SCHOOL OF NURSING AND MIDWIFERY
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UNIVERSITY OF GHANA

EXPLORING FACTORS ASSOCIATED WITH NON-IMPLEMENTATION OF PRECONCEPTION CARE AT AGOGO PRESBYTERIAN HOSPITAL: THE PERSPECTIVES OF HEALTHCARE PROVIDERS AND HOSPITAL ADMINISTRATIVE MANAGERS.

BY

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THIS THESIS IS SUBMITTED TO THE UNIVERSITY OF GHANA, LEGON IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF MASTER OF PHILOSOPHY DEGREE IN MIDWIFERY

DECEMBER, 2023

DECLARATION

I, Vivian Appiah-Ankobeah hereby declare that, except for duly acknowledged contributions from other researchers, this thesis work is the result of my independent investigation carried out under the dedicated and invaluable supervision of Dr. Josephine Mpomaa Kyei and Dr. Vivian Senoo-Dogbey at the School of Nursing and Midwifery, University of Ghana, Legon. I explicitly affirm that neither any part of this study nor the study in its entirety has been previously submitted to this university or any other academic institution to obtain another degree. This work represents my original scholarly effort and commitment to the advancement of knowledge in my field.

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DEDICATION

This study is dedicated to my late grandmother, Madam Margaret Nuamah, who believed in the education of girls, and you will forever remain in my heart.

ACKNOWLEDGEMENT

I extend my heartfelt gratitude to the sovereign God for His unmerited favor, which guided me at every step throughout my study. I am also profoundly indebted to my dedicated supervisors, Dr. Josephine Mpomaa Kyei and Dr. Vivian Efua Senoo-Dogbey for their invaluable scholarly guidance, advice, and unwavering encouragement during the entire research journey. I consider it a blessing to have been under the tutelage of these affable doctors.

I also wish to express my sincere appreciation to all the esteemed faculty members of the School of Nursing and Midwifery, whose substantial contributions greatly enriched my academic journey.

My heartfelt thanks go to the management of Agogo Presbyterian Hospital for granting me the opportunity to conduct my study within their esteemed institution, and to all the participants who willingly and enthusiastically contributed to the study.

I am deeply grateful to my family and friends for their diverse forms of support, which played an instrumental role in helping me complete this program. Almighty God abundantly blesses you all.

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ABSTRACT

Maternal mortality remains a global concern. The World Health Organization recommends Preconception care (PCC) to mitigate risk factors, enhance women's health before pregnancy, and reduce adverse pregnancy outcomes. Nevertheless, implementing PCC within maternal healthcare services remains a challenge. The study aimed to explore factors that contribute to the non-implementation of PCC interventions in Agogo Presbyterian Hospital. In a qualitative research approach, thirteen (13) participants were purposefully selected, including healthcare professionals and hospital administrative managers who met the inclusion criteria, for individual in-depth interviews. These interviews were transcribed verbatim, and thematic analysis was used to analyse the data. Six (6) themes emerged from the interviews: meaning and value of preconception care, individual, intrapersonal, community, and health institutional level challenges, and suggestions for implementation. Insufficient knowledge about PCC among healthcare providers and the target population was identified as a primary barrier. The multifaceted set of challenges revealed by this qualitative study recommends the development of PCC guidelines, training of healthcare providers, and community awareness campaigns to address the knowledge gap to support PCC implementation as part of maternal healthcare services.

Conclusion: The challenges to PCC implementation are multifaceted, and addressing these barriers requires coordinated efforts from policymakers and healthcare institutions to strengthen PCC delivery within maternal healthcare services, thereby optimising women's health before conception and contributing to a reduction in maternal mortality.

Keywords: Preconception care, healthcare providers, challenges, suggestions, and recommendations.

CHAPTER ONE

1.0 Introduction

This chapter presents the background to the study, the statement of the problem, the purpose and objectives of the study, as well as the significance of the study and operational definition of terms.

1.1 Study Background

Maternal mortality has been recognised as far too high and remains a major problem in the world. Approximately 810 women died from preventable pregnancy and childbirth-related complications every day, and about 295000 women died globally in the year 2017 (WHO, 2019).The maternal mortality rate in Sub-Saharan countries has been identified to be high, it is estimated to be 415 maternal deaths per 100,000 live births, which is about 60 times higher than the maternal mortality rate in Australia and New Zealand and more than 40 times higher than that of Europe (Khalil et al., 2023; WHO, 2019). According to the WHO, the only region that recorded a very high maternal mortality ratio in 2017 is Sub-Saharan Africa, with an estimate of 542 (WHO, 2019). According to the GMHS report in 2017, Ghana recorded a maternal mortality rate of 310 deaths per 100,000 live births, which is unacceptably high (Ghana Statistical Service (GSS), Ghana Health Service (GHS), 2019).

It is noteworthy that the most recent grey literature from Graphic online.com (2022) reports that 875 maternal deaths were recorded in 2021, which represents an increase of 12.3 % over the 776 maternal deaths that were recorded in 2020. The increase in maternal mortality ratio of 109.5 per 100,000 live births in 2021, representing a 9.4% rise, is indeed concerning. This recent statistical data on maternal mortality is widely acknowledged as a significant setback for efforts to improve maternal health and reduce the maternal mortality rate, because according to

the report, in the years 2018 and 2019, maternal mortality was recorded at 875 and 838, respectively. The number of maternal deaths further dropped to 776 in 2020 despite an increase in overall births. However, there seems to be an upsurge again (Anaba et al., 2022; Daily Graphic, 2022).

According to a report on maternal mortality from the Agogo health directorate, maternal mortality recorded from 2019 to 2022 was 16 deaths, which were pregnancy and birth-related. It is significant that pregnancy and birth-related complications that cause these mortalities either emerge during pregnancy or existed before conception, and get worse during pregnancy, especially when it is not addressed in the preconception period (Dude et al., 2022a; Poix & Elmusharaf, 2023; Say et al., 2014). These fatalities might be from a glaring breach in the continuum of maternal healthcare (Teshome et al., 2020). Most women in their reproductive age receive little or no reproductive healthcare attention. Such women may become pregnant without planning and may be in a state of unknown medical issues, coupled with unhealthy habits that can complicate pregnancy and birth outcomes (Khekade et al., 2023; Poix & Elmusharaf, 2023; Teshome et al., 2020).

Although focused antenatal care, institutional deliveries with skilled birth attendance as well as postnatal care have been practised in maternal health services for years, it has not been able to address the issues of adverse pregnancy outcomes, since the problem is not tackled at the grassroots level, thus during the preconception period (Mtshali & Ukoha, 2022). These interventions mostly happen after a woman is aware of being pregnant. For instance, it is recommended by the Ghana National Safe Motherhood Protocol that all expectant mothers must embark on their first antenatal visit within 12 weeks of pregnancy (Ghana Statistical Service (GSS), Ghana Health Service (GHS), 2019). However, it may be too late for medical

professionals to intervene by then (Kassa et al., 2019). Additionally, these actions do not focus on the assessment of preconception risk factors that result in the development of adverse pregnancy outcomes, which begin within the critical early stage of pregnancy (WHO, 2013b).

Moreover, for the past few decades, the Ministry of Health, as well as the Ghanaian government, have implemented various funded- measures to improve maternal health, such as the community–based Health Planning Services (CHPS) and the National Health Insurance Scheme (NHIS) program as safety nets for the underprivileged to access free health care, which includes maternal health services (Ameyaw et al., 2021). Still, maternal mortality is high. This has been the case because the focus on achieving Sustainable Development Goal (SDG) 3.1 has been highlighted on focus on antenatal care and increasing the number of deliveries performed by skilled birth attendants, but this has left a gap in the continuum of maternal care services. Thus, women of reproductive age continue to miss out on opportunities to improve their health before conception (Fakornam et al., 2022; Menon & Arora, 2021; WHO, 2023).

In response to unacceptable maternal mortality and morbidity rates, WHO organized a meeting to create a worldwide agreement on reproductive life planning to optimize the health status of women now and in the future, before pregnancy, as well as between two pregnancies (WHO, 2013b). This intention was to lower maternal and child mortality and morbidity in both high and low-income nations, since the majority of women enter into pregnancy with several preconception risk factors, including maternal conditions like diabetes, hypertension, asthma, genetic conditions such as sickle cell disease, cardiovascular diseases, and sexually transmitted infections, including Human Immune Virus (HIV) and Hepatitis B and C virus infections (Hikimatu et al., 2021; Schoenaker et al., 2023; WHO, 2013b).

Consequently, the WHO recommended a list of key preconception care interventions to enable lifestyle modification before pregnancy and to facilitate the continuum of care (Abraham & Melendez-Torres, 2023; Khalil et al., 2023). Therefore, to reach Sustainable Development Goal 3.1, which aims to 'ensure that global maternal mortality ratio is reduced to less than 70 per 100,000 live births by 2030", there is a need for the provision of PCC to reproductive-age women to ensure that at least a woman attains an excellent state of health before pregnancy, other than that our achievement of this goal is far-off.

It is noteworthy that preconception care is a comprehensive evidence-based intervention that has been proven to bridge the gap in the continuum of maternal health care. This is because it ensures continuing health monitoring through early interventions, thereby guaranteeing that reproductive-age women begin pregnancy in the best state of health possible (WHO, 2013b). It can also promote a healthy lifestyle and reduce the risk of unwanted pregnancy among reproductive-age women who have the desire to conceive or not (Atrash & Jack, 2020). Moreover, PCC has been identified as one of the ways to tackle the root causes of maternal and infant mortality by optimising birth preparation and increasing the mother's general health. But this quest has not gotten much attention in most low- and middle-income countries (Mtshali & Ukoha, 2022). Therefore, this study sought to explore and discover factors related to the non-implementation of PCC as part of maternal health services.

1.2 Statement of the Problem.

The WHO has identified a need for implementing PCC interventions in maternal healthcare services. These interventions are made available to enhance maternal health before pregnancy to curtail maternal and child mortality and morbidity (WHO, 2013b). Preconception care has been shown to reduce congenital malformations by 71%, reduce perinatal mortality by

54%, through early identification and mitigation of risk factors (Dude et al., 2022b; Wahabi et al., 2020).

Despite the recommendation for implementation of these evidence-based interventions, Ghana has been deficient in using this window of opportunity to effectively implement PCC as part of maternal healthcare services (Fakornam et al., 2022; Woldeyohannes et al., 2023). Consequently, women of reproductive age continue to miss out on opportunities to improve their state of health before pregnancy. Hence, the increasing rate of maternal mortality mostly affects women, including fetuses, newborns, partners, families, and the nation.

Although the provision of preventive interventions like PCC is the responsibility of healthcare professionals, it has been shown that healthcare professionals rarely discuss the need for PCC with women of reproductive age due to inadequate knowledge, expertise, and role confusion on the phenomenon by healthcare workers, as well as a lack of clear national guidelines or policies for preconception counselling in Ghana (Hikimatu et al., 2021).

Furthermore, there is not enough literature on PCC in the Ghanaian context (Hikimatu et al., 2021). Nonetheless, the few that are available have not yet explored the dynamics that inhibit the PCC implementation process as part of maternal healthcare services; rather, the focus has been on knowledge, attitude, and practice of PCC either among women of reproductive age or among healthcare providers. As such, there is a literature gap that needs to be filled.

Anecdotal evidence shows that there is no document to prove the implementation of PCC services in Agogo Presbyterian Hospital, indicating an existing gap in the continuum of care for women in that regard.

Consequently, the continuous existence of the gap in the continuum of maternal healthcare due to non-implementation of PCC may affect the achievement of the Sustainable Development Goal (SDG 3.1). Hence, this study seeks to contribute to the literature by discovering factors related to the non-implementation of PCC, which will help inform the development of appropriate strategies to facilitate the effective implementation of PCC as part of maternal healthcare services in Agogo Hospital.

1.3 Aim of Study

The study aimed to explore factors that contribute to the non-implementation of preconception care interventions in Agogo Presbyterian Hospital.

1.4 Specific Objectives

The objectives of the research were to;

1. Explore individual (healthcare provider) factors that hinder the implementation of preconception care.
2. Describe interpersonal factors that prevent the implementation of preconception care.
3. Discover community factors that inhibit the implementation of preconception care.
4. Describe health institutional factors that impede the implementation of preconception care.

1.5 Research Questions

The study was guided by the following research questions;

1. What individual-level (healthcare provider) factors hinder the implementation of preconception care?
2. What interpersonal level factors prevent the implementation of preconception care?

3. What community-level factors inhibit the implementation of preconception care?
4. What health institutional factors impede the implementation of preconception care?

1.6 Significance of the Study

Preconception care is key to lowering maternal morbidity and mortality rates, making it crucial for health professionals to promote the practice at every contact with women of reproductive age. The significance of this study to nursing management and practice, nursing education, as well as nursing research is described as follows;

1.6.1 Nursing and Midwifery Management and Practice.

This study contributed to enhancing the quality of nursing management and practice. The findings informed relevant stakeholders in formulating policies and developing appropriate strategies and guidelines that facilitated the incorporation of preconception care services as part of maternal healthcare services. The study also supported improvements in care providers' knowledge and institutional standards, enabling the effective provision of comprehensive and accessible PCC, particularly within the scope of the midwifery practice. The researcher believes that the adoption of this evidence-based practice will help the healthcare system transition from providing procedure-based acute care to providing counselling-based preventive care to women of reproductive age. This ultimately helps reduce the maternal morbidity and mortality caused by unintended pregnancies, unidentified maternal risk factors, as well as uncontrolled maternal medical conditions, among others.

1.6.2 Nursing and Midwifery Education.

The results of this study could be used to enhance nursing and midwifery education and curricula so that future nurses and midwives are more aware of the value of preconception care and strive to take advantage of every chance to assist women who are of reproductive age.

1.6.3 Nursing and Midwifery Research

The findings of this research could pave the way for additional studies on this subject in other hospitals in the Ghanaian context and perhaps in other African nations, as there is insufficient literature on PCC in Ghana.

1.7 Operational Definitions

- **Adverse pregnancy outcome** - results of conception, such as miscarriage, stillbirth, neonatal or maternal ill health, or death.
- **Healthcare provider** – is an individual health professional who is licensed to provide healthcare services.
- **Maternal healthcare services** –the provision of pregnancy-related services to women.
- **Pregnancy outcome** – results of conception and ensuing pregnancy, such as live birth, stillbirth, and good maternal health or maternal ill health or death.
- **Preconception care –** it is the provision of biomedical, behavioural, and social health interventions to women and couples to obtain optimal levels of health before pregnancy.
- **Unplanned pregnancy** – a pregnancy that is unintended or unwanted at the time of conception
- **Women** – women of reproductive age between 15 – 49 years.

1.8 Organization of the Study

This research is structured into six sections. The first chapter encompasses the study's background, problem statement, aim, objectives, significance of the study, and operational definitions. The second chapter delved into the review of relevant empirical literature related to the objectives, along with the study's theoretical framework, while chapter three outlined the research methodology, including the design, sample size, sampling procedure, and data

collection processes. Chapter four presents the analysis and findings of the study. Moreover, chapter five integrates a discussion of the results within the context of relevant literature. Lastly, chapter six provides a summary of the study, nursing implications, strengths, limitations, recommendations, and concluding remarks.

CHAPTER TWO

LITERATURE REVIEW

2.0. Introduction

This chapter provides an overview of study-related literature as well as the theoretical model that underpinned this study. Different sources, including peer-reviewed journals, books, and the internet, were accessed for the literature review. The following databases were searched for literature related to this study. These databases included; Science Direct', PUBMED', 'Scopus', and 'Google Scholar',

The following keywords were used in the search for literature; preconception care, preconception care services, preconception care delivery, inter-pregnancy care, integration of preconception care services, health system, healthcare providers, healthcare professionals, preconception care barriers, challenges, qualitative study, social ecological model, suggestions. The keywords were used alone or by combining them with Boolean operators such as, 'OR' or 'AND' in search of literature. The review of the literature is organized as follows;

- Theoretical models for the study
- Preconception health
- Overview of preconception care
- Current status of preconception care Globally
- Current status of preconception care in Sub-Saharan
- Current status of preconception care in Ghana
- Package of preconception care interventions
- Individual level (healthcare provider) factors that hinder the implementation of preconception care?

- Interpersonal level (work environment) factors that prevent the implementation of preconception care?
- Community-level factors that inhibit the implementation of preconception care?
- Institutional factors that impede the implementation of preconception care?

2.1. 2.1.0. The Donabedian Model

The Donabedian model is a renowned framework for evaluating the quality of healthcare, which was formulated by Avedis Donabedian (1966). It comprises three key dimensions: structure, process, and outcome, serving as pillars for assessing and enhancing healthcare services. Donabedian describes these key dimensions as follows;

- Structure which denotes the foundational aspect of healthcare systems, encompassing resources like facilities, staffing, and qualifications of professionals.
- Process evaluates care delivery, encompassing procedure, adherence to best practices, and provider-patient communication.
- Outcome assesses the impact of healthcare interventions on patient health, including recovery, deterioration, and satisfaction.

Therefore, the model is ideal for research that seeks to measure the quality of healthcare services that have been implemented to know how well the process is performing, whether the process has helped in the achievement of aims, whether a small test of change is having the desired impact, whether the changes made have resulted in an improvement and, whether a change has been sustained (NHS, 2018).

2.1.1. Behavioral Change Wheel

The Behavioural Change Wheel (BCW) was collaboratively developed by Susan Michie, Lou Atkins, and Robert West (2014), notable figures in health psychology, behavioural science, and public health. These scholars drew from various disciplines to create a comprehensive framework for behaviour change and interventions (Michie et al., 2011, 2014). Despite its methodical approach and emphasis on individual determinants like capacity, opportunity, and motivation, to facilitate behaviour change (Michie et al., 2014), the BCW lacks explicit clarification of diverse factors that can influence behavior across multiple levels, such as cultural context, environmental cues, organizational, or policy related influences which are crucial in complex settings like healthcare or public health where these multi-level factors hold significance in shaping behavior that may bolster the adoption, for implementation of interventions, and the optimal utilization of effective clinical services to promote a healthy lifestyle (Michie et al., 2011, 2014). Therefore, this omission makes the model less suitable for this study, which is seeking a holistic understanding of factors associated with the non-implementation of PCC services.

2.2. Theoretical Model of the Study: The Social Ecological Model

The social-ecological model is a theoretical framework that examines the dynamic relationship between individual and environmental factors that influence behavior (Mcleroy et al., 1988; Wold & Mittelmark, 2018). Thus, it focuses on understanding the complex interactions between various factors that could impact behaviour. This model, therefore, acknowledges the complex role that context plays in shaping an individual's behavior through the influence of multilevel factors, which include individual, interpersonal, organisational, community, and policy levels (Mcleroy et al., 1988; Wold & Mittelmark, 2018).

According to Mcleroy et al. (1988), these interactive multilevel factors that affect behavior are described as follows;

1. Intrapersonal level: this level focuses on the characteristics of the individual (knowledge, attitude, and skills).
2. Interpersonal level: this level examines the formal and informal social networks as well as social support systems, which include the family, work groups, and friendship networks, and how these interact to influence behavior.
3. Institutional level: this level considers the organizational characteristics and the formal and informal rules and regulations for operation.
4. Community level: this level looks at broader community factors, including social norms, cultural influences, and resources available within the community.
5. Policy level: this level looks at the local, state, and national laws and regulations that influence behavior.

This model is essential in health promotion programs and behavior change because it recognizes that individuals are shaped by their environments. It emphasises that interventions addressing health behavior should consider these multilevel factors, acknowledging that change can occur through interventions targeting one or more of these levels (Golden et al., 2015; Mcleroy et al., 1988).

In addition, the implementation of health interventions is complex and highly dependent on the characteristics of the implementers, the context where the interventions will take place, the target population, the purpose of the intervention and the process used to design the intervention (Guttmacher et al., 2010).

2.3. Relevance of the Social-Ecological Model to this Study

In the context of this study, the social-ecological model is utilized to discover the various factors associated with the non-implementation of PCC in Agogo Presbyterian Hospital, because the SEM depicts how the interconnectedness and interdependence of its various levels, whether individual, interpersonal, community, or institutional, influences and is influenced by others. The success and effectiveness of one level are intricately linked to the support and functionality of the others (Richard et al., 2011). This model illustrates how the implementation of PCC relies on a holistic and comprehensive engagement across all these levels to facilitate the promotion of a health intervention program like PCC. Consequently, if any one level is not fully engaged or supported, it can weaken the entire system, resulting in compromised PCC implementation (Golden & Earp, 2012; Mcleroy et al., 1988).

Furthermore, this model will help bring to light how community and organisational levels often intersect and impact each other significantly. Institutions function within the community, and simultaneously, the community's dynamics and its needs for the services provided by these institutions. Therefore, understanding this interconnectedness is essential to induce a holistic approach to the promotion and effective implementation of PCC (Mcleroy et al., 1988; Richard et al., 2011; Wold & Mittelmark, 2018). Hence, this model could serve as a direction that will probably need to be employed to suit local realities, interests, and demands in the development of approaches to PCC implementation.

2.4. Application of the Social-Ecological Model to This Study.

Looking at the significant role of healthcare professionals in the promotion and delivery of PCC, it had become necessary to consider and utilize the SEM model as appropriate to underpin the study, where four constructs have been adapted to serve as a guide to investigate,

discover and to gain a clearer understanding of how individual, interpersonal, community and health institutional characteristics affects the implementation of PCC as follows;

2.4.1. Individual-level factors (Health Care Provider): About this study, characteristics at the individual level include the knowledge, skills, and attitude of the healthcare provider, which will either enable him or her to adopt or reject the implementation of PCC. This level of analysis can be used to explore individual (healthcare provider) factors that hinder the implementation of PCC (objective 1).

2.4.2. Interpersonal level characteristics: This study is about the support and collaboration among healthcare professionals, task orientation, and competing demands in the workplace, which will determine whether the healthcare provider will render PCC service or not. This level of analysis can be used to describe factors in the immediate working environment of the healthcare provider that prevent the implementation of PCC (objective 2).

2.4.3. Community-level characteristics: This study refers to the cultural and ideological values that shape the broader societal context. Thus, the extent to which PCC services fit in existing cultural norms, awareness of PCC, willingness to use the services, confidence and comfort in the health care provider to provide the service, and client socio-economic status. These will determine whether the target population will use the service or reject it. This level of analysis can be used to describe cultural beliefs and practices about female sexuality and reproductive health, as well as gender roles, which can hinder PCC implementation (objective 3)

2.4.4. Health institutional level characteristics: This study is about the availability of resources, which include formal reinforcement to integrate PCC, size of employees, availability of expertise to facilitate the implementation of PCC, as well as availability of finance and logistics, which determine whether the health facility will be ready to render the service or not.

This level of analysis can be used to investigate health institutional factors that hinder the implementation of PCC (objective 4).

