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**FACULTY OF HEALTH SCIENCES**

**DEPARTMENT OF PUBLIC HEALTH**

**RESEARCH REPORT**

# PRECONCEPTION CARE PRACTICES AMONG HEALTH CARE PROVIDERS WORKING IN PUBLIC HEALTH FACILITIES IN LUUKA DISTRICT A CROSS-SECTIONAL STUDY

**BY**

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**THIS MASTER'S REROR IS SUBMITTED TO THE DIRECTORATE OF GRADUATE STUDIES, RESEARCH AND INNOVATION IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF THE MASTER'S DEGREE IN PUBLIC HEALTH OF BUSITEMA UNIVERSITY**

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## ABSTRACT

**Introduction:** Preconception care (PCC) is a preventive strategy that optimizes women's health and reduces adverse pregnancy outcomes. Despite its recognized benefits, PCC remains underutilized in sub-Saharan Africa, including Uganda, where maternal mortality is high. The Ministry of Health recommends interventions such as folic acid supplementation, nutritional optimization, and screening for chronic and infectious diseases before conception. Evidence on PCC practices and determinants among health care providers in Eastern Uganda is limited.

**Objective:** To determine preconception care practices among health care providers working in public health facilities in Luuka District.

**Methods:** A cross-sectional study with quantitative and qualitative components was conducted among 99 health care providers involved in maternal and reproductive health services. Quantitative data were collected using structured questionnaires and analyzed descriptively in STATA version. Qualitative data from key informant interviews were transcribed and thematically analyzed in Atlas.ti7. Ethical approval and district authorization were obtained, and informed consent was secured.

**Results:** PCC services were largely not provided by the health workers (85, 85.9%), with only 14.1% providing the services. Services were delivered mainly during health education sessions (n=41, 41.4%) or general outpatient clinics (n=29, 29.3%). Basic interventions, including folic acid supplementation, vaccination counseling, nutritional guidance, and promotion of healthy lifestyles, were widely offered (94–100%). Routine screening for chronic conditions, genetic counseling and substance abuse counseling were inconsistently implemented (87.9–31.3 %), and standardized documentation tools were rarely used (n=2, 2.0%). Providers relied predominantly on personal experience (n=90, 90.9%) and clinical judgment (n=62, 62.6%), with only (n=48, 48.5%) reporting full confidence in PCC delivery. Barriers included limited training, inadequate guidelines, resource constraints, and low institutional support. Enablers included integration into routine services, structured training, community sensitization, and faith-based health promotion.

**Conclusion:** Routine provision of preconception care among health care providers in Luuka District was low, with only 14.1%, reporting that PCC services were provided frequently or always. Although basic services such as folic acid supplementation, vaccination counselling, nutrition counselling, and lifestyle advice were commonly reported, comprehensive PCC remained inconsistent, poorly documented, and largely provider-dependent. Strengthening provider training, institutional guidelines, documentation tools, commodity availability, and integration of PCC into routine reproductive and outpatient services is essential for improving PCC delivery.

## DECLARATION

I have read the rules of Busitema University on plagiarism and hereby state that this work is my own.

It has not been submitted to any other institution for another degree or qualification, either in full or in part.

Throughout the work I have acknowledged all sources used in its compilation. Name of Researcher: KIBUMBA ROGERS

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## DEDICATION

This work is dedicated to my beloved wife, my parents, all my lecturers, classmates and all who have worked tirelessly day and night to see that this research reaches successful accomplishment.

## ACKNOWLEDGMENT

My sincere thanks go to the almighty God who has endlessly empowered me in times where I was becoming powerless, energized me when I didn't have energy to continue, and provided where I was in need.

I am very appreciative to my supervisors for the continuous support undertaken right from developing the research idea up to the date of this research report. May the almighty God richly bless you.

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| | |
|---|---|
| ANC | Antenatal Care |
| BUFHS_REC | Busitema University Faculty of Health Sciences Research Ethics Committee |
| CHEWs | Community Health Extension Workers |
| CI | Confidence Interval |
| cPR | Crude Prevalence Ratio |
| DHIS2 | District Health Information Software 2 |
| DHO | District Health Officer |
| HC | Health Centre |
| HC II | Health Centre II |
| HC III | Health Centre III |
| HC IV | Health Centre IV |
| HCG | Human Chorionic Gonadotropin |
| HIV | Human Immunodeficiency Virus |
| HMIS | Health Management Information System |
| KII | Key Informant Interview |
| KIIs | Key Informant Interviews |
| KIs | Key Informants |
| MCH | Maternal and Child Health |
| MoH | Ministry of Health |
| NGO | Non-Governmental Organization |
| NGOs | Non-Governmental Organizations |
| OPD | Outpatient Department |
| PCC | Preconception Care |
| PHC | Primary Health Care |
| RCH | Reproductive and Child Health |
| RMNCAH | Reproductive, Maternal, Newborn, Child, and Adolescent Health |
| SOPs | Standard Operating Procedures |
| STI | Sexually Transmitted Infection |
| STATA | Statistical Software for Data Analysis |
| UDHS | Uganda Demographic and Health Survey |

| | |
|---|---|
| UNCST | Uganda National Council for Science and Technology |
| VHTs | Village Health Teams |
| WHO | World Health Organization |

## OPERATIONAL DEFINITIONS

**Preconception Care (PCC):** In this study, it referred to specific services or interventions such as folic acid supplementation, health education on risky behaviours, nutrition, management of chronic illness given to people by nurses, midwives, clinical officers, and medical doctors to women preparing to conceive. **Preconception Care Practices:** In this study, this word referred to specific interventions, services and actions carried out by the nurses, midwives, clinical officers, and medical doctors as part of the package, including folic acid supplementation, nutrition health education, screening, and diagnosis for STI/HIV, management of chronic illness before conception.

**Routine preconception care practice:** Was defined as reporting the provision of preconception care services either frequently or always. Providers who reported never, rarely, or occasionally providing PCC were classified as not routinely providing PCC.

**Health Care Providers:** In this study, it referred to nurses, midwives, clinical officers, and medical doctors who are directly involved in offering patient care in Luuka District.

**Public Health Facilities:** This is restricted to government health institutions offering health care services to the community and run by nurses, midwives, clinical officers, and medical doctors to offer these essential services, including health centre II, health centre III, and health centre IV in Luuka district.

# CHAPTER ONE: INTRODUCTION

## 1.1 Background

Preconception care (PCC) is recognized globally as a critical public health intervention to improve maternal and child health outcomes. The World Health Organization (WHO, 2023) defines PCC as the provision of biomedical, behavioural, and social health interventions for women and couples before conception occurs. PCC encompasses nutritional counselling, management of chronic genetic diseases, vaccination, mental health support, and promotion of healthy lifestyles. Despite its benefits, uptake remains low, particularly in low- and middle-income countries, where preventable pregnancy-related deaths are high, with Sub-Saharan Africa accounting for a majority (WHO, 2023). Evidence indicates that timely PCC can prevent up to 70% of birth defects, reduce maternal and neonatal mortality, and improve pregnancy outcomes (Dean et al., 2024).

In Uganda, maternal and neonatal mortality remain substantial, at 336 per 100,000 live births and 19 per 1,000 live births, respectively (Uganda Bureau of Statistics [UBOS], 2022). The Ministry of Health (MoH, 2020) has integrated some PCC interventions, such as folic acid supplementation, chronic and infectious disease screening, nutrition promotion, and risk behaviour counselling, into reproductive and maternal health services. However, provision of comprehensive PCC is limited in rural public health facilities, where services are inconsistently delivered, standardized guidelines are minimal, and healthcare workers receive limited training (Kiguli et al., 2020; Ministry of Health [MoH], 2023). Many providers emphasize pregnancy prevention rather than proactive preconception health, leaving gaps in holistic reproductive care (Joyce et al., 2023; Meldgaard et al., 2022).

Challenges limiting PCC uptake include low awareness among both women and providers, inconsistent service delivery, limited integration into routine services, cultural misconceptions, and resource constraints (Kiguli et al., 2020; Joyce et al., 2023). These barriers highlight the need to investigate provider practices, knowledge, and capacity, particularly in rural public facilities where most women access reproductive health services.

This study determined the implementation of PCC practices among healthcare providers in public health facilities in Luuka District, focusing on which components of the recommended PCC package are routinely provided, providers' awareness, and factors influencing delivery.

## 1.2 Statement of the Problem

Despite the recognition of preconception care (PCC) as an important intervention for improving maternal and child health outcomes, there is limited evidence on the role of healthcare providers in the provision of PCC services, particularly in rural public health facilities in Uganda. Existing studies have mainly focused on PCC awareness, uptake, and utilization among women of reproductive age, with limited attention given to the knowledge, attitudes, practices, and health system factors influencing PCC delivery among frontline healthcare providers. Consequently, little is known about how healthcare providers in rural settings understand, implement, and integrate PCC into routine reproductive health services.

Preconception care is recommended by the World Health Organization (WHO) as a key intervention for improving maternal and newborn outcomes through interventions such as nutritional support, folic acid supplementation, management of chronic diseases, screening and treatment of infections, lifestyle modification, and vaccination. However, despite global and national recommendations, the implementation and uptake of PCC remain suboptimal. In Uganda, PCC utilization remains low, with reported prevalence ranging between 17.5% and 32% (MoH, 2020), while rural districts continue to experience poorer uptake. In Luuka District, routine health information reports indicate an extremely low PCC uptake rate of approximately 2.5% (HMIS, 2024), suggesting substantial gaps in the availability and delivery of PCC services.

The Ministry of Health Uganda has incorporated WHO PCC recommendations into the Reproductive, Maternal, Newborn, Child, and Adolescent Health (RMNCAH) policy framework. However, translating these recommendations into routine practice remains challenging, particularly in rural public health facilities where healthcare providers often face inadequate training, limited awareness, competing clinical priorities, and insufficient implementation guidance (Kabwama et al., 2022). These challenges may be further amplified in districts such as Luuka, which experience high teenage pregnancy rates, limited health system capacity, and poor utilization of maternal health services (District Health Report, 2023).

Although previous studies have identified barriers affecting PCC implementation, there remains insufficient understanding of how healthcare providers themselves influence PCC service delivery in rural Ugandan settings. Existing evidence provides limited information on the experiences and practices of nurses, midwives, clinical officers, and other frontline primary healthcare providers who are responsible for delivering preventive and reproductive health services at facility level.

Furthermore, much of the available literature has been generated from high-income settings or has examined PCC as part of broader maternal health interventions rather than as a specific service requiring dedicated provider capacity.

The absence of evidence on healthcare providers' PCC practices and the factors influencing service provision creates a critical knowledge gap that may hinder effective planning, implementation, and improvement of PCC services in rural Uganda. Therefore, this study seeks to assess preconception care practices and associated factors among healthcare providers in public health facilities in Luuka District. The findings will generate context-specific evidence to inform health policies, provider training strategies, and interventions aimed at strengthening PCC delivery and improving maternal and child health outcomes.

### 1.3.1 Main objective

To assess the provision and implementation of preconception care services by healthcare providers in public health facilities in Luuka District.

### 1.3.2 Specific objectives

i. To examine the preconception care service provision as recommended PCC package by the Ministry of Health as routinely provided to women intending to conceive.
ii. To describe the barriers and enablers to providing preconception care services among health providers working in public health facilities in Luuka District.
iii. To determine factors associated with the routine provision of preconception care among healthcare providers in public health facilities in Luuka District.

## 1.4 Research question

i. What is the practice of provision of the preconception care services from the recommended PCC packages routinely provided to women intending to conceive?
ii. What are the barriers and enablers to providing preconception care services among health providers working in public health facilities in Luuka District?
iii. What are factors associated with the routine provision of preconception care among healthcare providers in public health facilities in Luuka District.

## 1.5 Justification for the study

Preconception care services to women and couples before and between pregnancies improve the chances of mothers and babies being healthy. Preconception care is a prerequisite in reducing the

maternal mortality rate, which is paramount for health workers to promote the practice at every contact with women of reproductive age seeking maternal services. In 2017, the Ministry of Health released guidelines to improve perinatal care, which includes preconception care (MoH, 2017). Despite the availability of these guidelines, there is still a lot to be done for their implementation. This study will document the current preconception care practices among health care providers working in public health facilities in the rural communities of Luuka district. The study findings may be used by the district and the Ministry to formulate policies that will enhance current preconception care practices among health care providers thus improving pregnancy outcomes. This research may generate knowledge that can be used by various academic institutions and inform stakeholders about the future of preconception care services.

### 1.6 Scope of the study

The study was conducted in Luuka District, Eastern Uganda, focusing on healthcare providers working in selected public health facilities. The geographical scope of the study was limited to public health facilities within Luuka District that provide reproductive, maternal, and preventive health services. The study population comprised healthcare providers, including nurses, midwives, clinical officers, and doctors, who were directly involved in the provision of reproductive health services, including preconception care (PCC). The study focused on assessing healthcare providers' preconception care practices and identifying individual and health facility factors influencing the provision of PCC services. Specifically, the study examined the extent to which healthcare providers offered key PCC interventions, including nutritional counselling, folic acid supplementation, screening and management of chronic and infectious diseases, reproductive health counselling, lifestyle modification advice, and vaccination services. The study also explored barriers and facilitators affecting PCC implementation from the perspectives of healthcare providers and health system stakeholders.

### 1.7 Conceptual framework

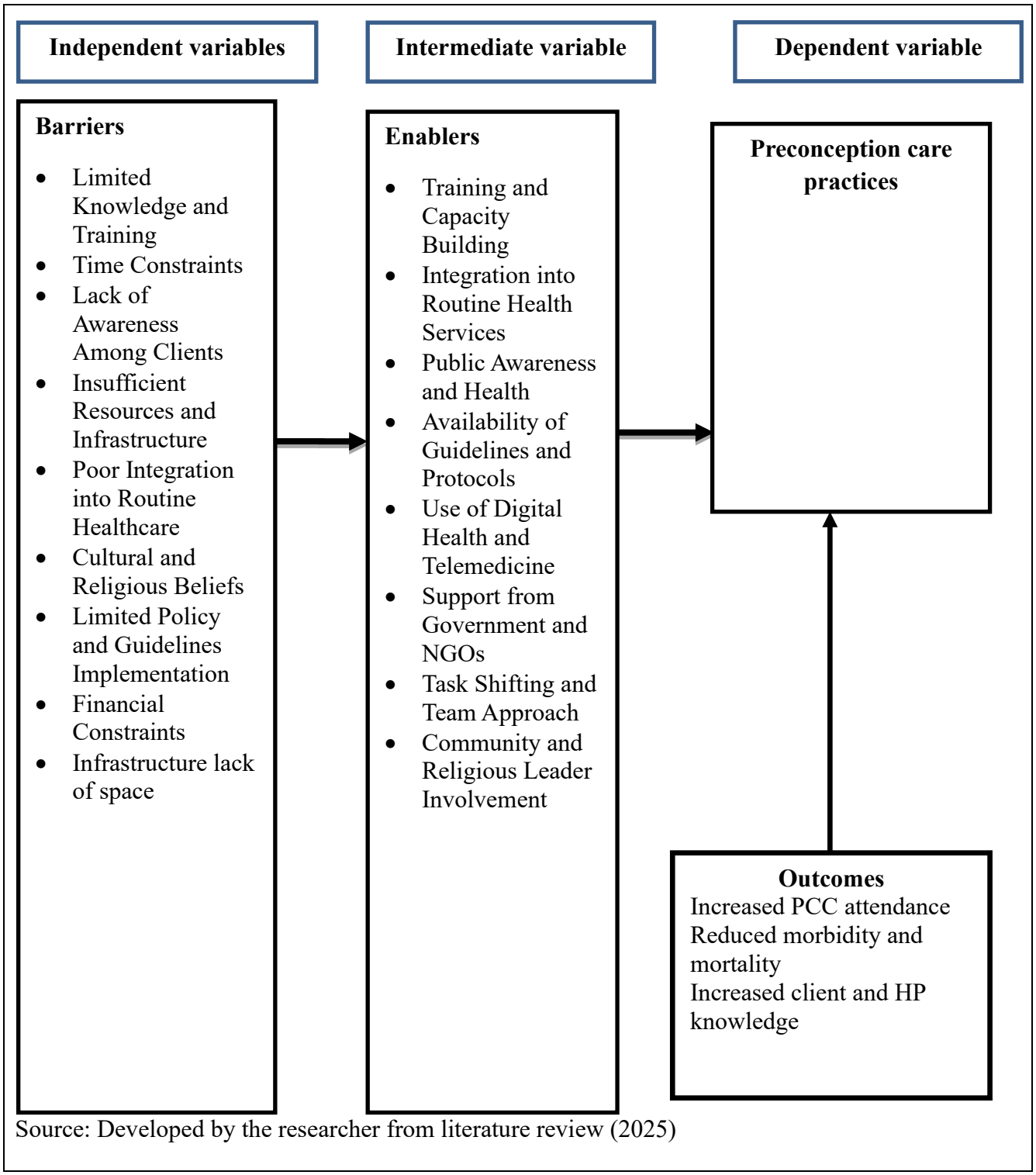



**Figure 1: Conceptual framework**

**Narrative of the conceptual framework**

The conceptual framework for this study was developed by the researcher to illustrate the hypothesized relationships between healthcare provider characteristics, health facility factors, and preconception care (PCC) practices among healthcare providers in public health facilities in Luuka District. The framework was informed by concepts from behavioural and health service delivery perspectives, particularly the understanding that healthcare provider practices are influenced by individual competencies, motivation, and the organizational environment in which services are delivered. However, the framework was adapted to the specific context of PCC provision in Luuka District rather than being adopted directly from a single existing model or theory.

The dependent variable in the framework is PCC practices among healthcare providers. PCC practices refer to the extent to which healthcare providers routinely and comprehensively provide recommended interventions to women and couples before conception. These practices include nutritional counselling, folic acid supplementation, family planning and pregnancy-planning counselling, screening and management of chronic diseases, screening and treatment of infections, immunization, lifestyle counselling, reproductive health education, identification of pregnancy-related risks, and appropriate referral and follow-up. The level of PCC practice is expected to vary depending on the individual and health-system factors represented by the independent variables.

The first category of independent variables comprises healthcare provider-related factors. These include provider knowledge of PCC, professional qualification, previous training on PCC, years of professional experience, confidence in providing PCC, attitudes towards PCC, perceived importance of PCC, and commitment to integrating PCC into routine healthcare services. These factors are expected to influence PCC practices because providers who possess adequate knowledge and appropriate professional competencies are more likely to understand the recommended PCC package and apply it during routine interactions with women of reproductive age. Similarly, providers who have received formal or in-service training are expected to have greater confidence and practical competence in delivering PCC interventions. Positive attitudes, recognition of the importance of PCC, and professional commitment are also expected to increase providers' willingness to prioritize PCC and incorporate it into routine service delivery.

The second category consists of health facility-related factors, which include availability of PCC guidelines and protocols, availability of essential supplies and resources, staffing levels, workload, availability of PCC documentation tools, supportive supervision, in-service training opportunities, and institutional policies. These factors represent the organizational environment within which

healthcare providers deliver PCC. Adequate staffing, manageable workloads, availability of guidelines and supplies, regular supportive supervision, and institutional policies that recognize PCC as part of routine reproductive health services are expected to facilitate consistent provision of PCC. Conversely, staff shortages, high patient volumes, inadequate supplies, absence of guidelines, limited supervision, and competing clinical priorities are expected to constrain providers' ability to provide comprehensive PCC services, even when they possess adequate knowledge and positive attitudes.

The framework therefore proposes that healthcare provider factors and health facility factors influence PCC practices both independently and interactively. For example, a healthcare provider may have adequate knowledge of PCC but fail to provide comprehensive services when PCC guidelines, screening equipment, medicines, or documentation tools are unavailable. Similarly, the availability of guidelines and resources may have limited effect when providers lack the knowledge, skills, confidence, or motivation to use them appropriately. Thus, the framework recognizes that effective PCC provision requires an interaction between provider capacity and a supportive health facility environment.

