print of
participant Signature of witness_____
Date _____

Statement by the researcher/person taking consent

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands.
I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this ICF has been provided to the participant.
Name of Researcher Adriana J.L. Bergman

Signature of Researcher _____
Date 21/3/22

22

6

You can ask me any more questions about any part of the research study, if you wish to. Do you have any questions?

Part II: Certificate of Consent

(This section is mandatory) I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have been asked have been answered to my satisfaction. I consent voluntarily to be a participant in this study

Name of Participant GATO DOBOSERA
Signature of Participant _____
Date 22/3/22

If illiterate

I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Print name of witness_____ Thumb print of
participant Signature of witness_____
Date _____

Statement by the researcher/person taking consent

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands.
I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this ICF has been provided to the participant.
Name of Researcher Adriana J. L. Bergman

Signature of Researcher _____
Date 22/3/22

22

(7)

You can ask me any more questions about any part of the research study, if you wish to. Do you have any questions?

Part B: Certificate of Consent

(This section is mandatory) I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have been asked have been answered to my satisfaction. I consent voluntarily to be a participant in this study

Name of Participant [illegible]
Signature of Participant _____
Date 22/3/22

If illiterate

I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Print name of witness_____ Thumb print of
participant Signature of witness_____
Date _____

Statement by the researcher/person taking consent

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands.

I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this ICF has been provided to the participant.
Name of Researcher Adriana J L Bergman

Signature of Researcher _____
Date 22/3/22

22

(8)

You can ask me any more questions about any part of the research study, if you wish to. Do you have any questions?

Part II: Certificate of Consent

(This section is mandatory) I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have been asked have been answered to my satisfaction. I consent voluntarily to be a participant in this study

Name of Participant Ntibamenyerwa Pascasie
Signature of Participant _____
Date 22/3/22

If illiterate

I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Print name of witness_____ Thumb print of
participant Signature of witness_____
Date _____

Statement by the researcher/person taking consent

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands.
I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this ICF has been provided to the participant.
Name of Researcher Adriana J. L. Bergman
Signature of Researcher _____
Date 22/3/22

22

(9)

You can ask me any more questions about any part of the research study, if you wish to. Do you have any questions?

Part II: Certificate of Consent

(This section is mandatory) I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have been asked have been answered to my satisfaction. I consent voluntarily to be a participant in this study

Name of Participant Mufaysenga Sahab'
Signature of Participant _____
Date 22/3/22

If illiterate

I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Print name of witness_____ Thumb print of participant Signature of witness_____
Date _____

Statement by the researcher/person taking consent

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands.
I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this ICF has been provided to the participant.
Name of Researcher Adriana. J. L Bergman

Signature of Researcher _____
Date 22/3/22

22

(10)

You can ask me any more questions about any part of the research study, if you wish to. Do you have any questions?

Part II: Certificate of Consent

(This section is mandatory) I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have been asked have been answered to my satisfaction. I consent voluntarily to be a participant in this study

Name of Participant MARGARET
Signature of Participant _____
Date 23/3/22

If illiterate

I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Print name of witness_____ Thumb print of participant Signature of witness_____
Date _____

Statement by the researcher/person taking consent

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands.
I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this ICF has been provided to the participant.
Name of Researcher Adriana J. L. Bergman

Signature of Researcher _____
Date 23/3/2022

22

You can ask me any more questions about any part of the research study, if you wish to. Do you have any questions?

(11)

Part II: Certificate of Consent

(This section is mandatory) I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have been asked have been answered to my satisfaction. I consent voluntarily to be a participant in this study

Name of Participant [illegible]
Signature of Participant [illegible]
Date 23/3/22

If illiterate

I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Print name of witness_____ Thumb print of participant Signature of witness_____
Date _____

Statement by the researcher/person taking consent

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands.
I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this ICF has been provided to the participant.
Name of Researcher Adriana. J.L. Bergman

Signature of Researcher _____
Date 23/3/22

22

12

You can ask me any more questions about any part of the research study, if you wish to. Do you have any questions?

Part II: Certificate of Consent

(This section is mandatory) I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have been asked have been answered to my satisfaction. I consent voluntarily to be a participant in this study

Name of Participant Mukamugwiza Getille
Signature of Participant Getille
Date 23/3/22

If illiterate

I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Print name of witness Tami Kabanyana Thumb print of
participant Signature of witness
Date

Statement by the researcher/person taking consent

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands.
I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this ICF has been provided to the participant.
Name of Researcher Adriana Jacoba Lena Bergman

Signature of Researcher
Date 23/3/22

13

You can ask me any more questions about any part of the research study, if you wish to. Do you have any questions?