Hence, the interplay of these multilevel factors will indicate whether PCC implementation will happen.

However, the policy level factors in the SEM were excluded, because the HCP and administrative managers in the study area might not be inclined or directly involved in formulating policies related to PCC and as such may not be in a better position to give a detailed account of policies concerning PCC.

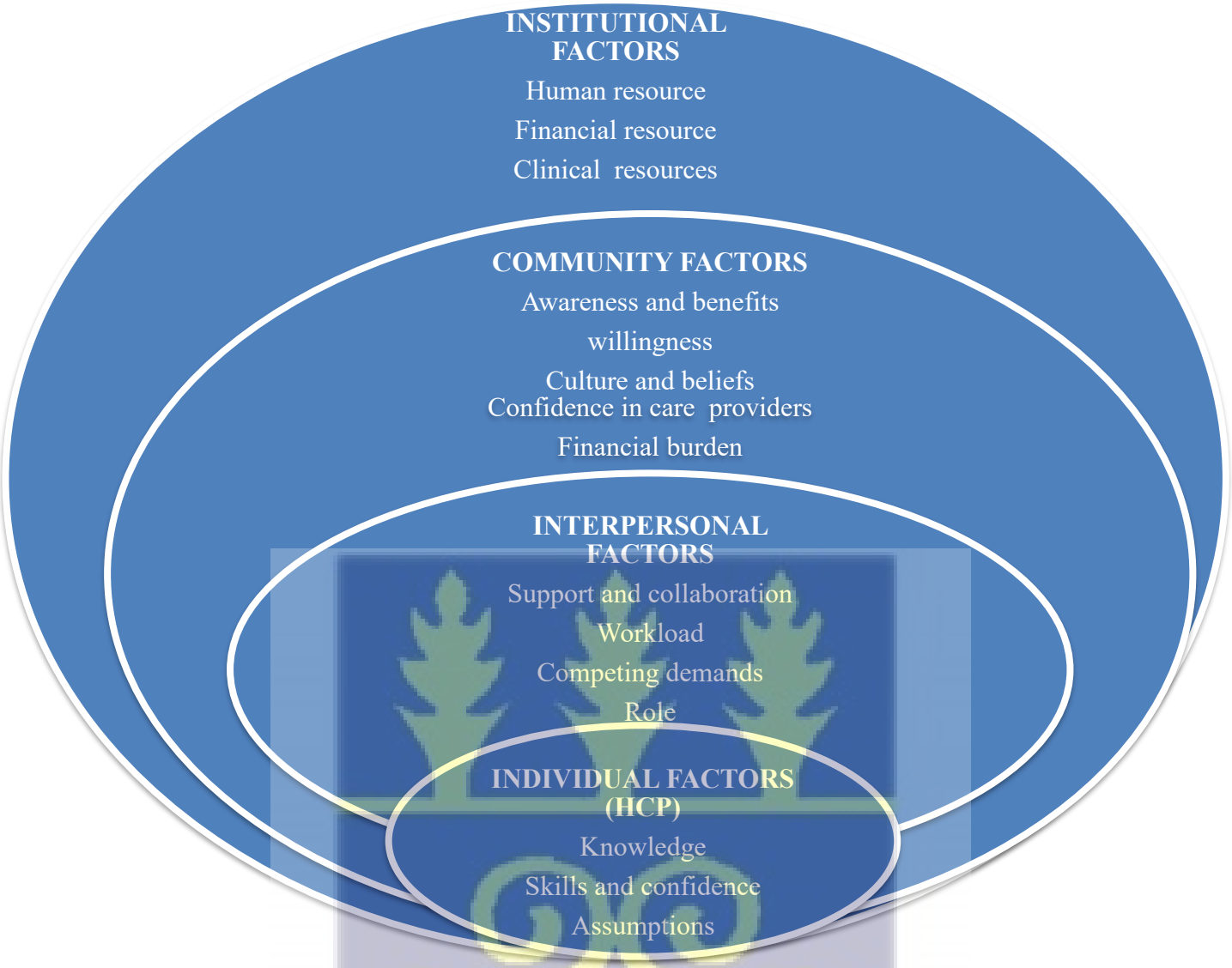

Figure 2.1. The Socio-ecological model was adapted (Mcleroy et al., 1988) to explore factors associated with the non-implementation of preconception care.

2.5. Preconception Care Overview.

Preconception care is defined by the WHO as "…the provision of biomedical, behavioral and social health interventions to women and couples before conception occurs, aimed at improving their health status and reducing behaviors and individual and environmental factors that could contribute to poor maternal and child health outcomes with the ultimate aim to improve maternal and child health outcomes, in both the short and long term" (WHO, 2013b)

In 2012, the WHO organised a summit to create a worldwide agreement on reproductive life planning to optimise the health status of women now and in the future before pregnancy occurs, and between two pregnancies. This intention was to lower maternal and child mortality and morbidity in both high and low-income countries (WHO, 2013b).

2.5.1. Preconception Health

Preconception health is the state of a woman's health before becoming pregnant, and this state of health of a woman in her reproductive age is an indicator of the pregnancy outcome (Chutke et al., 2022; Fakornam et al., 2022). Therefore, a woman having a good state of health in the preconception period is anticipated to have an uneventful pregnancy with a good birth outcome.

On the contrary, preeclampsia, eclampsia, aggravation of other pre-existing medical conditions, such as hypertension, diabetes, and sickle cell anaemia, coupled with Antepartum Haemorrhage (APH), Postpartum Haemorrhage (PPH), maternal anaemia, and maternal death are the negative pregnancy outcomes that women experience as a result of poor preconception health (Ojifinni & Ibisomi, 2022a). Therefore, the improvement of health before the onset of pregnancy is essential for a healthy pregnancy (WHO, 2013b).

2.5.2. Current status of preconception care globally

Globally, the WHO recommended that nations carry out feasibility analyses to ascertain the most efficient means of incorporating preconception interventions into current maternity and child health services (WHO, 2013b). Preconception care has been effectively implemented in several high-income countries, including the Netherlands, the United States, and Italy, as well as middle and low-income nations, which include the Philippines, Sri Lanka, and Bangladesh (WHO, 2013b). However, in several countries all over the world, PCC is not currently accessible to all women and couples who are of reproductive age. Rarely do healthcare professionals talk to women about its value and accessibility (Mtshali & Ukoha, 2022; Sori et al., 2021; Tekalign et al., 2021).

2.5.3. Current Status of Preconception Care in Sub-Saharan Africa

Despite the known advantages of PCC intervention, a current report shows that PCC services are underutilised by both couples planning pregnancies and healthcare providers in Sub-Saharan Africa. Preconception care provision has been insufficient because the service is typically provided as and when deemed necessary, rather than being a routine practice with a planned approach (Mtshali & Ukoha, 2022; Woldeyohannes et al., 2023). According to studies done in Ethiopia, almost all healthcare professionals were not fully practising PCC, but the few who were doing so did it occasionally (Kassa et al., 2019; Sori et al., 2021). Preconception care provision and utilisation are difficult to execute in most Sub-Saharan countries and require both the patients' and healthcare professionals' efforts (Mtshali & Ukoha, 2022; Tekalign et al., 2021).

2.5.4. Current status of Preconception care in Ghana

Ghana does not regularly practice PCC interventions and there is insufficient data to support the full implementation of PCC interventions in Ghana (Fakornam et al., 2022). Moreover, most Ghanaian healthcare professionals are not ready to provide preconception care counseling services to women of childbearing age before they become pregnant because nurses, midwives, and other healthcare professionals have relatively inadequate knowledge as well as negative attitudes toward providing PCC care. This has led to a lack of implementation of this key service, particularly in rural communities (Hikimatu et al., 2021).

It is noteworthy that healthcare providers bear the primary responsibility for implementing current evidence-based interventions such as PCC (Sori, Roba, et al., 2021). However, PCC is currently not well practiced as part of maternal healthcare services, since the determinants for implementation of the PCC process remain unclear among healthcare providers (Id et al., 2018). This study, therefore, seeks to explore and uncover factors related to the non-implementation of PCC.

2.6. Package of Preconception Care Intervention

Preconception care interventions are a collection of health promotion, prevention, and curative strategies that have been proven to improve the health of expectant mothers and their babies (WHO, 2013b). The recommended set of interventions aims to address health concerns, lifestyle choices, and risk factors that increase the likelihood of maternal and child morbidity and mortality before pregnancy.

The target area for these interventions according to WHO is tobacco and substance use prevention and cessation, nutritional deficiencies and disorders (Screening for anemia and diabetes, supplementing folic acid and iron, providing counseling and monitoring of nutritional

status), management of chronic medical conditions, vaccination preventable infections, infertility and sub-fertility, sexually transmitted infections (STIs) including HIV, premarital counseling, screening for genetic disorders including sickle cell disease, provision of adolescent-friendly reproductive services, intimate partner and sexual violence, mental health disorders, occupational and environmental hazards, female genital mutilation as well as too-early, unplanned and rapid succession of pregnancies (WHO, 2013b).

2.6.1 Nutrition Optimization and Weight Management

The quality and energy content of diet have an impact on human health and interestingly, many chronic metabolic diseases are associated with diet (Moholdt & Hawley, 2020). Micronutrients, such as iodine, calcium, and folic acid are essential for the proper functioning of body tissues. However, a deficiency of such micronutrients can pose a pregnancy risk (Delbaere, 2021). For instance, pregnant women are likely to suffer anaemia, Ante Partum Hemorrhage (APH), Post-Partum Haemorrhage (PPH), and Pregnancy-Induced Hypertension (PIH), which may result in maternal mortality as a complication of iron and calcium deficiency (Adams et al., 2021; Delbaere, 2021; WHO, 2013b). Also, pregnant women who are folic acid-deficient run the risk of giving birth to children who have congenital malformations, including neural tube defects (NTDs) (Adams et al., 2021; Swain et al., 2021).

Therefore, addressing issues of undernutrition, malnutrition, and vitamin deficits before conception is paramount to assist women to start pregnancy in the best possible state of health, thereby preventing adverse pregnancy outcomes (Swain et al., 2021). This can be achieved through a critical nutritional assessment and counselling to make sure women of reproductive age are getting the recommended daily levels of calcium, iron, folic acid, vitamin A, vitamin

B12, vitamin B, vitamin D, and other nutrients through diet and supplements during the preconception period (Society et al., 2019).

Additionally, the preconception period is the ideal time to have a healthy weight because both low and high preconception Body Mass Index (BMI) can have a detrimental impact on pregnancy outcomes (Medforth et al., 2019). Being obese or overweight before conception raises the risk of metabolic dysfunction during pregnancy, and makes such women more susceptible to pregnancy complications, such as gestational diabetes mellitus, maternal infection, cesarean birth, lengthy hospital stay, pre-eclampsia, induction of labour, postpartum haemorrhage, maternal critical care admission, and thrombosis (Boyle et al., 2022; Kapur & Hod, 2020). Consequently, these complications may further predispose women to chronic conditions, including hypertension, type 2 diabetes, and impaired glucose tolerance, even after childbirth (Boyle et al., 2022; Cha et al., 2021).

Therefore, keeping a healthy weight with a body mass index between 18.5 and 24.9kg/m2, and continuing to engage in enough physical exercise, is recommended in the preconception period (Lang et al., 2019). Also, calculating body mass index for women of reproductive age, educating women about the dangers of obesity, overweight, and underweight, and helping women create dietary plans are strategies to help women achieve a healthy weight. Thus, the intake of a variety of nutritious foods in the right amounts, as well as nutritional supplements, should be part of these strategies (Ukoha, 2018).

2.6.2. Physical Activity

Exercise has been clinically proven to be a cost-effective intervention in promoting cardiovascular health and preventing the burdens associated with many chronic metabolic diseases that are lifestyle-related (Barakat et al., 2019; Moholdt & Hawley, 2020).

It is, therefore, a benefit to educate women of reproductive age to engage in moderate exercise, such as brisk walking for 30 minutes daily for five days per week or a minimum of 150 minutes of exercise in a week during the preconception period (Moholdt & Hawley, 2020; Mottola et al., 2018; Society et al., 2019). This can help women to develop the habit and adhere to physical activity at the time of pregnancy to improve their health (Moholdt & Hawley, 2020; Mottola et al., 2018).

2.6.3. Substance Use Assessment

Women may use substances for several reasons, such as active addiction, coping with stress or trauma, mental health issues, recreational use, or for social reasons (Medforth et al., 2019). It is vital to assess women for the use of alcohol, nicotine products, and medications that are taken for non-medical purposes since these substances can pose a threat to reproductive health (Society et al., 2019). The act of smoking in any form, as well as the consumption of alcohol for instance, is associated with infertility, ectopic pregnancy, placenta previa, placental abruption, impaired thyroid function in the mother, intrauterine growth restriction as well as premature rupture of membranes. Hence, preconception behavioral counseling programs on cessation of substance use in any form are recommended to lower the likelihood of unfavorable pregnancy outcomes (Delbaere, 2021; Society et al., 2019; WHO, 2013b).

2.6.4. Screening of Medical Conditions and Medication Use

Underlying chronic medical disorders, such as diabetes, hypertension, psychiatric illness, and thyroid disease, should be treated as effectively as possible before pregnancy (Society et al., 2019). Such conditions pose a threat to pregnancy and the physiological changes of pregnancy tend to worsen these conditions**.** However, the impact of chronic conditions on pregnancy outcomes can be minimized or in some instances eliminated, if preconception care is offered to

women as early as possible because this time frame provides a "window of opportunity" to recognize and manage potential risk factors linked to unfavorable pregnancy outcomes (Admiraal et al., 2021).

According to research data, hypertension has been identified as one of the significant contributors to complications associated with pregnancy (Boafor et al., 2021; Jacob et al., 2020; Kapur & Hod, 2020), which can manifest as chronic hypertension, pregnancy-induced hypertension (PIH), preeclampsia, and chronic hypertension superimposed with pre-eclampsia or eclampsia (Kapur & Hod, 2020). At some time during pregnancy, about 10% of normotensive women experience unusually increased blood pressure. These hypertensive disorders affect 5 to 10 percent of pregnancies and further account for 10% to 15% of maternal mortality in low- and middle-income countries (Kapur & Hod, 2020). This is becoming more common in reproductive-age women due to the increased prevalence of obesity, diabetes, and metabolic disorders among this group (Jacob et al., 2020; Kapur & Hod, 2020).

Again, it is found that pre-existing hypertension complicates around 1 in 10 pregnancies, as hypertension that was present before pregnancy can worsen pregnancies and vice versa (Delbaere, 2021). Additionally, findings of a review by a teaching Hospital in Ghana found that hypertension in pregnancy was the leading cause of maternal mortalities, with eclampsia being the immediate cause of these mortalities, and these findings were consistent with those of other similar tertiary hospitals in Ghana (Boafor et al., 2021). This has been the case since the health system is not able to screen women to identify medical conditions that could complicate pregnancy early enough for prompt treatment and prevention during the preconception period (Kapur & Hod, 2020).

Also, regardless of a woman's intentions to conceive or not, all drugs that are used by women should be reviewed during the preconception period to facilitate pregnancy-related advice. Thus all prescription drugs, over-the-counter medications, nutritional supplements, and herbal products must be reviewed for toxicity during the preconception period to avoid those that may affect pregnancy unless the benefits outweigh the dangers (Admiraal et al., 2021; Medforth et al., 2019; Society et al., 2019).

2.6.5 Screening for Sexually Transmitted Infections and Diseases

Sexually transmitted infection (STI) is referred to as an infection caused by a pathogen through sexual contact. Thus, STI is an infection brought on by a bacterium, virus, or parasite that can be transmitted from one person to another during the act of sexual intercourse or through other intimate contact or from mother to child (CDC, 2021; World Health Organization, 2019).

According to a WHO report, eight common sexually transmitted infections commonly occur, of which four are curable. Those curable ones are Chlamydia, Syphilis, Trichomoniasis, and Gonorrhea. However, Human Immune Virus (HIV), Human Papilloma Virus (HPV), herpes simplex virus (HSV), as well as Hepatitis B are the four viral infections that cannot be cured but can only be controlled with appropriate medical care (World Health Organization, 2019).

It is noteworthy that most sexually transmitted infections might either show symptoms or may be asymptomatic, which may make it difficult to identify them as a sexually transmitted infection. In any case, STIs have the potential to cause severe sexual and reproductive health complications, which include acute ill health, infertility, adverse pregnancy outcomes, permanent disability, congenital infections, and even death if not treated (Abuosi et al., 2022; World Health Organization, 2019).

2.6.6 Immunization

Immunization is a crucial part of preconception care since many infectious illnesses that have substantial negative effects on mother and fetal health can be prevented through vaccination (Medforth et al., 2019). It is key for women of reproductive age to be up-to-date with their immunizations, and the PCC period provides the best chance to assess the vaccination status of women to administer recommended vaccines if vaccination history is incomplete or unknown to prevent avoidable infections and adverse pregnancy outcomes(CDC, 2022b; Medforth et al., 2019) . Hence, vaccinations against measles, mumps, rubella, varicella, hepatitis B, influenza, human papillomavirus, COVID-19, tetanus, diphtheria, and pertussis are recommended for women of reproductive age (CDC, 2022b, 2022a; WHO, 2013b).

2.6.7 Female Genital Mutilation

Female Genital mutilation which is also known as female circumcision is a non-medical procedure that involves the partial or complete removal of the external female genitalia or other harm to the female genital, such as sewing the labia majora or pricking the clitoris (Medforth et al., 2019; WHO, 2018a). This harmful cultural practice is capable of interfering with the physical, mental, and sexual functioning of girls and women who undergo FGM. It is also proven that FGM puts women under several obstetric complications, including cesarean sections, episiotomies, prolonged or difficult labor, instrumental delivery, obstetric tears and lacerations, fistulas, postpartum hemorrhage (PPH) and extended maternal hospital stays and other complications, including recurrent urinary tract infections (Nonterah et al., 2020; WHO, 2018a).

Although women who have not had FGM may also experience some of these obstetric complications, FGM victims are exposed to other issues (severe scare or keloid formation which

narrows and tightens the vagina opening), raising their risk of complications during pregnancy and childbirth (WHO, 2018a).

A study conducted in the northern part of Ghana found that the prevalence of FGM has significantly decreased; however, unfavourable obstetric outcomes are still common among women with FGM (Nonterah et al., 2020). Consequently, to prevent obstetric complications, the World Health Organisation has issued recommendations for managing obstetric, gynaecological, or urological issues as well as promoting female sexual health. The promotion of mental health for girls and women who have had FGM and exhibit symptoms of anxiety disorders, depression, or post-traumatic stress disorder is taken into account in this recommendation (WHO, 2018a). Hence, it is the responsibility of healthcare providers to make assessments and counselling to facilitate clinical decision-making with such women to encourage institutional deliveries and where the need be make referrals for de-infibulation by specialist management at the health facility during the preconception period (Nonterah et al., 2020; WHO, 2018b, 2018a).

2.6.8 Screening for Genetic Conditions

It is ideal for women of reproductive age and their partners to get career screening and counseling before conception. Hence obtaining an accurate family genetic history of potential parents is the initial genetic screening test of choice during the preconception period. This allows the early identification of especially unknown genetic conditions, such as sickle cell anemia, thalassemia, Tay-Sachs, as well as cystic fibrosis that would prompt the need for a more detailed history and referral for genetic counseling. This enables the couple to learn about their reproductive risks and weigh all of their options to make decisions about reproduction (Medforth et al., 2019).

2.6.9 Assessment for Exposure to Environmental and Occupational Toxins

Studies have shown that there is a link between environmental toxins, workplace teratogens, endocrine disruptors, and dangers to reproduction and pregnancy (Society et al., 2019). The reproductive system of women has developed numerous anomalies, such as reduced fertility, endometriosis, vaginal adenosis, adenocarcinoma on vaginal walls, and myoma, as a result of exposure to various chemicals (Piazza & Urbanetz, 2019). Preconception exposure to environmental pollutants, including air pollution, pesticides, heavy metals, endocrine-disrupting substances, food additives, water contaminants, solvents, radiation, and anaesthetic gases, can harm obstetrical and reproductive health (fertility, pregnancy, and fetal development), which may potentially persist to affect multiple generations (Segal & Giudice, 2019). Nonetheless, the environment of a woman that exposes her to chemicals or toxins includes her home, the community in which she lives, her place of work, and other locations in which she may find herself (Medforth et al., 2019).

As a result, healthcare professionals have the critical preconception period as a special opportunity to counsel women of reproductive age to assess and identify risks and find measures to minimise exposure to harmful chemicals. This will help in the improvement of reproductive health and ensure a healthy lifestyle in general before pregnancy (Segal & Giudice, 2019).

2.6.10 Intimate Partner Violence

It is noteworthy that, beyond the immediate physical and emotional impacts associated with intimate partner violence, it is also possible to cause lifelong implications, such as gynecological issues, pregnancy and childbirth complications (such as miscarriages, stillbirths, intrauterine hemorrhages) (Al Shidhani et al., 2020; Wassie et al., 2023), unintended pregnancies

in general, nutritional deficiencies, chronic pain, anxiety, post-traumatic stress disorder (PTSD), and neurologic disorders, along with non-communicable diseases like hypertension, cardiovascular diseases, and cancer (Medforth et al., 2019; WHO, 2013a). Additionally, there is evidence connecting intimate partner violence with detrimental effects on children's health and development. Hence, it is very important to give intimate partner violence the needed attention during the preconception period to identify signs and symptoms that suggest possible exposure to violence and provide the necessary information and support (Medforth et al., 2019).

2.7. Individual Level (Healthcare Provider) Factors That Hinder Preconception Care Implementation

2.7.1. Health care providers' Knowledge of preconception care

Numerous research findings have shown that healthcare providers have limited knowledge regarding PCC (Chutke et al., 2022; Ferry et al., 2023; Maas, Poels, Hölscher, van Vliet-Lachotzki, et al., 2022a; Teshome et al., 2020). The results of a study that involved a focus group discussion among primary healthcare providers in rural India showed that these professionals had inadequate knowledge of PCC (Chutke et al., 2022). Again, findings of a qualitative inquiry among healthcare providers in Ethiopia also found that healthcare workers did not bring up PCC counselling with women because they lacked extensive knowledge of the phenomenon. The study showed that the majority of healthcare professionals were unaware of PCC on their own, let alone creating public awareness (Teshome et al., 2020). Additionally, the scoping review of studies in Western countries by Ferry et al. (2023) and that of a clinical review in the United Kingdom, identified a lack of knowledge of PCC within primary healthcare

workers as a common hindrance to PCC implementation (Ferry et al., 2023; Stephenson et al., 2021).