The framework also recognizes the possibility of contextual factors influencing the relationship between the independent and dependent variables. These may include patient volume, availability of referral services, community demand for PCC, and the integration of PCC into existing reproductive, maternal, newborn, child, and adolescent health services. Such contextual factors may strengthen or weaken the ability of healthcare providers to translate their knowledge and skills into consistent PCC practices.

The expected relationship can therefore be summarized as follows: adequate provider knowledge, training, competence, positive attitudes, confidence, and professional commitment, together with supportive facility conditions, adequate resources, appropriate staffing, manageable workload, effective supervision, and clear PCC policies and guidelines, are expected to increase the likelihood of comprehensive PCC practices. Conversely, inadequate provider preparation, negative perceptions, limited confidence, heavy workload, staff shortages, inadequate resources, weak supervision, and unclear or poorly implemented policies are expected to reduce the consistency and comprehensiveness of PCC provision.

The researcher-developed conceptual framework guided the selection and operationalization of study variables, development of the data collection tools, and interpretation of the study findings. It also provides a basis for identifying whether gaps in PCC practices are primarily associated with

provider-level factors, health facility-level factors, or the interaction between the two. This is particularly important in Luuka District because improving PCC provision may require interventions that go beyond increasing provider knowledge to include strengthening the health system environment in which PCC is delivered.

Importance of the Conceptual Framework to Policy and Practice

The conceptual framework has practical relevance to policymakers, the Ministry of Health, district health authorities, and implementers of PCC guidelines. By demonstrating how provider competencies and health facility conditions jointly influence PCC practices, the framework can help stakeholders identify specific areas requiring intervention. For the Ministry of Health, findings guided by the framework may provide evidence for strengthening PCC guidelines, developing standardized PCC training packages, integrating PCC indicators into routine health information systems, and ensuring the availability of appropriate service-delivery and documentation tools.

For district health authorities and health facility managers, the framework provides a basis for identifying modifiable facility-level barriers such as inadequate staffing, excessive workload, limited supervision, insufficient supplies, and inadequate access to continuing professional development. The findings may therefore support the development of targeted mentorship, supportive supervision, staff training, and quality-improvement interventions aimed at strengthening PCC delivery.

For implementers of national PCC and reproductive health guidelines, the framework may help determine whether poor implementation results from inadequate provider capability, limited motivation, or insufficient organizational opportunity. This distinction is important because interventions designed to address knowledge gaps, for example, may have limited impact if providers simultaneously face shortages of essential supplies, high workloads, or lack of institutional support.

At the district level, the framework may provide evidence to guide planning and resource allocation for PCC services in public health facilities. It may also assist district health teams in incorporating PCC into routine reproductive and maternal health supervision, monitoring, and performance improvement activities. Ultimately, the framework is intended to support the identification of practical and context-specific strategies for improving the quality, consistency, and comprehensiveness of PCC practices among healthcare providers in Luuka District.

# CHAPTER TWO: LITERATURE REVIEW

## 2.0 Introduction

This chapter comprises of a literature review that is relevant to the research topic, and includes preconception care practices among health care providers working in rural public health facilities in the rural communities of Luuka District. The literature review aims to reveal the knowledge gaps which the study seeks to fill in.

## 2.1 Identify the preconception care services from the recommended PCC package are routinely provided to women intending to conceive

Preconception care (PCC) encompasses interventions aimed at optimizing maternal and fetal health before conception, including family planning counselling, lifestyle modification, nutritional guidance, management of chronic diseases, infectious disease screening, immunization, and folic acid supplementation. These interventions are intended to improve pregnancy outcomes and reduce maternal and neonatal complications. Evidence from Africa and Asia indicates that although healthcare providers are aware of the importance of PCC, implementation of the recommended package remains inconsistent across health facilities.

In South Africa, Ukoha and Mtshali (2022) reported that 87.8% of primary healthcare nurses engaged in PCC practices such as family planning counselling, pregnancy spacing, nutritional guidance, and folic acid supplementation. However, the study found that implementation varied according to provider age, gender, and facility location, with rural facilities providing fewer comprehensive services compared to urban settings. This demonstrates that while awareness of PCC exists among healthcare providers, comprehensive implementation remains limited.

Similarly, studies conducted in Ethiopia and Malawi revealed considerable gaps in PCC knowledge and practice among healthcare providers. Munthali et al. (2021) and Abayneh et al. (2022) found that less than half of healthcare providers demonstrated adequate PCC knowledge and practice. Major gaps were identified in genetic counselling, chronic disease management, and counselling on lifestyle modification. Kassa et al. (2028) further observed that despite awareness of PCC concepts, healthcare providers lacked structured guidelines and sufficient training to support consistent implementation of comprehensive PCC services.

Studies from Kenya and India further highlight disparities between rural and urban service delivery. Ochieng et al. (2021) found that rural healthcare providers mainly offered basic counselling services such as family planning and nutritional advice, while urban providers were able to provide

more comprehensive PCC interventions including chronic disease screening and lifestyle modification counselling. Patel et al. (2021) similarly reported that urban facilities had better access to trained staff, resources, and protocols necessary for comprehensive PCC delivery compared to rural facilities. These findings indicate inequities in access to and delivery of PCC services.

In Uganda, uptake and provision of PCC services remain low despite increasing awareness among women and healthcare providers. At Kawolo Hospital, Kalyebi and Orishaba (2024) found that although all women interviewed had heard about PCC, only 27% utilized PCC services. Half of the women received counselling services and most utilized the services only once, although all reported receiving folic acid supplementation. The findings suggest that awareness alone does not necessarily result in utilization of comprehensive PCC services.

Studies conducted in rural Uganda also indicate low levels of PCC service provision among healthcare providers. Kibirige et al. (2020) reported that only 30% of healthcare workers provided PCC services, mainly focusing on family planning and nutritional counselling. Services such as chronic disease management, lifestyle counselling, and infectious disease screening were rarely provided. In contrast, urban facilities in Kampala demonstrated slightly higher PCC coverage. Musoke et al. (2021) found that 56% of women received counselling on lifestyle modification and chronic disease management. However, the study identified lack of structured PCC protocols and inadequate provider training as major limitations to comprehensive PCC delivery.

Overall, the reviewed literature indicates that although healthcare providers recognize the importance of PCC, the provision of the complete recommended PCC package remains inconsistent. Most healthcare providers focus on basic interventions such as family planning counselling, nutritional advice, and folic acid supplementation, while important components such as psychosocial assessment, chronic disease management, genetic counselling, and lifestyle modification counselling are inadequately implemented. Rural health facilities remain particularly disadvantaged due to limited resources, inadequate staffing, and lack of standardized PCC guidelines.

### 2.2 Enablers to preconception care practices in public health facilities among health care providers

Several factors facilitate the effective delivery of PCC in public health facilities. Positive attitudes among healthcare providers, prior training, availability of guidelines, supportive leadership, and integration of PCC into routine maternal health services are important enablers of PCC practice. Studies conducted in different settings indicate that healthcare providers who are knowledgeable

and adequately trained are more likely to provide comprehensive PCC services.

In Uganda, Okonya et al. (2021) found that healthcare providers with adequate knowledge and prior PCC training were more prepared to offer comprehensive PCC services including counselling on nutrition, pregnancy planning, chronic disease management, and healthy lifestyle practices. Providers who understood the importance of PCC demonstrated greater confidence in integrating PCC interventions into routine maternal and reproductive healthcare services.

Similarly, Ibrahim et al. (2022), in a study conducted in rural Nigeria, observed that healthcare workers who were aware of the benefits of PCC consistently delivered services when resources and infrastructure were available. The study emphasized that provider awareness and positive attitudes towards PCC significantly influenced service delivery practices. Adeleke et al. (2020) and Olowookere et al. (2021) further reported that support from government and non-governmental organizations, community involvement, and culturally sensitive approaches enhanced the implementation and uptake of PCC services.

Leadership support and adequate staffing have also been identified as important facilitators of PCC provision. Banyan and Singh (2022) reported that supportive facility management and sufficient staffing enabled healthcare providers to offer broader PCC services such as infectious disease screening, chronic disease management, and lifestyle modification counselling. Madhusree et al. (2020) similarly noted that collaborative teamwork and integration of PCC into routine healthcare services improved consistency in service delivery.

The use of digital health tools and task-shifting approaches has also supported providers in delivering PCC services more efficiently, especially in resource-limited settings. These approaches improve patient follow-up, information sharing, and continuity of care (Cohen et al., 2022; Taye et al., 2025). Overall, the literature suggests that provider training, positive attitudes, availability of guidelines, supportive leadership, adequate staffing, integration of PCC into routine healthcare, and community involvement are important enablers for effective PCC delivery in public health facilities.

### 2.3 Barriers to providing preconception care services among health providers working in public health facilities

Preconception care (PCC) is an essential aspect of maternal health aimed at improving pregnancy outcomes and reducing maternal and neonatal morbidity. However, healthcare providers in public health facilities face several barriers that hinder effective provision of PCC services. One major barrier identified in the literature is inadequate knowledge and training among healthcare providers.

According to Ikwuka et al. (2022), healthcare providers in Nigeria reported inadequate training in PCC, which limited their ability to provide comprehensive services effectively. Although providers acknowledged the importance of PCC, many lacked the knowledge and skills necessary to integrate PCC into routine healthcare services. Similarly, Akinmoladun et al. (2021) found that the absence of formal training modules specifically focused on PCC contributed to inconsistent service delivery among healthcare workers. As a result, providers mainly focused on basic services such as family planning counselling while neglecting comprehensive interventions including chronic disease management, and lifestyle modification counselling.

Resource limitations also remain a major barrier to effective PCC provision. Kiguli et al. (2020) reported that inadequate infrastructure, insufficient medical supplies, lack of screening equipment, and staff shortages hindered healthcare providers from offering comprehensive PCC services. In many public health facilities, limited consultation space and shortages of essential supplies constrain effective service delivery.

Heavy workload and time constraints further limit the provision of PCC services in public health facilities. Mwanri et al. (2020) observed that healthcare providers working in busy facilities often prioritize antenatal care and curative services over preventive interventions such as PCC. Consequently, opportunities to provide PCC during routine patient interactions are frequently missed.

Cultural and societal factors also negatively influence PCC utilization and delivery. Sarkar et al. (2021) found that some communities perceive maternal healthcare interventions as necessary only during pregnancy, thereby reducing demand for PCC services before conception. In addition, stigma related to infertility, contraceptive use, and reproductive health discussions discourages some women from seeking PCC services.

Systemic challenges such as weak guideline implementation, fragmented healthcare services, and poor provider-patient communication further reduce the quality and consistency of PCC delivery. Nguyen et al. (2021) reported that poor coordination among reproductive health services contributed to fragmented PCC implementation. Mugisha et al. (2022) similarly found that inadequate supervision and weak provider-patient communication negatively affected the quality of PCC services.

Studies also indicate that attitudes and perceptions of healthcare providers influence PCC delivery. Stewart et al. (2020) observed that some healthcare providers considered PCC unnecessary for women who were not actively planning pregnancy, while others perceived PCC as the

responsibility of specialized reproductive health clinics rather than routine public healthcare services. The literature demonstrates that inadequate training, insufficient resources, staff shortages, heavy workload, socio-cultural beliefs, weak policy implementation, and poor health system support remain major barriers to comprehensive PCC provision in public health facilities.

### 2.4 Summary of Gaps in the Literature

Preconception care (PCC) is a critical component of maternal and child health aimed at optimizing women's health before pregnancy and preventing adverse maternal and neonatal outcomes. Healthcare providers deliver PCC through services such as family planning counselling, lifestyle modification advice, nutritional guidance, chronic disease management, infectious disease screening, and immunization. Literature from Uganda, South Africa, Ethiopia, Malawi, Kenya, and other low- and middle-income countries indicates that although healthcare providers recognize the importance of PCC, the actual provision of comprehensive PCC services remains inconsistent, especially in rural public health facilities.

The reviewed studies show that healthcare providers commonly offer basic services such as family planning counselling, folic acid supplementation, nutritional advice, and basic health education. However, important components of PCC, including psychosocial assessment, chronic disease management, genetic counselling, infectious disease screening, and lifestyle modification counselling, are inadequately implemented. Provider knowledge, training, supportive leadership, availability of guidelines, and integration of PCC into routine healthcare services were identified as important enablers of PCC practice. In contrast, inadequate training, limited staffing, insufficient resources, heavy workload, socio-cultural beliefs, fragmented healthcare services, and weak guideline implementation remain major barriers affecting effective PCC delivery.

Despite the available evidence, important gaps still exist in the literature. Most studies have focused on women's awareness and utilization of PCC services rather than the actual practices of healthcare providers, particularly in rural public health facilities. In Uganda, limited research has specifically examined the PCC services routinely provided by healthcare workers in rural districts such as Luuka District. There is also inadequate evidence regarding the specific enablers and barriers influencing PCC practices among healthcare providers working in rural public health facilities. Therefore, this study seeks to fill these gaps by identifying the PCC services routinely provided to women intending to conceive, examining the enablers to PCC practices, and assessing the barriers affecting PCC provision among healthcare providers in rural public health facilities in Luuka

District.

# CHAPTER THREE: METHODS

## 3.0 Introduction

This chapter explained how the study was conducted. It described the study area, study design, data sources, target and study populations, and inclusion and exclusion criteria. In addition, the study variables, sampling procedures, data collection methods and tools, data analysis, quality control measures, ethical considerations, limitations of the study, and the plan for dissemination were described.

## 3.1 Study design

The study employed a cross-sectional mixed-methods study design, integrating both quantitative and qualitative approaches. Mixed-methods research involves the systematic collection, analysis, and integration of quantitative and qualitative data within a single study to provide a more comprehensive understanding of the research problem than either approach alone (Creswell & Plano Clark, 2018). The quantitative component was used to determine the level of preconception care practices among healthcare providers and to identify individual and health facility factors associated with these practices using structured questionnaires. The qualitative component involved key informant interviews with selected health facility managers and district health officials to explore in greater depth the barriers, facilitators, and contextual issues influencing the provision of preconception care services. The findings from both components were integrated during the interpretation stage to provide complementary evidence and facilitate a more comprehensive understanding of preconception care practices in Luuka District. A cross-sectional design was appropriate because data for both the quantitative and qualitative components were collected at a single point in time, providing a snapshot of the prevailing preconception care practices and the factors influencing them. The design was efficient, relatively inexpensive, and suitable for assessing the current situation without requiring follow-up of participants over time. Furthermore, the mixed-methods approach enhanced the validity and completeness of the findings by combining numerical estimates of preconception care practices with participants' experiences and contextual explanations, thereby directly addressing the study objectives.

## 3.2 Study setting.

The study was specifically conducted in public health facilities across Luuka District, Eastern Uganda, which is located approximately 279 km from Kampala, the capital city. In the district,

maternal and child health services were pivotal for ensuring the well-being of mothers and newborns. According to available statistics, deliveries were predominantly attended by skilled birth attendants. However, despite these efforts, maternal mortality remained a challenge, with a maternal mortality ratio of approximately 375 per 100,000 live births. Perinatal mortality rates also posed a concern, with an estimated rate of 40 per 1,000 births.

Postnatal care services were offered to mothers and babies, with approximately 60% of mothers attending at least one postnatal care visit within the first week after childbirth. Antenatal care coverage was relatively high, with approximately 90% of pregnant women attending at least one antenatal care visit, although only about 40% completed the recommended eight visits. Preconception care services were gradually gaining attention and aimed to address risk factors before pregnancy; however, practice among health care providers remained limited, with only around 2.5% of women receiving preconception care services.

Records from Luuka District indicated that the prevalence of ANC utilization stood at 53.8%, with many women making their first ANC visit in the third trimester in 2023. Additionally, over 5,219 deliveries were conducted at the different health facilities in the district (HMIS, 2023). Efforts to strengthen these services through increased access, quality improvement, and community engagement were considered essential for improving maternal and child health outcomes in the district. The district had a total of 28 public health facilities, comprising 18 HC II, 9 HC III, and 1 HC IV.

The study focused on public health facilities in Luuka District because they provided the majority of maternal and child health services, including antenatal, postnatal, and delivery care, and served as the primary points of access for most women in the district. Public facilities also operated under standardized government guidelines and protocols for maternal and reproductive health, which made it possible to assess the integration and delivery of preconception care within a structured system. Although private health facilities existed in Luuka District, their service coverage was relatively limited, and they often varied in terms of cost, accessibility, and adherence to Ministry of Health protocols. For this reason, they were excluded from the scope of the study. Nevertheless, their role was acknowledged, and future research could include both private and public health facilities to provide a more comprehensive understanding of preconception care delivery in the district.

### 3.3 Quantitative component

#### 3.3.1 Study Population

Health care providers involved in providing reproductive health services like PCC in public health facilities in Luuka district.

#### 3.3.2 Target population

The target population were healthcare providers who were directly involved in providing preconception care services in public health facilities within Luuka District. The district had a total of 117 healthcare providers who were directly involved in providing preconception care services to women of reproductive age.

#### 3.3.3 Study population

The study population comprised healthcare providers working in public health facilities in Luuka District whose routine responsibilities included the provision of reproductive, maternal, and preconception care services. These included doctors, clinical officers, nurses, and midwives working in antenatal care, maternity, family planning, outpatient, and reproductive health units. This population was considered appropriate because healthcare providers are the primary implementers of preconception care services and are directly responsible for assessing, counselling, screening, treating, and referring women of reproductive age before conception. Their knowledge, practices, and experiences were therefore essential for addressing the study objectives related to preconception care practices and the factors influencing service provision.

The study focused on preconception care interventions that are routinely delivered within public health facilities, including nutritional counselling, reproductive health counselling, screening and management of chronic and infectious diseases, immunization, and referral services. Only healthcare providers who were actively involved in delivering these services during the study period and who met the eligibility criteria were included.

Most respondents were recruited from Health Centre III (HC III) facilities because HC IIIs constitute the largest proportion of public health facilities in Luuka District and serve as the primary level of care for maternal and reproductive health services. They provide routine antenatal care, family planning, and other reproductive health services to a large catchment population and employ a greater number of frontline healthcare providers involved in preconception care than lower-level facilities. Consequently, HC IIIs contributed the largest number of eligible healthcare providers to the study. PCC is not routinely captured as a separate service indicator in HMIS, making it difficult

to estimate the exact number of women receiving PCC per provider per month. However, healthcare providers included in the study routinely attend to women of reproductive age through family planning, outpatient, and maternal health clinics, where PCC interventions can be integrated.

### 3.4 Selection criteria

#### 3.4.1 Inclusion criteria

All healthcare providers for example nurses, midwives, clinical officers and doctors who were actively providing reproductive health services like PCC and had consented to participate.

#### 3.4.2 Exclusion criteria

The study excluded healthcare providers who were not involved in the provision of preconception care services, including those working in departments such as the laboratory, pharmacy, records, and mortuary. Community Health Extension Workers (CHEWs) were also excluded because they were not formally employed by the public health facilities and were not responsible for providing the full range of preconception care services.

### 3.5 Sample size determination

The sample size was calculated using Yamane's formula: $n = N / [1 + N(e^2)]$. Where N = 117 and e = 0.05, $n = 117 / [1 + 117(0.05^2)] = 117 / 1.2925 = 90.5$, approximately 91. After adding 10% non-response, the final sample size was 99 respondents.

Data were collected from healthcare providers working in public health facilities in Luuka District who were involved in maternal, reproductive, family planning, outpatient, or antenatal care services.

The qualitative study population comprised health managers and senior healthcare providers responsible for planning, coordinating, supervising, and implementing preconception care and other reproductive health services in public health facilities in Luuka District. This population was considered appropriate because these individuals possessed in-depth knowledge and practical experience regarding the organization, implementation, challenges, and enabling factors influencing preconception care service delivery.