Part II: Certificate of Consent

(This section is mandatory) I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have been asked have been answered to my satisfaction. I consent voluntarily to be a participant in this study

Name of Participant MNIZIREBAMONIKE
Signature of Participant _____
Date 23/3/22

If illiterate

I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Print name of witness_____ Thumb print of participant Signature of witness_____
Date _____

Statement by the researcher/person taking consent

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands.
I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this ICF has been provided to the participant.
Name of Researcher Adriana J. Bergman

Signature of Researcher _____
Date 23/3/22

22

14

You can ask me any more questions about any part of the research study, if you wish to. Do you have any questions?

Part II: Certificate of Consent

(This section is mandatory) I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have been asked have been answered to my satisfaction. I consent voluntarily to be a participant in this study

Name of Participant Nyirasafari Ernestine
Signature of Participant _____
Date 23/03/2022

If illiterate

I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Print name of witness Kabanyana Thumb print of participant Signature of witness _____
Date 23/03/2022

Statement by the researcher/person taking consent

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands.
I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this ICF has been provided to the participant.
Name of Researcher Adriana J.L. Bergman

Signature of Researcher _____
Date 23/3/22

22

15

You can ask me any more questions about any part of the research study, if you wish to. Do you have any questions?

Part II: Certificate of Consent

(This section is mandatory) I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have been asked have been answered to my satisfaction. I consent voluntarily to be a participant in this study

Name of Participant Ndivengamya Antoinette
Signature of Participant _____
Date 23/3/22

If illiterate

I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Print name of witness_____ Thumb print of
participant Signature of witness_____
Date _____

Statement by the researcher/person taking consent

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands.
I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this ICF has been provided to the participant.
Name of Researcher Adriana J. L. Bergman

Signature of Researcher _____
Date 23/3/22

g. Post VIVA Correction forms

UGANDA CHRISTIAN UNIVERSITY

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SCHOOL OF RESEARCH & POSTGRADUATE STUDIES

DISSERTATION CORRECTION COMPLIANCE REPORT BY THE CANDIDATE (POST VIVA FORM)

Date: …26-3-2024……
Name of Candidate: ……Adriana Jacoba Lena Bergman…….. **Reg. No:** ……IRS19M07/19…….
Title of Dissertation: EXPERIENCES OF ATTENDING MATERNAL HEALTH EDUCATION SESSIONS AMONG WOMEN FROM THE ISLANDS OF LAKE KIVU, RUSIZI DISTRICT, RWANDA; A QUALITATIVE RESEARCH

SN	COMMENTS BY EXTERNAL EXAMINER	ACTION TAKEN	INDICATOR
1	The candidate should explain how data quality was achieved in this study. Was a social scientist involved in the study (Data collection and Analysis)? Were the research assistants trained in the study procedure? The interviews were audio taped in Kinyarwanda however the transcription was in English, why did the candidate do this?	Chapter 3.6 quality and error control added. Research assistant as controller for data analysis described. Interviews audio taped in local language, which is not written language, this reason described in study.	3.6
2	The candidate should correct the topographic and grammatical errors thought the document.	External researcher checked topographic and grammatical errors.	
3	The tense of some texts is still in proposal mode should be changed to thesis tense (ie past tense)	Changed this in the research	

SN	COMMENTS BY INTERNAL EXAMINER	ACTION TAKEN	INDICATOR
1	All recommendations should be to a specific group or targeting audience.	Specific group targeted chapter 6.2	6.2
2	Why did you choose this methodology amidst of all the other methodologies? This needs to be clearly highlighted in your book.	Added chapter 3.1	3.1

SN	COMMENTS BY VIVA VOCE PANNEL	ACTION TAKEN	INDICATOR
1	The conceptual frame work is congested and not easily visible. Please work on it.	Organized it and added description.	
2	What is the name of the theory used to inform your theoretical frame work, and what were the key concepts drawn from these theories? This should come out very clearly	Different theories described in chapter 1.8, key concepts summarized for study use. And combined in one theorethical framework.	
3	You talked about cultural bias, was this from your side or the respondent's side. Clarify on this?	Limitation described in chapter 6.1, explanation added.	6.1

Candidate's Name **A.J.L. Bergman**
Signature
Date: 05-4-2024

Supervisor's Name **Dr. Robinson Ogwang**
Signature
Date: 10-04-2024