Moreover, the outcomes of a mixed-method study on preconception care implementation challenges and facilitators held in the Netherlands among multidisciplinary healthcare providers found that preconception care knowledge was lacking among healthcare professionals (Maas, Poels, Hölscher, van Vliet-Lachotzki, et al., 2022b). Further, the outcome of research conducted among healthcare providers in South Africa, demonstrated that healthcare workers had limited knowledge of preconception care and its benefits especially among healthcare professionals who work outside the obstetrics and gynecological unit (Ukoha & Mtshali, 2022). Also, inadequate skills and knowledge among healthcare workers were found to be a hindrance to the deployment of PCC services to women according to the results of studies conducted in Nigeria and Ghana (Hikimatu et al., 2021; Ojifinni & Ibisomi, 2022a). Likewise a study among physicians in Saudi Arabia found that although healthcare professionals knew about PCC, their primary source of information was their clinical experience and the recommendations that were available from their healthcare institution, but not from any formal training on the phenomenon (Alamer et al., 2022). This could be due to a lack of formal education on PCC in health colleges for students as well as a lack of in-service training on PCC for healthcare providers in health facilities.

This identified healthcare provider's lack of or limited knowledge on PCC could be due to a lack of formal education on PCC in health colleges for students as well as a lack of in-service training on PCC or they might have received information on general health promotion and not specifically on PCC, which would have enabled them to acquire the specific information and skills that is necessary for implementing PCC service. Again, the dissemination of study

results to provide insight and support for healthcare providers on evidence-based practice, such as PCC, to make it more understandable and acceptable, may be lacking.

However, a South African study by Ukoha et al. (2021) among healthcare workers and high-risk reproductive women revealed that healthcare providers were very knowledgeable about the numerous components of the PCC package and also had a good understanding of its goal of lowering maternal and child morbidity and mortality, which influenced their practice of the service (Ukoha & Mtshali, 2021). Participants for this study were recruited from a tertiary referral hospital, where women of reproductive age with high-risk conditions were managed. Due to this, healthcare professionals were more likely to have received specialised and periodic in-service training, which could be the reason for their good knowledge of PCC. Hence, these findings may not be generalizable to other populations.

2.7.2. Healthcare Providers' Skills and Confidence to Practice PCC

Research outcomes have proven how a lack of skill and confidence has been a barrier for some healthcare providers to implement PCC to target audiences.

According to Best et al. (2021), most healthcare professionals were unable to provide reproductive genetic carrier screening due to their perceived lack of confidence in providing prenatal genetic counselling, about which conditions to test for, how to interpret and explain test results and in particular, confusion about how to address patients' questions on positive test results. However, the same study revealed how some healthcare workers found discussing sensitive reproductive health issues with clients quite simpler when the conversation was brought up by clients. Meanwhile, obstetricians and gynecologists were confident in providing the service regardless of the patient's request (Best et al., 2021). This sense of ease in discussing such complex issues by obstetricians and gynecologists could probably be based on their

experience and perhaps noticing they were in the best position to provide reproductive health services.

In addition, the results of a scoping review revealed that healthcare professionals admitted they felt uncomfortable discussing issues related to sexual and reproductive health with clients, let alone starting a conversation with them in that regard (Ferry et al., 2023). Consequently, the provision of services like contraception is hampered by this uneasy sensation (Ferry et al., 2023). Also, a qualitative study conducted by Kurniawati et al. (2021) in Jakarta, among healthcare providers, revealed a common concern participants conveyed on how the absence of specialised training in PCC made them feel inadequately skilled in delivering PCC services because their previous training had primarily focused on general health promotion (Kurniawati et al., 2021a).

2.7.3. Healthcare Providers' Assumptions about Women towards PCC.

Notably, it is the recommendation of WHO that all women and couples of reproductive age must be routinely provided with PCC services (WHO, 2013b). However, many healthcare professionals think that routinely offering pre-pregnancy counselling could adversely influence clients' decisions to use reproductive services, which may deny their informed choice and consent, and may sound coercive (Best et al., 2021). It also showed how the majority of healthcare providers thought that simply providing clients with reproductive genetic carrier screening, coupled with the outcome of test results, could cause irreparable damage. This, they believe, may subject clients to stigmatisation. Further, the perception of healthcare practitioners about the unfavourable effects the delivery of PCC services might have on clients, such as increasing women's anxiety, has been recognised as a barrier to implementing PCC services (Teshome et al., 2020). Consequently, the interest of healthcare workers in rendering care and

the interest of the general public in patronising such pre-pregnancy services are inflexible (Best et al., 2021; Teshome et al., 2020). This portrays a clear assumption that the ethical principles of autonomy may be breached, and psychological instability is heightened. Hence, such suppositions of healthcare providers in practice may create a gap in the reproductive life cycle of the PCC target population.

Nevertheless, training of healthcare professionals to strengthen their capacity to facilitate the implementation of comprehensive PCC services has been recommended (Chutke et al., 2022). Additionally, the necessity of enhancing PCC knowledge and skills among medical professionals by incorporating PCC in numerous health education curricula and postgraduate courses has been recommended as a gateway to facilitate PCC implementation (Fakornam et al., 2022; Maas, Poels, Hölscher, van Vliet-Lachotzki, et al., 2022b).

2.8. Interpersonal Factors That Prevent Preconception Care Implementation

2.8.1. Lack of support and collaboration.

According to research outcomes, lack of collaboration, team-based care, and lack of support from managers and coworkers to facilitate active PCC implementation have been identified as challenges (Alamer et al., 2022; Banaei et al., 2021; Chutke et al., 2022).

Although Best et al. (2021) in their systematic review identified a generally favorable attitude of healthcare providers towards pre-pregnancy genetic screening, a barrier to the execution of this service was revealed as the absence of a shared sense of urgency in the provision of PCC services.. This is because not all health practitioners were interested in and support offering the service, which results in the risk of inconsistency in practice (Best et al., 2021). Inter-professional partnership or teamwork among healthcare providers, which is in the best interest of

implementing PCC for women, is lacking. Thus, the working environment does not support and promote PCC implementation.

Moreover, extra workload, limited time, and stress have also been demonstrated by the literature as some of the barriers to the implementation of preventive care like PCC among healthcare practitioners (Alamer et al., 2022; Best et al., 2021; Chutke et al., 2022). The results of a qualitative study among health care professionals in Jakarta and the Dutch on their perspectives of PPC showed that inadequate time was a deterrent to PCC implementation (Kurniawati et al., 2021; Maas et al., 2022). The participants were of the view that their primary duty was not to render only PCC services but also to provide services to numerous other patients who visit the hospital with different conditions, which they found to be quite a workload, in addition to providing PCC, which they perceive to be time-consuming (Kurniawati et al., 2021; Maas et al., 2022). Such were the findings of a scoping review in the United Kingdom, where time constraints were recognised as a hurdle that prevented healthcare providers from carrying out PCC, which is considered an extra task to the standard provision of care (Smith et al., 2022). This has probably been the case since there might be no designated area, days, or specific PCC expertise for the provision of PCC services in the facilities for the target population. Also, an unfavourable working environment that discourages the retention of human resources could be a reason for the added workload and stress for existing staff for PCC implementation. Hence, the care providers may tend to find the implementation of PCC overwhelming.

Again, the findings of another scoping review by Ferry et al. (2023) identified that insufficient time was a major limitation for healthcare workers to discuss pregnancy and contraception topics with women with type 1 diabetes in the preconception period. Likewise, the

findings of a Saudi Arabian study projected the shortage of time as one of the most notable hitches to the implementation of PCC (Alamer et al., 2022).

Similarly, the findings of a clinical evaluation conducted in the United Kingdom also highlighted a lack of time as one of the well-known obstacles to the implementation of a preventative care strategy like PCC (Stephenson et al., 2021). However, this same research also discovered that participants who were working in private facilities claimed they had ample time to provide PCC for clients (Stephenson et al., 2021). The reason for this finding could be that privately owned hospitals are usually less busy and less stressful than government health facilities, and this enables care providers with the luxury of time to provide health care services to their clients.

All the same, suggestions have been made for healthcare professionals to set up a local working conference as a starting point to bring together healthcare professionals from various backgrounds who are interested in PCC and create a partnership of local stakeholders (inter-professional collaboration and support), teamwork and referral networks which will serve as platforms for integrating PCC services into the health system to facilitate PCC implementation (Alamer et al., 2022; Maas, Poels, Hölscher, van Vliet-Lachotzki, et al., 2022b; Ojifinni & Ibisomi, 2022b).

2.8.2. ROLE

There are concerns among healthcare providers regarding whose responsibility it is to provide PCC (Maas et al., 2022; Ukoha & Dube, 2019; Ukoha & Mtshali, 2022).

According to the views of multidisciplinary healthcare providers whose responsibility to provide PCC, all healthcare professionals practically concurred that General Practitioners and midwives are in the utmost position to conduct PCC consultations, however, some of these potential PCC

providers continue to struggle with the tension between their desire to offer PCC and their perception of whether or not it is an essential component of their job description (Maas et al., 2022).

In addition, the results of a scoping review demonstrated that only a few of the publications that were analyzed showed how maternity, child, and family health nurses have adopted PCC as part of their responsibilities to include Fetal Alcohol Spectrum Disorders prevention in the inter-conception period (Smith et al., 2022). Contrarily, the majority of the papers proved that there was a general lack of enthusiasm among general practitioners and alcohol addiction experts in offering alcohol PCC due to a misunderstanding over whose job it was to provide PCC. As a result, relatively few family doctors supported the idea of making alcohol PCC a part of their regular duties (Smith et al., 2022). These issues of role confusion among healthcare professionals seem to give the implementation of PCC a lower priority since there is no clear-cut on whose responsibility it is to implement the service.

However, most healthcare providers think that family doctors ought to execute PCC as part of preventative care, as well as obstetricians and gynaecologists (Alamer et al., 2022), while others were of the assertion that it should be the duty of all health workers, irrespective of speciality, including all allied health workers, to ensure PCC implementation (Alamer et al., 2022; Ukoha & Mtshali, 2021). Also, a proposal was made for the delegation of PCC responsibility to a selected group of healthcare professionals who will undergo training to become experts in providing actual PCC services, while all other pertinent healthcare providers will act as referrers of clients for PCC (Maas et al., 2022). This will make it easier for different disciplines to share the burden of offering PCC consultations to the target population, and also

enhance effective inter-professional working that will bridge the gap in the care of women, ensuring timely referrals, effective communication, and seamless transfer of care.

2.8.3. Competing Demands and Contradicting Objectives.

Studies have demonstrated how challenging it is for healthcare professionals to prioritise and integrate evidence-based practice into their routine practice (Best et al., 2021; Chutke et al., 2022; Stephenson et al., 2021). According to the results of a study conducted in Norwegian hospitals, which explored the complexities and challenges in achieving evidence-based practice in clinical settings among clinical nurses, it was found that executing evidence-based practices concurrently with the normal daily duties of nurses on the ward was found to be conflicting (Renolen et al., 2019). Since care providers found it difficult to connect evidence-based practice to their usual patient care (Renolen et al., 2019). Also, studies have proven that numerous healthcare providers are of the view that they are not sure where reproductive genetic counselling and screening fall in reproductive health services (Best et al., 2021)The findings of a clinical review identified the provision of PCC as conflicting with other preventive maternal care goals, and so find it quite challenging to implement the service (Stephenson et al., 2021). This could be the case with PCC, which is an evidence-based intervention to reduce maternal and child morbidity and mortality. Consequently, care providers might find it competing with other evidence-based maternal health services, like focused antenatal care and skilled birth attendance, that are also geared towards the same goal. Therefore, healthcare providers might not know how or where to fit PCC in the continuum of maternal healthcare.

2.9. Community Factors That Impede Preconception Care Implementation.

2.9.1. Awareness and Benefits of PCC

Inadequate awareness of PCC and its benefits among the target population has been repeatedly highlighted in the literature as part of the contributing factors to the non-deployment of PCC services (Chutke et al., 2022; Ferry et al., 2023; Teshome et al., 2020). Studies among healthcare professionals revealed how the target audience for PCC is unaware of the presence of a service like PCC, and therefore did not see the relevance of seeking such services. However, the need to seek help concerning reproductive health only arises when issues of infertility occur (Alamer et al., 2022; Maas et al., 2022).

Furthermore, a study in Ethiopia on why women do not prepare for pregnancy, which was conducted among healthcare providers and women, established that women's lack of awareness of PCC and the lack of evidence on the benefits PCC services have to offer were reasons for not utilising the service. Moreover, the participants felt that seeking antenatal care and skilful birth attendance was much more important than seeking care before conception (Teshome et al., 2020). To add on, according to health professionals, women do not acknowledge PCC as a crucial period in their reproductive life. Consequently, only a handful of women sought the counselling of healthcare professionals to use PCC services, while the majority of women and families only sought care after discovering they were pregnant (Chutke et al., 2022). These observations made by healthcare providers might have influenced their hesitancy in providing PCC.

Also, the findings of a scoping review on the attendance of women with type 1 Diabetes at pre-pregnancy clinics found that lack of awareness of the availability and benefits of PCC services was a notable recurrent issue in all the papers that were reviewed (Ferry et al., 2023).

Participants said they had never heard of preconception counselling, let alone receiving any kind of information or care of that nature from any healthcare professional.

Additionally, the outcome of research conducted in Zimbabwe among pregnant women on their perception of preconception care, it was realised that all the participants lacked sufficient understanding of PCC and were unaware of all the ailments that could be checked for before conception, as well as some even confusing PCC with antenatal care (Siraha et al., 2020). Moreover, the outcome of a study conducted in Ghana among pregnant women attending ANC at Tamale West Hospital exhibited low awareness and inadequate knowledge about PCC. The study revealed how women displayed negative attitudes toward PCC services and infrequently engaged in PCC practice (Boakye-Yiadom et al., 2020). This could mean the provision of health promotion information to the public to build their knowledge of the PCC concept.

2.9.2. Willingness to Uptake PCC Service

The attitude of clients' unwillingness to patronise PCC is found to be a hurdle to the provision of the service**.** According to Kurniawati et al. (2021), participants in their study revealed how couples who were engaged hesitated in getting a health screening before marriage. They went on to describe how these couples grow enraged, hurl objects, and scream at healthcare providers because they believe screening is a tactic employed by health professionals to prevent them from getting married. Again, other research has also identified clients' reluctance and poor health-seeking behaviour as obstacles to implementing PCC (Alamer et al., 2022; Maas, Poels, Hölscher, van Vliet-Lachotzki, et al., 2022b). Reluctance on the part of clients to utilise PCC might be due to their unfamiliarity with the phenomenon, as a result of the lack of public education to create awareness among the target population to appreciate PCC and improve their health-seeking behaviour.

2.9.3. Perceived Lack of Confidence in Healthcare Providers' Ability to offer Preconception care.

Literature has proven that healthcare providers' proficiency in providing care is sometimes questioned by care users, which is perceived to hinder the implementation of care (Admiraal et al., 2021; Ferry et al., 2023; Siraha et al., 2020). Concerning a study conducted in the Netherlands on the views of women with chronic diseases about the role of general practitioners in providing PCC, it was identified that the respondents felt general practitioners were not in a better position to facilitate the management of chronic medical conditions before pregnancy (Admiraal et al., 2021). They had the perception that such medical conditions were too complex for general practitioners to manage since they lacked the required knowledge. Hence, they preferred their General Practitioners to refer them to have a collaborative pre-pregnancy consultation with an obstetrician and specialist in their disease condition (Admiraal et al., 2021). Participants also emphasised that they would only fulfil a referral appointment if they were referred to a doctor who is a specialist in their ailment, but not to other care providers, such as midwives. They believed that midwives were only good at caring for pregnant women and not providing PCC.

2.9.4. Healthcare Providers' Attitude

In addition, studies have shown that poor nurse-patient communication hinders PCC implementation, because most care providers abuse and humiliate patients, particularly in maternal and primary healthcare settings in public healthcare facilities, where the needs and concerns of patients are usually disregarded (Abukari & Petrucka, 2020; Siraha et al., 2020; Teshome et al., 2020).

Additionally, studies have demonstrated that the quest for women with diabetes to use pre-pregnancy clinics to talk about pregnancy intentions is strongly discouraged by negative patient-clinician interactions (Ferry et al., 2023). Women with diabetes reported having an unfriendly relationship with their healthcare provider due to the judgmental nature and response of their clinicians, which produces a feeling of anxiety and particularly self-blame. Hence, for such women who are actively considering pregnancy, it is challenging to utilise PCC to plan a pregnancy with healthcare providers. Again, another study highlighted how women perceived healthcare providers as hindrances to PCC uptake. They had the assumption that care providers would yell at them and would be unsupportive if they disclosed their pregnancy intentions, since healthcare workers did not want them to have any more children due to their cardiac conditions and would rather impose what they think is ideal (Ukoha & Mtshali, 2022).

2.9.5. Cultural Beliefs.

Socio-cultural reservation has been noted to significantly influence maternal health and contribute as a factor to the non-implementation of PCC (Alamer et al., 2022; Teshome et al., 2020). Again, myths and misconceptions about discharge pregnancy intentions have been revealed as a barrier to the uptake of PCC (Maas et al., 2022; Ukoha & Mtshali, 2022). Studies have shown that it is culturally unacceptable and morally embarrassing to disclose pregnancy intentions because doing so is perceived as going against cultural standards. Therefore, a greater number of women prefer to keep their plans of conceiving a secret between their partners and themselves until miscarriage is ruled out (Teshome et al., 2020; Ukoha & Mtshali, 2022). Likewise, a study conducted in the United Kingdom identified how the prevalent culture of keeping pregnancy desires a secret until pregnancy is confirmed serves as a factor that discourages women from utilizing PCC services (Daly, 2023).

Moreover, some women think that getting pregnant is a natural process that can happen without medical professionals' input. They hold the notion that a healthy fetus is a gift from God or Allah, and not because they received PCC from medical professionals. Participants also discussed how women believe they are healthy and do not require routine examinations at hospitals (Teshome et al., 2020). In addition, the World Health Organisation has acknowledged a global deficiency in comprehensive pregnancy planning among the general population (WHO, 2013b). In the same vein, unplanned pregnancies, according to healthcare professionals, have been recognized as a huge global issue that requires attention. This attitude toward unplanned pregnancy, coupled with the low percentage of women who use existing maternal healthcare services (Alamer et al., 2022; Ferry et al., 2023; Ojifinni & Ibisomi, 2020, 2022b; Ukoha & Mtshali, 2022).

According to a study by Alamer et al. (2022) among healthcare providers in Saudi Arabia, the cultural practices of gender segregation were identified as a source of ethical complexities in doctor-patient interactions, specifically regarding matters of sexual and reproductive health. This issue was particularly accentuated when male care providers were involved in the treatment of female patients. The study found that the cultural imposition of gender segregation posed significant challenges for healthcare providers, as it deterred them from providing PCC services to women due to concerns about potential violations of cultural norms and practices.

Further, the extent to which the PCC services fit with existing cultural norms has been shown to be of concern. A study done in the northern region of Ghana, as well as that of Ethiopia, found that women see preconception counselling as foreign to their culture and so regard the customs of their ancestors, who kept sex and pregnancy-related matters holy until a

woman was married, as the best and most honourable practice (Boakye-Yiadom et al., 2020; Teshome et al., 2020). This indicates that the women perceive preconception counselling as a means of introducing young women of reproductive age to topics related to pregnancy and sex that go against their cultural norms and beliefs (Boakye-Yiadom et al., 2020). Again, most women have expressed their discomfort in discussing and finding out about their reproductive health before pregnancy due to fear of the unknown (Ferry et al., 2023). Although some women are interested in receiving detailed information on their sexual and reproductive health, they are anxious about complicated outcomes that might unfold regarding their reproductive health (Ferry et al., 2023).

Also, it has been noted that women face difficulties due to their reduced autonomy in decision-making regarding pregnancy planning and the use of reproductive health services, due to husbands' and older women's influence on such decisions, as well as the lack of male partner support of women in patronizing reproductive health services (Chutke et al., 2022; Teshome et al., 2020; Ukoha & Mtshali, 2022). These older women, who insist that they had several pregnancies and childbirth without any problems, consistently pressure women to get pregnant right after marriage and oppose birth spacing (Boakye-Yiadom et al., 2020; Chutke et al., 2022; Teshome et al., 2020). This might be explained by recruitment bias because male partners, husbands, and elderly women are probably not recruited as respondents in such studies to determine their opinion of PCC.

2.9.6. Financial Burden

Financial constraints are among the major obstacles to the utilisation of PCC services by women of reproductive age (Chutke et al., 2022). In reference to findings of a Zimbabwean, South African, and Ethiopian study, participants made it obvious that funds for transportation to

health facilities, consultation, screening, and medication are scarce, and therefore, it was challenging to prioritise long-distance travel only to have a general health checkup for an anticipated pregnancy. Hence, they would rather put off getting a medical checkup until after they become pregnant (Siraha et al., 2020; Teshome et al., 2020; Ukoha & Mtshali, 2022). This could be attributed to unemployment, which may be common with most women in both low and middle-income countries, which might restrict them from patronising health care services..

Despite everything, suggestions have been made to facilitate the adoption and utilization of PCC among the target population. Strategies such as campaigns, media sources, and online resources have been suggested since it is believed that educating the public on PCC through such mediums has emerged as one of the most convenient ways to provide information on PCC, which is a necessary remedy for removing knowledge gaps (Alamer et al., 2022; Fakornam et al., 2022; Maas, Poels, Hölscher, van Vliet-Lachotzki, et al., 2022b; Skouteris & Savaglio, 2021; Stephenson et al., 2021). The use of PCC promotional materials, such as patient handouts and posters in waiting rooms, has been suggested as a way to increase accessibility to the intended audience to increase PCC uptake (Maas, Poels, Hölscher, van Vliet-Lachotzki, et al., 2022c). In addition, women should be empowered and motivated through the creation of awareness of the importance and availability of PCC to enable them to make demands for informed decisions and choices about their conception and birth spacing (Chutke et al., 2022). Also, the adoption of a policy framework that will eliminate financial barriers to clients' accessibility to PCC intervention through health insurance schemes to prevent the hurdle of payment of services out-of-pocket has been suggested (Fakornam et al., 2022). These strategies are likely to bring a positive, sustainable change in society's attitude towards PCC.

2.10. Organisational Factors That Hinder Preconception Care Implementation

2.10.1. Lack of Human Resources and Expertise

Human resource constraints have been found as an obstacle to the implementation of PCC (Best et al., 2021; Ojifinni & Ibisomi, 2022b). Although a South African study among healthcare providers and reproductive women at high risk found that healthcare providers were much more knowledgeable about the various components of the PCC package and also had a better understanding of its objective of decreasing maternal mortality and morbidity, they only provided the care for women at high risk of adverse pregnancy outcomes due to limited human resources (Ukoha & Mtshali, 2021). Likewise, the results of a study conducted among healthcare providers and policymakers in Nigeria on their opinions on the feasibility of PCC. The participants thought that the health system was not in a position to support a new program like PCC. They came out with the existing difficulties faced by basic healthcare services due to a lack of enough staff and resources (Ojifinni & Ibisomi, 2022b). Additionally, the outcome of a scoping review in Western countries and a country in Africa demonstrated that inadequate human resources prevented the implementation of PCC (Smith et al., 2022). Also, research conducted among primary health workers in rural India found that most participants emphasised the shortage of workforce as one of the challenges to the provision of PCC (Chutke et al., 2022).