From this population, key informants were selected purposively based on their roles and experience in reproductive and maternal health service delivery. The key informants included the District Health Officer, the District Maternal and Child Health Focal Person, Health Facility In-charges, and Maternal and Child Health Unit In-charges from the selected public health facilities. The number of participants was not determined using a statistical formula but was guided by the principles of

information richness and data saturation. Interviews were conducted until no new information or themes emerged, indicating that sufficient data had been collected to adequately address the study objectives.

### 3.5.1 Selection of participants

For the quantitative component, health care providers working in public health facilities in Luuka District were selected using simple random sampling. A complete list of eligible providers was obtained from facility records, excluding those on leave. Participants were then randomly selected from this list to participate in the survey, ensuring each provider had an equal chance of selection. Qualitative component: Key informants for in-depth interviews were purposively selected based on their roles in maternal and reproductive health services, experience with preconception care, and ability to provide insights into barriers and facilitators of PCC delivery.

## 3.6 Study variables

### 3.6.1 Dependent variable

The primary outcome of this study was the provision of preconception care (PCC) services by healthcare providers in public health facilities in Luuka District. Operationally, PCC provision was defined as the routine delivery of core interventions recommended by the Ministry of Health, including medical history screening for chronic conditions and infectious diseases, nutritional assessment with emphasis on folic acid and iron supplementation, and health education and counselling on family planning, STI prevention, and preparation for a healthy pregnancy. In addition, the study examined secondary PCC practices, including lifestyle and psychosocial health screening, reproductive history assessment, genetic counselling, immunization, and evaluation of environmental exposures. For quantitative analysis, the outcome was measured as a composite score representing the proportion of recommended PCC services routinely provided by each healthcare provider. Providers who reported never, rarely, or occasionally providing PCC were classified as not routinely providing PCC. This operational definition allowed the study to assess both the availability and implementation of PCC services, as well as identify gaps between national policy guidelines and actual provider practice.

### 3.6.2 Independent variable

The independent variables of the study focused on both barriers and enablers influencing the provision of preconception care (PCC) among healthcare providers. Barriers included limited

knowledge and training, time constraints, lack of awareness among clients, insufficient resources, poor integration into routine healthcare, cultural and religious beliefs, weak policy implementation, financial constraints, inadequate space, shortage of staff, lack of partner support, and the cadre of staff. On the other hand, enablers included training and capacity building, integration of PCC into routine health services, public awareness and health education, availability of guidelines and protocols, use of digital health and telemedicine, support from government and NGOs, as well as the involvement of community and religious leaders.

### 3.7 Data collection tools and methods

Data were collected through structured interviews and questionnaires administered to healthcare workers, including doctors, nurses, clinical officers and midwives, across various healthcare facilities. The questionnaire covered topics such as counselling on family planning, nutrition, chronic disease management, and the importance of folic acid supplementation. Ethical approval was obtained from the relevant institutional review boards, and informed consent was sought from all participants.

#### 3.7.1 Researcher-administered questionnaire

Data in this study was collected using a structured questionnaire. The questionnaires were administered to respondents through interviews with the researcher. This method of questionnaire administration was selected in order to limit the non-response rate and to overcome biases that could arise from different interpretations of items by respondents. A structured questionnaire was developed for data collection in this study. The questionnaire comprised both open- and close-ended questions to obtain as much data as expected for the study. This enabled the researcher to have control over the responses given as well as to provide respondents the opportunity to share their views and opinions related to preconception care practice in Luuka District. Closed-ended questions were included to allow respondents to provide more details, particularly on their experiences, perceptions, barriers, and enablers to preconception care practice among health care providers.

The questionnaire consisted of four sections. The first section collected demographic characteristics of the respondents, including individual and socio-economic factors such as age, marital status, religion, level of education, occupation, area of residence, knowledge on preconception care, and attitude toward PCC. The second section of the questionnaire solicited information on care practices. The third section focused on barriers to preconception care

practices. The fourth and final section covered information on enablers to preconception care practice.

**Data Collection Procedure**

Data were collected using both quantitative and qualitative approaches. For the quantitative component, structured questionnaires were administered to health care providers working in public health facilities in Luuka District. A complete list of eligible providers was obtained from facility records, excluding those on leave, and simple random sampling was used to select participants. The selected respondents were approached at their respective facilities, informed about the study, and those who consented completed the questionnaire.

For the qualitative component, data were collected through in-depth interviews using a semi-structured interview guide. Key informants were purposively selected based on their roles in maternal and reproductive health services, their experience with preconception care, and their ability to provide detailed insights into barriers and facilitators of PCC delivery. The interviews were conducted by the researcher, lasted approximately 15–45 minutes, and were carried out in a private setting to ensure confidentiality. Participants were informed that there were no right or wrong answers and were encouraged to freely share their opinions and experiences.

## 3.8 Quality control techniques

### 3.8.1 Validity and Reliability

In order to ensure precision and consistency of the data collection instruments, the researcher conducted quality control tests on the instruments by testing for their validity and reliability.

**Reliability**

A pre-test of the instruments was conducted with five healthcare providers in Kamuli District, which has characteristics similar to Luuka District. The pre-test results yielded a Cronbach's alpha of 0.89, indicating high internal consistency for the relevant scales. Based on these results, the instrument was refined by adjusting question wording, sequencing, and response options to improve clarity and comprehension before final data collection.

**Validity**

Additionally, a pre-test of the questionnaire was conducted with five healthcare providers from Kamuli District, a setting with characteristics similar to Luuka District. The pre-test allowed identification of ambiguous or unclear items and facilitated improvements to the instrument, ensuring it was appropriate for the target population.

### 3.3.7 Entry, Analysis and Presentation

**Quantitative Data Analysis**

Quantitative data were coded, cleaned, entered into Excel, and analysed using STATA version 17. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to summarize socio-demographic characteristics of respondents and the provision of preconception care (PCC) services, directly addressing the first objective on the extent to which the recommended PCC package was routinely delivered. Visual tools, such as tables, pie charts and bar graphs, were generated to illustrate these distributions. PCC practices were quantified by considering those to have reported always and frequently provided.

For bivariable analysis, associations between provider characteristics (e.g., age, gender, professional cadre, training) and PCC provision were examined using Chi-square tests for categorical variables. Where expected cell counts were small (<5), Fisher's exact test was used. Statistical significance was determined at a p-value of <0.05. This approach allowed identification of factors potentially influencing the routine provision of PCC services and provided insights into determinants of provider practice.

**Qualitative Data Analysis**

Qualitative interviews were audio-recorded, transcribed verbatim, and analysed using thematic content analysis. The transcripts were read repeatedly to gain familiarity with the data, after which meaningful codes were generated. Related codes were grouped into categories, and categories were organized into themes and sub-themes that reflected participants' experiences, barriers, and facilitators regarding preconception care provision. Representative quotations were used to support the identified themes. The quantitative and qualitative findings were integrated during the interpretation and discussion of results. Quantitative findings provided the magnitude and determinants of preconception care practices, while qualitative findings explained and contextualized these results by exploring participants' experiences and perceptions. This integration enhanced the completeness and credibility of the study findings.

## 3.9 Qualitative approach

### 3.9.1 Selection of participants

Participants were selected purposively based on their leadership roles, expertise, and potential insight into preconception care services and practices. Health facility in-charges from the selected

HCIV, HCIII, HCII, and district-level stakeholders were interviewed to gain their expert insights into PCC implementation, policy gaps, and systemic challenges.

### 3.9.2 Sample sufficiency

Fifteen Key Informant Interviews (KIIs) were conducted with healthcare providers and district-level stakeholders in Luuka District. This number was chosen to balance breadth and depth, ensuring diverse perspectives from individuals with authoritative knowledge on maternal and preconception care. Informants included the District Health Officer, the Reproductive and Child Health focal person, health educators, facility in-charges, and midwives from selected HCIV, HCIII, and HCII facilities.

## 3.10 Data collection tools and methods

Data were collected through structured interviews with key selected health facility in-charges and district-level stakeholders. These participants were purposively selected based on their leadership roles, expertise, and their potential insight into preconception care services and practices.

### 3.10.1 Key informant interviews

The study conducted 15 Key Informant Interviews (KIIs) with healthcare providers and district-level stakeholders in Luuka District. This number was chosen to balance breadth and depth, ensuring diverse perspectives from individuals with authoritative knowledge on maternal and preconception care. Informants included the District Health Officer, the Reproductive and Child Health focal person, health educators, facility in-charges, and midwives from selected HCIV, HCIII, and HCII facilities. Participants were purposively selected in consultation with the District Health Office to capture a range of experiences across different facility levels and cadres. This purposive approach was appropriate since KIIs targeted individuals who could provide strategic insights on service delivery, challenges, and opportunities for improving preconception care in the district.

Interviews were conducted using an interview guide, and responses were audio-recorded and transcribed for accuracy. The data were analysed thematically, identifying key issues related to policy implementation, resource allocation, and training needs. Findings from the KIIs were used to complement quantitative findings, providing a holistic understanding of PCC practices among healthcare providers in Luuka District.

### 3.11 Quality control techniques for qualitative tool

Credibility: The researcher assessed response accuracy and truthfulness, validating alignment with participants' perspectives (Haashi et al., 2019). Selected individuals will ensure a faithful representation of opinions, thereby bolstering the credibility and authenticity of the collected data.

Dependability: The study, guided by Çalik (2022), rigorously maintained findings' stability across diverse conditions. Meticulous documentation of participant responses clarified themes and transparent data management processes boosted research outcome transferability.

Reflexivity: This involves meticulous documentation of the research process. In this study, reflexivity will be maintained by accurately recording participant comments and personal reflections, strictly following the interview guide to mitigate potential biases (Çalik, 2022). Trained research assistants were employed to reduce the researcher's influence in this process.

Transferability: The researcher assessed the applicability of the study's findings beyond public health facilities settings by providing a comprehensive and precise description supported by diverse data (Çalik, 2022). By incorporating a broad range of information, the study aims to ensure the robustness and relevance of its conclusions in diverse contexts, extending beyond health care providers in public health facilities through interaction with official from ministry of health and public health facilities settings.

**Training of Research Assistants**

The quality control issues began with the careful selection and adequate training of the research team, which was appropriately conducted. Adequate training was offered to the research assistants. This training covered the discussion and review of the research instruments. Two research assistants were recruited and trained on how to conduct interviews in order to minimize errors during the data collection process.

**Data editing and corrections**

This was done at the end of every day of data collection. The purpose was to ensure all required fields are accurately completed as requested.

### 3.12 Qualitative data analysis

In the qualitative data analysis, content analysis was employed. The researcher undertook a thorough examination of field notes and transcripts, involving meticulous editing, cleaning, and condensing procedures. The data were then systematically organized into discernible themes and sub-themes. Following Tracy's (2019) guidance, similar responses were grouped within specific

themes to ensure coherence and avoid the presentation of generic and uncoordinated information. This methodical approach allowed for a nuanced and comprehensive understanding of the qualitative data, facilitating meaningful insights from the gathered material.

The audiotaped interviews were transcribed verbatim. The transcripts were read repeatedly, and grammatical errors were corrected before being imported into Atlas.ti7 software for analysis. Thematic analysis was employed using deductive reasoning. The principal researcher transcribed each interview verbatim. Each interview was coded using a defined coding frame to ensure confidentiality and limit bias. Data analysis followed the three steps identified by Speziale and Carpenter (2017).

The first step involved a naïve reading of each text to gain an impression and formulate ideas for further analysis. The second step consisted of structural analysis to identify meaningful statements by revealing the structure and internal dependent relations that constituted the static state of the text. The third step involved developing an understanding of the interpreted whole through reflection on the naïve reading and structural analysis. From each transcript, significant statements pertaining directly to the provision of PCC among healthcare providers in public health facilities were identified. Meanings were then formulated from these significant statements. The formulated meanings were clustered into themes, allowing for the emergence of themes common across all participants transcripts. The results were then integrated into an in-depth, exhaustive description of the phenomenon.

This process involved opening each transcript in Atlas.ti7 software, followed by line-by-line reading and coding of all statements. The coding was reviewed, with some codes rearranged and others merged to develop coherent themes. A codebook was developed, and major and sub-themes were subsequently identified. The table of themes was exported into Word for further interpretation of the data. Additionally, each code was exported into Word to facilitate reading and selection of the best quotes or excerpts, which were presented in the results section of the study.

### 3.13 Ethical considerations

Study approval was sought from the Busitema University Faculty of Health Sciences Research Ethics Committee. The researcher also sought permission from the Uganda National Council of Science and Technology for ethical clearance. Administrative approval was obtained from Luuka District, particularly from the District Health Office. Informed written consent was obtained from each of the participants before the study. Either a thumbprint or signature from each of the

interested respondents was accepted. Every participant was also assured confidentiality by ensuring that identification features, such as names, were not recorded on the research tools. The informed consent form was signed as evidence of consent from the participants. The consent form also specified that participation was voluntary; therefore, participants were able to withdraw from the study at any point during the survey without any consequence. Additionally, the consent form included the aims, data collection procedures, data security and data management strategies, data reporting, and dissemination of the study results. All participants were made aware of their rights as participants: that they were volunteers who were free to withdraw from the study at any time and that they consented to participate by completing the questionnaires.

The respondents were assured that the information they provided would be kept confidential and used solely for research purposes. The respondents were also assured of maximum respect throughout the entire process of data collection.

The researcher sought approval from the Uganda National Council of Science and Technology and the Busitema University Faculty of Health Sciences Research and Ethics Committee (BUFHS_REC). These entities ensured that the research was relevant, appropriately conducted, and posed no harm to the study participants.

For more information about ethical approval and participants' rights and welfare, contact: BUFHS_REC Chair Dr. Katuramu Richard at 0787641061.

### 3.14 Plan for dissemination

Table 1 summarizes the dissemination plan of this study. The results of the study will be availed to various stakeholders informing of reports, policy briefs, scientific presentations, and publication.

***Table 1**: **Dissemination Plan Presented in a summarized order***

| **Stakeholder** | **Method of dissemination of research findings** |
|---|---|
| Busitema University | Dissertation |
| District Health Office, Luuka | Presentation/printed hard copy findings |
| Ministry of Health in Uganda | Policy brief |

# CHAPTER FOUR: RESULTS

## 4.0 Introduction

This chapter presents the study findings to determine routine provision and implementation of preconception care services by healthcare providers in public health facilities in Luuka District Quantitative findings

## 4.1 Response rate

The results are based on an analysis of data collected from 99 health workers who were interviewed, contributing to a response rate of 100%.

## 4.2 Demographic characteristics

Of the 99 participants in this study majority (n=51,51.5%%) were aged between31–40 years and were mostly female (n=72, 72.7%). Nearly half (n=44, 44.4%) were midwives, and more than half (n=57, 57.6%) had attained a diploma level of education. Most respondents (n=59,59.6%) worked in Health Centre IIIs. Nearly half of the respondents (n=46, 46.5%) had 6–10 years of work experience. While (n=55,55.6%) demonstrated good knowledge. Slightly more than half of the respondents (n=58,58.6%) were aware of national guidelines or protocols on preconception care.

***Table 4. 1: Demographic characteristics of the respondents***

| Variable | Frequency | Percentage |
|---|---|---|
| **Age group** | | |
| 18-30 | 19 | 19.2 |
| 31-40 | 51 | 51.5 |
| >41 | 29 | 29.3 |
| **Sex** | | |
| Female | 72 | 72.7 |
| Male | 27 | 27.3 |
| **Education level** | | |
| Bachelor degree | 12 | 12.1 |
| Certificate | 30 | 30.3 |
| Diploma | 57 | 57.6 |
| **Professional cadre** | | |
| Clinical officer | 15 | 15.2 |
| Doctor | 3 | 3.0 |
| Midwife | 44 | 44.4 |
| Nurse | 37 | 37.4 |
| **Facility type** | | |
| Health centre ii | 19 | 19.2 |

| | | |
|---|---|---|
| Health centre iii | 59 | 59.6 |
| Health centre iv | 21 | 21.2 |
| **Years in service** | | |
| ≤5 years | 23 | 23.2 |
| 6-10 years | 46 | 46.5 |
| >10 years | 30 | 30.3 |
| **Knowledge category** | | |
| Good knowledge | 55 | 55.6 |
| Limited knowledge | 44 | 44.4 |
| **Aware of PCC guidelines** | | |
| No | 41 | 41.4 |
| Yes | 58 | 58.6 |

### 4.2.1 Demographic characteristics associated with PCC practice

Among the health workers, routine PCC practice was low, with only 14 out of 99 participants reporting routine practice. The highest levels of routine PCC practice were observed among health workers aged 31 to 40 years, 9, 17.6%, those with bachelor's degrees, 3, 25.0%, nurses, 8, 21.6%, and clinical officers, 3, 20.0%. Routine PCC practice was also higher among health workers working in Health Centre III facilities, 10, 16.9%, those with more than 10 years of service, 7, 23.3%, those who had received PCC training, 7, 20.0%, those with good knowledge of PCC, 11, 20.0%, and those who were aware of PCC guidelines, 11, 19.0%.

At bivariate analysis, in table 4.2, although no socio-demographic factor reached statistical significance, higher proportions of routine PCC practice were observed among providers with good knowledge, awareness of PCC guidelines, prior training, and longer years of service. These patterns suggest programmatically important areas for intervention, but s

*Table 4. 2. Demographic characteristics associated with routine PCC practice*

| Variable | Routine PCC practice | | cPR (95% CI) | P-Value |
|---|---|---|---|---|
| | No N=85(%) | Yes N=14(%) | | |
| **Age group in years** | | | | |
| 18-30 | 17 (89.5) | 2 (10.5) | 1 | |
| 31-40 | 42 (82.4) | 9 (17.6) | 1.68(0.395 - 7.119) | 0.484 |
| >41 | 26 (89.7) | 3 (10.3) | 0.98(0.179 - 5.389) | 0.984 |
| **Sex** | | | | |
| Female | 62 (86.1) | 10 (13.9) | 1 | |
| Male | 23 (85.2) | 4 (14.8) | 1.07(0.363 - 3.133) | 0.907 |
| **Education level** | | | | |
| Bachelor degree | 9 (75.0) | 3 (25.0) | | |
| Certificate | 27 (90.0) | 3 (10.0) | 0.4(0.093 - 1.724) | 0.219 |
| Diploma | 49 (86.0) | 8 (14.0) | 0.56(0.173 - 1.823) | 0.337 |
| **Professional cadre** | | | | |
| Clinical officer | 12 (80.0) | 3 (20.0) | 1 | |
| Doctor | 3 (100.0) | 0 (0.0) | - | |
| Midwife | 41 (93.2) | 3 (6.8) | 0.34(0.076 - 1.523) | 0.159 |
| Nurse | 29 (78.4) | 8 (21.6) | 1.08(0.329 - 3.552) | 0.898 |
| **Facility type** | | | | |
| Health centre ii | 17 (89.5) | 2 (10.5) | | |
| Health centre iii | 49 (83.1) | 10 (16.9) | 1.61(0.384 - 6.76) | 0.515 |
| Health centre iv | 19 (90.5) | 2 (9.5) | 0.9(0.14 - 5.862) | 0.916 |
| **Years in service** | | | | |
| ≤5 years | 21 (91.3) | 2 (8.7) | 1 | |
| 6,10 years | 41 (89.1) | 5 (10.9) | 1.25(0.26 - 6.005) | 0.781 |
| >10 years | 23 (76.7) | 7 (23.3) | 2.68(0.61 - 11.813) | 0.192 |
| **Knowledge category** | | | | |
| Good knowledge | 44 (80.0) | 11 (20.0) | 1 | |
| Limited knowledge | 41 (93.2) | 3 (6.8) | 0.34(0.101 - 1.154) | 0.084 |
| **Aware of PCC guidelines** | | | | |
| No | 38 (92.7) | 3 (7.3) | 1 | |
| Yes | 47 (81.0) | 11 (19.0) | 2.59(0.766 - 8.766) | 0.126 |

### 4.3 Preconception Care Practices

This illustrates the current state of preconception care (PCC) delivery in health facilities, revealing significant gaps in structured service provision and routine practice. Most respondents (n=62, 62.6%) reported that they do not routinely discuss PCC with women preparing to conceive, and majority of the facilities (n=94, 94.5%) lacked designated PCC clinics or programs. Almost all respondents reported providing information on folic acid supplementation and relevant vaccinations (n=97, 98.0%) and referring women for specialized care when necessary (n=98, 99.0%). Only (n=2, 2.0%) reported formal documentation of preconception care, even though (n=89, 89.9%) used narrative notes and (n=27, 27.3%) used paper-based records. Standardized forms and checklists were almost absent (n=1, 1.0% each).