Furthermore, the findings of a systematic review demonstrated that a lack of expertise in counseling on reproductive health issues was one of the factors that several researchers identified as a barrier to reproductive genetic screening implementation (Best et al., 2021). Counseling was recognized as a time and resource-intensive activity, and many healthcare providers were aware that genetic counselors are a scarce human resource. It was further highlighted that, even though non-specialist care providers do a large portion of counseling on reproductive health matters,

these non-specialist practitioners usually find it difficult to communicate the outcome of reproductive genetic screening, and consequently may desist from the provision of the services (Best et al., 2021). The scarcity of human resources to champion the implementation of PCC could be explained by the lack of an enabling working environment that encourages staff retention as well as the lack of specialist training to have experts to execute PCC.

2.10.2. Clinical Resource and Financial Constraints

It has been established that the lack of clinical resources, such as PCC guidelines, infrastructure, and equipment, impedes the implementation of PCC services (Maas et al., 2022; Ojifinni & Ibisomi, 2022b). According to research findings, the lack of structured guidelines on PCC in healthcare institutions has contributed to the non-implementation of preconception care services (Chutke et al., 2022; Hikimatu et al., 2021; Smith et al., 2022). About the findings of a study conducted in Saudi Arabia, it was identified that there were no specific policies or guidelines on PCC that govern the implementation of care. Therefore, healthcare providers did not always readily provide PCC counselling to all women of reproductive age, except those with chronic medical conditions (Alamer et al., 2022). This strategy was probably chosen because it was simple to identify and target the women who needed care the most, rather than a routine approach for every woman, since there was no checklist to facilitate the effective implementation of the care, and this put other women at a disadvantage by not receiving the care. The participants also made it known that since there are no criteria unique to PCC, they lacked confidence as to whether they were providing the necessary care.

Again, the findings of studies conducted in Nigeria acknowledged that the health system did not have a PCC policy that would have provided a framework for the efficient execution of PCC services (Ojifinni & Ibisomi, 2020, 2022b). Participants made it apparent that the absence

of preconception care guidelines forces medical professionals to offer care on an as-needed basis rather than regularly. The capacity of the clinician to assess when a need exists was based on the patient's previous obstetric history and pregnancy results. These were frequently the determining factors in the provision of PCC. Preconception care services are therefore inconsistent since they depend on the care provider's judgment (Ojifinni & Ibisomi, 2020, 2022b).

In addition, Smith et al. (2022) in their scoping review in the United Kingdom found that an explicit policy to guide healthcare professionals to practice and promote counselling with women of reproductive age regarding PCC was lacking in the health facility. This was also the case in an Indian and a Ghanaian study conducted among healthcare professionals, who revealed that healthcare workers were unaware of the existence of any established guidelines for PCC implementation and consequently, the service was not provided (Chutke et al., 2022; Hikimatu et al., 2021). These findings provide evidence that the unavailability of policies and guidelines in health facilities has impeded the implementation of PCC, which aims to bridge the gap in the continuum of care for women of childbearing age.

Nonetheless, health professionals' awareness and guidance on how to interact with women of reproductive age at any point within the health system, as well as on how to provide PCC services or refer women appropriately to improve their health and well-being before conception, would increase with the development of PCC clinical guidelines, which could be distributed throughout the health system and included in the pre-service training of healthcare providers (Chutke et al., 2022; Nyanchama, 2023). Moreover, space or location to deliver PCC service has been found by various studies to be lacking or very limited in healthcare facilities, and this poses a challenge for healthcare professionals to render PCC services to potential parents (Kurniawati et al., 2021a; Maas, Poels, Hölscher, van Vliet-Lachotzki, et al., 2022b).

Additionally, lack of logistics, such as drugs and an insufficient supply of test kits, as well as unavailability of screening services for early identification and treatment of acute or chronic disorders in the preconception period, were recognised as hurdles to the provision of PCC services (Chutke et al., 2022; Teshome et al., 2020).

Likewise, insufficient funding to cover any additional expenses that would result from providing PCC in addition to regular care has also been identified as a setback for PCC implementation (Ojifinni & Ibisomi, 2022b; Smith et al., 2022). However, considering the value of PCC, budgetary allocations from the government have been suggested to ensure financial provisions to back PCC implementation, as money serves as the foundation for making publicity on PCC, health education, as well as training the right professionals, setting up the necessary infrastructure, medications, and consumables (Ojifinni & Ibisomi, 2022b).

2.11. Summary of Chapter

The chapter reviewed articles related to the study's objectives, exploring factors inhibiting PPC implementation at individual, interpersonal, community, and healthcare institutional levels. It uncovers challenges like limited awareness, social dynamics, cultural impacts, and institutional constraints hindering successful PPC implementation. Moreover, these articles presented crucial suggestions for improvement, advocating struggles to enhance individual knowledge, bolster support systems, address community norms, and rectify resource gaps within healthcare institutions. These recommendations play a pivotal role in developing comprehensive approaches to overcome barriers and facilitate effective PCC implementation.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter shows the research method, the study area, the study design, the target population, the sampling technique, and sample size the inclusion and exclusion criteria, the tool for data collection, management and analysis of data, methodological rigor, and ethical consideration.

3.1.Research Design

A qualitative research approach, applying an exploratory descriptive design, was employed in this study. This design offers the opportunity to have an in-depth understanding of a specific phenomenon. Thus, it generates data that describes the 'who, what, and where' of a phenomenon from an objective perspective (Doyle et al., 2020). The exploratory nature of this design allowed the generation of insight into complex issues where little is known, while the descriptive aspect ensures that these insights are presented in a clear and accessible manner, grounded in participants' own words. This approach is valuable in health research, as it provides practical knowledge that is sensitive to the study context and directly applicable to practice and policy (Bradshaw et al., 2017; Doyle et al., 2020). Therefore, this research design was deemed appropriate for this study, which aimed to explore the perspectives of healthcare workers and administrative managers on factors that contribute to the non-implementation of PCC as part of maternal healthcare services.

3.2 Philosophical Underpinning of the Study

This study was underpinned by a constructivist philosophical paradigm, which posits that reality is socially constructed and subjective, shaped by individual experiences and interactions with their environment (Creswell & Poth, 2018; Merriam & Tisdell, 2016). From this perspective, knowledge is co-created through engagement with participants, allowing researchers to understand phenomena in context. The constructivist lens aligns with qualitative exploratory descriptive design, as it emphasises understanding the lived experiences, perceptions, and meanings that healthcare workers and managers assign to the non-implementation of PCC within maternal healthcare services (Creswell & Poth, 2018). By adopting this philosophical approach, the study acknowledges that multiple realities exist. It sought to provide a nuanced description of the barriers and facilitators as experienced by participants to ensure that the findings reflect the complexity of human experience and context-specific factors influencing the delivery of PCC.

3.3. Study Area

The study took place in Agogo Presbyterian Hospital (thus, at the maternity unit and hospital administration to be precise), which is located in the eastern part of the Asante Akyem North Municipal District (AANDA) in the Ashanti Region of Ghana. It is approximately 80 kilometers east of Kumasi, the Ashanti regional capital, 232 kilometers from Accra, and about 18 kilometers from Konongo, the district capital. The hospital was established on 21st March 1931 and is the oldest Mission Hospital in the country under the Christian Health Association of Ghana (CHAG). The Hospital was handed over to the Presbyterian Church of Ghana on 31st December 1961. The hospital has evolved to become the second-largest healthcare facility in the Ashanti region, standing only second to the Komfo Anokye Teaching Hospital (KATH). It functions as a pivotal referral centre for numerous hospitals both near and far, firmly establishing

itself as a prominent mission hospital in Ghana (Agogo Presbyterian Hospital, n.d.; Presbyterian Church of Ghana, 2022).

Regardless of its official designation as a municipal hospital, the hospital's extensive size and comprehensive range of services effortlessly categorise it as a regional hospital. It holds accreditation for various critical areas, including Horsemanship and Resident training in Surgery, Pharmacy, Paediatrics, and Obstetrics/Gynaecology, a diploma in Ophthalmology program for both Doctors and Nurses, and serves as a training centre for nursing and midwifery interns (Agogo Presbyterian Hospital, n.d.; Presbyterian Church of Ghana, 2022).

Furthermore, the hospital holds various prestigious designations and collaborations, such as being designated as a collaborating centre for the University of Ghana School of Public Health. It also holds the status of being a MOH/WHO designated center for training in the surgical department of Buruli ulcer and is also recognized as a baby–friendly Hospital Notably, it is one of the only two sites in Ghana and one in eight sites in Africa for Malaria Vaccine Trials, and it stands as the exclusive site in Ghana for Typhoid Conjugate Trails. Additionally, the hospital has established a valuable collaboration with the Kumasi Centre for Collaborative Research (KCCR), which is affiliated with Kwame Nkrumah University of Science and Technology and has associations with the Bernhard Nocht Institute for Tropical Medicine in Hamburg, Germany. These partnerships and designations reflect the hospital's commitment to medical excellence and research in various critical areas of healthcare (Agogo Presbyterian Hospital, n.d.; Presbyterian Church of Ghana, 2022).

Aside from these collaborative services, the hospital has a 250-bed capacity and 629 healthcare workers. Among these are sixteen (16) medical officers, five (5) pharmacists, and

about one hundred and three professional nurses and midwives (103) in the hospital, as well as other paramedics. Therefore, the hospital offers a range of health services, including nutrition, family planning, maternal and child welfare clinics, internal medicine, general surgery, dental and eye care, as well as physiotherapy. The hospital's facilities extend beyond its inpatient wards to encompass a wide array of essential services and specialities. These include an outpatient clinic, a fully equipped laboratory, a blood bank, a radiology department, a neonatal intensive care unit, a well-equipped operating theatre with a recovery unit, and dedicated services for HIV/AIDS, including Voluntary Counselling and Testing (VCT), Antiretroviral Therapy (ART), AND Prevention of Mother-to-Child Transmission (PMTCT) (Agogo Presbyterian Hospital, n.d.; Presbyterian Church of Ghana, 2022).

In addition to these services, the hospital offers specialized clinics such as the Special Sickle Cell Clinic, Diabetic Clinic, Electrocardiography, Ultrasonography, and a Tuberculosis (TB) Clinic. The hospital also maintains a pharmacy with an Infusion Production Unit and provides mortuary services. The hospital's commitment to excellence in healthcare has earned it a reputation that attracts patients not only from across Ghana but also from neighbouring countries, including Togo. Côte d'Ivoire and Burkina Faso. It is particularly renowned for its ophthalmology care, drawing patients seeking specialised treatment in this field (Agogo Presbyterian Hospital, n.d.; Presbyterian Church of Ghana, 2022).

Finally, the overarching vision of the Presbyterian Hospital in Agogo is to be the preferred healthcare institution for patients, clinical staff, and healthcare professionals. it strives to achieve this vision through efficient management of human, material, and financial resources. As part of its mission, the hospital aims to reach out to all individuals, with a special focus on the poor and needy, by offering affordable and comprehensive medical care while also sharing the

message of Jesus Christ. This holistic approach underscores the hospital's commitment to both the physical and spiritual well-being of its patients and the broader community it serves (Agogo Presbyterian Hospital, n.d.; Presbyterian Church of Ghana, 2022).

Therefore, this study setting was considered appropriate because it is a Municipal hospital that is accessible with the availability of professional healthcare workers of all categories, from whom respondents were available to enhance successful data collection.

3.4. Target Population

According to Burns and Grove (2011), population refers to the entire group of people, things, or materials that satisfy the requirements for inclusion in a study and are the subject of the inquiry. Thus, the Population is the whole group that has similar attributes the researcher is interested in (Polit & Beck, 2019). Population, however, is divided into two classifications: the target population and the accessible population. The target population is the entire group of individuals or elements that suit the sample criteria, whereas the accessible population is the subset or a portion of the target population to which the researcher has appropriate access. Therefore, the target population for this study included all healthcare providers and hospital administrative managers working at Agogo Hospital, and the accessible population were those who met the inclusion criteria.

3.5. Inclusion Criteria

The study included;

1. Professional obstetric care providers who were working in the maternity unit of the hospital with 5 or more years of working experience and were willing to consent to the study.

2. Hospital administrative managers who have been in hospital management for 2 or more years and were willing to consent to be part of this research. **3.5. Exclusion Criteria**

The study excluded;

1. Professional obstetric care providers working in the maternity unit who were on either annual, maternity, or sick leave or off duty at the time of data collection were excluded.
2. Hospital administrative managers who were on annual, maternity, sick leave or off duty at the time of data collection were excluded.

3.6. Sampling Technique and Sample Size

Sampling is the process used to choose a sample from a population for a study, while the sample is the percentage of the population chosen to represent the total population (Polit & Beck, 2019). In other words, a sample is a portion of the population chosen for a certain study, and its members are the participants or subjects (Grove et al., 2015). Purposive sampling is an approach where the researcher deliberately chooses study participants based on their judgment, to select individuals who are expected to be the most representative of the research objective or characteristics of interest (Polit & Beck, 2019). Hence, the purposive sampling technique was used in recruiting two groups of respondents who were a good representative of healthcare workers who are involved in the provision of maternal health services and administrative managers who provide managerial services in the hospital, as well as their experiences, ability to provide information on maternal health issues within the health system and their eligibility for inclusion criteria, and their willingness to participate in the study.

It is noteworthy that the sample of qualitative research is dependent on when saturation is reached. Thus, participants give responses that are alike, and no new themes or sub-themes

emerge (Polit & Beck, 2019). Therefore, a sample size of 13 participants was determined during the data collection process, specifically when data saturation was confirmed.

3.7. Data Collection Tool

A semi-structured interview guide was used for an in-depth face-to-face data collection from study participants between August and September 2023. This tool was used to present the same core set of questions to respondents, since it allowed flexibility for the researcher to probe further into specific areas tailored to each individual based on their specific responses. This approach allowed the researcher to extract comprehensive information from the participants, ensuring that a deeper understanding of the subject matter was achieved. The guide was developed based on the reviewed literature and the objectives of the study. The guide was then reviewed by research supervisors who are experts in qualitative research to verify its content. The interview guide was sectioned into two parts (Part A and Part B). Part A of the interview guide focused on the demographic information of study respondents, whereas Part B consisted of open-ended qualitative items with probes. A copy of the interview guide can be found in the appendixes.

3.8. Pretesting of the Interview Guide

Pretesting the interview guide is the process of interviewing small participants who share similar characteristics with participants in the study setting to ensure the appropriateness of the interview guide (Buschle et al., 2022). The semi-structured interview guide was tested before the main study to provide the researcher an opportunity to identify problems with the phrasing of the questions and to know how easy or difficult it is for participants to understand the questions. This helped prevent any ambiguities in the phrasing of the questions and also made it easier for the researcher to acquire adequate and pertinent responses from the study participants. Because

the phrasing of some of the probing questions was changed after piloting to suit the anticipated understanding of participants, the data collected from the pretesting were not included in the main study. Therefore, the developed interview guide was pre-tested with about six selected obstetric health care providers and some hospital administrative managers in Asante Akim Municipality (Konongo – Odumase Hospital) that had similar characteristics as the participants in the actual study area.

3.8.1 Procedure for Data Collection

Permission was sought from the hospital general manager as well as the nursing administrative manager of Agogo Presbyterian Hospital with an introductory letter from the School of Nursing and Midwifery, University of Ghana, as well as ethical clearance from the ethical review board of Christian Health Association of Ghana (CHAG). After permission was granted, the researcher coordinated with the nursing administrator for assistance in reaching participants who fell within the inclusion criteria for the study. The researcher visited the study area twice to get familiar with the environment and to establish rapport before the recruitment and interview of participants.

Also, the researcher explained in detail and provided an information sheet for further clarification on the research topic to seek consent from participants. Those who were willing to participate in the study were given a consent form to sign to confirm that they were willing to be respondents in the study. The interview was conducted in English language. Favourable time and a distraction–free venue were arranged with each participant for the conduction of the interview at their convenience without any coercion. The recruitment and interviews were conducted over six (6) weeks. Each interview session lasted between 30 to 60 minutes per participant. Open–ended questions were asked, and probing was done as needed for a better

understanding of participants' responses. The individual in-depth interviews were deemed appropriate as they enabled the exploration of individual opinions that would have been hampered by focus group discussion.

Again, the researcher ensured that audio recorders were in good condition and fully charged for each interview session. The researcher made each participant aware that the interview session would be recorded, and the recorders were shown to each participant before each interview. Furthermore, a field diary was used to jot down notes, capturing ideas and non-verbal cues that were expressed by participants. This practice was very instrumental in aiding the researcher's comprehension and accurate interpretation of the data during the analysis phase. Notably, after each interview session, the researcher played back the recorded interview to the participant, allowing them to verify the accuracy of the information provided.

3.8.2. COVID 19 Safety Protocols

The COVID-19 safety protocol was strictly adhered to during the recruitment and collection of data from the study participants. A social distance of about two arm's length between the researcher and the participants was ensured. Wearing FDA-approved nasal masks and using hand sanitizers with a 70% alcohol concentration before, during, and after the entire data-collecting process was also ensured.

3.9. Data Management

For the sake of participants' anonymity, all recorded interviews, printed transcribed interviews, field notes, and consent forms were assigned pseudonyms. Electronic copies of data were stored on a password-protected personal computer, which is equipped with up-to-date antivirus software to provide additional protection of data from harmful viruses, and also on a cloud platform (Google Drive) to prevent unauthorized individuals from accessing it. Physical

copies of the data were securely stored under lock and key, which is only accessible by the researcher and research supervisors. The audio recordings, printed transcribed interviews, field notes, and consent forms will be retained for a minimum of five years after the completion of the study, subject to approval from research supervisors. After this period, they will be responsibly destroyed, ensuring data privacy and security.

3.10. Data Analysis

Thematic analysis, which is a qualitative data analysis approach, was used in analyzing data. This was done concurrently with the interview process, as it allowed the researcher to make necessary adjustments in the subsequent interviews to obtain rich information. This approach is commonly used for examining a body of text, such as interviews or transcripts, since it allows the researcher to thoroughly examine the data to identify themes, topics, ideas, trends, and patterns of meaning that emerge consistently throughout the text (Caulfield, 2022). Again, thematic analysis allows the researcher flexibility in data interpretation and organization of large datasets into overarching themes based on the researcher's choice of theoretical framework.

Therefore, to enhance the quality of the analysis, at the end of each day, audio-recorded data were transcribed and cross-checked with field notes to ensure consistency. Thereafter, to ensure data clarity and rigour throughout the process of analysis, Clarke and Braun's (2013) steps in the thematic analysis process were used after the transcripts were printed out. The researcher familiarised themselves with the dataset and then generated initial codes by identifying phrases, statements, sentences, and paragraphs within the data, which were labelled with codes. These labelled codes were then compared, and codes with similar elements were grouped to create sub-themes, which were defined and grouped to come up with main themes, and finally, a report was produced.

Moreover, to ensure the reliability of the analysis, a co-coder was involved, and agreement on the sub-themes and main themes was reached. Once the researcher was satisfied with the codes, sub-themes, and main themes, the printed copies were reviewed again to check for any oversight.

3.11. Methodological Rigour (Trustworthiness)

Rigour in qualitative research is the measure of the trustworthiness of data collection, analysis, and interpretation, which are often compared with reliability and validity in quantitative research (Prion & Adamson, 2014). Several concepts have been cited in qualitative literature as the most important criteria for establishing rigour (trustworthiness) in qualitative research. The researcher employed Lincoln and Guba's criteria for the evaluation of the research (Lincoln & Guba, 1985). They indicated credibility, transferability, dependability and confirmability as the criteria for demonstrating trustworthiness in qualitative research.

Credibility is looking at how true the study is and the subsequent interpretation of the data (Lincoln & Guba, 1985). To attain credibility in this study, the researcher ensured that the participants who met the inclusion criteria were recruited to participate in the study. Also, a field note was maintained to keep track of the non-verbal communication of participants as well as the researcher's experiences in the field. Adequate time (30 – 60 minutes) was spent on each interview session with each participant. This was done to allow time for further probing to get detailed responses from participants.

Dependability refers to the extent to which research findings can be repeated among the same sample or context (Lincoln & Guba, 1985). To achieve dependability, the researcher gave a detailed description of the study setting, sample, methodology, and analysis, as well as member

checking to cross-check with the participants to reconcile claims of their accounts with what was documented. Again, every one of the interviews conducted was transcribed verbatim and analysed with the process to arrive at sub–themes and main themes.

Lincoln and Guba describe transferability as the extent to which study findings can be applied in a similar context or setting (Lincoln & Guba, 1985). Therefore, transferability was achieved by providing a detailed description of the research process for the study. The researcher also gave an adequate description of the research participants, stating the inclusion and exclusion criteria of the participants. Additionally, the researcher provided a detailed description of the topic under study to aid the understanding of the reader and the application of the findings of the research to a similar context.

Confirmability is how researchers put measures in place to prevent biases and remove assumptions (Korstjens & Moser, 2018). In this context, the researcher employed bracketing and ensured that her perspective on PCC as a midwife did not impact the study's outcomes. Consequently, the researcher sought clarification from participants regarding potentially unclear responses and conducted debriefing sessions to validate their statements.

3.12. Ethical Consideration

Ethical considerations are the principles and benchmarks for multinational clinical research, which are based on ethical principles of respect for people, beneficence as well and justice to protect study participants from harm and to ensure fairness in the research process (Bitter et al., 2020; Kraft et al., 2023). In other words, the exploitation of participants must not occur.

At the commencement of this study, an introductory letter from the School of Nursing and Midwifery, University of Ghana, was sent to the Christian Health Association of Ghana Ethical Review Board (CHAG, IRB) to obtain ethical clearance, which was granted with CHAG IRB reference number, PIN: CHAG-IRB02042023. After obtaining ethical clearance, the researcher presented an introductory letter from the School of Nursing and Midwifery, University of Ghana, with reference number (10938792), along with the ethical approval, to the administration of the Presbyterian Hospital, Agogo, where institutional approval was subsequently granted with reference number APH/ADM/RES-135/23.

Following institutional approval, the researcher collaborated with the nursing administrator for assistance in reaching the study participants who fell within the inclusion criteria for the study. The researcher visited the study area twice to get familiar with the environment. Thereafter, daily visits to the maternity unit and hospital administration were done to identify potential participants, and their contact details were obtained after rapport was established. Both verbal and written information on the study was provided to enable participants to understand voluntary consent. Consent forms were signed by participants without any coercion, assuring them their right to withdraw from the study at any time, despite signing a consent form, which serves as a legal document.

The researcher assured participants that their participation in the study posed no physical, psychological, legal, or social risk to them since the study findings would solely serve academic and research purposes. Moreover, participants were assured of incurring no cost, and no direct benefits were promised. However, participants were informed of the study's potential benefits to enhance their capacity for effective PCC implementation.

Also, the participants were assured of complete anonymity, privacy, and confidentiality in the study. The researcher clarified that participants' names wouldn't be disclosed on any signed consent form, transcripts, or publications. Instead, pseudonyms and numbers were assigned to each participant to ensure anonymity. Midwives were identified as 'P1-P8', management members as 'MGT1-MGT3', and obstetrician /gynaecologists as 'OG1-OG2'. Moreover, participants were made aware that each interview session would be recorded, and the interviews were conducted in private at their convenience. Also, to maintain confidentiality, the researcher made sure that all information from participants was stored on a password-protected personal computer and, in the cloud (Google Drive) as well as the audio recordings, printed transcribed interviews, field notes, and consent forms, stored under lock and key which will be only be accessible to the researcher and research supervisors for a minimum of five years after the completion of the study. After this period, they will be responsibly destroyed, subject to approval from research supervisors, ensuring data privacy and security. Moreover, the findings from this study were presented to the University Library as well as the institution under study in a soft copy. The researcher and the supervisors will also publish the findings in an accredited scientific journal.

3.14. Summary of Study Methodology

In this research, a qualitative exploratory method was employed. Participants were selected from the target population using a purposive sampling technique, ensuring they met the specified inclusion criteria. After addressing ethical considerations, maintaining methodological rigour, and obtaining participant consent, data collection and analysis were conducted.

CHAPTER FOUR

RESULTS OF THE STUDY

4.0 Introduction

This chapter covers the findings that were generated from the data collected from the respondents in this study, which set out to explore the factors associated with the non-implementation of preconception care from the perspectives of healthcare providers and hospital managers in Agogo Presbyterian Hospital. The findings from the study have been organised into themes, which are in line with an adapted social ecological model (Mcleroy et al., 1988) and the objectives of the study. The first section presents the demographic data of the study respondents, while the subsequent section highlights the main themes and sub-themes that emerged from the study.

4.1. Socio-Demographic Characteristics of Respondents

Thirteen (13) respondents were interviewed for this study. Among the thirteen respondents, two (2) were males and eleven (11) were females. The age range of participants was between thirty (30) to fifty-four (54) years, with a modal age of thirty-six (36) and an average of thirty-six (36) years. The number of years of experience of respondents ranged between two (2) to twenty-four (24) years. All thirteen participants had completed tertiary education. Out of the thirteen (13) respondents, one (1) had a diploma certificate in midwifery, two (2) had a master's degree in administration and public health, three (3) had certificates in medicine, and seven (7) had a Bachelor of Science in midwifery. A summary of demographic characteristics is presented in Table 4.1

Table 4.1: Socio-Demographic Characteristics of Respondents.

Pseudo name	Sex	Age (years)	Religion	Qualification	Years of Work Experience	Rank
P 1	Female	30	Christianity	B.Sc. Midwifery	7	Midwifery Officer
P 2	Female	30	Christianity	B.Sc. Midwifery	6	Midwifery Officer
P 3	Female	31	Christianity	B.Sc. Midwifery	6	Midwifery Officer
P 4	Female	32	Christianity	Diploma	5	Senior Staff Midwife
P 5	Female	36	Christianity	B.Sc. Midwifery	10	Midwifery Officer
P 6	Female	34	Christianity	B.Sc. Midwifery	10	Midwifery Officer
P 7	Female	36	Christianity	B.Sc. Midwifery	10	Midwifery Officer
P 8	Female	34	Christianity	B.Sc. Midwifery	10	Midwifery Officer
MGT 1	Male	54	Christianity	Masters	24 years on the management board	Deputy Director/Nursing Administrator
MGT 2	Female	42	Christianity	Masters	2 years on the management board	Principal Nursing Officer/Public Health Coordinator
MGT 3	Female	36	Christianity	Tertiary	2 years on the management board	Head of Paediatrics/Deputy Medical Director
OG 1	Male	42	Christianity	Tertiary	15	Senior Specialist Obstetrics and Gynaecology
OG 2	Female	36	Christianity	Tertiary	10	Specialist Obstetrics and Gynaecology

4.2 Organization of Main Themes and Sub-themes

Following the thematic analysis approach, six (6) themes, and their matching subthemes were obtained from the interviews. Out of the six themes, four main themes (individual, intrapersonal, community, and health institutional level challenges) were consistent with the constructs of the social-ecological model that was adapted to underpin this study, while the remaining two (2) themes (meaning and value of preconception care, and suggestions for implementation) emerged from the data. A total of twenty-five (25) subthemes emerged.

Table 4.2 presents the themes and sub-themes.

Table 4.2 Main Themes and Sub-themes

NO.	THEMES	SUB-THEMES
1.	**Meaning and value of preconception care**	1. Components of preconception care 2. Benefits of preconception care
2.	**Individual-level challenges**	1. Limited knowledge, training, and confidence for PCC delivery. 2. Ethical and professional considerations in PCC
3.	**Inter-personal level challenges**	1. low motivation and unclear professional roles. 2. Workload and competing clinical demands. 3. Perceived compatibility of PCC with routine duties
4.	**Community-level challenges**	1. Low community awareness and perceived need for PCC 2. Reproach and fear of the unknown 3. Cultural and social beliefs influencing PCC uptake 4. Gender Dynamics and Unplanned Pregnancy 5. Socio-economic barriers to PCC
5.	**Health institution-level challenges**	1. Resource and infrastructure Limitations 2. Absence of PCC guidelines
6.	**Suggestions for PCC implementation**	1. Strengthening the health system 2. Community Awareness

4.3 Meaning and Value of Preconception Care

Participants in the interviews provided insights into their understanding of preconception care and its associated benefits, characterising it as a set of healthcare services tailored to women of reproductive age before they become pregnant. Components of preconception care and benefits of preconception care were the two (2) sub-themes that emerged.

4.3.1 Components of Preconception Care

This encompasses various interventions, including medical history-taking, health screenings, folic acid supplementation, dietary guidance, and the promotion of healthy behaviours. The overarching goal of preconception care, as expressed by the respondents, was to prepare women physically and medically before pregnancy occurs. These were captured in the responses of participants as;

"Preconception care is care given to women before pregnancy, and the care includes social, behavioural, and biomedical care. ... Social care entails, let me say, her social life, where she stays, how she behaves, the kind of food that she eats, her social life of a client. And the biomedical entails her medical histories, her past medical history, and past obstetric history, and the behavioural is about how she behaves." **(P 1)**

"*Preconception care is about how a woman or a couple will prepare themselves, psychologically, financially, emotionally, before pregnancy occurs, including their diet and exercise, so that at the end of the day we will have a healthy mother and a healthy baby."* **(P7)**

"Okay, when they come to the facility, we screen them, and then we administer drugs, such as folic acid, and then we educate them on their diet... That is the nutrition to ensure that the woman is fit to become pregnant. That is what I know." **(P2)**

Similarly, management members also shared their understanding of preconception care as follows:

"What I know about preconception care is the attention that you pay to your body, and then psychologically, how you prepare your mind that you are ready to conceive. So, in terms of the

food that you eat, in terms of supplements or medication that will prepare you, like taking folic acid and a well-balanced diet or four-star diets" **(MGT 3).**

"So, for preconception care, it is basically preparing yourself as a woman of fertility age, before you get pregnant. So, what I know they do is more folic acid supplements that pregnant women take before they get pregnant. And aside from that, if you want to get pregnant, you also look at your diet and physical activity, exercises, you want the body to be in good shape before you get pregnant, but when it comes to the medicine aspect, it is only folic acid I know." **(MGT 2)**

An Obstetrician/ Gynecologist added on by saying:

"And also, for preconception care, some of them need high doses of folic acid as opposed to low-risk pregnancies, where they can take low-dose folic acid. So, for those who need high doses of folic acid, we start them on high-dose folic acid, for example, the epileptics and the sickle cell patients on high-dose folic acid before they get pregnant." **(OG2).**

4.3.2 Benefits of Preconception Care

The participants highlighted the vital role of preconception care in ensuring safe motherhood. They noted that early intervention through preconception care can lead to the early detection and management of medical conditions, addressing the risk of maternal complications. Additionally, care can play a crucial role in preventing birth defects and other adverse outcomes during pregnancy, thereby contributing to the overall well-being of both the mother and the baby. This is what an obstetrician and a management member had to say:

"...preconception care helps in controlling or managing so many conditions before a woman gets pregnant. ...it will prevent a whole lot of maternal complications that we get. So, it is very important for the achievement of good pregnancy outcomes." **(OG 2)**

"...the risk of having babies with congenital anomalies will be minimised, the risk of having maternal mortality, which will lead to orphaned children, will be minimised." **(MGT 3)**

In the same vein, midwives also gave their view and said that:

"Preconception care helps in early detection of some medical conditions, such as diabetes, hypertension, and others. And also, it helps to prevent unwanted pregnancy. And again, it also helps to prevent maternal mortality." **(P1)**

"When you prepare a woman during preconception care, at the end of the day, she will conceive and deliver safely with her baby without any problem like the PPH, Hypertension, anaemia and pre-eclampsia." **(P4)**

"It's very, very important because when let's say a woman or a couple come for preconception care, it will help us to screen them and rule out some conditions, like ABO incompatibility, sickle cell, hypertension and those other underlying medical conditions and manage them early to prevent all these complications like the pregnancy induced hypertension, the pre- eclampsias and that stuff, it'll help us reduce it. So, the mother can have a safe pregnancy and delivery with a healthy baby." **(P5)**

"It is very, very important because there are a whole lot of complications, I believe it can solve. Because when the preconception care is started earlier, I think it can help in identifying hidden medical conditions, which are diabetes, rhesus incompatibility, and hypertension, so it will reduce the maternal mortality and the morbidity, because the problem will be solved earlier at preconception care before the person gets pregnant." **(P8)**

4.4 Individual (Healthcare provider) level challenges

The individual healthcare provider is perceived to encounter individual-level challenges towards the implementation of preconception care. Two sub-themes emerged from the data. The sub-themes were limited knowledge, training and confidence for PCC delivery, and Ethical considerations in PCC delivery.

4.4.1 Limited knowledge, Training, and Confidence for PCC Delivery

One prevalent theme from the interviews was inadequate knowledge and limited training among healthcare providers regarding PCC. Most participants emphasised that their education and professional preparation did not sufficiently address PCC, resulting in their knowledge gaps and uncertainty about how to provide this aspect of care effectively. Midwives in particular indicated that PCC was treated only superficially during their training, without practical exposure or assessment:

"Most of us here don't have adequate knowledge of preconception care. That one I can attest to. Most of us are not aware of it. I became aware of it when I went to do my

degree. When I was going for my diploma, I didn't even know about preconception care. So most of us don't know about it." **(P1).**

"We don't have adequate knowledge about it, and then when we were being taught in school, we didn't go into details. Like other topics, like labour, pregnancy and all that. It was just something minor we learnt, and so there was no practical or assessment on it. The facility too is not practising it, so I think knowledge is the key thing." **(P3).**

"...but because it's not something we practice here, and that is not something we do here, so we tend to forget. And in school, it was treated as a topic and not very detailed. What I want to say is that we didn't do anything practical on it, like we did in other subjects. So I think we know about it, but not into the details. And also, I said when we come out to work, that is when we complete school, and we come to work too, we are also not practising it. So is something." **(P2).**

A management member echoed this observation, noting that although healthcare providers might have some general understanding of PCC, the absence of structured institutional training further limits their competence:

"They may have general information on preconception care, but it may not be adequate. but probably because it has not been made official in this hospital and because they may not have gone for any training specifically for preconception care" **(MGT 3)**

"As I said, we have some knowledge, but not in-depth knowledge, because at least we were introduced to it at school, I remember. But we didn't learn in detail like labour 1 and 2, normal and abnormal pregnancy and the rest. So, I don't think we have more details of that care." **(P4)**

The lack of practical training and skills was also highlighted as a key barrier. Participants noted that they lack the practical skills necessary to provide effective care. Midwife participants made the following similar statements by saying:

"...to provide care, you need some skills to enable you to give the best of care. So imagine you are asked to do something you have not been trained on...it will be difficult to handle it." **(P8)**

"...It will be very difficult for us to start. Because if you are going to talk to someone about such things and you yourself as a healthcare provider you don't have in-depth knowledge about it or the skills to give out the care, you will rather complicate the issue for the person" **(P 5)**

In addition, management members shared a similar view and said:

"As I said earlier, if you have not been taught, you will definitely not have the knowledge and the skills to provide that service. So I think they lack knowledge on it, and if you lack knowledge on it, you will also not have the skills to provide it for the clients" **(MGT 2)**

"If no specific training on preconception care has been offered to staff, there is the likelihood that they might be deficient in the required skills to go about such things." **(MGT3)**

However, some participants stated that other healthcare providers from different disciplines may have expertise in providing preconception care. Obstetricians and gynaecologists, for example, felt more confident in this domain due to their specialised training. This was what OG 1 and OG2 said:

"We obstetrician/gynaecologists have in-depth knowledge and the skills in providing this care, and so we know how to go about some of these things once a woman with infertility comes into the consulting room. Because when the women come in, they will tell you what their problem is and based on that, we do our checks and screening to find out what the cause of the problem is, and then we manage. So I don't think we lack the skills in providing care for them." **(OG1)**

"We have that knowledge, yes. As obstetricians/Gynecologists, we are trained in preconception care. It's actually a very big part of what we do. I don't know about other specialities. But for us, it's a core; once conception comes up, it becomes obstetrics. So providing such services is not a challenge for us." **(OG2)**

Furthermore, some participants reported a lack of confidence in initiating conversations about PCC with their patients, particularly due to the perceived sensitive nature of reproductive issues and sociocultural norms surrounding the topic. This was shown in the comment of a management member who said:

"It's possible, because sometimes when you meet someone, you can be intimidated by the person's appearance. So just that wouldn't give you the confidence to approach the person, and you may even think that person knows more than you. So it wouldn't give you the confidence to approach the person." **(MGT3)**

Some midwives also shared a similar opinion and had this to say:

"You know, in our community, conversations concerning childbirth, if you are not careful, you may cause some emotions for the woman, especially if the person has issues with childbirth. I think it will be difficult for you, the care provider, to make that move." **(P1)**

"Unless maybe the woman or couple comes in to discuss such things with you, the care provider will not find it easy, because I think issues of reproduction in our part of the world are quite sensitive. **(P7)***"*

In the same vein, some of the participants expressed a notable deficiency in their ability to provide clear and accurate interpretations of laboratory test results to their clients. This significant unease and uncertainty were closely tied to their lack of confidence, stemming from their perception of inadequate skills and knowledge in this domain. These were statements made by some midwife participants:

"...some of us don't even understand the lab results to explain to clients. So, in that sense, our confidence level becomes low to answer certain questions the client may ask you, so you might end up saying different things." **(P2)**

"I will say most of us, some labs we don't understand, and we are not able to explain them. Because we didn't learn about results interpretation, and we have not had any workshops on labs. So it's difficult, and when it happens like that, we refer the patient to the gynaecologist so that they can explain to the clients and maybe start treatment." **(P6)**

"Honestly, not everybody understands laboratory results, and so we may not have the confidence to explain lab results to the clients, so I think we have to look at that." ***(P5)***

"...there are times too that not all of us understand some of these laboratory results to give a detailed explanation to clients, some results may be a bit complex to understand, and that can be a challenge for some of us." ***(P1)***

However, the Obstetrician/Gynecologist found no problem with starting a conversation with women on preconception issues. These were the views they shared:

"That's our work, so the patient will not feel like you are invading their privacy, but I am sure the other healthcare workers may not feel so comfortable talking about those things. Maybe a patient comes with diabetes, and she may be 40 years old. What's your business asking her when she plans on getting pregnant and all that? So, unless she opens up to tell you." **(OG2)**

"Well, as obstetrician-gynaecologists, though issues concerning reproductive life and plans are sensitive, we don't lack confidence in talking about such issues. It is not a challenge for us. So, once a woman or a couple comes in to see us, we talk about it to know what they want," **(OG1)**

4.4.2. Ethical Considerations in PCC Delivery

Participants stressed the importance of upholding ethical principles, particularly respect for autonomy, informed choice and confidentiality in the delivery of PCC. They emphasised that PCC should empower clients to make well-informed reproductive decisions based on their unique preferences and circumstances rather than imposing care on them. These were the responses from the Obstetrician/Gynaecologists:

> *"I don't see the provision of PCC as a means of infringing on the reproductive rights of women, but rather it will help them to attain the best state of health before pregnancy. Besides, it is not something that we have to force on them. They have the right as individuals to make a choice or decide whether they want the services or not"* **(OG1)**

> *"Preconception care will not take away their reproductive rights but will rather help them make good decisions about their reproductive life."* **(OG2)**

Likewise, midwives and management members verbalise how they think the provision of PCC is not an infringement of clients' reproductive rights. This is what they had to say:

> *"...I think preconception care will bring their minds to things that they have never thought of concerning their pregnancy, and that will help them to make good decisions based on findings and the information we give to them, and also if a person decides not to do it, it is their choice, you can't force it on them."* **(P1)**

> *"The thing is, if you tell them about it, they have the right to accept or reject the care, and you cannot force it on them. So, I do not think preconception care will be a way of taking their rights from them unless we make it by force, then that one, you are taking their rights away."* **(P3)**

> *"So if you explain things to her and she says no, you can't go ahead. So I don't see it as taking her rights from her. In a way, it is going to help them and not take their rights, and we have to respect their rights like we do in any other care that we provide."* **(P7)**

> *"...there's no infringement of rights, because you're not going to impose anything on the clients. You're only going to guide them to make informed decisions. So, for me, I don't think the provision of care will take away anybody's reproductive rights.* **(MGT1)**

Also, participants did not perceive the provision of PCC as a potential cause of anxiety or stigmatisation for clients who receive sensitive test results. Consequently, they did not consider this a valid reason for not implementing PCC for the target population. Instead, participants

emphasised the significance of effective counselling to thoroughly prepare patients for the screening and to address any potential psychosocial distress that may arise during the process. These were similar statements from midwives, a management member and an obstetrician/gynaecologist:

> *"…we have to counsel the person first and make the person know the reason why the screening it's being done. So, you have to psychologically prepare the mind of a person to allay fears and anxiety."* **(P3)**

> *"Not really, because we are taught counselling techniques that you could use to disclose lab results findings in a way not to cause any anxiety to clients. …So I do not think laboratory results should cause any anxiety and stigmatisations when such things are handled professionally."* **(P6)**

> *"I don't think telling clients about the results of laboratory investigations is the main challenge. …let's take it for example, a woman having irregular menses and the person, after a series of tests, is diagnosed with polycystic ovarian syndrome, and the midwife needs to break the news to the person. You need to counsel your client enough towards whatever the lab results are, whether positive or negative."* **(MGT 2)**

> *"So I think it all comes to the counselling before any screening or test that you need to conduct on a client. Because once you find a risk, you find the risk to treat. So, once you have counselled the patient to get the patient on the same wavelength with you, they're unlikely to have any psychosocial or any psychological problems in relation to the findings of lab results. So, some of these things should not be a barrier to providing care."* **(OG2)**

4.3 Interpersonal level challenges

Understanding the interpersonal dynamics within a healthcare setting is crucial for the successful implementation of preconception care, as it involves multiple healthcare disciplines working together to improve maternal health outcomes. These interpersonal factors encompass relationships, interactions, and collaborations among healthcare professionals within the healthcare environment. Three (3) sub-themes related to interpersonal level factors that prevent healthcare providers from implementing preconception care emerged from the data: low motivation and unclear professional roles, perceived compatibility of PCC with routine duties, and workload with competing clinical demands.

4.3.1 Low Motivation and Unclear Professional Roles

This pertains to the interpersonal dynamics within the healthcare team. It reflects the interpersonal relationships among healthcare providers and their need for support and motivation from colleagues and superiors. Participants highlighted how discouraging attitudes from colleagues and limited managerial support undermine the initiation of preconception care. These responses were obtained from midwife participants:

"Some have that mentality that's how we do things. They don't want to embrace change, and that is a challenge. So once the person is not getting the support, she will feel reluctant and will not give out the care." **(P5).**

"Yes, sometimes you don't get the needed support to embark on certain things you want to do, and so that's why the preconception care is not implemented. ...Lack of support from the managerial aspects, if you tell them you want to go and do health education, the support that they will give you, you will not appreciate it. They will even deter you from going. The stress that they will put you through, write letters to this, write letters to that. In the end, they won't even give you a car. So there is a lack of support." **(P1).**

"Sometimes when you are trying to do some of these things, a senior or even a colleague may say 'you too know', just to put you off. And then if you are not careful, you might even have a problem with your seniors, especially if you are a junior colleague. So some of these things are a great challenge." **(P3)**

"I think, you know, trying to do new things, such as a PCC, and you are not motivated, you may tend to refrain from doing that. ...Because motivation is very important, so if you don't get it from those you expect it from, you might just feel that well, let me just stop" **(P2).**

However, the response from MGT1 and MGT2 indicated an availability of support for the implementation of PCC.