More than half of the respondents conducted outreaches (n=59, 59.6%) that included PCC services, most providers relied mainly on personal experiences (n=90, 90.9%), clinical judgment (n=62, 62.6%), and external sources such as online materials (61, 61.6%). By contrast only (n=6, 6.1%) reported using national guideline and (n=5, 5.1) reported using facility protocols. Nearly half of respondents (n=48, 48.5%) reported being confident in providing PCC.

Most respondents screened women planning to conceive for genetic disorders (n=75,75.8%). Patient self-referral was the most common means of identifying clients (97.0%), highlighting a reactive approach that may exclude women who do not actively seek care. The study also found that PCC services were rarely provided on a regular basis (n=51, 51.5%), primarily offered during health education sessions (41.4%) and general outpatient clinics (29.3%).

***Table 4. 3**: **Preconception Care Practices by the respondents***

| **Variables** | **Frequency N** | **Percentage %** |
|---|---|---|
| **Routinely discuss preconception care with women preparing to conceive** | | |
| Yes | 37 | 37.4 |
| No | 62 | 62.6 |
| **Have designated clinic or program for preconception care services in this facility** | | |
| Yes | 5 | 5.1 |
| No | 94 | 94.5 |
| **Provide information about folic acid supplementation and other relevant vaccinations** | | |
| Yes | 97 | 98.0 |
| No | 2 | 2.0 |

| | | |
|---|---|---|
| **Refer women to specialised care when necessary** | | |
| Yes | 98 | 99.0 |
| No | 1 | 1.0 |
| **Provide counselling on healthy life style choices such as diet, exercise, smoking and alcohol cessation** | | |
| Yes | 99 | 100 |
| **Assess for mental health conditions like depression and anxiety in women preparing to conceive** | | |
| Yes | 37 | 37.4 |
| No | 62 | 62.6 |
| **Screen for chronic conditions like diabetes, sickle cell diseases and hypertension in women planning to conceive** | | |
| Yes | 28 | 28.3 |
| No | 71 | 71.7 |
| **Ways used to identify patients seeking preconception care services (multiple responses allowed) *** | | |
| | 96 | 97.0 |
| Patient self-referral | 24 | 24.2 |
| Provider referral | 2 | 2.0 |
| Specific clinic or program | | |
| **Point preconception care services are offered at this facility** | | |
| Family planning | | |
| General outpatient clinic | 21 | 21.2 |
| Health education sessions | 29 | 29.3 |
| ANC | 41 | 41.4 |
| | 8 | 8.1 |
| **Specific preconception care services do you provide (multiple responses allowed) *** | 98 | 99.0 |
| | 87 | 87.9 |
| Nutritional counselling | 79 | 79.8 |
| Screening for chronic diseases | 94 | 94.9 |
| Family planning counselling | 31 | 31.3 |
| Health education | 75 | 75.8 |
| Substance Abuse Counselling | | |
| Screening for genetic disorders | | |
| **Use any standardised tools or checklists for preconception care** | | |
| Yes | 2 | 2.0 |
| No | 97 | 98.0 |
| **Document preconception care services in patient records (multiple responses allowed) *** | 27 | 27.3 |
| | 1 | 1.0 |
| Paper-based records | 1 | 1.0 |
| Standardised forms | 89 | 89.9 |
| Checklists | | |
| Narrative notes | | |
| **Carry out integrated outreaches with preconception care** | | |

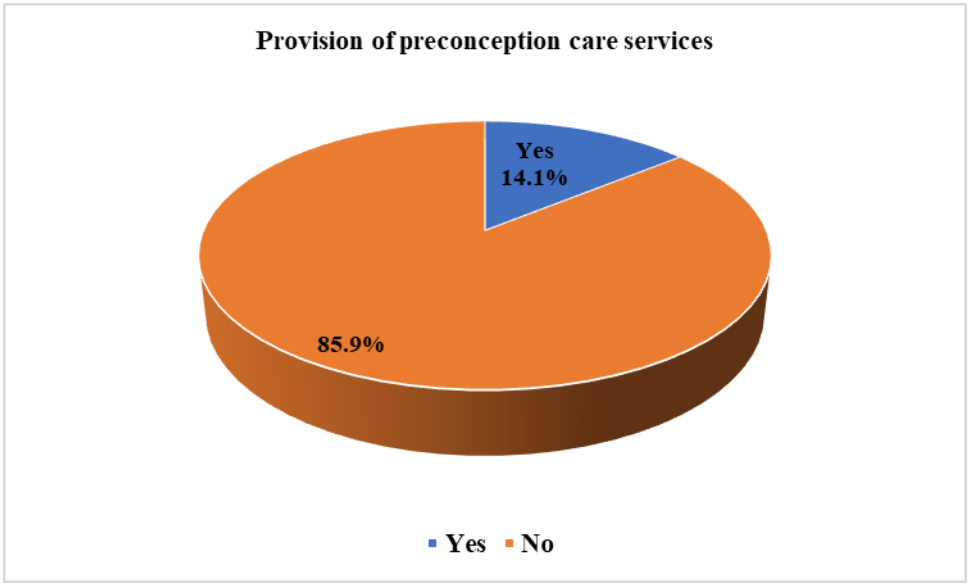
| | | |
|---|---|---|
| **services incorporated into that package** | | |
| Yes | 59 | 59.6 |
| No | 40 | 40.4 |
| **Resources or information do you typically use when providing preconception care services (multiple responses allowed) *** | 6 | 6.1 |
| National guidelines | 5 | 5.1 |
| Facility-based protocols | 62 | 62.6 |
| Clinical judgement | 90 | 90.9 |
| Personal experience | 61 | 61.6 |
| External resources like online materials | | |
| **How confident do you feel in providing preconception care services** | | |
| Not confident | 9 | 9.1 |
| Neutral | 42 | 42.4 |
| Confident | 48 | 48.5 |

**** Means multiple responses allowed***

**Provision of preconception care services**

Results showed that the majority of the respondents (85.9%) reported that preconception care services were not provided in their health facilities, while only a small proportion (14.1%) indicated that such services were provided. Overall, these findings suggest that provision of preconception care services was very low in most health facilities.

***Figure 4. 1: Shows the frequency of providing preconception care services***




**4.4 Barriers to Providing Preconception Care**

The major challenges reported in providing preconception care services were low client

awareness and insufficient resources, such as supplies and screening tools, each reported by (n=94,94.9%) of respondents. Lack of national or facility-specific guidelines (92,92.9%). In comparison, lack of training and knowledge among health workers (n=86,86.9%) and poor integration of preconception care into routine services (n=85,85.9%) were also common challenges. Limited time during patient consultations (n=81,81.8% of respondents. Cultural or religious barriers were reported by (n=67,67.7%), while financial constraints were the least reported challenge with nearly half of respondents (n=48,48.5%) identifying it tables a barrier. These findings suggest that both structural and knowledge-related factors hinder effective delivery of PCC, limiting its accessibility, comprehensiveness, and consistency across health facilities. This is probably because preconception care is not yet fully institutionalized within routine health systems, and many facilities lack the necessary resources, standardized protocols, and trained personnel to provide comprehensive services.

***Table 4. 4: Challenges faced in providing preconception care services (multiple responses)***

| **Variables** | **Yes N** | **Percentage %** |
|---|---|---|
| **Challenges faced in providing preconception care services*** | | |
| Lack of training and knowledge | 86 | 86.9 |
| Limited time during patient consultations | 81 | 81.8 |
| Low awareness among clients about preconception care | 94 | 94.9 |
| Insufficient resources (e.g., supplies, screening tools) | 94 | 94.9 |
| Poor integration of preconception care into routine services | 85 | 85.9 |
| Cultural or religious barriers | 67 | 67.7 |
| Lack of national or facility-specific guidelines | 92 | 92.9 |
| Financial constraints | 48 | 48.5 |

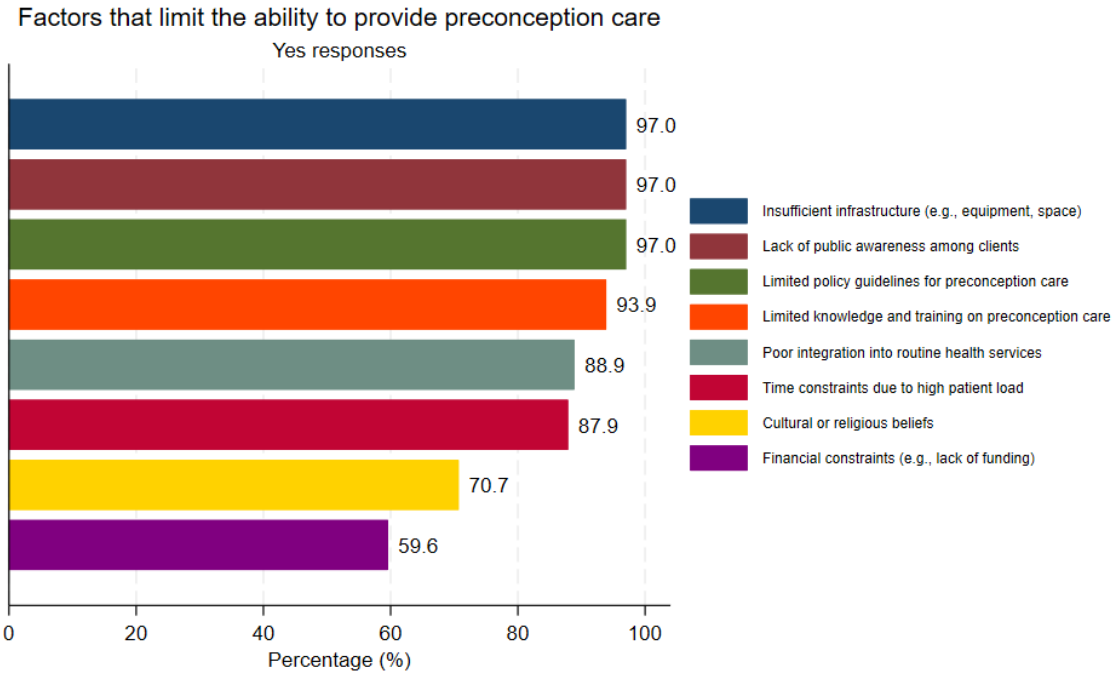
**** Means multiple responses allowed***

**Factors limiting the ability to provide preconception care services**

The figure below illustrates the factors limiting the provision of preconception care (PCC) services as reported by health care providers in Luuka District. The study revealed multiple systemic, resource-related, and socio-cultural factors hindering the consistent delivery of PCC. This is probably because preconception care has not been fully institutionalized within routine health services, with many facilities lacking the necessary infrastructure, trained personnel, and policy

frameworks to support comprehensive service delivery. Limited knowledge and training were reported by (n=93,93.9%) of respondents, time constraints due to high patient loads (n=87,87.9%,) and poor integration into routine services by 88.9%. Insufficient infrastructure, lack of public awareness, and limited policy guidelines were each reported by (n=97,97.0%), while cultural or religious beliefs and financial constraints were cited by (n=70,70.7%) and (n=59,59.6%), respectively.

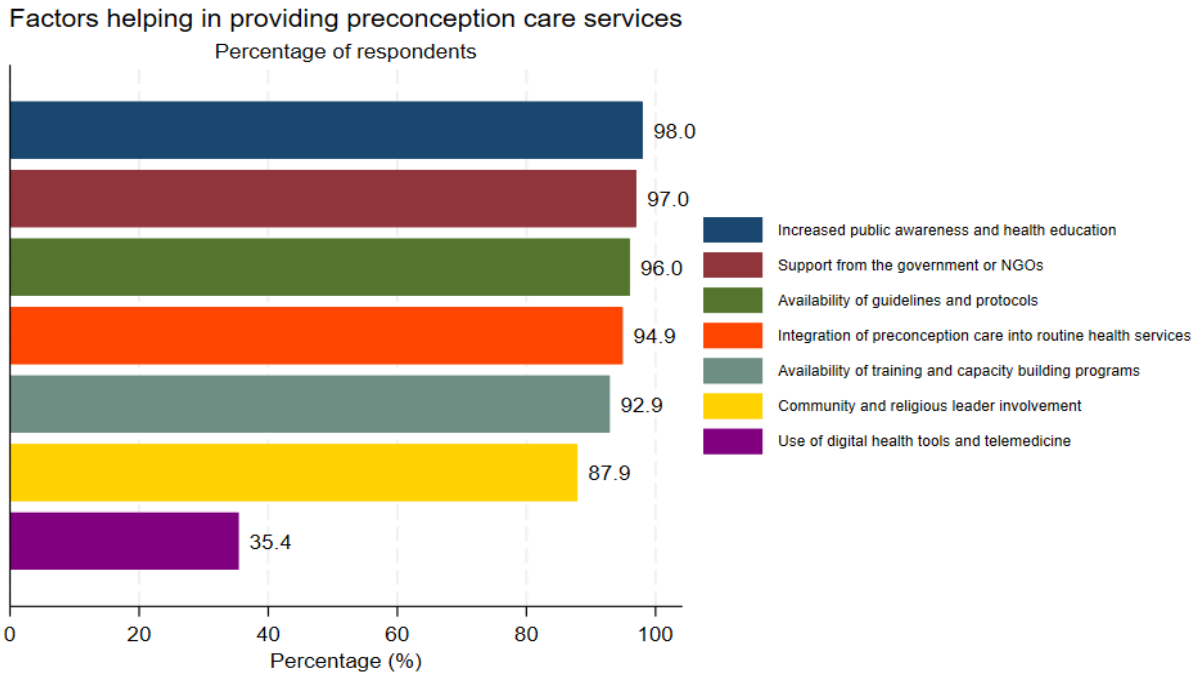
***Figure 4. 2*: *Factor that** limit the ability to provide preconception care*




### 4.5 Enablers to Providing Preconception Care

Findings show the main factors facilitating preconception care, increased public awareness and health education (n=98,98.0%), support from government or NGOs (n=97,97.0%), and the availability of guidelines and protocols (n=96,96.0%). Integration of preconception care into routine services (n=94,94.9%), availability of training and capacity-building programs (n=92,92.9%) were also frequently reported. Community and religious leader involvement supported service provision in (n=87,87.9%) of cases with the least common being the use of digital health tools and telemedicine (n=35,35.4%).

***Figure 4. 3:*** *Factors helping in providing preconception care services*




The extent to which these factors support the ability to provide preconception care (Likert scale was used)

The findings indicate that multiple factors act as key enablers to the implementation of preconception care (PCC) in public health facilities. Notably, support from the government and non-governmental organizations (n=94, 94.0%) emerged as the most prominent enabler. Similarly, training and capacity-building programs (n=87, 87.9%) were highly rated. The high rating of digital health tools (n=81, 81.8%) further underscores the growing importance of technology in enhancing access to information, communication, and service delivery. In addition, community and religious leaders (n=83, 83.8%) were recognized as influential in shaping health behaviours. Furthermore, public awareness and health education efforts (n=78, 78.8%) and integration of PCC into routine health services (n=77, 77.8%) were also identified as important enablers. However, relatively lower proportion of respondents identified availability of guidelines (n=59,59.6%) as an enabler.

***Table 4. 5: The extent to which these factors support the ability to provide preconception care (the Likert scale was used)***

| Enabler | Frequency (n) | Percentage (%) |
|---|---|---|
| Government & NGO support | 94 | 94.0 |
| Digital health tools | 81 | 81.8 |
| Training & capacity building | 87 | 87.9 |
| Community & religious leaders | 83 | 83.8 |
| Public awareness | 78 | 78.8 |
| Integration into routine services | 77 | 77.8 |
| Guidelines availability | 59 | 59.6 |

**4.5.1 Bivariable analysis of** factors supporting the ability to provide preconception care

Among health workers, routine PCC practice remained generally low across most perceived support factors. Routine PCC practice was relatively higher among those who perceived slightly supportive integration into routine health services, 1, 33.3%, slightly supportive availability of national or facility-specific guidelines, 1, 33.3%, slightly supportive support from government and NGOs, 1, 33.3%, and slightly supportive task shifting and teamwork, 1, 50.0%. The highest proportions of routine PCC practice were observed among health workers who perceived community and religious leaders as slightly supportive, 3, 50.0%, and task shifting and teamwork as slightly supportive, 1, 50.0%. In terms of more programmatically meaningful categories, routine PCC practice was also notable among those who perceived availability of national or facility-specific guidelines as very supportive, 12, 20.3%, use of digital health tools as very supportive, 4, 23.5%, and public awareness and health education efforts as moderately supportive, 5, 26.3%. At crude analysis, health workers who perceived community and religious leaders as slightly supportive were 3.77 times more likely to practice routine PCC compared with those who perceived them as very supportive, and this association was statistically significant (cPR = 3.77, 95% CI: 1.421, 10.015; p = 0.008). Health workers who perceived task shifting and teamwork as slightly supportive were 3.88 times more likely to practice routine PCC compared with those who perceived it as very supportive, although this association was not statistically significant, (cPR = 3.88, 95% CI: 0.873, 17.206; p = 0.075). Those who perceived public awareness and health education efforts as moderately supportive were 2.28 times more likely to practice routine PCC compared with those who perceived them as very supportive (cPR = 2.28, 95% CI: 0.859, 6.054; p = 0.098). Conversely, health workers who perceived the availability of national or facility-specific

guidelines as moderately supportive were 87% less likely to practice routine PCC compared with those who perceived them as very supportive, and this association was statistically significant, (cPR = 0.13, 95% CI: 0.018, 0.990; p = 0.049). Overall, community and religious leader support, availability of guidelines, task shifting and teamwork, and public awareness efforts showed the most meaningful patterns in relation to routine PCC practice.

***Table 4. 6: Factors supporting the provision of preconception care services by routine PCC practice***

| **Variable** | **Routine PCC practice** | | **cPR (95% CI)** | **P-Value** |
|---|---|---|---|---|
| | **No N=85(%)** | **Yes N=14(%)** | | |
| **Training and capacity building programs** | | | | |
| Very supportive | 75 (86.2) | 12 (13.8) | 1 | |
| Moderately supportive | 7 (87.5) | 1 (12.5) | 0.91(0.133 - 6.162) | 0.92 |
| Slightly supportive | 3 (75.0) | 1 (25.0) | 1.81(0.304 - 10.811) | 0.514 |
| **Integration into routine health services** | | | | |
| Very supportive | 66 (85.7) | 11 (14.3) | 1 | |
| Moderately supportive | 17 (94.4) | 1 (5.6) | 0.39(0.053 - 2.85) | 0.353 |
| Slightly supportive | 2 (66.7) | 1 (33.3) | 2.33(0.426 - 12.772) | 0.329 |
| **Public awareness and health education efforts** | | | | |
| Very supportive | 69 (88.5) | 9 (11.5) | 1 | |
| Moderately supportive | 14 (73.7) | 5 (26.3) | 2.28(0.859 - 6.054) | 0.098 |
| Slightly supportive | 2 (100.0) | 0 (0.0) | - | |
| **Availability of national or facility specific guidelines** | | | | |
| Very supportive | 47 (79.7) | 12 (20.3) | 1 | |
| Moderately supportive | 36 (97.3) | 1 (2.7) | 0.13(0.018 - 0.99) | 0.049 |
| Slightly supportive | 2 (66.7) | 1 (33.3) | 1.64(0.303 - 8.852) | 0.566 |
| **Use of digital health tools** | | | | |
| Very supportive | 13 (76.5) | 4 (23.5) | 1 | |
| Moderately supportive | 21 (80.8) | 5 (19.2) | 0.82(0.254 - 2.633) | 0.735 |
| Slightly supportive | 50 (90.9) | 5 (9.1) | 0.39(0.116 - 1.287) | 0.121 |
| **Support from government and NGOs** | | | | |
| Very supportive | 80 (86.0) | 13 (14.0) | 1 | |
| Moderately supportive | 3 (100.0) | 0 (0.0) | - | |
| Slightly supportive | 2 (66.7) | 1 (33.3) | 2.38(0.442 - 12.875) | 0.312 |
| **Community and religious leaders** | | | | |
| Very supportive | 72 (86.7) | 11 (13.3) | 1 | |
| Moderately supportive | 9 (100.0) | 0 (0.0) | - | |
| Slightly supportive | 3 (50.0) | 3 (50.0) | 3.77(1.421 - 10.015) | 0.008 |
| **Task shifting and teamwork** | | | | |
| Very supportive | 81 (87.1) | 12 (12.9) | 1 | |
| Moderately supportive | 2 (66.7) | 1 (33.3) | 2.58(0.475 - 14.054) | 0.272 |

| | | | | |
|---|---|---|---|---|
| Slightly supportive | 1 (50.0) | 1 (50.0) | 3.88(0.873 - 17.206) | 0.075 |

**QUALITATIVE FINDINGS**

The finding above was supported by the qualitative findings as stated below

**Enablers to Providing Preconception Care**

**Theme: Religious Influence**

**Supportive Roles**

Participants highlighted that religious institutions can act as important enablers of preconception care. Churches, mosques, and religious leaders often provide counselling, premarital guidance, and advice on family planning or genetic considerations, creating opportunities to integrate PCC messages into faith-based activities. Religion was viewed as a platform for promoting health-seeking behaviours in a culturally acceptable way, particularly among young couples preparing for marriage. Churches, mosques, and religious leaders often offer counselling, premarital guidance, and advice on family planning or genetic considerations, creating a culturally acceptable platform for promoting healthy reproductive behaviours.