"...in our facility, in fact, the systems are that, if it is ABC or D, this is what we do. And I mean the support they need we give them, because the thing is, they don't even demand so much. ...So long as we know that it is for a good course, we give them the needed support." **(MGT 1)**

"Like I said, if the person in charge of the maternity brings up that topic or that idea and briefs management that we want to start preconception care, management will support them." **(MGT 2)**

Most participants also expressed uncertainty regarding their roles and responsibilities in providing PCC:

"I said earlier that preconception care is not something that we are actually practising here. So we are not so sure about who is supposed to provide this type of care to clients. So, it's kind of a challenge. So, if I don't know that this is my job, then I am not going to do it." **(P1)**

"When you pick your job description, you think this aspect is not my aspect, you don't even bother to go there. So there's that confusion as to who is to provide the service or who is not to provide. So, since the role is not spelt out clearly, we don't really know who should do it." **(P6)**

"It is not spelt out in the job description, so everybody feels reluctant. So if we are to give that care, it should be clear for everybody to know." **(P8)**

"In our facility, when we came here, there was nothing like that. So we do not know who is responsible for this preconception care. So, since I don't know it is part of my duty, why should I bother myself?" **(P2).**

"…We are not providing that kind of care here. So, no one knows exactly which group of healthcare providers are responsible for providing preconception care. … We don't really know who should do it." **(P3).**

Management members confirmed the responses of the midwives by saying:

"Specifically, a clinic has not been segregated for preconception care, and I mean no one is assigned to give preconception care, so it is possible for some healthcare providers to, I mean, think that it is not their job to give the care." **(MGT 1)**

"I think it's about the job description. If it is not clearly stated in the job description, you wouldn't know that it is part of your job, and you would not provide the care. I also think since we are not doing it here in this hospital, it will be difficult for the care providers to know who is responsible for the provision of the care." **(MGT2).**

4.3.2. Perceived Compatibility of PCC with Routine Duties

Preconception care constitutes a proactive approach that holds a pivotal role in the optimisation of women's health and the alleviation of potential risks or health concerns before the onset of pregnancy. The participants in the study undeniably recognise the close

compatibility of PCC with other maternal healthcare services, collectively working towards the overarching objective of diminishing maternal morbidity and mortality. The participants shared a similar opinion by saying:

> *"I'm not necessarily seeing preconception care as coming to compete with the other maternal healthcare services. Because, I mean, looking at its aim, it is rather going to complement the other services to prevent maternal mortality, if we get all the resources to embark on it."* **(MGT 1)**

> *"…all these services want to gear towards one goal, prevention of maternal mortality and child mortality. So to me, it will even enhance the services that we provide to women and not as a competition."* **(MGT2)**

> *"I don't think preconception care will contradict the maternal services we are doing. In the sense that it will make our work easier during focus antenatal, skilful delivery and postnatal."* **(P2)**

> *"Preconception care will prepare the client towards pregnancy. Because right from the start, you will know everything about the client and manage. So maternal mortality will be drastically reduced. So, I do not think that one will be a contradiction to the other services we give to women; it will rather help in achieving good pregnancy results."* **(P3)**

> *"Preconception will be good to prevent maternal mortality and all those complications that women get when they get pregnant. It is about preparing a woman to conceive, so it will come in and help us improve our services to save more mothers from maternal mortality."* **(P4)**

An obstetrician/gynaecologist added on and said:

> *"…it's like you're looking out for something that may be there but not in a clinical stage or hasn't manifested as such. So if you find it early and manage, it's always good. So I don't think preconception care will contradict these other maternal health services like ANC. I rather believe preconception care will augment the services we are giving out to women to prevent complications and ensure safe pregnancy and birth outcomes."* **(OG1)**

4.3.3 Workload and clinical demands

The absence of an atmosphere that motivates health professionals hinders staff retention, and as a result, some of the participants anticipate the implementation of preconception care as a heavy workload. These were what the midwives' participants said:

"…but for now, because we are not enough, should we implement it today, today that is where the stress will come because we have to do extra work." **(P7)**

"Because the staff here now is too small, we can't add one, also because we have to take care of patients in the ward. So, if we have a lot of staff, then we can move on with care, but now all the staff is gone, we are not motivated, so everybody is going, we are not many, and we can't do it. The midwife has to care for 50, 80 patients; you can't do all that. We are small in number." **(P4)**

"Currently, when you look at the issue of brain drain, our colleagues have left in their numbers. So our number has reduced drastically. … We have a lot of work on us, like the ratio of patients to healthcare providers, which is not appropriate. So if we have to include the preconception care, then it is going to be burdensome." **(P6)**

Management members gave a similar sentiment by saying:

"…as we speak now, all the nurses and other professionals, I mean, are away for greener pastures, and so there are programs that are hanging up because we don't have the human resources. And if we have to embark on this preconception program, it is going to suffer the same, because of a lack of personnel to do ABCD and that. So, I think it will be overwhelming for the few that are left." ***(MGT 1)***

"It will depend on what goes into it. As I told you from the beginning, I haven't read much about preconception care, so I don't know the load that comes with it. But definitely, if it's going to be something that I have to sit with you for like 30 minutes to one hour, it will definitely affect our work." **(MGT 3)**

4.4 Community Level Challenges

The successful implementation of preconception care programs is not solely dependent on the healthcare system's readiness or the availability of medical resources. It also hinges significantly on community-level factors that can either facilitate or impede access to these essential services. Participants made emphasis on the interplay of sociocultural factors that impact the acceptance of preconception care within communities. In this section, three (3) sub-themes emerged: low community awareness and perceived need for PCC, cultural and social beliefs influencing PCC uptake, and Trust, gender dynamics and Socio-economic barriers to PCC.

4.4.1 Low Community Awareness and Perceived Need for PCC

The consensus was that the lack of community awareness on the matter was a hindrance. Ignorance about preconception care, as deduced from the analysis of data, is one of the primary barriers to the acceptance and utilisation of preconception care in the community. Thus, the lack of knowledge and understanding of what preconception care entails. Many individuals may not even be aware of the existence of such services or may have misconceptions about them. This ignorance can lead to reluctance to seek preconception care. Management members made the following related statements:

> *" I will say, about 90% of the people lack knowledge about preconception care. Most of them are not aware that there is preconception care."* **(MGT2).**

> *"I doubt they are aware of such information. I will say most of them, even those that are elites, may not know about it because this preconception care is not well known to many"* **(MGT 3)**

Equally, the midwives shared their opinions and said:

> *"...there is a knowledge deficit. The public or the community does not even know there is that kind of service for them to even access in the first place."* **(P1).**

> *"This preconception, the people in the community don't know about it, so if they don't know about it, then they will not come. And even if they know about preconception care, there will be very few people only that will know."* **(P4).**

> *"They really lack information and knowledge on preconception care. Their understanding, let's say, the illiteracy rate is very high in this community, so I don't think they are aware of this care."* **(P8).**

> *"I'm not sure people know about preconception care. They don't have the information, so they are not aware of this kind of service. Most of them are ignorant and don't even know you have to take folic acid before you get pregnant. They don't know about some of these things."* **(P6).**

In addition to the general lack of knowledge about PCC, limited knowledge about the potential benefits preconception care has to offer was brought to light. Without a clear

understanding of how preconception care can contribute to healthier pregnancies and better outcomes, individuals are less likely to consider it as an essential healthcare service. Management members shared these by:

> *"When you come to our communities like where we are now, we are closer to about 30% illiterates who don't understand some of these things, and think that our great grandmothers gave birth to 10 and 15 and all that, they didn't get any problem because they were doing these herbal things, and now you are telling me to do this and that before I get pregnant. You see, these perceptions and the history and tradition will work against it, I mean this preconception care thing, since they don't see the need."* **(MGT1)**

> *"Mostly ignorance, ignorance in the sense that they don't know about it, they haven't seen it being done in the community; they are getting the results they want. So why this addition? Especially when it will come at a cost. … Our typical folks, like indigenes of this place, who own the land, wouldn't see the need."* **(MGT 3)**

Midwives also gave a related response to that of the management member and said:

> *"In this community, they do not have problems with fertility because by age 12, the person has given birth, and by 25 years, they have given birth to 4 or 5 children already, so what is the need to come for preconception care? They will not come."* **(P4)**

> *"…they come here when they have problems, so if she thinks she's okay, everything is fine. Why will she come here and come and spend money for that matter?* **(P1)**

> "*So, with preconception care, I doubt if they will have the interest to come, because they may feel like I am not pregnant, and so why should I take money and travel to the hospital to plan for pregnancy"* **(P2)**

4.4.2. Reproach and fear of the Unknown

Good interaction is the foundation for a positive nurse-patient relationship as it can build trust to facilitate discussions about preconception care and reproductive plans. Nevertheless, some participants perceived unfriendly nurse-patient communication patterns on the part of healthcare providers as a possible deterrent to preconception care utilisation by the target population. P1 and P2, who are midwives, gave a response concerning the nurse-patient relationship as:

"...they may want to come to the hospital, but they feel our attitude is not friendly and so would not have the courage to approach us. You know, for instance, let me give this as an example, when a young girl or teenager gets pregnant or a woman who has more children and is pregnant again, and wants to go for ANC, she will feel reluctant, because she will think these people will shout at me and all that. So sometimes the behaviour of some care providers may prevent community people from seeking certain types of care in the hospital, even if they are willing." **(P2)**

"They don't trust our confidentiality because I said we live in the community with them. So they think their history or findings on them may come out for everybody to know. Because when they even come for ANC booking and you are taking history, they don't really open up to you." **(P 1)**

"The attitude of some of us, but not all of us, our utterances, our gestures, the way we receive them and then communicate with them, is sometimes very sad, so our attitude is something that can prevent people from seeking the care in the facility. Sometimes, some people will really want to come to the hospital, but the unfriendly attitude of some care providers prevents them." **(P 3)**

"...we get a lot of complaints about how a particular service is rendered, time in, time-outs. So the community has this mentality that when you go to the hospital, maybe one person or the other may not give you a positive attitude. So it's going to deter the person from coming. So the care providers' attitude too is another factor that we need to look at." **(P6)**

A supporting view was shared by a management member who said that:

"...you see, in every organisation, not only the health system, if you don't uphold customer care, I mean, if you don't uphold good human relations and all that, nobody will come to you. We even have individuals that people don't even go to, because they are not receptive. So let's say if we are providing the care, and the healthcare workers are not receptive, people will not patronise the service, and that can be a challenge."

(MGT 1)

In addition, the competence of healthcare providers is a fundamental element in healthcare delivery. However, doubts regarding the proficiency of healthcare providers in delivering healthcare services may arise, especially when the target audience lacks familiarity due to a lack of information on a specific part of healthcare. Participants verbalised the potential skepticism of the community in relation to care providers' ability to deliver PCC, primarily due

to the novelty and unfamiliarity of PCC services. These are the responses P6 and P7, who are midwives, gave:

> *"…the service is not provided in this hospital as of now, and they might have the notion that, for instance, midwives take care of pregnant women at the antenatal, but they might not know the same midwife can assess and prepare a woman to have a good state of health before pregnancy. So if we start rendering that service to them, and they come to see that it works, they will come to know what we are capable of doing for them, and they won't doubt our abilities in that regard."* **(P6)**

> *"It is possible they may not know we can provide preconception care, because all they know is that we do ANC, they know we deliver women during labor, they know we take care of women after delivery, but they don't know that the midwife is capable of providing other healthcare services. So they feel like midwives are just to deliver pregnant women or to take care of a pregnant woman."* **(P7)**

Similarly, an Obstetrician/ Gynecologist and a management shared their views by saying the following:

> *"You know, most people, I think, are not aware of some of these services, and so they might not also know that healthcare providers may have the ability to provide the care. That is possible. …Because if a person is not aware of a thing like that, how is he or she supposed to know the care providers can give out the care, so we have to make them aware of it and its benefits to enable them to access the service."* **(OG2)**

> *"They know we take care of pregnant women and other illnesses, but to think that care providers can help them prepare for pregnancy, I don't think they know we are capable of helping them in that way. So I believe that is one more reason why they use herbal stuff in preparing for pregnancy and will not come to the hospital."* **(MG2)**

Further, the fear of the unknown in the quest for healthcare services is a common sensation that influences individuals' healthcare-seeking behaviour. This fear is believed to come from uncertainty about what to expect during healthcare encounters. Participants were frank about the client's apprehension of receiving a potentially concerning diagnosis. This is what an Obstetric/Gynaecologist had to say:

> *"Fear of being diagnosed with a disease condition may hinder them from seeking care; besides, no one wants to be diagnosed with a disease condition. Is not like the Western*

world, where people will willingly go for a checkup. ...so not everybody will just walk to the hospital for screening due to unknown outcomes." **(OG2)**

"People have this perception about hospitals and even going for checkups because they think that if they go for checkups, they may be diagnosed with certain conditions. When you look at our African setting, it is so uncommon for people to just go for a checkup, due to fear of the unknown." **(P1)**

"Nobody wants to be diagnosed with a medical condition or something like that. So as I said, they will tell you that 'I'm not sick, so why should I go for them to tell me, we did a blood test and this is what we found.' They don't want to hear that, so they will not come." **(P5)**

"Sometimes the fear of the unknown can prevent clients from accessing care. I will say, especially when the person thinks everything is well with him or her. People usually say this a lot, that if I am not sick, why should I go to the hospital for them to force and give me a sickness, so I won't go." **(P6)**

In essence, P3 gave a typical example to buttress her view, and this is what she had to say:

"Because people do not know this preconception care, they think that if I am going to the hospital, they are going to diagnose me with a disease condition. I live with a woman in my house. Every day she complains of a headache, but when I tell her to go to the hospital, she will tell me she won't go for them to find a disease for her. So yes, for most people, the fear of the unknown prevents them from seeking care." **(P3)**

Similarly, MGT2 and MGT3 added on to that of the other participants by saying:

"What I can say is that nobody wants to hear bad news, so that can be a challenge because if you are there and you are not aware you have a certain disease or condition, you don't have any worries. But the moment you get to know about it, and then you start panicking. So I think they wouldn't want to come to the hospital for preconception care, for us to screen them and tell them you have this and that condition." **(MGT2)**

"Definitely, unknown outcomes actually cause fear and panic, besides nobody wants to be diagnosed with any medical conditions, so if I come for preconception care and they will conduct some screening and then tell me about a condition I have, then why should I go there, besides I don't want to hear that, and I'm not sick as well. ...So that can prevent them from accessing care." ***(MGT3)***

4.4.3 Cultural and social beliefs influencing PCC uptake

Participants perceived cultural beliefs and social norms as a limitation in the use of preconception care by the target population, since cultural beliefs and practices play a significant role in shaping healthcare decisions within a community. Most participants explained how superstitions or misconceptions related to pregnancy may discourage individuals from seeking preconception care. The obstetrician/gynaecologist had this to say:

> *"...until she's around 20 weeks, she doesn't want to disclose that she is even pregnant. So there's a lot of secrecy and spirituality and cultural myths around pregnancy loss in our setting. So she doesn't want you to know, she's pregnant, how much more will she come to tell you that she wants to get pregnant?"* **(OG 2)**

> *"People have misconceptions of miscarriage, if they disclose their pregnancy intentions. So, they have this sense of keeping pregnancy a secret"* **(OG1)**

Management members and midwives gave responses that supported the opinion of the Obstetrician/Gynaecologist. This is what they said:

> *"They will not talk about the desire to get pregnant because of their myths, beliefs and all that, thinking that if they don't keep it a secret, the pregnancy may be aborted. So, they keep quiet about such things."* **(MGT 2)**

> *"Take you and I, when we go to the hospital, and we're not going to see a gynaecologist, and we are not pregnant, as part of the routine care, you don't discuss your fertility wishes with a physician. And also in our local setting, there is some sort of secrecy and myths associated with pregnancy. ... So we can't say that people are happy to discuss their fertility issues, unless for some reason it comes up. Other than that, people will not just talk about their fertility wishes."* **(MGT 3)**

> *"You know, in our setting, wanting to get pregnant is not something that we normally talk about. We all keep it a secret until we are sure pregnancy is confirmed and secured before someone gets to know about it. Because people have superstitions where they think that if they disclose their pregnancy, the pregnancy may be aborted. So normally, women will not talk about their pregnancy desires unless there are infertility issues."* **(P1)**

> *"Some women think that if they speak about their pregnancy, witches may harm her or she will get a miscarriage. So they find it very difficult to tell someone about their pregnancy intentions due to their superstitious beliefs about the secrecy of pregnancy."* **(P8)**

"Some people even think midwives are witches, so they would not even come for ANC in the early stages, let alone come to tell you about their pregnancy intentions. So, some of these things can be challenging." **(P3)**

Although these beliefs were recognised as barriers, participants acknowledged the implementation of preconception care as a means of mediating with cultural values and norms. MGT 2 and MGT 3 gave the following statement:

"... Though they have their beliefs, I do not think they have cultural practices or norms that will be interfered with, if we start to provide them with preconception care. I do not think that will be the case or something of that sort." **(MGT2)**

"... With preconception care, you are just taking some medications, you do some labs and education and all. So I do not think the cultural norms of the people would be violated in any way." **(MGT 3)**

In the same vein, the midwifery participants made a supporting statement by stating that:

"They have their myths and all those misconceptions surrounding pregnancy, such as keeping pregnancy a secret and all that, but I don't think that if we are to implement this care, it will interfere with their culture." **(P7)**

"We are in a modern world, so if we educate them to make them understand some of these new things that are in as far as health is concerned, I do not think preconception care will interfere with their culture. The world is changing, so we need to change from our old mentality." **(P8)**

"Providing preconception care will be a way of helping them. So I do not think preconception care will cause any problems in their culture. No. That is why we have to let them know about new things that are available to help them and are not going to cause a violation in their culture." **(P4)**

4.4.4 Unplanned Pregnancy and Gender Dynamics

Apparently, the influence of husbands/partners affirms that gender dynamics within communities can affect women's autonomy in making reproductive health decisions independently, including decisions about family planning and preconception care. Hence, a lack of male support can significantly restrict the autonomy of women in accessing essential healthcare services. Participants therefore explained that, in many cases, husbands or male

partners hold significant influence over women's choices, including whether to seek preconception care or not. A management member expressed her views by saying:

> *"...So if the woman for instance, wants to conceive along the line, and the man is not ready, and you want to go and do preconception when I'm not ready, it can bring about issues, and our people listen to their husbands, and everyone listens to the husband, but some people take steps only when their husbands have spoken. Yeah, so that's why I mentioned that as a potential problem."* **(MGT3)**

Midwife participants also gave a parallel opinion to that of the management member and said:

> "*In everything, most women must take the husband's concern. So, when it happens like that, and then this preconception comes in, and the lady wants to become pregnant or has that intention of becoming pregnant, and if the husband is not consenting to it, it may hinder it, so she may not even come. She will find it difficult to seek care unless her husband allows. So, if the husband does not give her the support or the go-ahead to come for care, the woman will not be able to come because it will be disrespectful to the man."* ***(P7)***

> *"In this community, most of the women in whatever they do, must talk to their partner before they can do it. So, they think they don't have the right to come to the hospital and talk to the midwife about when they want to get pregnant and how they want to get pregnant. It is their husband that they must talk to. So, if the husband does not give his permission, you can't come to the hospital. So, there is a lack of autonomy on the part of women when it comes to some of these things."* **(P1)**

> *"Let's take the northern people in this community, for instance, if the husband says no, it is no. If he says yes, it's yes. So, imagine such women who want to come for this care to prepare for pregnancy, and the husband is preventing her from coming, she won't try. Because when she comes without permission, there will be trouble. So, the person will rather listen to the husband."* **(P3)**

Moreover, participants acknowledged that the preconception period is a crucial stage in the reproductive cycle of every woman of reproductive age; however, unplanned pregnancies among this group were highlighted as the main reasons why preconception care is not deployed. Midwife participants indicated that:

> *"In this community, pregnancy is nothing, and people give birth to a lot of children. Here, by age 12, 14 to 15, you are expected to give birth, so what is planning? No, they don't really plan pregnancy, except maybe the educated ones, because here, we are in a*

rural community, so they have their own mentality. You see pregnant teenagers all over the place. So, for the planning, they don't do it." **(P4)**

"Usually, their pregnancy is not planned because in this community, they deliver very early. By eleven years, they have delivered. Because in our setting, planning a pregnancy is something new, it is not part of us. It's not something we do." **(P1)**

"...in our setting or in Africa, about 99% of our pregnancies are not planned. Yeah, many of them are not, so the person will not even plan, and then they're pregnant. So, with this person, she will not even come for that preconception care." **(P5)**

The management members gave corresponding responses to those of the midwives by saying that:

"Most of them don't plan their pregnancy. They are there, and bam, they see that they are pregnant. They are not prepared; they are not ready for pregnancy. So it is a challenge to get them to come in and prepare for pregnancy" **(MGT 2)**

"They don't even have in mind the number of children they are going to have. They want to give birth till their menopausal symptoms set in. A woman will tell you, 'I wasn't lucky at age 45, I stopped menstruating, and that is why I have 5 children'. And somebody will tell you, 'I stopped menstruating by the time I gave birth to my 12th child'. And they don't say it with regret, they say it with the pride of having that large number of children, you see, so when you talk about plans, what is planning to them? It's nothing. So, it's a big task." **(MGT 1)**

"You know pregnancy is something that is usually not planned. Most women, before they realise they are pregnant, may not even know they are pregnant until maybe they miss their period. They will say it was a mistake. I don't even intend to get pregnant now. Yeah, that is what they normally say. So, telling somebody to plan a pregnancy and receive preconception care may seem some way because we are not used to these things." **(MGT3)**

4.4.5 Socio-economic dynamics

Participants perceived poverty as one of the potential factors that could inhibit preconception care accessibility by the target audience, as most of them are unemployed. They further illustrated how the cost of services such as laboratory investigations and medications impeded even focused antenatal visits to the facility due to financial constraints. The following statements were echoed by participants:

"Cost of care and sometimes money for transportation to the facility may be a problem, especially for those in the neighbouring villages. Because some of these labs will have to be paid for. So, I think to some extent it may be a barrier for some people to seek care." **(OG 1)**

"...when they are coming to the hospital, it involves transportation. And when they come, there will be some screening; it involves money to pay for the laboratory investigations and other medications, which will be prescribed. It's all money. So sometimes these factors may hinder them from coming to seek care." **(P2)**

"You see, when they come for ANC, they pay top-ups for some of the laboratory investigations and some medications, though some are free under health insurance, they are still not able to afford them. They have to go home and come back later to do some of these labs because one thing is that most of the women are not working; they depend solely on their husbands or partners. Especially the teenagers I talked about earlier. So if they don't get money from their partners to access some of these services, it will be difficult for them to come for preconception care too." **(P4)**

"*A lot of them are not working. The working class is very few. The rest are into farming and stuff, and those who depend on men for support and so they will not even come. Even when they are pregnant, they find it difficult to come. Let alone coming for preconception care, for you to educate them on how to get pregnant. Oh, she will not come."* **(P5)**

Management members also expressed their views by saying this:

"Even ANC services, they will not come; if you ask them, they will tell you they don't have money. Even money for transportation and some other things is a challenge. So, coming for preconception care to plan a pregnancy, I don't think they can afford it." **(MGT 2)**

"You know, the socio-economic situation of this place, the fact that people even struggle with their hospital bills. So, if the person has been fine all these years with healthy children, with safe pregnancies, and we want to introduce something extra, which may not be covered under health insurance, trust me, with our people here, it will be difficult." **(MGT 3)**

4.5 Healthcare Institution-Level Challenges

Based on the responses provided by the participants, there are several challenges faced at the health institution level that prevent the healthcare providers from implementing preconception care. Under this theme, two sub-themes were identified, which are in relation to Resource and infrastructure limitations and the Absence of PCC guidelines.

4.5.1 Resource and infrastructure Limitation

Participants highlighted staffing issues as a significant challenge in the implementation of preconception care. They expressed concerns about an inadequate staff to effectively implement preconception care. They further explained how this shortage of staff is exacerbated by the fact that many healthcare workers have left for better opportunities abroad. Participants pointed out how the current staff situation has resulted in an increased workload. Midwife participants and a management member echoed these concerns by saying that:

> *"…it points to resources, and especially the human resource, as we speak now, all the nurses and other professionals are away for greener pastures, and so there are programs that are left hanging up, because we don't have the human resource. And if we have to embark on this preconception care program, it is going to suffer the same, because there is a lack of personnel."* **(MGT1)**

> *"Our numbers keep decreasing due to the current trend of healthcare professionals leaving for better opportunities abroad. So, if preconception care should be added to the already heavy workload we have, I don't think it is going to be easy. The human resources now are not encouraging, because we do not have enough staff."* **(P2)**

> *" Currently, when you look at the issue of brain drain, a lot of our staff have left, and I'm sure more are yet to go. So we don't have enough staff to enable us to embark on this preconception care agenda. … to me it will be burdensome, because we are not enough."* **(P6)**

> *"…even at ANC right now, I think we have almost 8 staff who are working at the antenatal unit. Within each month, we have a total of 900 to 1000 clients that we care for. So just imagine the staff strength and the pregnant women that we are taking care of. So, staff strength is another problem."* **(P8)**

Equally, an Obstetrician /Gynaecologist added on by saying:

> *"We need all health providers' awareness of preconception care and to support it. Thus, the personnel to provide the care are already overwhelmed by the infectious diseases and the obstetric and gynaecological cases we are seeing. As I said, we are overwhelmed with the obstetric cases that we are already attending to. So, we need more personnel to come on board."* **(OG 2).**

Moreover, looking at the relevance of funding as one of the driving forces for preconception care deployment, most of the participants stated the unavailability of funds as one

of the significant factors inhibiting the implementation of care. A management member was explicit about how the facility is constrained financially, and this was what was put across:

> *"We don't have any. Not, we may not have. We don't have the funds. ...It will be a huge problem. Yeah. It will be a huge challenge, and for such things, if you need funding from the hospital, it has to be; you really have to make a good case for the hospital to support."* **(MGT 3)**

In support of the management member's response, the midwife participants expressed their views by saying:

> *"There is a lack of funds. They always don't have money, they always don't have money. Last time, as I said initially, we wanted to go to Collins SHS to give education on abortion, but the stress that they put us through, we didn't even go. They said there is no money, because we have to fuel your car, we have to do this, we have to do that. We said, we just want a letter so that we can go there, but that was it. They don't always have money."* **(P 1)**

> *"One thing I have to say it's about their finances. They lack finances. I think that is one reason why sometimes, when we approach them on some things that will really help the community or maybe the women, it will take maybe some years before the thing will be implemented, because they will tell you there is no money."* **(P8)**

> *"To me, I think money issues can be a reason why the care is not implemented, because they need to put up a place and get other stuff for the provision of the care, so they will need money to finance certain things, which I think may be lacking. When going to the radio stations, they need to pay for the airtime to go there for public education. So that is also part of the reason."* **(P5)**

> *"I think lack of money can be a challenge, because getting space, training staff and creating awareness all involve money."* **(P2).**

Furthermore, the unavailability of infrastructure in terms of space was also brought up as one of the factors inhibiting the implementation of preconception care at the health institution level, as illustrated by a management member below:

> *"...you see, our hospitals, I mean our main hospitals in Ghana, are constrained with a lot of resources, such as spaces. When we look at this facility now, there are a lot of programs we are integrating, not because we couldn't segregate them. But if we want to segregate them, the space is not available. Assuming we even want to have a consulting*

room for the preconception population targets who fall sick or who, for some reason, are not well and want to see a doctor, where do we get a consulting room for the doctor for those specific functions, and even if they are meeting them, where do we allocate to meet them?" **(MGT1)**

The midwife participants supported this response by saying:

"One factor is the lack of space or the availability of rooms for such care. Because this care will deal with confidential issues, privacy and the staff. So, the place to be used for the service is a problem." **(P5)**

"The place is too small. That is a problem; we don't have enough space to give preconception care at the same time, because the place is too small. … Right now, I really don't know where there can be space. If you look at the ANC, it is not spacious enough to add another service, the labour ward too, I don't think that place can be used. So space as it stands now is not available." **(P4)**

" I don't think we will have an area for such care to be given. Because initially, we planned on doing a pregnancy school and we wrote everything to the management for them to grant us permission to do it, but it turned out that they don't have somewhere for us to do it. … So, the venue in which that care will be given will be a problem." **(P3)**

Nevertheless, a midwife participant did not recognise space as a preventive factor to preconception care implementation and therefore made this statement:

"*…mmm if we talk about preconception care, I don't think we need a big space before we can provide the care. You can even use the ANC. ANC, they don't come on weekends, so we can schedule a date that will fit on the weekend, so that we can provide the care for them over there. So I don't think we need a big place before we can provide the care."* **(P1)**

4.5.2 Absence of Preconception Care Guidelines

Guidelines play a pivotal role in standardising care processes, ensuring uniformity in healthcare practices, and providing healthcare providers with a structured framework for delivering care. However, participants indicated that there were no guidelines or institutional protocols in place for preconception care implementation. Therefore, participants were emphatic

with the response to whether there were any protocols or guidelines on preconception care. This is what management members said:

> *"I don't know if there is a protocol here in the hospital. Probably it is because I haven't found out. And personally, I haven't been too crazy about preconception care. So I haven't asked any questions about it."* **(MGT 3)**

> *"I have not seen, or I have not come across, such a thing in this hospital. ... Because if we have that kind of thing, it would have prompted us to do the services and then do some training on it for it to be done, but I have not seen something of that sort.***" (MGT 2)**

Midwives added on to the responses of management and said the following:

> *" I don't think we have something like that. We don't have preconception care protocols or guidelines. We would have known if there was something like that. I'm not sure we have."* **(P1)**

> *"To the best of my knowledge, no, I haven't seen anything like that.* This may be why we haven't done it; we're not sure how to go about it to meet clients' needs correctly. Because we *don't have any protocol."* **(P2)**

> *"There are no policies or guidelines to guide us on how to go about it. So we don't know how to go about it or how to do it. So, this is one of the factors that I think will prevent the staff from giving the care."* **(P6)**

4.6 Suggestions for PCC implementation

The participants recognised the importance of strategic planning to strengthen the health system and promote community awareness to facilitate the implementation and utilisation of preconception care.

4.6.1 Strengthening the Health System

The participants suggested strengthening the Health System through increasing the trained workforce and capacity building of human resources. The participants specifically highlighted the need for revising health training institutions' curriculum for a comprehensive integration of preconception care, as well as refresher training to equip care providers with the

required knowledge and skills to bridge the knowledge gap to facilitate the implementation of preconception care. These were the opinions that were shared by participants:

> *"I do not know if it is being taught now at the diploma level. So I think it should be taught in the diploma schools in a broad way, and it will help everybody. When they come out, they know that you have to give every woman preconception care before she gets pregnant. So, I think it should be taught in school, like other things, like pregnancy and labour and all that. I think at the degree level, too, they must do the same thing."* **(P1)**

> *"I think in-service training for health professionals to equip their knowledge will help build their capacity in providing this PCC. And also, if they can look at the nursing training curriculum and incorporate it into the curriculum in a broader sense, like the other subjects, I think it will help us to get adequate knowledge and skills before we come out of school to practice."* **(P2)**

> *"If possible, we can make it a course in the school curriculum to encourage others to go into it. Through that, we will be sensitising ourselves and educating and helping other people to get the knowledge to render such services."* **(P6)**

Management members and an Obstetrician/Gynecology added on by saying:

> *"I think first, it should start from the nursing training schools where they are training nurses and midwives, they need to be taught about preconception and should be part of the curriculum."* **(MGT 2)**

> *"I'm sure if an in-service training is organised specifically for preconception care to give specific information on preconception care, everybody will come to appreciate it and its relevance, and I'm sure we will gain the in-depth knowledge and skills to implement it here."* **(MGT 3)**

> *"...some form of in-service training or an education for the healthcare providers will be a good sort of awareness creation for the healthcare providers"* **(OG2)**

In the same vein, participants also conveyed the need for the motivation of staff to improve employee retention, to reduce workload:

> *"As I said earlier, already, there are a lot of workloads. So, if you want to add on, then you have to find a way of motivating the person to accept whatever you are adding to the already loaded job you are given to the person. So there are different forms of motivation, not only for the financial aspects, but even, given the staff, a break time can be a form of motivation. The words of encouragement you give to your staff can also be a*

form of motivation, or the intrinsic factor and the extrinsic factors, depending on who the person is. You find a way to motivate the person, and they will stay." **(P6)**

"It all boils back to motivation. If I'm working and motivated, and appreciated for the effort I put in, I am comfortable, everything is fine, there's no need to move out of the country. So, I think they need to motivate us to stay and work." **(P7)**

To add on, suggestions were put across by participants for the healthcare institution, in collaboration with the appropriate stakeholders, to consider developing comprehensive protocols or guidelines for preconception care. These guidelines can outline the essential components of preconception care, provide step-by-step instructions for healthcare providers, and emphasise the importance of consistent and evidence-based practices. A management member and the midwives made these suggestions:

"I think the institution, as in management, will need to look into this and see how best a protocol can be developed, such that it will be well-structured and disseminated for every care provider to know about it. It will help us make it easier to practice preconception care here." **(MGT 3)**

"This one will be for management to require the attention of stakeholders that can come together to see how best they can develop a protocol, and after that, they have to make it known to everybody that now this is what we want to do, and this is the protocol to be used to implement the care. And if they take us through on how to use it, we will be able to give them care." **(P 1)**

"So, I think our hospital management, in collaboration with maybe the Ministry of Health, can help and provide or create these guidelines for us to start practising preconception care in our facility. Yes, when it comes to such things, management can handle that." **(P2)**

"Well, we have policymakers in the institution. And then we have people with different expertise when it comes to female reproductive services. So, if we collaborate with all the stakeholders, come together, sit down and bring up a policy or a protocol, and then we bring it out and make it known to the staff. I think it's going to help." **(P6)**

Further, MGT 3 suggested that external funding could help bridge the financial gap. MGT3 described how they would rather have to write a proposal to external institutions that are available to support the health of women, like NGOs.

> *"We can actually make a good case, write proposals and send them out to institutions that are women-conscious, or institutions that are conscious about women's health, to solicit funds. Yes, and pray that they help us. But from the NHIS and others, we are not likely to get any help."* **(MGT 3)**

P1 and P7 added on to MG3's suggestion and said that:

> *"I think they can solicit funds from some NGOs to come in and help with the implementation of preconception care, and then they use it for exactly what it is supposed to be used for."* **(P1)**

> *"I think implementing it, they have to seek maybe some sponsorship from non-governmental organisations and other things. They are the people that can come in to help."* **(P7)**

4.6.2 Community Awareness

Public education plays a vital role in preconception care, as participants suggested that the target population can be empowered through awareness to generate demand for preconception care services. Participants suggested that the entire community needs to be educated, rather than individuals, to get both men and women alike on the same wavelength to come to appreciate the benefits and need for preconception care. The following were their suggestions:

> *"By doing health education from the community radio station, we can get a day for that or let's say twice a week. If we can talk about it twice a week, or every once in a month or twice a month, they will get knowledge about it. … When they come here for their regular OPD cases, we can also use that opportunity to talk to them about preconception care. I think this will work for us to get the information to them."* **(P1)**

> *"So one thing is, we have to meet the board. We have to meet the board, and then we plan on what we want to do about this preconception care. So sometimes there can be banners, stickers, we will be sharing small books, maybe leaflets, something like that. We share it outside so that anytime the person is free, they will just be reading it, so that it*

will broaden the person's mind on preconception care. Sometimes we have to go on the radio, so that we can also do an advertisement to educate them." **(P8)**

*"First, we need to brief the opinion leaders, the rulers, the chiefs, the elders, the queen mothers, the pastors and other people who have a say in the community or have influence on the people and make them aware of preconception care and its benefits. They will definitely be interested and come for such services. And also during home visits and other training, like school health services, we can talk to them about it."***(MGT 2)**

"We cannot just introduce preconception care and sit back and think the target population will just start coming. And these opinion leaders may be more men, who are husbands or partners. So we will need to get the cooperation from these opinion leaders through education to make them understand the importance of the care and why the hospital wants to embark on it." **(MGT3)**

"So the only way to get the populace involved is to do a lot of awareness creation, using the TV, social media, and radio, with that we will get a lot of people, we will get the men involved and then, they will even encourage the women, because you know the men have a lot of power over women in this setting." **(OG2)**

4.7 Summary of Results

Overall, the study revealed vital information on the knowledge gap of the majority of the health workforce, as well as poor community awareness of preconception care. This, in turn, has prevented the implementation and utilisation of preconception care as part of the continuum of maternal health care services. Nevertheless, the positive perception and universal support to have PCC as part of the continuum of reproductive health provide an opening for the development of an implementation strategy for PCC within the healthcare facility.

CHAPTER FIVE

DISCUSSION OF FINDINGS

5.0 Introduction

This chapter discusses the major findings of the study about the relevant literature. The discussion is organised on the main themes and subthemes that emerged from the study, which is centred on the meaning and benefits of PCC, individual, interpersonal, community, and institutional factors that impede the implementation of PCC, as well as suggestions for PCC implementation.

Thirteen (13) participants took part in the study, comprising eleven (11) females and two (2) males aged between 30 and 54 years, with an average age of 36 years. Their professional experience ranged from 2 to 24 years. All had tertiary education, including one (1) diploma holder in midwifery, seven (7) with Bachelor of Science degrees in Midwifery, three (3) held Bachelor of Medicine degrees, and two (2) with master's degrees in administration and public health. This variation in professional experience and educational background enriched the study by providing varied perspectives on the implementation of PCC within the healthcare setting.

5.1 Meaning and Benefits of Preconception Care

The results of this study showed that the participants generally understood preconception care as a means of preparing women or couples of reproductive age physically, psychologically, and financially to obtain the best state of health before pregnancy occurs and how the implementation of preconception care brings about good pregnancy outcomes and ultimately reduces maternal mortality. This is quite consistent with how the WHO explains PCC as the provision of biomedical, behavioural, and social health interventions to women and couples

before conception occurs by reducing individual behaviours and environmental factors that could contribute to poor pregnancy outcomes with the ultimate aim of improving maternal and child health outcomes, in both the short and long term (WHO, 2013b). The finding is also in line with that of qualitative studies conducted among healthcare providers in India, Saudi Arabia, and South Africa, which demonstrated that healthcare providers were of the view that PCC was key to optimising the health of women of reproductive age to achieve positive pregnancy results (Alamer et al., 2022; Chutke et al., 2022; Ukoha & Mtshali, 2021).

The alignment of participant understanding with international definitions in previous qualitative studies signifies a universal understanding of PCC's objectives across diverse settings. These findings underscore the need for continued advocacy and implementation of PCC strategies within healthcare systems worldwide, emphasizing their significance in achieving positive pregnancy outcomes and reducing maternal mortality.

5.2 Individual (Healthcare Provider) Level Factors

5.2.1 Limited knowledge, training, and confidence for PCC delivery.

Most of the participants in this study demonstrated insufficient knowledge of PCC, where most of the participants were of the view that they did not have in-depth knowledge of preconception care since they received little or no training on the subject at school, as well as no in-service training in the health facility in which they were working. This is consistent with findings from studies conducted in high-income countries like the United Kingdom, Australia, and Dutch (Best et al., 2021; Daly, 2023; Ferry et al., 2023; Maas, Poels, Hölscher, van Vliet-Lachotzki, et al., 2022a; Stephenson et al., 2021), an upper-middle-income country like Jakarta (Kurniawati et al., 2021b), as well as other low-income countries like India, Ethiopia, South Africa, and Ghana (Chutke et al., 2022; Hikimatu et al., 2021; Teshome et al., 2020; Ukoha & Mtshali, 2022), who indicated in their findings that health care workers did not bring up PCC

counseling with women because they lacked extensive knowledge of the phenomenon as they were not acquainted with PCC on their own, let alone creating public awareness due to inadequate or having received no formal training on the subject. This knowledge deficit is concerning because it implies that most healthcare providers may not fully understand the potential benefits associated with preconception care implementation; therefore, they might not have the zeal for its implementation to curb maternal mortality.

It is noteworthy that, on the one hand, the findings of this study contrast with those of Ukoha and Mtshali (2021). Both studies involved participants from a tertiary referral hospital, yet a significant difference emerged: while the previous study showed well-versed healthcare providers in preconception care interventions (Ukoha & Mtshali, 2021). The present study indicated that a majority of participants acknowledged their inadequate knowledge. This disparity could stem from the previous study's referral centre having a specialised preconception care clinic, likely to provide targeted training to healthcare providers. In contrast, participants in this study lacked access to similar specialised resources, leading to self-reported inadequacies in preconception care knowledge. This calls attention to the influence of local healthcare context and training on healthcare providers' proficiency in PCC, as the absence of specialised preconception care training resources in certain healthcare settings can significantly affect healthcare providers' knowledge levels.

On the other hand, this present study uncovered some similarities with the findings of Ukoha and Mtshali (2021), as the obstetrician-gynaecologist specialists who were part of the participants in this study demonstrated significant understanding and expertise in PCC interventions. This is likely due to the specialised PCC education they might have received during their medical training. It is remarkable that, despite all participants in this study being

recruited from the same healthcare facility, a concerning knowledge gap on PCC was evident among healthcare providers in other disciplines. This variation in knowledge among care providers is noteworthy as it may lead to missed opportunities and suboptimal care in the provision of preventative early interventions, neglecting potential health issues before conception.

This highlights the importance of establishing specialised training avenues in healthcare facilities to ensure uniform knowledge and skills in PCC among healthcare providers across various cadres, emphasising the dissemination of research findings to promote evidence-based PCC practice and enhance its acceptance within the healthcare system.

In line with Best et al. (2021) and Ferry et al. (2023), this study uncovered that a significant portion of participants felt discomfort discussing sexual and reproductive health unless initiated by clients. Moreover, many expressed a lack of confidence in explaining laboratory test results clearly. This uncertainty stemmed from their perceived inadequacy in skills and knowledge within this domain. These combined factors—discomfort initiating sensitive discussions and perceived deficiency in test result interpretation—present a substantial barrier in clinical interactions between healthcare providers and clients.

Consequently, the convergence of discomfort in discussing sensitive topics and perceived inadequacy in interpreting laboratory test results creates a significant barrier in clinical interactions between healthcare providers and their clients. This barrier impedes healthcare providers' capacity to address the unique needs of individuals seeking care, potentially compromising the quality of services offered to this population.

Also, in configuration with a prior study conducted in Jakarta, this research reinforces the notion that participants lacked specialized training in preconception care, resulting in reduced proficiency in addressing the unique needs of individuals seeking such care (Kurniawati et al., 2021a). The absence of specific PCC training underscores a significant gap in healthcare provider education. This highlights the imperative need for comprehensive training programs in this domain to equip healthcare providers with the necessary skills and confidence required to deliver effective and informed PCC.

Meanwhile, the findings of Best et al. (2021), which revealed that Obstetricians and gynecologists exhibited confidence in delivering preconception care services irrespective of whether patients explicitly requested them, contrasted with those of this study, which found that although obstetrician-gynaecologist participants in this study expressed confidence in providing PCC and discussing sensitive reproductive health issues, they did so when clients initiated fertility-related discussions. The reactive nature of providing PCC exclusively upon fertility-related client initiation points to a limited scope of PCC delivery and missing opportunities for comprehensive preconception health support for all women of reproductive age. Hence, the a necessity for broader and more proactive implementation of PCC services to significantly enhance maternal healthcare continuity to improve maternal outcomes.

5.2.2 Ethical and professional considerations in PCC

The existing body of research has unveiled a prevalent perspective among a significant portion of healthcare professionals, indicating concerns that the provision of PCC as routine care to the target audience may encroach upon clients' autonomy in shaping their informed decisions and choices related to their reproductive plans. This concern extends to ethical considerations, alongside a prevailing sentiment within the majority of healthcare providers that the mere

provision of PCC interventions may potentially subject clients to adverse consequences, including heightened anxiety and the risk of stigmatization, predominantly from outcomes of sensitive test reports (Best et al., 2021; Teshome et al., 2020).

However, these discoveries were contrasted by the findings of this study, as the collective views of the participants neither perceived the provision of PCC as coercive or a violation of rights nor as a medium for causing emotional derailment of clients with the outcomes of sensitive test results. Rather, they heightened the provision of PCC services as a wake-up call for the target population to take charge of their reproductive life and rights. They further highlighted the importance of presenting PCC as an option rather than an obligatory element of patient care as well as maintaining privacy confidentiality and professionalism in handling client's laboratory results. Thus the principle of upholding ethical standards and respecting clients' choices in the delivery of healthcare services is paramount to promote empowerment and active involvement of clients' healthcare decisions.

The differences in these results probably are influenced by the importance the participants in this current study may attach to not only respecting the ethical principle of autonomy but also recognizing the potential psychological and emotional ramifications of their counseling practices, thus ensuring a client-centered and ethically sound approach to reproductive healthcare.

5.3. Interpersonal Level Factors

5.3.1 Low motivation and unclear professional roles.

The study revealed a sense of collaboration among healthcare disciplines, yet highlighted the absence of support and motivation from both peers and managerial figures as a significant

impediment to implementing PCC. This corresponds with previous literature emphasizing the lack of assistance and acknowledgement from colleagues and higher-ranking professionals, contributing to healthcare providers' hesitancy in embracing PCC implementation (Alamer et al., 2022; Banaei et al., 2021; Best et al., 2021; Chutke et al., 2022). These consistent findings might stem from managerial unfamiliarity with the PCC concept, reluctance to adopt change, and the absence of financial and non-financial incentives. These factors collectively undermine care providers' confidence in prioritizing and delivering PCC services. For these reasons, leveraging the engagement and commitment of healthcare providers through educational initiatives, incentives, and a proactive change management approach are instrumental strategies that can ultimately contribute to PCC implementation.

Further, studies conducted in the United Kingdom, Dutch, and some African countries have contributed to the understanding of healthcare providers' uncertainties surrounding whose duty it is to ensure the delivery of PCC to the target population and their corresponding reluctance to provide this care as it was found that no single healthcare profession has assumed exclusive responsibility for the provision of PCC with regards to whether or not it is an essential component of their job description (Daly, 2023; Maas, Poels, Hölscher, van Vliet-Lachotzki, et al., 2022b; Smith et al., 2022; Ukoha & Dube, 2019; Ukoha & Mtshali, 2022). These findings are compatible with the present study, as uncertainty among healthcare providers about the implementation of PCC emerged as a noteworthy inhibition to the efficient provision of these services. Almost all the participants expressed uncertainty regarding whose role it is to deliver PCC since they believed their uncertainty was due to the absence of a clearly defined job description, ultimately leading to their reluctance to embrace the implementation of PCC as an inherent professional responsibility.