One provider noted,

*"Religion supports counseling and genetic guidance."* (**Participant 012)**

Another stated,

*"Church tells the young ones not to conceive before marriage."* (**Participant 011**)

Participants also mentioned that leveraging religious settings could improve community uptake of PCC:

*"When leaders speak during sermons, people take the advice seriously and follow recommendations."* (**Participant 014)**

*"Faith-based gatherings are the best place to reach couples with preconception care messages."* (**Participant 009**)

**Theme: Opportunities**

**Training**

Participants highlighted that improving the knowledge, skills, and confidence of health care

providers is critical for strengthening preconception care (PCC). They emphasized the need for structured training programs, regular refresher courses, and mentorship opportunities. Training was seen as essential not only for equipping providers with technical knowledge but also for enhancing their confidence to deliver comprehensive PCC services, including counseling, screening, and preventive interventions. One participant stated,

*"Government should train health workers."* **(Participant 004)**

Others stressed mentorship and continuous learning as crucial for sustaining skills:

*"We need someone to guide us on how to do PCC properly, not just one-off trainings."* **(Participant 015)**

**Integration of PCC into existing health services**

Integration of PCC into existing health services was perceived as a practical strategy to improve coverage and efficiency. Participan6ts suggested embedding PCC into outpatient departments (OPD), family planning clinics, school health programs, and community outreach activities. Integration was viewed as a way to ensure that preconception services reach a wider population without requiring separate infrastructure or dedicated programs. Participants also noted that systematic integration would improve data collection and monitoring of PCC uptake. Embedding PCC into outpatient departments, family planning clinics, school health programs, and community outreaches ensures wider reach without requiring separate infrastructure or programs.,

*"Integration is not real; I would say it is at 10%. Once it's integrated, the data will come out well."* (**Participant 001)**

Several participants noted that integration could reduce missed opportunities for women who access routine health services:

*"If we include PCC in every family planning visit, most women will automatically get it without extra effort."* (**Participant 014)**

**Sensitization**

Community awareness and stakeholder engagement were highlighted as key opportunities for strengthening PCC. Participants recommended outreach to schools, community gatherings, and direct engagement with Village Health Teams (VHTs), cultural leaders, and religious leaders. These strategies were seen as essential for improving knowledge, encouraging early preparation for

pregnancy, and increasing uptake of preconception services. Providers suggested that community sensitization could also address cultural misconceptions and motivate families to seek services proactively. *the community and schools."* (**Participant 007)**

Another emphasized engaging influential community figures, stating,

*"Engage stakeholders like religious and cultural leaders."* (**Participant 001)**

Others highlighted that community involvement would create demand for services and reinforce messages delivered at health facilities:

*"When the community knows about PCC, women come prepared and ask for services themselves."* (**Participant 013)**

**Barriers to preconception care practice**

**Theme: Absence of Structured and Routine PCC Services**

**PCC not institutionalized as a routine service**

Participants reported that preconception care (PCC) services are not formally structured or systematically integrated within health facilities. Many healthcare providers described PCC as an informal practice, largely dependent on individual initiative, rather than a standardized service with defined schedules, protocols, or reporting mechanisms.

This lack of structure reflects broader system-level neglect of preconception health and highlights gaps in policy implementation, resource allocation, and staff training. Several participants emphasized the absence of formal recognition of PCC within routine healthcare provision. One participant noted:

> *"We don't have structured services for PCC as yet."* **(Participant 014)**

Another explained the informal nature of current practices:

> *"PCC has not been an indicator to follow up; it is offered at a personal level."* **(Participant 012)**

These statements illustrate that PCC is often provided sporadically, without systematic documentation or integration into regular maternal and reproductive health services. Consequently, opportunities for early intervention, risk assessment, and health education for women preparing to conceive are frequently missed. Providers also reported that the lack of guidelines and formal protocols contributes to inconsistencies in service delivery, leaving the quality and

comprehensiveness of PCC largely dependent on individual provider knowledge and motivation. This finding highlights the need for health systems to establish dedicated PCC services, supported by clear policies, training, and monitoring frameworks, to ensure that preconception health becomes an integral part of routine care rather than an optional or ad hoc service.

**Opportunistic Engagement during Other Health Service Contacts**

Health care providers reported that preconception care (PCC) is often delivered opportunistically, primarily when women access other health services, rather than through a structured or proactive program. Clients are most commonly identified during visits to outpatient departments, family planning clinics, antenatal care, or child health services. This approach reflects a reactive mode of service delivery, where interventions are provided only when a need is apparent, rather than systematically targeting all women planning a pregnancy. Providers emphasized that this method limits the reach and effectiveness of preconception care, as many women who could benefit from early interventions may be missed.

One participant noted,

> *"The only few who come early are identified from OPD or family planning"* **(Participant 012)**

Another provider reinforced this point, stating,

> *"It always comes when someone is failing to conceive"* **(Participant 011)**

**Theme: Partial Implementation of the Preconception Care Package**

**Emphasis on health education and folic acid supplementation**

Health care providers reported that the delivery of preconception care (PCC) was largely centered on health education and counseling, with a strong focus on nutrition and folic acid supplementation. Other recommended components of the preconception care package, such as screening for chronic diseases, genetic counseling, and vaccination updates, were rarely implemented. Providers emphasized that these core interventions, dietary advice and folic acid, were prioritized because they are simple, low-cost, and widely recognized as essential for preventing birth defects. However, the narrow focus on these elements meant that many women did not receive the full spectrum of preconception services, potentially limiting the effectiveness of care.

The study found that preconception care (PCC) delivery largely emphasized health education and folic acid supplementation, while other recommended services, such as screening for chronic diseases, genetic counselling, and vaccination updates were infrequently provided. Quantitatively, 94.9% of respondents reported providing health education, yet qualitative interviews revealed that this education was often superficial, focusing on general advice rather than the full, comprehensive PCC package. This discrepancy highlights that while providers routinely deliver certain low-cost, easy-to-implement interventions, more complex services requiring additional training, time, or equipment are less consistently offered. delivered.

One provider explained,

> *"What we mostly give is folic acid… other parts of the package we don't give."* (**Participant 001**)

Another participant highlighted the routine nature of these interventions, noting,

> *"We counsel them, advise them, and give folic acid to prepare them."* (**Participant 014**)

**Limited screening and preventive interventions**

Screening and preventive interventions beyond counseling were inconsistently provided, particularly in lower-level health facilities. Participants cited multiple barriers, including a lack of diagnostic equipment, inadequate supplies, heavy workloads, and gaps in knowledge and training. Screening for chronic conditions like diabetes, hypertension, and sickle cell disease, as well as for infections and genetic disorders, was reported as irregular or unavailable. As a result, preconception care often occurs only when resources are available or when women present with obvious risk factors, rather than through proactive, comprehensive service delivery.

One provider explained,

> *"Lower facilities don't have HCG strips or sickle cell tests."* (**Participant 002**)

Another participant emphasized operational constraints, saying,

> *"Nutritional supplements and screening don't happen because of workload and knowledge gaps."* (**Participant 004**)

Several providers noted that limited staffing exacerbates these gaps, making it difficult to deliver comprehensive care:

*"Even if we want to screen for everything, we simply don't have enough staff to do it properly."* (**Participant 007**)

*"Sometimes we prioritize those who are obviously sick or have known risks; healthy women planning pregnancy often get minimal attention."* (**Participant 009**)

***Theme: Knowledge and Training Gaps***

***Limited Formal Training***

*Most health care providers reported that they had never received formal training on preconception care (PCC). As a result, their knowledge was largely self-taught, pieced together from personal reading, online resources, or on-the-job experience. This led to inconsistent application of PCC in practice, as providers were uncertain about the full scope of services and the proper protocols to follow. Several participants highlighted that this knowledge gap contributes to a lack of confidence in delivering comprehensive preconception care and limits the quality of counseling provided to women preparing for pregnancy. This is probably because PCC is not yet a standardized component of pre-service curricula or continuous professional development programs in many public health facilities. This is in line with studies which have reported that inadequate training limits providers' confidence and competence in delivering PCC (Ikwuka et al., 2022; Akinmoladun et al., 2021). Similarly, research by Mwanri et al. (2020) found that even when healthcare workers are aware of the importance of PCC, lack of formal training results in inconsistent implementation and suboptimal quality of counseling. This implies that continuous professional development and structured training programs are crucial for equipping providers with the skills needed to deliver comprehensive PCC services.*

*One provider stated,*

"I haven't received any training on PCC; I just use Google. " *(Participant 001)*

*Another participant reflected on broader awareness issues among staff, noting,*

"Most health workers don't know they are supposed to give this service. " *(Participant 004)*

*Additional participants emphasized reliance on personal judgment rather than structured guidance:*

"We do what we think is right, but we haven't been formally trained on the steps or what to screen for." *(Participant 007)*

*Knowledge Not Applied*

*Even when health workers were aware of preconception care concepts, their knowledge often remained theoretical and was rarely translated into routine practice. Providers reported a lack of clarity on the full PCC package, including its components, sequence, and significance, which limited systematic delivery. Some participants indicated that while they understood the importance of PCC, they rarely initiated discussions with clients or offered services proactively. This gap between knowledge and practice suggests that awareness alone is insufficient; structured training and practical guidance are necessary to ensure consistent implementation. This is probably because awareness alone is insufficient without structured guidance, protocols, and monitoring mechanisms. This is consistent with studies that indicate that knowledge of PCC does not automatically result in service provision, particularly in high-workload, low-resource settings (Ikwuka et al., 2022; Sarkar et al., 2021). In addition, Stewart et al. (2020) highlighted that providers often perceive PCC as non-essential for women who are not yet pregnant, which contributes to reactive rather than proactive care delivery. This implies that targeted interventions, including practical guidelines, checklists, and mentorship, are needed to translate knowledge into consistent, high-quality PCC practices.*

One participant explained,

> *"This is a thing we know as health workers but we don't share with clients."* (Participant 013)

Another participant highlighted the slow adoption among colleagues, stating,

> *"Health workers have not embraced the concept of PCC."* (Participant 014)

Additional reflections emphasized the disconnect between theory and practice:

*"Even when we know the steps, heavy workload and uncertainty about protocols make it difficult to act on this knowledge."* (Participant 006)

*"Many of us can explain PCC in theory, but in reality, it's rarely offered to women unless they ask specifically."* (Participant 008)

**Theme: Health System Constraints**

**Insufficient Guidelines and Registers**

Health care providers highlighted that the absence of preconception care (PCC)-specific guidelines, registers, and reporting indicators significantly undermined accountability and the visibility of the service within health facilities. Without clear protocols, providers often relied on personal judgment, leading to inconsistent delivery and limited documentation of services. The lack of reporting indicators meant that PCC was rarely monitored or evaluated, reducing its priority among staff and

management. Participants emphasized that even when women accessed care, the absence of structured tools made it difficult to provide comprehensive services or track outcomes systematically.

*"Even if we get the clients, we have nowhere to write."* (Participant 005)

Another provider added,

*"No reportable indicators, so people don't take it seriously."* (Participant 007)

Several participants explained that this gap not only affected documentation but also reduced motivation to offer PCC consistently:

*"When there's no guideline, everyone does their own thing, and some just ignore it."* (Participant 015)

Low Staffing and Workload

Providers consistently reported that staffing shortages and heavy workloads constrained their ability to deliver PCC. High patient volumes required prioritization of acute cases and maternal or child health services, leaving little time for preventive interventions. PCC was perceived as a non-urgent service, and providers often deferred or skipped it to manage immediate clinical demands. These challenges were particularly acute in lower-level facilities where a single provider might attend to a large number of clients daily.

*"One person attends to over 100 clients a day."* (Participant 003)

Another participant reflected on the low prioritization of PCC:

*"Preconception care isn't an emergency."* (Participant 012)

Providers emphasized that even when resources and time were available, workload pressures often led to minimal engagement with preventive services:

*"You want to give proper counseling, but when there's a long queue, it's impossible."* (Participant 008)

Limited Resources and Commodities

Limited availability of essential medicines, supplements, and diagnostic equipment further constrained PCC delivery. Providers reported that inconsistent supply chains and stock-outs prevented comprehensive screening and preventive interventions. Even when services were planned, the lack of necessary commodities restricted what could be offered, leading to a reliance on partial interventions such as counseling and folic acid distribution. This is probably because procurement and supply chains for preventive care commodities are weak in many facilities, leaving providers to

rely on partial interventions like counselling and folic acid supplementation. Resources are critical for comprehensive PCC services.

One participant explained,

> *"At times commodities are there, other times not."* (Participant 002)

Another emphasized the impact of logistical constraints:

> *"Equipment and logistics… because of limited resources, this doesn't happen."* (Participant 014)

Some providers highlighted that resource limitations forced difficult prioritization decisions, often leaving preventive PCC interventions at the bottom of the list:

> *"We can't provide everything; you just give what is possible with what you have."* (Participant 009)

**Theme: Community Barriers**

**Low Awareness**

Participants highlighted that low awareness of preconception care (PCC) among community members significantly limits uptake. Many women and families are unaware of the existence, purpose, and benefits of PCC, resulting in late engagement with health services or complete absence from preconception consultations. This lack of knowledge also contributes to misconceptions about the services and reduces motivation to seek care proactively. Providers emphasized that even when services are available, the community often does not demand them due to limited information and health education at the grassroots level. y uptake of PCC. One participant stated,

> *"The community isn't aware of the importance of PCC."* (Participant 001)

Another participant noted,

> *"Women lack information about preconception care."* (Participant 007)

Several providers added that this lack of awareness creates challenges for timely interventions:

> *"Most women only come when they realize they are struggling to conceive or are already pregnant."* (Participant 015)
>
> *"Without awareness campaigns, people don't think about PCC; it's still an unfamiliar concept in the villages."* (Participant 008)

**Cultural Beliefs**

Cultural norms and beliefs around secrecy and pregnancy planning were reported to constrain women's willingness to seek PCC. Discussing pregnancy intentions before conception is often discouraged, as it is thought to invite bad luck or evil spirits. This cultural barrier fosters reluctance to visit health facilities for PCC services and limits open dialogue between women, families, and health care providers. Providers explained that even when women have knowledge of PCC, cultural expectations inhibit utilization.

> *"Pregnancy cannot be talked about before it is seen."* (Participant 003)

Another stated,

> *"People fear bad omens, so they keep it secret."* (Participant 013)

Additional accounts emphasized how these norms affect family involvement and community education:

> *"Even husbands sometimes discourage women from attending PCC because it is not openly discussed."* (Participant 006)
>
> *"Some women are afraid to come for care early because neighbors will gossip or judge them."* (Participant 010)

# CHAPTER FIVE: DISCUSSION, SUMMARY, CONCLUSION, AND RECOMMENDATIONS

## 5.0 Introduction

This chapter gives a comprehensive assessment of the study results according to the study objective, assessing the routine provision and implementation of preconception care services by healthcare providers in public health facilities in Luuka District. This chapter also gives the conclusions of the study findings and recommendations that could be considered to improve preconception care practices.

## 5.1 **Discussion**

### 5.1.1 Preconception Care Practices

This study assessed preconception care (PCC) practices among healthcare providers in public health facilities in Luuka District and found that only 14% of providers demonstrated adequate PCC practices. This finding indicates that although some PCC-related interventions are being provided, comprehensive PCC delivery remains limited and is not yet fully integrated into routine reproductive health services. The low level of practice suggests that PCC is largely implemented as an opportunistic activity rather than as a structured package of preventive care for women planning pregnancy.

The qualitative findings further supported this observation, showing that healthcare providers commonly provided selected PCC interventions during routine contacts such as family planning, outpatient consultations, health education sessions, and antenatal care visits rather than through dedicated PCC services. One provider noted, *"We don't have structured services for PCC as yet."* This reflects a broader challenge observed in many low-resource settings, where PCC implementation is often constrained by the absence of dedicated service delivery platforms and is instead incorporated informally into existing maternal and reproductive health services (Mahumud et al., 2019; Johnson et al., 2017). The similarity may be explained by shared health system challenges, including limited provider preparation, inadequate operational guidance, competing healthcare priorities, and weak monitoring mechanisms.

Although the overall level of PCC practice was low, the study found that some basic PCC interventions were commonly provided. Nearly all healthcare providers reported offering information on folic acid supplementation and relevant vaccinations, providing lifestyle

counselling, and referring women for specialized care when necessary. This pattern suggests that providers recognize the importance of preventive interventions that require limited resources and can easily be incorporated into routine consultations. Similar findings have been reported in other African settings, where healthcare providers frequently prioritize counselling-based interventions because they require fewer diagnostic resources and can be delivered within existing service structures (Kassa et al., 2021; Munthali et al., 2021).

However, more comprehensive PCC interventions, including screening for chronic diseases, genetic disorders, mental health conditions, and other pregnancy-related risks, were less frequently provided. This indicates that PCC delivery in Luuka District remains incomplete, with greater emphasis placed on health promotion activities than on risk identification and management. Comprehensive PCC requires not only provider awareness but also access to diagnostic services, clinical guidelines, essential medicines, and referral mechanisms. Similar gaps have been reported in other low-resource settings, where services requiring additional infrastructure, laboratory capacity, or specialized knowledge are often poorly implemented (Ukoha & Mtshali, 2022; Musoke et al., 2021).

The limited screening practices observed in this study are particularly important because identifying and managing health conditions before conception provides an opportunity to reduce preventable maternal and newborn complications. The low frequency of screening for conditions such as hypertension, diabetes, sickle cell disease, and other chronic conditions suggests missed opportunities for early intervention among women of reproductive age. This finding is consistent with studies showing that preventive health services are often affected by inadequate equipment, limited availability of diagnostic supplies, and insufficient provider training in primary healthcare settings (Kassa et al., 2021; Munthali et al., 2021).

The study also found that PCC services were rarely supported by standardized tools, with most providers relying on narrative documentation and personal clinical judgement. Only a small proportion reported using PCC-specific checklists or standardized forms. This suggests that PCC lacks the institutional structures required to support consistent implementation, monitoring, and accountability. Evidence from other settings indicates that the availability of clinical guidelines, registers, and reporting tools improves service standardization and encourages providers to incorporate preventive interventions into routine practice (M'hamdi et al., 2017; Ukoha et al., 2020). In the absence of such tools, PCC delivery may depend heavily on individual provider motivation and experience, resulting in variation in the quality and comprehensiveness of care

provided.

Provider confidence in delivering PCC was also limited, with approximately half of respondents reporting confidence while many remained neutral or not confident. This finding suggests that exposure to PCC concepts does not necessarily translate into competence in delivering a comprehensive PCC package. Healthcare providers may understand the general importance of PCC but lack practical skills in areas such as risk assessment, chronic disease optimization, genetic counselling, and mental health screening. Similar findings have been reported in other studies where healthcare providers demonstrated basic awareness of PCC but lacked confidence in implementing more advanced components of care due to inadequate practical training and limited mentorship opportunities (Ikwuka et al., 2022; Stewart et al., 2020).

The discrepancy between high reporting of individual interventions and the low overall PCC practice level highlights an important distinction between providing isolated PCC activities and delivering a comprehensive PCC package. While interventions such as lifestyle counselling and folic acid education are valuable, PCC requires a coordinated approach that includes assessment, counselling, prevention, treatment, and follow-up. Therefore, the findings suggest that PCC in Luuka District is at an early stage of implementation, characterized by partial delivery of selected interventions rather than systematic provision of comprehensive services.

### 5.1.2 Barriers to Providing Preconception Care

This study identified healthcare provider-related factors as important determinants of preconception care (PCC) practices in public health facilities in Luuka District. The findings indicate that provider knowledge, training exposure, confidence, and attitudes influenced the extent to which PCC interventions were incorporated into routine care. Although healthcare providers are the main actors responsible for delivering PCC, their ability to provide comprehensive services depends on their preparedness, clinical competencies, and perception of the importance of PCC within the continuum of reproductive healthcare.

Limited formal training and inadequate opportunities for continuing professional development emerged as important factors affecting PCC implementation. While some providers reported having encountered PCC concepts during their pre-service training, many indicated that the training was insufficiently detailed and did not adequately prepare them for practical application. This explains why providers were more comfortable delivering basic interventions such as lifestyle counselling and folic acid advice but were less confident in implementing complex components such as chronic disease screening, genetic counselling, and comprehensive reproductive risk assessment.

These findings are consistent with studies from other low-resource settings, which have demonstrated that healthcare providers often possess general awareness of PCC but lack the practical skills required for comprehensive service delivery (Ikwuka et al., 2022; Stewart et al., 2020). The similarity may be attributed to limited emphasis on PCC within routine healthcare training programmes, inadequate refresher training, and insufficient mentorship after deployment. In contexts where PCC is not frequently emphasized as a distinct service area, providers may perceive it as an additional responsibility rather than an essential component of preventive reproductive healthcare.

The study further revealed that provider confidence influenced the scope of PCC services offered. Providers who lacked confidence were more likely to limit their involvement to basic counselling and referral activities, while those with greater confidence were more likely to provide broader PCC interventions. Confidence in PCC delivery is closely linked to provider competency, availability of guidelines, supportive supervision, and opportunities for practical skills development. Similar observations have been reported in studies showing that trained and regularly supported healthcare providers demonstrate greater readiness and consistency in delivering preventive reproductive health interventions (Mahumud et al., 2019; Ukoha et al., 2020).

The findings also suggest that knowledge alone may not be sufficient to improve PCC practice. Although some providers demonstrated awareness of PCC components, this knowledge was not always translated into routine implementation. The gap between knowledge and practice may be explained by contextual factors, including lack of service structures, competing clinical priorities, inadequate supplies, and absence of clear expectations regarding PCC responsibilities. This supports the understanding that healthcare provider behaviour is influenced not only by individual capability but also by the working environment in which services are delivered.

Provider attitudes and perceptions toward PCC also shaped implementation. Providers generally acknowledged the importance of preparing women before pregnancy; however, some perceived PCC as less urgent compared with immediate clinical needs such as antenatal care, treatment of illness, and emergency services. This perception may contribute to the prioritization of curative and maternal care services over preventive interventions. Similar findings have been reported elsewhere, where preventive services that do not address immediate health problems are often deprioritized in busy primary healthcare environments (Johnson et al., 2017). Strengthening provider understanding of PCC as a strategy for preventing maternal and neonatal complications is therefore essential for improving service prioritization.

The study findings further indicate that provider workload influenced their ability to deliver PCC. Even when providers had adequate knowledge and positive attitudes, high patient volumes and competing responsibilities limited the time available for comprehensive counselling, screening, and follow-up. This demonstrates that provider-related factors cannot be considered independently from health system conditions. A motivated and knowledgeable provider may still be unable to deliver comprehensive PCC when workload pressures and limited facility capacity constrain service provision. The findings demonstrate that healthcare providers in Luuka District have an important role in improving PCC delivery; however, gaps in training, confidence, and practical support limit their ability to provide comprehensive services. Improving PCC practices will therefore require strengthening provider capacity through targeted pre-service and in-service training, mentorship, supportive supervision, and clear definition of PCC responsibilities within routine reproductive healthcare services. These measures should be implemented alongside health system improvements to ensure that providers have the necessary environment and resources to translate knowledge into consistent practice.

### 5.1.3 Enablers to Providing Preconception Care

Religious institutions were identified as supportive platforms for promoting PCC. Churches, mosques, and religious leaders provide culturally acceptable guidance on family planning, premarital counseling, and reproductive health, which can reinforce healthy behaviors before conception. This aligns with studies showing that faith-based organizations influence health-seeking behaviors through trust and moral authority (Mburu et al., 2016; Olivier et al., 2018). However, the effectiveness of this approach may vary depending on denominational beliefs, leadership engagement, and congregational health awareness (Campbell et al., 2014). The findings suggest that engaging religious leaders systematically could strengthen PCC uptake, particularly in communities where health messaging is more effective when delivered through trusted social networks. It is important to note that providers' reports of engagement through religious platforms may be influenced by social desirability bias, as such practices are widely regarded as positive and acceptable.

Training and capacity-building were critical for enhancing PCC delivery. Structured training, refresher courses, and mentorship improve knowledge, skills, and confidence in delivering counseling, screening, and preventive interventions (Mahumud et al., 2019; Ukoha et al., 2020).

The study highlights that even basic services, such as folic acid advice or lifestyle counseling, were widely reported, yet structured PCC remained limited—likely due to insufficient formal training, lack of standardized protocols, and limited institutional support. These results suggest that coverage of basic practices does not guarantee comprehensive PCC. Formal recognition of PCC competencies may further motivate providers to integrate these services into routine care. Qualitative insights, such as providers noting gaps in structured clinics, underscore the importance of ongoing training combined with organizational support to translate knowledge into systematic practice.

Embedding PCC into existing services, including outpatient, family planning, and community programs, was identified as a facilitator of wider coverage and efficiency. Integration can reduce missed opportunities, strengthen continuity of care, and facilitate monitoring (van der Zee et al., 2018; Johnson et al., 2017). Nevertheless, structured PCC services were still largely absent despite integration, suggesting that integration alone is insufficient without clear operational guidelines, dedicated time, and staff accountability. Barriers such as competing service priorities and limited staffing may explain why routine PCC delivery remains uneven, even when general health education or lifestyle counseling is provided.

Community engagement and sensitization emerged as key enablers of PCC uptake. Outreach through schools, Village Health Teams, cultural leaders, and religious organizations can address misconceptions, reinforce facility-based messages, and motivate early preparation for pregnancy (Campbell et al., 2014; Mburu et al., 2016). However, variability in social norms, cultural beliefs, and trust in health services can affect the effectiveness of these interventions (Ukoha et al., 2020). These findings underscore the importance of coordinated community strategies that complement facility-based PCC delivery. Providers' reports of community engagement should also be interpreted cautiously, as responses may reflect desirable reporting rather than consistent practice.

**5.2 Limitations of the study**

While there are many potentially valuable contributions and implications of the present study, several limitations warrant discussion. First, the generalizability of these findings is limited, as the study was conducted in a specific context and may not reflect experiences in other regions or health systems. The results are representative of the perspectives of a selected group of healthcare providers, community leaders, and religious stakeholders involved in preconception care activities. Moreover, participation was voluntary, and respondents may have had greater awareness or interest in reproductive health issues, potentially introducing response bias. Future research should include

broader and more diverse populations to better understand community-level perceptions and engagement with preconception care.

Second, the study focused primarily on provider- and community-level perspectives, with limited input from women and couples who are the primary beneficiaries of preconception care. This restricts insight into actual service utilization, barriers experienced by clients, and the effectiveness of existing interventions. Future studies should incorporate the experiences of both men and women of reproductive age to capture gender-specific knowledge, attitudes, and practices, which could inform more inclusive intervention strategies. Third, data collection relied on qualitative methods, which, while rich in detail, may be influenced by social desirability or recall bias. In light of limited research on preconception care implementation in similar settings, there is a need for standardized, validated measures to evaluate both provider competencies and community engagement in preconception health programs.

## 5.3 Summary of Findings

This study investigated the availability, implementation, and practices of preconception care (PCC) services in public health facilities in Luuka District. Quantitative data supported by qualitative insights revealed that PCC services are largely informal, inconsistently provided, and not integrated into routine healthcare systems. A total of 99 health care providers participated, representing a range of facility types.

Key findings include the absence of structured PCC services, with (n=94, 94.5% of facilities lacking a designated PCC clinic or program. While basic interventions such as folic acid supplementation and vaccination advice were commonly delivered (98.0%), comprehensive PCC services, including chronic disease screening and preventive interventions, were inconsistently implemented. Most respondents relied on patient self-referrals (n=96,97.0%) and opportunistic contacts during general outpatient or family planning visits.

Nutritional counseling (n=98, 99.0%) and health education (n=94, 94.9%) were the most frequent PCC services provided, whereas the use of standardized checklists or documentation tools was minimal (n=2, 2.0%), with narrative notes dominating documentation practices (n=89, 89.9%). Integration of PCC into outreach activities occurred in just over half of respondents' programs (n=59, 59.6%). Moreover, most providers relied on personal experience (n=90, 90.9%) and clinical judgment (n=62, 62.6%) rather than national guidelines (n=6,6.1%), and only (n=48,48.5% reported confidence in providing PCC services.

Overall, these findings highlight systemic gaps in PCC provision, including limited formal training, lack of standardized protocols, weak integration into routine health services, and low utilization of evidence-based guidelines. Despite these challenges, basic health education and preventive services are widely delivered, reflecting provider commitment even in the absence of structured programs.

## 5.4 Conclusions

### Preconception Care Service Provision

The study found that routine PCC practice was at 14.1% in Luuka district, with some components of the Ministry of Health recommended preconception care (PCC) package, such as folic acid supplementation, vaccinations, nutritional counseling, and lifestyle counseling (diet, exercise, smoking, and alcohol cessation), were consistently provided to women planning pregnancy. Quantitative findings indicated nearly universal delivery of these interventions (98–100%), reflecting strong commitment to basic preventive care. Screening for chronic diseases was

moderately implemented (n=87,87.9), whereas genetic counseling, comprehensive risk assessment, and structured preventive interventions were rarely offered.

Qualitative data reinforced these results. Themes like “Partial Implementation of the Preconception Care Package” highlighted that PCC services were largely limited to counseling and folic acid supplementation, with other components inconsistently offered due to gaps in resources, training, and standardized protocols. Opportunistic engagement during other health services, such as outpatient or family planning visits, was the main delivery pathway for PCC, leaving many women without access to comprehensive care. These findings imply that while basic PCC interventions are routinely delivered, the full spectrum of recommended services is not consistently implemented, limiting the effectiveness of PCC in improving maternal and child health outcomes.

**Barriers and Enablers to PCC Provision**

The study identified multiple barriers to effective PCC delivery. More than half of respondents (n=51, 51.5%) rarely provided PCC services, and (n =94, 94.5% of facilities lacked a dedicated PCC clinic or program. Use of standardized tools or checklists was minimal (n=2, 2.0%), and only (n=48 48.5%) of providers reported full confidence in delivering PCC, reflecting limited training, mentorship, and refresher programs. Documentation was primarily narrative-based (n=89, 89.9%), and reliance on personal experience (n=90, 90.9%) and clinical judgment (n=62, 62.6%) rather than national guidelines (n=6, 6.1%) constrained service quality.

Despite these barriers, basic interventions such as health education, folic acid supplementation, and lifestyle counseling were widely delivered, demonstrating providers’ commitment even in resource-constrained settings. Overall, PCC in Luuka District remains underdeveloped, inconsistently delivered, and heavily dependent on individual initiative. Strengthening institutional support, structured training, systematic integration into routine services, and the use of standardized guidelines is critical to improving coverage, quality, and equity of PCC services.

### 5.5 Recommendations

| Stakeholder | Specific recommendation |
|---|---|
| **Ministry of Health** | Develop or disseminate a standardized PCC guideline/checklist for use in public health facilities; integrate PCC indicators into HMIS/DHIS2; ensure availability of essential PCC commodities such as folic acid, screening tools, and health education materials. |
| **Luuka District Health Office** | Conduct mentorship and continuous professional development on PCC; integrate PCC into family planning, ANC, outpatient, HIV, and immunization clinic contacts; support facility-level documentation and supervision. |
| **Health facility in-charges** | Introduce simple PCC screening prompts at OPD, family planning, and ANC entry points; use standardized documentation tools rather than narrative notes only; assign PCC focal persons or integrate PCC into existing maternal and reproductive health roles. |
| **Community and religious leaders** | Support community sensitization on planning for pregnancy before conception; address cultural beliefs that discourage open discussion of pregnancy intentions. |
| **Future researchers** | Conduct studies including women and couples to compare provider-reported PCC delivery with client experiences; consider intervention studies testing PCC integration into routine primary healthcare services. |

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# APPENDICES

## APPENDIX I: INFORMED CONSENT TO PARTICIPATE IN THE STUDY

**Preconception care practices among health care providers working in public health facilities in Luuka District Eastern Uganda**

Hello, my name is _____I am a student at Busitema University undertaking this project as a requirement for the award of a master degree in public health. I would like to invite you to participate in this research study. Before you give your permission, I would like to tell you what will be asked. If you have any questions, feel free to ask.

In this study, indicate the objectives of the study is to explore preconception care practices among health care providers working in public health facilities in rural communities of Luuka District Eastern Uganda

**Procedure**

You will be interviewed using an interview guide. This interview will take approximately 15-45 minutes. Researcher will interview by asking you some interview questions. There are no right or wrong answers; we want to know about you, your opinions and experiences.

**Are there any risks or discomforts from participating in the study?**

The interview will be conducted in a private and safe space to ensure privacy. The only potential risk in participating in this study is that you may feel uncomfortable answering some of the more personal questions however you may decide not to respond to questions you are not comfortable with

**Possible benefits, compensation and costs of this study**

The information collected may be helpful finding strategies to improve the practice and access of preconception care services among women of reproductive age and the impact in the community.

There is no cost for participating in this study. There is no reward for participating or compensation. However, participants found to have health related information need related to the study will be linked/referred to relevant service providers

**What are your rights as a participant?**

Your participation will be entirely voluntary. You are free to stop the interview at any time without giving any reason.

**Confidentiality**

All your responses will be confidential. We will assign a unique identification number so that your name is not linked to the answers that you give. The results of the study will be presented in a respectful manner, and information that could enable anyone to identify you personally will be reported.

**Compensation**.

There will be compensation for your time, efforts and inconveniences in form of giving the study participants a bottle of water; however, the participants will be advised on how to involve themselves actively. For any inquiries, call on the telephone number provided below.

**Questions and contacts**

If you have any questions concerning the study, you may contact the researcher Mr. Kibumba Roger at +256 755 242263.

Research supervisor professor Wandabwa Julius at 0754419513, SR. Lydia SSenyonja at 0706182603

The research has been approved by the Uganda National Council of Science and Technology, and the Busitema University faculty of health sciences Research and Ethics committee (BUFHS_REC). These entities ensure that the research is relevant, appropriately done, and has no harm to the study participants.

For more information about ethical approval and your rights and welfare as a participant, contact: BUFHS_REC chair DR. KATURAMU RICHARD at 0787641061

**STATEMENT OF CONSENT**

**STATEMENT OF CONSENT**

I _____ have read /read to me the Information Sheet. I understand what

is required of me. My decision to participate or not participate in this study will not alter my usual medical care/ rights. In the use of this information, my identity will be concealed. I am aware that I may withdraw at any time. I understand that by signing this form, I do not waive any of my legal rights but merely indicate that I have been informed about the research study in which I am voluntarily agreeing to participate. A copy of this form will be provided to me.
Signed:

_____ _____

Participant Date and place

_____ _____

Researcher Date and place

_____ _____

Witness Date and place

## APPENDIX II: TRANSLATED CONSENT FORM

**EKIWANDIIKO EKIRAGA OKUKKIRIRIZA KWO OKWETABA MU KUNOONYEREZA.**

Omusomo guno gukwata ku ngeri y'okuteekateeka abakyala abasuubira okufuna embuto nangeri ki gyebatekeddwa okwerabirira. Omusomo guno gwenyigiddwamu abasawo ababudabuda abakyala abagwa mu ttuluba lino nga emirimu gyabwe bagikolera mu bifo awajanjabirwa mu distulikiti ye Luuka, e Busoga mu buvanjuba bwa Uganda.

Omwagalwa, erinnya lyange nze_____. Ndi muyizi ssetendekero wa Busitema University. Omusomo guno ngukoze nga akamu kubukwakulizo era ekyetaago byenina okutukiriza nze okusobola okukoonola diguli yange ey'omutendera ogw'okubiri muby'obulamu obwawamu (Master's Degree in Public Health).

Ntwala omukisa guno okukusaba n'egonjebwa onyambeko nga wetaba mu kunonyereza kwangekuno(research). Nga tonnaba kukiriza kwetaba mu musomo guno, nsaba nkukubire ekifaananyi ekitonotono kw'ebyo by'ogenda okusanga mu musomo guno, okusingira ddala ebibuzo ebigenda okubuzibwa. Era nkusaba nti bwoba nga olina kyotategede bulungi,beera waddembe okubuuza oyo aba aze gyoli.

Mu musomo guno, emiramwa emikulu gizimbidwa ku kunonyereza kungeri ki abakyala banakazadde abeteekerateekera okufuna embuto gye balabirirwamu abasawo abakola mu bifo awajjanjabirwa ebyolukale(public places), okusingira ddala mu masoso g'ebyalo mu disitulikiti ye Luuka, Busoga mu buvanjuba bwa Uganda.

EMITENDERA (PROCEDURES)

Oja kubuzibwa ebibuuzo nga akubuuza akozesa olukalala lw'ebibuuzo ebisengekeddwa (interview guide).Kino kisuubirwa okutwala obudde wakati w'eddakiika nga 15-45.Omunoonyereza aja kubuuza ebibuuzo nga bwenkyogeddeko awo waggulu.

Nsaba omanye kino;nti okuddamu kwo okw'e bibuuzo tekulina kakwate konna ku butuufu(right) oba obukyamu(wrong).Ffe ekigendererwa kyaffe,kwekumanya kiki ky'olowooza nabiki byoyiseemu.

Omulala ayinza okwebuuza nti wayinza okubaawo obulabe oba okutaataganyizibwa singa aba yennyigidde mu musomo guno? Ekyokuddamu kiri nti nedda,kubanga omusomo guno gugenda kukolebwa mu ngeri ya kyama ,mu kifo ekyekusifu nga tugendereraokukuuma ebyama.Akabi koka oba oly'awo akayinza okuberawo,by'ebibuuzo omunoonyereza byayinza okukubuuza nga bikwata kuggwe kennyini.Mu mbeera ng'eno,oli waddembe obutaddamu kibuuzo kyangeri ng'eyo ekumalako emirembe.

Omulala ayinza okwebuuza nti miganyulo ki, okuliyirirwa era namuwendo ki ebiva mukwennyigira mu musomo guno?

Eky'okuddamu kiri nti ebirowooza ebikung'aniziddwa okuva mukunonyereza kuno byandiyambako mu kutema empenda ku ngeriki gyetuyinza okutumbula eby'obulamu bw'abakyala banakazadde,naddala abo abasuubira okufuna embuto n'ebitundu byaffe byonna okutwaliza awamu.Ekirala nsaba kutegeeza nti teri muwendo gwonna muntu gw'asasula okusobola okwenyigira mu musomo guno.Era n'olwensonga eyo,teri kuliyirirwa kusuubirwa musomo guno.

Wabula,omuntu yenna anasangibwa nga ali mubwetaavu bw'obuyambi muttuluba lino ate nga yetabye mu musomo gunno,ajja kuyambibwa nga tumukwataganya ku bantu abatuufu abasobola okumuyamba mu buzibu bwe.

Gwe ng'eyetebye mu musomo gunno,eddembe lyo lyeririwa?

Ekisooka,olina eddembe okwetaba mu musomo gunno oba nedda.Oli waddembe okusaba omunonyereza okulekera awo okukubuuza ebibuuzo nga tomuwadde na nsonga yonna.

Okukuuma ebyama.

Byonna byonna ebinaava mu kunonyereza kuno byakukuumibwa nga byakyama.

Tewali linnya lya muntu yenna ligenda kuwandikiibwa nga ekijjukizo ky'ebyo byayogedda,okujjako obubonera obwenjawulo obuyinza okukozesabwa okwawula abantu ab'enjawulo.

-Ekirala ebinaava mu kunoonyereza kuno byakwanjulura mu ngeri eweesa omuntu yenna an'agezaako okwanjula ebivuddemu nga annokolayo omumtu ssekinoomu, wakuloopebwa era avunaanibwe.

Okuliyirirwa:

Wajja kubeerawo okuliyirirwa okutonotono eri abo bonna abanaaba benyigidde mu musomo guno; kulw'ebiseera byabwe, amaanyi gaabwe n'olw'okutataganyizibwa. Buli yetabye mu musomo gunno wakuwebwayo olw'endo lwa amazzi.

Ng'ebyo bikyali awo, buli anenyigira mu musomo guno, ajja kuwabulwa ku ngeriki gyanasigala ng'akuuma omubiri gwe era ne nnamba z'amasimu singa wabaawo kyayagala okwebuuza, zijja kubawebwa.

Ebibuuzo n'okuddibwamu.

-Bw'oba olinayo ekibuuzo kyonna ekikwatagana n'omusomo guno, osobola okwogerezeganya n'omunonyereza omukulu (Researcher) Mwami KIBUMBA ROGERS ku ssimu +256755242263

Oba omulung'amya w'omunoonyereza (Research Supervisor) Professor WANDABWA JULIUS ku ssimu 0754419513 oba SR LYDIA SSENYONJO ku ssimu 0706182603.

Omunoonyereza ono akakasiddwa n'ekitongole kya gavumenti eky'ebyenjigiriza ekya Uganda National Council of Science and Technology wamu ne Busitema University faculty of Health Sciences Research and Ethics Committee (BUFHS REC).

Ebitongole byonna ebyo ebyogeddwako waggulu byebivunanyizibwa ku ddimu oly'obunoonyereza era ku n'okukakkasiza ddala nti obunoonyereza bukolebwa mungeri entuufu era ku mutindo ogutuukana era nga tewali akoseddwa yenna.

Okumanya ebisingawo ku nn'eyisa yabanoonyereza n'eddembe lyo nga eyetabye mu musomo gunno, tukirira BUFHS-REC KU ssimu 0787641061 (DR. KATURAMU RICHARD )

**OKUKASA OKWENYIGIRA KWANGE MU KUNOONYEREZA KUNO.**

Nze_____, nsomye era nsomeddwa obubaka obuli mu kiwandiiko kino nembutegereraddala. Ntegedde ebyo ebinetagisa. Okusalawo kwange okwenyigira mu musomo gunno nkakasa nga tekujja kutataganya nkola ya mirimu gya bujjanjabi na ddembe lya buntu.

Ntegedde nti mukutekesa mu nkola ebivudde mu musomo gunno sigenda kusongebwamu lunwe ng'omuntu era nga buli kyenjogedde kyakukumibwa nga kyama.

Ndi mukakafu nti nina eddembe okusazamu enkolagana yange n'omunoonyereza ekiseera kyonna wemba njagalide. Nkimanyi nti okussa omukono gwange ku kiwandiiko kino tekinzijjako ddembe lyange ery'obwebange wabula okukakasa nti banyinnyonyodde bulungi ebigendererwa by'okunoonyereza kuno, kwensazewo nga sikaladdwa okwenyigiramu. Nkakasiddwa nti ekiwandiiko ky'ekimu (a copy of) kigenda kumpeebwa.

_____ _____

Omwetabi Ennaku n'ekifo

_____ _____

omunonyereza Ennaku n'ekifo

_____ _____

Omujulizi Ennaku n'ekifo

## OBUWAKATIRWA (APPENDICES)

Omuwendo gw'oyo eyenigidde mu kunoonyereza _____

AKAWAKATIRWA 1: INFORMED CONSENT.

Okukakasa kwanga okwenyigira mu kunoonyereza

Omutwe gw'okunoonyereza: ENTEEKATEEKA Y'A BAKYALA BANAKAZADDE ABETEEEKA- TEEKA OKUFUNA EMBUTO, OMULI MU NGA BWEGUKOLEBWA ABASAWO ABAKWATIBWAKO ENSONGA EZO MU DISTULIKITI YE LUUKA, MU BUVANJUBA BWA UGANDA

Amannya g'abanooyereza;

KIBUMBA ROGERS – omunooyereza omukulu (protocol design, analysis, report writing)

2. KALUYA ROGERS- omuyambi w'omunooyereza (data collection, fieldwork supervision)

ABASASULUIDDE OKUNOONYEREZA KUNO

Okunoooyereza kuno tekusasuliddwa muntu yenna (self-sponsored)

Questipnaire serial NO: _____ Date of Interview_____

ENYANJULA

Ow'omukwano, munooyereza munaffe, nkusba wenyigire mu kunooyereza kuno

Okutuumiddwa: OKULABIRIRA ABAKYALA BA NAKAZADDE NADDDALA ABETEEKATEEEKA OKUFUNA EMBUTO, SAAKO ENEYISA Y'A BASAWO EZO MU DISTULIKITI Y'E LUUKA, MU BUVANJUBA BWA UGANDA.

EKIGENDERERWA KY'OMUSOMO GUNO.

Ekigendererwa ky'okunoonyereza kuno, kwekuzuula engeriki abakyala banakazadde abasuubira akufuna embuto gyebalabirirwamu abasawo mu malwaliro ga gavumenti kumifendera gymna mu disitulikiti y'e luuka, mubavanjuba bwa uganda.

EMITENDERA EGIGOBEREDDWA MU KUNOONYEREZA KUNO

- Osabibwa okwetaba mukunooyereza kuno ng'osinziira ku kifo kyo ng'omukulembeze era n'obuvunannyizibwabwo. Tusiinziira ne kubukugu bwo (expertise) saako n'obusobozi obukulabiddwamu mu ngeri gy'otusaamu okubuddabudda eri abakyala banakazadde abateekateeka okufuna embuto mu disitulikiti y'e luuka, mu buvanjuba bwa Uganda.

Kino kijja kutuyambako okufuna obukugu mu mulimu gw'okuwa obyambi banakazadde, saako okufekesa munkola obuyambi obuggwa muttuluba lino (pcc Implementation).

Okunoonyereza kuno era kujja kutuyambako okuziba emiwaatwa n'okutekesa munkola engeri ennung'amu okwang'anga ebisoomoza.

Singa onaaba wetabye mukunoonyereza j kuno, ojja kubuzibwa ebibuuzo eby'engeri nga enno

- Ebibuuzo eby'etaaga okuddamu okumpiimpi nga bikubuzibwa muntu-ku-muntu (one-on-one).

- Ensisinkaanoyo n'omunoonyereza yakutwala obudde kumpi kitundu kya saawa (half an hour).

- Omunoonyereza ajja kusisinkana okukubuuza ebibuuzo bino nga oli mu kifo kyewesiimidde era w'owulirira emirembe.

-Ebikubuuzibwa bijja kutaputibwa nga bizibwa mululimi abuziibwa lwategeera obulungi oba okusinziira kumbeera y'ekifo kino kisobozese oyo abuzibwa okuddamu obulungi era nga ategedde.

EMIGANYULO

Wayinza obutabeerawo miganyulo gyetongodde egwa mukunooyereza kuno naye ebinaaba bifuniddwa okuva gyoli byankizo nnyo era byakuyambako mukulung'amya n'okutekesa munkola eby'obulamu bw'abakyala banakazadde okuva eri abasawa n'abajjanjabi.

OBUSANDALI N'OKUTATAGANYIZIBWA.

-Okunoonyereza kunno tukusuubira obutabaamu busandali nakuteteganyizibwa kwoona. Kino kitegeeza nti okuyinza okuba ng'okutataganyizibwa byebyo omuntu byayitamu mubalamu obwabulijjo. Ebisingako kw'ebyo, teriyo kyetusuubira kikuleetara kutataganyizibwa.

OKULIYIRIRWA.

Teriyo kuliyirirwa kw'ojja kufuna olw'okubanga wenyigidde mu kunoonyereza kunno.

OKUKUUMA EBIVUDDE MU KUNOONYEREZA NGA BYAKYAMA.

Tukakkasiza ddala nga ebinaava mu kunoonyereza kunno bijja kukuumibwa nga byakyama.abantu abamu oba oly'awo bandyagala okutunula ku bivudde mu kafuboko n'omunoonyereza naye ekyo tekikkirezibwa mu mateeka.

Abantu bokka abakkirizibwa okilaba ebivudde mukunoonyereza kunno bebano wamanga;

1. Abanoonyereza (research team)

2. Omunoonyereza omukulu (principal investigator) n'abo abamuyambako mukunoonyereza kuno.

3. Abakungu ba Busitema University Research Ethics Committee (REC)

4. Ab'ekitongole kya gavumenti ekya Uganda National Council for Science and Technology (UNCST).

Ebyo byokka byebitongole ebikkiriza okufunula kibivudde mukinoonyereza okwengere nga eno oba oly'awo n'okumannya elinnya ly'oyo gwebagyeko amawulire.

Nze ng'omunoonyereza, nnyinza okufulumya byenzudde mukunoonyereza kwange naye sikirezibwa kunokolayo linnya lyamunfu yenna, abalala bamumanye.

OKUSAZAAMU ENKOLAGANA YO N'OMUNOONYEREZA

(voluntary participation/withdrawal)

-Oli waddembe okwenyigire mukunoonyereza kunno ku ddala lya bwaanakyewa(volunteer)

-Totekeddwa kukirowooza nti kino eky'okwenyigira mukinooyereza kuno kyabuwaze.oli wanddebe okwenyigira mukunoonyeresza kunno oba okusazaamu enkolagana yo n'omunoonyereza akiseera kyonna woba oyayalidde.

-Teriyo kibonerezo oba kifirizibwa kwona kujja kukubaako olw'okubanga osazewo okulekera awo okukolagana n'omunoonyereza.

-Oli waddembe okufuna okuddibwamu ebibuuzo byo oba okwemulugunya kwo.

-Singa oba olina ekibuuzo oba kyoyagala okwongera okubangulwamu, oba okwemulugunya kwonna nga kusinziira ku musomo gunno engeri gyegukwatiddwa mu, yogera n'omunoonyereza kennyini ku nnamba y'essimu 0755242263

(KIBUMBA ROGERS)

-Bw'oba olina kyoyagala okumanya ku ddembe lyo nga eyetabye mukunoonyereza kuno oba olina ekibuuzo kyonna oba okwemulugunya, oba olina ensonga gyoyagala okuteesaako n'omuntu yenna atali mukunoonyereza kunno, kibira kalondoozi w'eddimu lino Prof. WANDABWA JULIUS ku nnamba y'essimu 0754419513 oba SR. LYDIA SSENYONJA ku ssimu 0706182603, oba akulira ekitongole BUFHS-REC DR. KATURAMU RICHARD ku ssimu 0787641061.

Okunoonyereza kunno kukkakasiddwa ekitongole kya gavumenti ekya Uganda National Council of Science and Technology, Busitema University faculty of health sciences Research and Ethics Committee BUFHS-REC)

Ebitongole ebyo waggulu, byebivunanyizibwa ku ddimu ery'okulaba nga obunoonyereza bukolebwa mungeri esaanidde awatali kulumya muntu yenna naddala abo abetabye mukunoonyereza.

OKWEKENEENYA OBA DDALA OBITEGEDDE (Assessment of Understanding)

Ng'osinziira kubino ebikuwereddwa wamanga, Londako ekyo ky'owulira nga kinnyonnyola engeri gy'otegeddemu okunoonyereza kuno.

☐ Nsomye ekiwandiiko ekikwata kukunoonyereza kuno era kinyambye okufuna okulung'amizibwa ku ngeri y'okuddamu ebibuuzo, emiganyulo n'obulabe obuyinza

okubeerawo. Nga nsinziira kw'ebyo , nzikirizza okwetaba mukunoonyereza kuno era ngenda kussaako omukono gwange ku luppappula oluddako.

☐ Nsomye ekiwandiiko ekikwata kukunoonyereza kuno, naye nina byenjagala okubuuza byesinnyonyose bulungi. N'olwekyo nkyalinzeko okuwaayo obweyamo bwange eri okwenyigira mukunoonyereza kuno.

| | |
|---|---|
| _____ | _____ |
| Signature of person taking part | Date |
| _____ | _____ |
| Name of person taking part in study | Date |
| _____ | _____ |
| Signature of witness | Date |

Name of person obtaining consent

## APPENDIX II: QUESTIONNAIRE

Preconception care refers health care services provided to women and their couples before conception to promote healthy outcomes for both the mother and baby and such services include, Nutritional counselling, Screening for chronic diseases, Family planning counselling, Health education, Substance abuse Counselling, Screening for genetic disorder and assessment.

**Section A: Demographic Information**

1. **What is your age range?**

A. 18-30 years
B. 31-40 years
C. 41-50 years
D. >50 years

2. **What is your gender?**

A. Male
B. Female

3. **What is your highest level of education?**

A. Certificate
B. Diploma
C. Bachelor‘s Degree
D. Postgraduate Degree
E. Other (please specify) _____

4. **What is your professional cadre?**

A. Nurse
B. Midwife
C. Clinical Officer
D. Doctor

E. Other (please specify) _____

**5. Type of health facility**

A. Health centre III

B. Health centre III

C. Health centre IV

**6. Location of facility**

A. Urban

B. Rural

**7. How many years have you been in service offering health care services? _____**

Years

**8. Have you received any formal training on preconception care?**

A. Yes

B. No

**9. How would you rate knowledge of preconception care? (On a scale of 1 – 5) where**

1= limited knowledge

2= basic knowledge

3 = fair knowledge

4 =Good knowledge

5 = very good knowledge

**10. Are you aware of any national guideline or protocols on preconception care?**

A. Yes

B. No

**Section B: Preconception Care Practices**

**1. Do you routinely discuss preconception care health with women preparing to conceive?**

A. Yes

B. No

2. Do you have a designated clinic or program for preconception care services in this facility?

A. Yes

B. NO

3. Do you provide information about folic acid supplementation and other relevant vaccinations

A. YES B. NO

4. Do you refer women to specialised care when necessary?

A. YES B. NO

5. Do you provide counselling on healthy life style choices such as diet, exercise, smoking and alcohol cessation?

A. YES

B. NO

6. Do you assess for mental health conditions like depression and anxiety in women preparing to conceive?

A. YES

B. NO

7. Do screen for chronic conditions like diabetes, sickle cell diseases and hypertension in women planning to conceive?

A. YES

B. NO

8. How do you identify patients seeking preconception care services? Select all that apply

A. Patient self-referral

B. Provider referral

C. Specific clinic or program

D. Others specify _____

9. How often do you provide preconception care services, such as nutritional counselling, genetic counselling, reproductive health assessment, substance assessment, mental health assessment? On a scale of 1 – 5) where 1= never means you never provide preconception care counselling, 2 = rarely meaning you provide pcc less than half the time or in exceptional cases, 3 = occasionally meaning you provide pcc

about half the time or in routine cases, 4 = frequently meaning you provide pcc more than half the time or in most cases, 5 = always meaning you always provide pcc to eligible patients.

1. Never

2. Rarely

3. Occasionally

4. Frequently

5. always

6. At What point do you offer preconception care services at this facility?

A. Family planning

B. General outpatient clinic C. Health education sessions D. ANC

7. What specific preconception care services do you provide? (Select all that apply)

A. Nutritional counselling (e.g., folic acid and iron supplementation) B. Screening for chronic diseases (e.g., diabetes, hypertension)

C. Family planning counselling

D. Health education

C. Substance abuse Counselling

D. Screening for genetic disorders

E. Mental health screening

F. Other (please specify)

8. Do you use any standardised tools or checklist for preconception care?

A. Yes

B. No

9. How do you document preconception care services in patient records? Select all that apply

A. Paper based records

B. Electronic medical records (EMRS) C. Standardised forms

D. Checklists

E. Digital platforms F. Narrative notes G. Coding system

10. Do you carry out integrated outreaches with preconception care services incorporated into that package?

A. Yes

B. No

11. What resources or information do you typically use when providing preconception care services (select all that apply?)

A. National guidelines

B. Facility based protocols

C. Clinical judgement

D. Personal experience

E. External resources like online materials

F. Others specify _____

12. How confident do you feel in providing preconception care services? On a scale of 1 to 5, where 1 = not confident meaning feels uncertain or unprepared, 2 = somewhat

unconfident meaning has some doubts in providing preconception care, 3 = neutral, meaning moderately confidently, 4 = somewhat confident, meaning he/she is fairly confident in providing the service, 5 = very confident meaning he/she is highly confident in providing the service

1. Not confident
2. Somewhat unconfident
3. Neutral
4. Somewhat confident
5. Very confident

Section C: Barriers to Providing Preconception Care

1. What challenges do you face in providing preconception care services? (Select all that apply

A. Lack of training and knowledge

B. Limited time during patient consultations

C. Low awareness among clients about preconception care

D. Insufficient resources (e.g., supplies, screening tools)

E. Poor integration of preconception care into routine services

F. Cultural or religious barriers

G. Lack of national or facility-specific guidelines

H. Financial constraints

I. Other (please specify)

2. **Do these factors limit your ability to provide preconception care?**

| | | |
|---|---|---|
| Limited knowledge and training on preconception care | yes | No |
| Time constraints due to high patient load | yes | No |
| Insufficient infrastructure (e.g., equipment, space) | Yes | No |
| Lack of public awareness among clients | yes | No |
| Poor integration into routine health services | yes | No |
| Cultural or religious beliefs | yes | No |
| Limited policy guidelines for preconception care | yes | No |
| Financial constraints (e.g., lack of funding) | yes | No |

**Section D: Enablers to Providing Preconception Care**

1. **What factors help you in providing preconception care services?** (Select all that apply)

A. Availability of training and capacity building programs

B. Integration of preconception care into routine health services

C. Increased public awareness and health education

D. Availability of guidelines and protocols

E. Use of digital health tools and telemedicine

F. Support from government or non-governmental organizations (NGOs)

H. Community and religious leader involvement

I. Other (please specify) _____

2. **To what extent do the following factors support your ability to provide preconception care?** (Please rate on a scale from 1-5, where 1 = Not supportive at all,2= slightly supportive, 3 =moderately supportive, 4 = very supportive and 5 = Extremely supportive)

| Statements | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Training and capacity building programs | | | | | |
| Integration into routine health services | | | | | |
| Public awareness and health education efforts | | | | | |
| Availability of national or facility-specific guidelines | | | | | |
| Use of digital health tools (e.g., mobile apps, telemedicine) | | | | | |
| Support from government and NGOs | | | | | |
| Involvement of community and religious leaders | | | | | |

## APPENDIX III: KEY INFORMANT INTERVIEW GUIDE

**Introduction**

Thank you for agreeing to participate in this interview. This interview aims to gather insights on preconception care practices in public health facilities in Luuka District. Your responses will help us understand the current practices, barriers, and enablers to providing preconception care services.

1. Could you describe your role and experiences in providing health services in this district, particularly in relation to women‘s reproductive health?
2. In your experience, how often are preconception care services offered to women in this district, and at what points in their reproductive health journeys do you usually engage them?
3. What challenges or barriers do you face in providing preconception care in health facilities within this district? *(Probe for knowledge, resources, time constraints, cultural beliefs, etc.)*
4. In what ways do limited resources, such as equipment, medicines, or staff, affect your ability to deliver preconception care effectively?
5. How do cultural or religious beliefs in the community influence the acceptance or delivery of preconception care services?
6. How has integrating preconception care into routine healthcare services influenced its delivery?
7. In your view, what additional support could government or non-governmental organizations provide to strengthen preconception care in this community?
8. Do you have any other comments or suggestions regarding preconception care practices that you would like to share?

## APPENDIX IV: TRANSLATED QUESTIONAIRE (LUGANDA) AKATABO KIBE BUUZO

**OKUNYONYOOKA**

Ebikolebwa mu kukuuma enkizo yobuzaale ebiweebwa abakyala nabagalwa bawe nga tebanafuna mbuto, mukawefube wok utu mbula ebyobulamu bwa ba maama na baana, ela ebimu kwebyo bye biino; okubayigiriza kundya, okukebeela edwande, entegeka yezadde, okuyigiiriza kubyobulamu, okuba budabuda ku bilagalalagala, oku keebera ku bilwadde byo buzailanwa, ne ndwadde zo ku bwongo

**Ekitundu A: Ebikukwatako**

1. **Oli mu Myakka emeka?**
   A 18 – 30
   B 31 – 40
   C 41 – 50
   D> 50 YEARS
2. **Oli wa kikuula ki ekyobutonde?**
   A. Musajja
   B. Mukyala
3. **Wasoma kyenkana wa?**
   A . satifiketi
   B. Diploma
   C. Diguli
   D. Diguli nokweyongela
4. **Pulofesoni ki gyoliimu?**
   A.

Nurse

B. Ndi muzaalisa

C. Ndi kiliniko officer

D. Ndi doctor

E. Ekiilaala (tubuliile kiki kyenyiini)

5. **Level yedwaaliilo?**

   A. Health centre yakubiili

   B. Health centre yakusatu

   C. Health centre yakuuna

6. **Facilite esangi bwa wa?**

   A. Mukibuga

   B. Mukyaalo

7. **Wakamala emyaka emeka nga oweleeza mubyo bulamu?----------**

8. **Ofunagako okusomesebwa ku nkiizo yobuzaale?**

   A. Yee

   B. Nedda

9. **Osobola kwewa meka ku ngele cyotegeela mu enkiizo yobuzaale ( kukipiimo kya 1 – 5) nga**

   1. Nkitegeela ku katono
   2. Ndi ku mageezi ku kyo amatono tono
   3. Ndina ku mageezi ku kyo
   4. Nkitegela bulungi
   5. Nkitegeela bulungi nyo nyo

10. **Omanyi ku mitendela gye gwanga ejjigobelewa?**

    A. Yee

    B. Nedda

**Ekitundu B; Empisa Ezikolebwa ku Nkiizo yabuzaale**

1. **Muteela okuba ganyako ku biilowozo kunkiizo yobuzaale nabakyala nga betegekela**

**ofuna embuto?**

A. Yee

B. Nedda

2. **Muliina ka kiliniki aketongodde kunsonga ze enkiizo yobuzaale ku dwaliiro wano?**

   A. yee

   B. Nedda

3. **Mubiliila abakyala ebikwaata kumeele elimu folic acid, ne vaccine ezetagiiba?**

   A. Yee

   B. Nedda

4. **Musindika abakyala okufuna obuweleeza obwenjjawulo nga kisanidde?**

   A. Yee

   B. Nedda

5. **Musomesa ku mpisa nadala; kundya, okola duyiiro, ofuwa sigaala no nomewenge?**
   A. Yee
   B. Nedda
6. **Mwekebejja ebyobulamu bwo bwongo nga dipulesoni?**
   A. Yee
   B. Nedda
7. **Mwekebejja ebilwadde ebineene nga sukaali, sickle cell ne puleesa mubakyala abitegekela ofuna embuto?**
   A. Yee
   B. Nedda
8. **Mutegeela mubutya abalwadde abetaga obuyambi kubikwatagana ku nkiizo yobuzaade**
   A. Omulwadde nga yeleese
   B. Omusawo nga amusindiise
   C. Ngaze ku kalwaliilokunsonga eyo
   D. Ebilaala ( bitubuliile)
9. **Milundi emeka gyemuwa obuyambi obukwaata ku nkiizo yobuzaale nga osomesa ku byenda, ensonga zobuzaale ebyobulamu byokuzaala, ekebela ebilagala, embeela yobwongo ( kukipiimo kya 1 – 5) 1= nedda – kitegeeza temuyigiliiza**
   **2= tetuteela- kitegeeza muyigiiliiza naye temutasa kimu kyakubiili ku budde bwe emukola**
   **3. tugezako- kitegeeza muyigiliiza nga kimu kyakubiili ku budde**
   **4. =tuyigiliiza- kitegeeza muyigiliza nyo**
   **5= buli kiseela- kitegeeza muyigiliiza buli kadde**
   1. Nedda
   2. Tetuteela
   3. Tugezako
   4. Tuyigilliza
   5. Buli kiseela

**10. Budde ki mwe mugabiila obubaka obukwaata ku nkiizo yobuzaale ?**

A. Mu budde bwa family planning

B. Abalwadde webatukiila

**11. Buweleezaki obukwata ku nkiizo yo buzaale bwemuwa? (londa zona)**

A. Kubyokulya (nga folic acid ne iron)

B. Okebeela ebilwadde nga sukaali ne pulaasa

C. Entegeka yazadde

D. Osomesa kubyobulamu

E. Osemesa ku bubi bwebi lagaala

F. Okebela kubukyamu mubutonde

G. Okebela ku mbeela yo obwongo

H. Ebilaala (tubuliila)

**12. Mulina ebikozesebwa ebyo mutindo byemukozesa**

A. Yee

B. Nedda

**13. Muteleka mutya ebiwandiiko byebyo ebiva mu bikwaata kubalwadde ( londa byona bye mukozesa)**

A. Tukozesa mpapula

B. Tukozesa computers

C. Mungeli ye bigobelebwa

D. Foomu ezikozesebwa

E. Mikutu egili digito

F. Tuwandiika mubitabo

G. Tukozesa kodi

**14. Mukyalila abalwadde mubiketezo byabwe nga mutemu nensonga ye nkiizo mu buzaale mweeli?**

A. Yee

B. Nedda

**15. Mujja wa byemukozesa kubuliila abantu kunsonga ye nkiizo kubuzaale?**

A. Guideline yegwanga
B. Emitendela ekisinzilla ku dwaliiro
C. Okusinziila ku mbela yobulamu
D. Obumanyilivu

E. Okuva kumitibangano

F. Ebilaala ( tubuliile)

**16. Mubuvumu kyenkanawa bwoliina nga osomesa ku nsonga eno ( ku kipiimo kya 1- 5)**

**1= silina- ekitegeza tewekakasa, 2 = ndina ko obutonotono- ekitegeza obusabusa ebimu**

**3= muwakati- ekitegeeza olimu Makati awo**

**4= muvumu – aliina obuvumum**

**5= muvumu nyo- kitegeeza muvumu nyo**

1. Silina
2. Ndinako obutonotono
3. Mumakati
4. Muvumu
5. **Muvumunyo**

**Ekitundu c: Ebisomooza mukuweleza ku Nkiizo yobuzaale**

1. **Bizibu ki byemusanga nga musomesa ku nkiizo yobuzaale.**

A. obutaba na kuyigilizabwa kumala

B. obudde tebumala nga twebunza kubalwadde

C. Abalwadde tebamanya ku polugulamu

D. Ebikozesebwa tebimala

E. Obutateka nkola eno mu mpeleeza yabuliijo

F. Obuwangwa ne diini

G. Ebyenfuna

H. Ekilaala (kiiki ekyo

2. Ensonga ziino zikosa empeleeza zamwe?

| | | |
|---|---|---|
| Okunyigiliizibwa nobutamya kunsonga eno | yes | Nedda |
| Obudde tebumala olwabalwade obungi | yes | nedda |
| Ebikozesebwa ebitamala | yes | Nedda |
| Obutamya mubantu kunsonga eno | yes | Nedda |
| Enkola obutayingizibwa mu mpeleeza yebyo bulamu | yes | Nedda |
| Enoono oba ediini | yes | Nedda |

| | | |
|---|---|---|
| Enungamya kunsonga ebulamu | yes | Nedda |
| Ebizibu mu byenfuna | yes | Nedda |

**Ekitundu d:Ebikusobozesa mubuweleeza ku nkiizo yobuzaale**

1. **Ensonga ki ezikuyamba nga osomesa ku nkiizo yobuzaale?**
   A. Okubelawo kwo kusomesa kunsomesa kunsomesa enungi
   B. Okuyingiza empeleza eno mu byobulmu obuweebwa
   C. Okumanya okuli mubantu kunsonga eno
   D. Okubelawo kwo kulungamiziibwa
   E. Okozesa ebikozesebwa ebiili digito
   F. Okuwagiilwa okuva mugavumenti ne bitongole ebilaala
   G. Okolela amawu nga tiimu
   H. Okwetaba kwa bakulembeze bamadiini ne bebyobuwangwa
   I. Ekilaala ( kiiki ekyo)
2. **Esonga ziino zikuyamba okuweeleza kyenkana wa ( kozesa ekipiimo kya 1- 5) nga 1= teziyamba yadde , 2= ziyambako katono, 3= ziyambo, 4= zituyamba nyo, 5= zituyamba nyonyo**

| **ENSONGA** | **1** | **2** | **3** | **4** | **5** |
|---|---|---|---|---|---|
| Pulogomu ezitosomesaokuyingiza mu byobulamu bya bulijjo | | | | | |
| Okumanya okulimubantu | | | | | |
| Okubelaawo kwennungamya yegwangaebikozesebwa bya digito | | | | | |
| Obuwagiizi obuva mu gavumenti nibitongole | | | | | |
| Abakulembeze bediini no bwabwanga | | | | | |
| Okola nga tiimu | | | | | |
| | | | | | |

**Okwangula**

**Webale nyo okukiliza okwetaba mu kubuzibwa. Okubuziibwa kuno kulubiliidamu okusolloza ensonga ku mpisa mumalwaliiro mu luuka ku nkiizo yobuzaale. Okudamu kwo kujja kuyamba mukutegeela ebikolebwa kati, ebizibu ebili mumpeleeza ne bisobozesa enkiizo eno.**

1. Osobola okunyonyola obuvunanyizibwa bwo mu byobulamu mu distulikuti okusinga kunsonga zekikyaala

2. Okusinzilla kubyoyiisemu, emirundi emeka enjigiliiza ku nkiizo yobuzaale gyeweebwa mu distulikiti, era nsonga ki mukutambula zabwe kubyobulamu ebyensonga zukuzaala zotela ekwetaaabamu.
3. Biziibu ki byosanga nga okola okusomesa ku nkiizo yobuzaale mu distulikiti ( obuza ofune okumanya, ebikozesebwa, obuzibu mubiseela, endowoza yabantu).
4. Mungeri ki ebikozesebwa ebitono, nga ebyuma, eddagala or abakozi gyebikosamu e mpeleeza?
5. Butya enzikiiliza mudinni ne noonogyebikosa okukilinza obuweleeza buno.
6. Butya okuteka obuuweleeza bwe enkiizo yobuzaale ku mpeleeza ezabulijjo gye kiyamba obuweleza obwo
7. **Mundowoza yo, buyambi ki obulaala gavumenti oba ebitongole byebiliina okola mubittundu by distulikiti**
8. **Oliina a magezi goona oba okuteesa okulaala kwona kwoliina**

## APPENDIX V: MAP OF LUUKA DISTRICT

## APPENDIX VI: INTRODUCTORY LETTER

BUSITEMA UNIVERSITY
Pursuing Excellence

P.O. Box 236, Tororo, Uganda
Gen: +256 - 45 444 8838
Fax: +256 - 45 4436517
Email: info@adm.busitema.ac.ug
www.busitema.ac.ug

Received,
IKONIA HEALTH CENTRE III
28 OCT

FACULTY OF HEALTH SCIENCES BUSITEMA UNIVERSITY

KIBUMBA ROGERS
BU/GS23/MPH/33
MATERS IN PUBLIC HEALTH

12TH OCTOBER,2025

FOR KIYUNGA HEALTH CENTRE IV
LUUKA DLG
22 OCT 2025
P. O. BOX 443, IGANGA

DISTRICT HEALTH OFFICE
LUUKA DISTRICT
14 OCT 2025
P O. BOX 443, IGANGA

BUKIIRO HEALTH CENTRE III
DATE: 17/10/2025
Received

22nd/10/25

TO THE DISTRICT HEALTH OFFICER,
LUUKA DISTRICT.

The data collection Exercise is approved
DHO
14th/10/2025

BUKEE HEALTH CENTRE III
17 OCT 2025

Dear Sir,

**REF: REQUEST FOR PERMISSION TO COLLECT DATA FROM HEALTH FACILITIES IN LUUKA DISTRICT.**

I am writing to kindly request your permission to collect data from health facilities in Luuka district for my research study titled "Preconception care practices among health care providers in Luuka district" in health facilities within Luuka district. This is a cross sectional study aimed at assessing preconception care practices.

Your approval will enable me to complete my research study and contribute to improving health care services in the district.

For further inquiries, please you can contact me or my supervisors:

1. kibumba Rogers on 0789631084 principal investigator
2. professor. wandabwa Julius on 0754419513 research supervisor
3. Sr. ssenyonga Lydia on 0706182603 research supervisor

Thank you for considering my request.

Sincerely,

**Kibumba Rogers**

Attachments

Research protocol

Ethical approval from busitema university research ethics committee

Data collection tool

## APPENDIX VII: APPROVALS

BUSITEMA UNIVERSITY
*Pursuing Excellence*

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### FACULTY OF HEALTH SCIENCES' REC

**02/10/2025**
To: KIBUMBA ROGERS
BUSITEMAUNIVERSITY

BUSITEMA UNIVERSITY
FACULTY OF HEALTH SCIENCES
APPROVED VALID UNTIL
02 OCT 2026
RESEARCH & ETHICS COMMITTEE
P. O. BOX 1460, MBALE

**Review Type:** Initial Review

**Re:BUFHS-2025-80: PRECONCEPTION CARE PRACTICES AMONG HEALTH CARE PROVIDERS WORKING IN PUBLIC HEALTH FACILITIES IN LUUKA DISTRICT, CROSS SECTION AL STUDY**

I am pleased to inform you that at the **10th** convened meeting on **11/09/2025**, the Busitema University Faculty of Health Sciences REC meeting voted to approve the above referenced application.
Approval of the research is for the period of **02/10/2025** to **02/10/2026.**

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

1. All co-investigators must be kept informed of the status of the research.
2. Changes, amendments, and addenda to the protocol or the consent form must be submitted to the REC for re-review and approval **prior** to the activation of the changes.
3. Reports of unanticipated problems involving risks to participants or any new information which could change the risk benefit: ratio must be submitted to the REC.
4. Only approved consent forms are to be used in the enrollment of participants. All consent forms signed by participants and/or witnesses should be retained on file. The REC may conduct audits of all study records, and consent documentation may be part of such audits.
5. Continuing review application must be submitted to the REC **eight weeks** prior to the expiration date of **02/10/2026** in order to continue the study beyond the approved period. Failure to submit a continuing review application in a timely fashion may result in suspension or termination of the study.
6. The REC application number assigned to the research should be cited in any correspondence with the REC of record.
7. You are required to register the research protocol with the Uganda National Council for Science and Technology (UNCST) for final clearance to undertake the study in Uganda.

The following is the list of all documents approved in this application by Busitema University Faculty of Health Sciences REC:

| No. | Document Title | Language | Version Number | Version Date |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| 1 | Response to Reviewers' Letter | ENGLISH | RESPONSE TO REVIEWERS LETTER | 2025-09-27 |
| 2 | Protocol | English | 01 | 2025-07-02 |
| 3 | Data collection tools | English | 1 | 2025-07-01 |
| 4 | Informed Consent forms | English | 1 | 2025-07-01 |

Yours sincerely,

BUSITEMA UNIVERSITY
FACULTY OF HEALTH SCIENCES
APPROVED VALID UNTIL
02 OCT 2026
RESEARCH & ETHICS COMMITTEE
P. O. BOX 1460, MBALE

Katuramu Richard
For: Busitema University Faculty of Health Sciences REC

BUSITEMA UNIVERSITY
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## FACULTY OF HEALTH SCIENCES' REC

**06/02/2026**
To: KIBUMBA ROGERS
BUSITEMAUNIVERSITY

BUSITEMA UNIVERSITY
FACULTY OF HEALTH SCIENCES
APPROVED VALID UNTIL
06 FEB 2027
RESEARCH & ETHICS COMMITTEE
P. O. BOX 1460, MBALE

**Review Type:** Initial Review

**Re:BUFHS-2025-80: PRECONCEPTION CARE PRACTICES AMONG HEALTH CARE PROVIDERS WORKING IN PUBLIC HEALTH FACILITIES IN LUUKA DISTRICT, CROSS SECTION AL STUDY**

I am pleased to inform you that at the **1st** convened meeting on **22/01/2026**, the Busitema University Faculty of Health Sciences REC meeting voted to approve the above referenced application.
Approval of the research is for the period of **06/02/2026** to **06/02/2027.**

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

1. All co-investigators must be kept informed of the status of the research.
2. Changes, amendments, and addenda to the protocol or the consent form must be submitted to the REC for re-review and approval **prior** to the activation of the changes.
3. Reports of unanticipated problems involving risks to participants or any new information which could change the risk benefit: ratio must be submitted to the REC.
4. Only approved consent forms are to be used in the enrollment of participants. All consent forms signed by participants and/or witnesses should be retained on file. The REC may conduct audits of all study records, and consent documentation may be part of such audits.
5. Continuing review application must be submitted to the REC **eight weeks** prior to the expiration date of **06/02/2027** in order to continue the study beyond the approved period. Failure to submit a continuing review application in a timely fashion may result in suspension or termination of the study.
6. The REC application number assigned to the research should be cited in any correspondence with the REC of record.
7. You are required to register the research protocol with the Uganda National Council for Science and Technology (UNCST) for final clearance to undertake the study in Uganda.

The following is the list of all documents approved in this application by Busitema University Faculty of Health Sciences REC:

| No. | Document Title | Language | Version Number | Version Date |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| 1 | Qualitative translated consent | English | English version | 2025-12-11 |
| 2 | Data collection tools | English | BUFH_2025_80 _data collection tool English | 2025-12-05 |
| 3 | Qualitative translated consent | Luganda | Translated consent | 2025-12-05 |
| 4 | Luganda data collection tool | Luganda | Data collection tool | 2025-12-05 |
| 5 | Translated consent | Luganda | Luganda version 2 | 2025-12-05 |
| 6 | Main Consent forms | English | Consent form | 2025-12-05 |
| 7 | Protocol | English | Clean copy | 2025-12-05 |
| 8 | Track changes | English | Track changes in protocal | 2025-11-17 |
| 9 | Letter to the REC/IACUC Chairperson | English | Letter to rec including responses to comments | 2025-11-16 |

Yours sincerely,

BUSITEMA UNIVERSITY
FACULTY OF HEALTH SCIENCES
APPROVED VALID UNTIL
06 FEB 2027
RESEARCH & ETHICS COMMITTEE
P.O BOX 1460, MBALE

Richard Katuramu
For: Busitema University Faculty of Health Sciences REC