This similarity of findings in both high and low-income countries regarding role confusion in PCC delivery among healthcare providers is likely due to the unavailability of standardized PCC guidelines which might pose a significant challenge for healthcare professionals in both settings. Hence, the development of comprehensive and universally recognized PCC protocols is imperative to ensure consistent and coherent implementation of PCC across diverse healthcare settings.

5.3.2 Workload and competing clinical demands

Furthermore, most of the participants in this study expressed a perception of PCC implementation as an added workload, primarily due to an additional layer of care within their already demanding schedules. The participants conveyed a sense of being overwhelmed by the prospect of addressing preconception health concerns, as it will compound their existing patient load and professional responsibilities. Notably, some participants attributed this increased workload and associated challenges to the high turnover of employees within their healthcare settings, which may have exacerbated the workload burden. This finding is quite similar to other study results, which revealed how healthcare providers professed PCC implementation as an additional task beyond the standard provision of care (Alamer et al., 2022; Chutke et al., 2022; Kurniawati et al., 2021a; Maas, Poels, Hölscher, van Vliet-Lachotzki, et al., 2022b; Smith et al., 2022; Stephenson et al., 2021).

This phenomenon may be attributed to the absence of a conducive and motivating working environment for healthcare professionals, consequently impeding staff retention, which may subsequently cause healthcare providers to encounter a sense of overwhelm when tasked with implementing PCC. Therefore, creating a positive and supportive work environment in the

healthcare setting is essential for promoting job satisfaction, reducing high employee turnover rates, and managing any heavy workload to facilitate successful PCC implementation.

5.3.3. Perceived Compatibility of PCC with Routine Care

Nevertheless, research has illustrated the formidable challenge that healthcare professionals encounter when attempting to prioritise and seamlessly integrate evidence–based practice into their daily routines (Best et al., 2021; Renolen et al., 2019; Stephenson et al., 2021). These studies have identified that the provision of PCC can conflict with other goals related to preventive maternal healthcare. As a result, healthcare providers often find it challenging to effectively implement PCC (Best et al., 2021; Renolen et al., 2019; Stephenson et al., 2021). However, the outcomes of this current study contradicted these prior findings, as participants unequivocally acknowledged the strong alignment of PCC with a range of other maternal healthcare services, jointly contributing to the overarching goal of reducing maternal morbidity and mortality. The divergence in results could be attributed to the participants' favourable outlook on evidence–based practices as a method for delivering the highest quality care to clients for the achievement of positive birth outcomes.

5.4. Community Level Factors

5.4.1. Low community awareness and perceived need for PCC

Insufficient awareness of PCC and its associated benefits among the target population has been a recurrent theme emphasized in existing literature as one of the contributing factors to the underutilization of PCC services (Alamer et al., 2022; Boakye-Yiadom et al., 2020; Chutke et al., 2022; Ferry et al., 2023; Maas, Poels, Hölscher, van Vliet-Lachotzki, et al., 2022b; Siraha et al., 2020; Teshome et al., 2020). In alignment with the findings of these authors, this study revealed a lack of community awareness regarding PCC as a significant obstacle to the utilization of PCC

services. Participants in the study disclosed that the target audiences for PCC generally are not aware of the existence of PCC services, resulting in a perceived lack of relevance in seeking such services.

Also, the findings of the current study unravelled how women presume that they were healthy and did not need to attend healthcare facilities for the sake of becoming pregnant unless they had fertility issues. This has also been discussed in studies from India and Ethiopia (Chutke et al., 2022; Teshome et al., 2020), which found that women will not typically ask for PCC information when the reason for their initial visit to the healthcare facility is not directly related to pregnancy. This is because participants expressed that the target population might find discussing such issues uncomfortable.

This correspondence in findings highlights how an individual's understanding and perception of illness influences their healthcare–seeking decision. Hence, to address this issue, it is important to prioritise health education and counselling on the significance and advantages of PCC, particularly in improving maternal and child health outcomes.

5.4.2. Reproach and fear of the unknown

Also, complexities around unknown outcomes of PCC were discovered in this study as a factor that is likely to deter women from seeking PCC at healthcare facilities due to the anxiety of being diagnosed with a medical condition. This finding is in line with that of Teshome et al. (2021) and Ferry et al. (2023), in which participants expressed that the fear of receiving a positive or sensitive laboratory test report acted as a deterrent for women considering the use of PCC. This fear stemmed from concerns that positive results might lead to screening for various diseases, which some women found distressing (Ferry et al., 2023; Teshome et al., 2020). This is evidence of how the benefits of PCC are underestimated due to ignorance of the target

population. To address this issue, it is necessary to encourage women about the advantages of PCC screening and reassure them about the confidentiality of test results. Such measures can play a vital role in alleviating their fears and promoting the uptake of PCC services.

In addition to concerns about fear of the unknown outcomes of PCC services, participants also underscored fear of reproach as one of the critical barriers to accessing reproductive health services among women of reproductive age. Participants believed this fear emanates from unfriendly interactions between clients and healthcare providers. These experiences contribute considerably to their reluctance and distrust of care providers in their wish to seek care. Central to this issue is the perception that healthcare providers are unsupportive, and women may assume that disclosing their pregnancy intentions, especially when it involves teenagers or multiparous women, may lead to disrespectful and potentially confrontational behaviour, including yelling. These assumptions act as a hindrance, preventing women from seeking the reproductive care they need.

This echoes the findings of previous studies, which revealed that clients often abstain from utilising health facilities for reproductive health care services. This avoidance is primarily attributed to experiences of rejection, humiliation, and the judgmental attitude exhibited by healthcare professionals when clients attempt to disclose their pregnancy wishes, since the unreceptive demeanour of care providers induces feelings of stigmatization, distress, and discomfort for women (Abukari & Petrucka, 2020; Daly, 2023; Ferry et al., 2023; Siraha et al., 2020; Teshome et al., 2020; Ukoha & Mtshali, 2022).

It is noteworthy that these consistent findings demonstrate how the intimidating behaviour of healthcare professionals towards clients raises questions and concerns since it can have significant consequences for women's reproductive health and overall well–being.

Nonetheless, it remains of paramount importance to stress the worth of healthcare professionals maintaining a high standard of professionalism in their interactions with clients through the promotion of respectful and client–centred care. This emphasis is crucial to cultivating a relationship of trust, which in turn can enhance clients' willingness to engage with reproductive healthcare services, such as PCC, to allow clients to discuss their reproductive life plans openly and without the fear of reproach or humiliation.

In addition, doubts about the competency of healthcare providers in delivering PCC appeared as a significant obstacle to PCC service utilization within the target population. Despite awareness of other healthcare services offered by care providers, participants highlighted community skepticism regarding care providers' proficiency in delivering PCC. This skepticism was attributed to the novelty of PCC and the community's lack of familiarity with the concept of PCC services. This is in line with research conducted in the Netherlands, where a similar perception existed among women (Maas et al., 2022). They believed medical conditions were too complex for general practitioners to manage before pregnancy due to a perceived lack of expertise. Consequently, they preferred referral to specialists in their specific medical conditions over seeking care from healthcare providers such as midwives, who were primarily associated with prenatal care rather than PCC (Maas et al., 2022).

The reservation regarding healthcare providers' capability in delivering PCC serves as explicit evidence of a knowledge gap among the target population, which can result in missing this time frame of optimising their state of health before pregnancy, which can lead to adverse pregnancy outcomes. This brings to the limelight the need to address this skepticism through awareness creation of the public, which is a pivotal step in promoting the adoption and utilization of PCC.

5.4.3. Cultural and social beliefs influencing PCC uptake

The findings of this study confirm the results of studies conducted in the United Kingdom, the Netherlands, Ethiopia, and South Africa, which showed how reaching the target population to deliver PCC is seen as a potential challenge for healthcare practitioners, as prospective parents often kept their pregnancy aspirations a secret, which is related to traditional beliefs of myths and taboos surrounding pregnancy (Daly, 2023; Maas et al., 2022; Teshome et al., 2020; Ukoha & Mtshali, 2022). These likenesses in findings explicitly illustrate how cultural beliefs can cause women to overlook critical opportunities for enhancing their health before pregnancy, which is paramount for attaining positive pregnancy outcomes. Consequently, this presents a chance for hospital management and healthcare professionals to increase PCC accessibility through awareness creation to dispel common myths and superstitions associated with discussing pregnancy desires.

Additionally, while participants in this present study acknowledged that traditional beliefs could potentially hinder the implementation of PCC, they did not perceive PCC as an intervention that sought to interfere with cultural norms and values. This viewpoint, however, contrasts with the results of previous studies conducted in the northern part of Ghana, Saudi Arabia, and Ethiopia, which revealed that women in these areas considered preconception counselling to be incongruent with their cultural heritage and regarded the longstanding customs of their ancestors as the most sacred and honourable practices. Also, the women in these areas perceived preconception counselling as a means of introducing young women to topics concerning sex and pregnancy that conflicted with their deeply rooted cultural values (Boakye-Yiadom et al., 2020; Teshome et al., 2020).

In the same vein, the outcome of this present study also contradicts a study conducted in Saudi Arabia, which identified gender segregation as a major cultural factor contributing to male healthcare workers' inability to provide PCC for female clients. This phenomenon was ascribed to cultural norms and values, which participants articulated that they respect and uphold and therefore did not want to interfere (Alamer et al., 2022).

This disparity in the findings may be attributed to cultural distinctions between the context in which the prior studies and the present study were conducted. As a result, what may be considered acceptable or taboo in one cultural context may not hold in another. Therefore, a comprehensive understanding of the complex interplay between culture and healthcare is ultimately to facilitate the development of culturally sensitive and effective healthcare interventions.

5.4.4 Unplanned Pregnancy and Gender Dynamics

Furthermore, the WHO has recognized a global lack of widespread pregnancy planning among the general population (WHO, 2013b), likewise the outcomes of previous research in which healthcare professionals recognized unplanned pregnancies as a substantial global issue demanding attention due to its adverse impact on the implementation and utilization of PCC service (Alamer et al., 2022; Ferry et al., 2023; Ojifinni & Ibisomi, 2020, 2022b). As a result, it comes as no surprise as a predominant sentiment among participants in this study stressed that unplanned pregnancy constitutes a major hindrance for women when it comes to preparing for pregnancy. They reiterated that unplanned pregnancy was a prevalent issue within the community that impedes PCC implementation. These findings demonstrate the absence of comprehensive pregnancy planning among the general population which can create financial

instability, disrupt educational and career plans, induce emotional stress on relationships and family due to unpreparedness, and strain on the healthcare system, especially those who are resource–limited. Therefore, there is a need for increased awareness and educational efforts in that regard.

Moreover, it has been observed that women encounter challenges that arise from diminished autonomy in decision–making about pregnancy planning and the utilization of reproductive health services. This difficulty often emanates from the influence of husbands and older women on such decisions, coupled with a lack of support from male partners in women's engagement with reproductive health services (Boakye-Yiadom et al., 2020; Chutke et al., 2022; Teshome et al., 2020; Ukoha & Mtshali, 2022). Interestingly, this study equally discovered that within the community, substantial decision-making authority within the family, including the choice of whether a woman seeks PCC, significantly influences women's utilization of PCC. This influence is often grounded in traditional gender roles and expectations, particularly in cases where men are the primary providers, thereby exerting gender and control decisions that can impede a woman's access to healthcare services, including PCC.

The likeness in findings implies a clear existence of gender inequalities in developing countries like India, Ethiopia, South Africa, and Ghana, and how gender dynamics and power imbalance may hinder partner support and women's right to make decisions regarding matters of reproductive health. Nonetheless, limited decision-making abilities regarding reproductive health, especially among women, result in delayed access to essential health care services like family planning and prenatal care, heightening maternal health risks, such as maternal mortality due to avoidable delays. A potential way to address these gender dynamics is to engage in a

community–based education and awareness initiative to sensitize both men and women to promote shared decision-making in reproductive health.

5.4.5 Socio-economic barriers to PCC

Socioeconomic dynamics, such as unemployment coupled with the cost of accessing health services and distance from health facilities, were brought up in this study as potential barriers to PCC utilization. It was found that a lack of money made it difficult for the majority of women to pay for services and transportation, particularly for rural residents who have to travel quite great distances to make it to the healthcare facility. Participants highlighted that financial burden acts as a substantial obstacle, preventing the majority of women in the community from seeking antenatal services, let alone engaging with the healthcare system for PCC services.

This discovery is supported by reports from previous authors from Ethiopia, India, and South Africa, and Zimbabwe, which underlined the considerable financial constraint related to transportation, consultation, screening, and medication in accessing PCC. Hence, the prospect of traveling long distances solely for a pre-pregnancy general health checkup presented as a challenging decision. Therefore, many women preferred to defer medical checkups until they were already pregnant (Chutke et al., 2022; Siraha et al., 2020; Teshome et al., 2020; Ukoha & Mtshali, 2022).

This is a glaring indication that even if women understand their need for and desire to use PCC, their inability to overcome the cost of services and transportation will continue to be a barrier that will widen existing inequalities in accessing reproductive healthcare, disproportionately affecting women from marginalised communities, areas, or those with limited financial resources. Hence, the strengthening of existing health centres and health posts that are

nearest to the rural communities, as well as health insurance coverage, is a good opportunity to solve these obstacles.

5.5. Healthcare Institution Level Factors.

5.5.1. Resource and infrastructure Limitations

The present study disclosed staffing challenges as a significant hurdle to PCC implementation. Participants voiced concerns about the insufficiency of staff required for the delivery of PCC. They underscored that the shortage of staff is exacerbated by increased employee turnover, which has left the health system in a position that is unable to support a new program like PCC. They came out with the existing difficulties that have left the implementation of other important healthcare services hanging, creating a critical healthcare service delivery gap. This finding is on the same wavelength as previous studies conducted in both Western and African countries, which similarly recognized how inadequate human resources have been a key hindrance to the effective deployment of PCC interventions to the target population (Chutke et al., 2022; Ojifinni & Ibisomi, 2022b; Smith et al., 2022; Ukoha & Mtshali, 2021).

These corresponding findings collectively bring to light a possible global challenge of staffing shortages in the provision of PCC services. A contributing factor to this issue may be the lack of a supporting working environment, which affects the retention of healthcare professionals needed for effective PCC implementation. It is imperative to know that employee turnover risks the loss of experienced healthcare professionals vital to the implementation of PCC, leading to turnover strains on remaining staff, risking quality of care, burnout, and reduced attention to detail and quality of care. This can also have a financial impact on the healthcare budget for recruiting and training replacements. Therefore, efforts to minimise employee turnover and

support the healthcare workforce are necessary for implementing and sustaining PCC to promote positive maternal outcomes.

Likewise, insufficient financial resources to facilitate the promotion and provision of PCC were also discovered as a hindrance to PCC implementation, as participants verbalized how inadequate funds can affect public awareness campaigns, training of healthcare professionals, the development of supportive fracture, and the overall quality of PCC services. These findings echo the conclusions drawn in previous studies, which consistently showed that the absence of clinical and insufficient financial resources as formidable obstacles to effective PCC implementation (Kurniawati et al., 2021a; Maas, Poels, Hölscher, van Vliet-Lachotzki, et al., 2022b; Ojifinni & Ibisomi, 2022b; Smith et al., 2022).

Moreover, the general issue of severely limited space for PCC services within healthcare facilities was unravelled. Participants highlighted the significant challenge posed by this constraint to healthcare, as inadequate space compromises the ability to have open and confidential conversations between healthcare professionals and potential parents in privacy. Similar to this condition, participants in previous studies emphasized a notable hindrance concerning the inadequacy of facilities for providing PCC. Specifically, their concerns centered on the unavailability of suitable and adequately equipped spaces for the provision of PCC services (Kurniawati et al., 2021a; Maas, Poels, Hölscher, van Vliet-Lachotzki, et al., 2022b; Ojifinni & Ibisomi, 2022b; Smith et al., 2022).

These clinical resources and financial constraints shown across multiple studies underline a widespread challenge faced by healthcare institutions in implementing PCC. It is, therefore, imperative for systematic efforts to allocate resources, develop infrastructure, clear PCC

guidelines that are easily accessible and regularly updated, and secure funding through non-governmental organizations as comprehensive strategies to address these constraints to pave the way for PCC implementation.

5.5.2 Absence of PCC guidelines

The unavailability of PCC guidelines was also revealed by this study as a factor that impedes the implementation of PCC services at the healthcare institution level. Consistent with the results of Smith et al.'s scoping review in the United Kingdom, it was found that an explicit policy to guide healthcare professionals to practice and promote PCC counselling with women of reproductive age was lacking in health facilities (Smith et al., 2022). This was also the finding from studies from India, Saudi Arabia, Nigeria, and Ghana, which showed that healthcare workers were unaware of the existence of any established guidelines for PCC implementation; hence, the service was not implemented (Alamer et al., 2022; Chutke et al., 2022; Hikimatu et al., 2021; Ojifinni & Ibisomi, 2020, 2022b). Not surprisingly, respondents of this present study confirmed that there was no PCC protocol to facilitate the implementation of PCC in the facility. These common findings reflect a global issue in healthcare, where the absence of clear guidance and policy hinders the practice of PCC.

It is noteworthy that the absence of PCC guidelines might cause healthcare providers to overlook opportunities for early interventions, potentially missing opportunities to mitigate risk and improve maternal and child outcomes. This absence can also pose a limitation on effective evaluation and monitoring of PCC, hindering efforts to improve and refine these services to ensure their sustainability in the long term. Therefore, a well-structured PCC protocol should be developed outlining the principles, expectations, and best practices for PCC, providing a clear framework for healthcare professionals to follow.

5.6. Suggestions for Implementation of PCC

5.6.1. Strengthening the health system.

In alignment with previous recommendations, the study participants underscored the imperative of fortifying the healthcare system for effective PCC implementation. They advocated augmenting the trained workforce and bolstering human resource capacity. Notably, they stressed the necessity for overhauling health training institution curricula to integrate PCC and offer refresher training for care providers. These measures aim to empower healthcare professionals with requisite knowledge and skills, addressing the knowledge gap and enabling effective PCC implementation. Additionally, participants underscored the critical need for specific guidelines tailored to PCC, envisaging structured frameworks for service provision. They further proposed practical enhancements for healthcare workers' efficiency, advocating for equitable workload distribution, clear job descriptions, and fair compensation. Most importantly, they highlighted the pivotal role of colleagues and hospital management support in fostering a conducive work environment, crucial for staff motivation, and retention, ultimately facilitating effective PCC implementation (Alamer et al., 2022; Fakornam et al., 2022; Maas, Poels, Hölscher, van Vliet-Lachotzki, et al., 2022b; Nyanchama, 2023; Ojifinni & Ibisomi, 2022b).

5.6.2. Community Awareness

Participants highlighted the need to educate the entire community through the use of television and radio advertisements, social media platforms, school outreach programs, flyers, posters, community durbars, home visiting, as well as engaging both men and women in the outpatients to create comprehensive community awareness that will facilitate a collective understanding and appreciation of the benefits and necessity of PCC. The recommendation for community education aligns with previous submissions in previous literature, which identified

the leveraging of traditional and digital media sources, including newspapers, radio, television, and online platforms, as an effective way to reach a wider audience (Alamer et al., 2022; Fakornam et al., 2022; Maas et al., 2022; Stephenson et al., 2021). This approach is seen as an effective way to promote PCC awareness and encourage its adoption within the broader population since the media has a greater influence on disseminating information.

Moreover, in curtailing financial barriers to accessing PCC, the suggestion of participants was in agreement with that of Fakornam et al. (2022) and Teshome et al. (2020), which recommended the adoption of a policy framework to aim at eliminating financial obstacles for client accessibility to PCC interventions, primarily through health insurance schemes. This approach intends to remove the hindrance of out–of–pocket payments for services. These diverse strategies are anticipated to engender a sustainable and positive change in society's perception and utilization of PCC (Fakornam et al., 2022; Teshome et al., 2020).

5.7. Summary of Discussion.

This chapter discussed the findings of the study in line with existing literature. The findings illuminated a complex set of factors operating at the individual, interpersonal, community, and organisational levels, impeding the implementation of PCC. The study's recommendations advocate a comprehensive and multifaceted approach that involves strategies such as educational and awareness campaigns, strengthening the healthcare workforce, developing guidelines, clarifying role definitions, and exhibiting sensitivity to cultural and socioeconomic considerations, which will reinforce the healthcare system to have a positive impact on the health and well-being of women and couples of reproductive age.

CHAPTER SIX

SUMMARY, IMPLICATIONS, STRENGTHS, LIMITATIONS, RECOMMENDATIONS AND CONCLUSION

6.0. Introduction

This chapter presents the summary and implications of the study to nursing and midwifery education, practice and management, and research. The strengths, limitations, suggested recommendations, and conclusions.

6.1. Summary

Preconception care is a public health intervention aimed at improving pregnancy outcomes and reducing maternal and perinatal mortality. However, evidence shows that both awareness and provision of PCC among women and healthcare providers are low, with most women seeking care only after conception. The limited uptake contributes to preventable complications and adverse pregnancy outcomes. These gaps prompted this study, which explored healthcare providers' and managers' perspectives on the factors influencing the non-implementation of PCC as part of maternal healthcare services in Agogo Presbyterian Hospital

The study adapted and utilised the constructions of the social ecological model to underpin this study, which aided in the achievement of the study objectives. A qualitative research approach was adopted to explore the perspectives of three (3) healthcare managers and ten (10) obstetric care providers, respectively, in Agogo Presbyterian Hospital who met the inclusion criteria and willingly participated in the study. This study used a semi–structured interview guide to delve into the perspectives of healthcare providers and hospital managers regarding the factors associated with the non-implementation of PCC interventions that aim at

enhancing preconception health. These individuals were purposefully selected since they hold key roles in ensuring the execution of PCC interventions.

Using a thematic analysis, the results of the study were teased out and discussed in line with relevant existing literature. Based on the findings, implications of the study for nursing and midwifery practice, education, management, and research were highlighted. Also, the strengths and limitations of the study were highlighted; likewise, recommendations for stakeholders in facilitating PCC implementation in Ghana, and conclusions were drawn.

6.2. Implications of the Study

The findings have implications for nursing and midwifery practice, education, management, and research.

6.2.1. Nursing and Midwifery Education.

There is a need for health training educators and stakeholders of health training institutions to revise and integrate PCC into the health training curriculum of nursing and midwifery as a course at the diploma, degree, and post-graduate level to ensure that PCC interventions and aims are well understood to broaden the scope of knowledge and skills of upcoming nurses and midwives to build their capacity to implement PCC services to the target audience as part of their professional practice.

6.2.2. Nursing and Midwifery Practice.

This study highlights inadequate training and knowledge among healthcare providers, coupled with a lack of awareness among the target population, hindering the implementation of PCC services. To address this, ongoing in-service training and guidance for nurses and midwives are recommended, integrating PCC into routine practice through measures like guidelines and reminders. Managers need to facilitate mentoring and peer support programs among healthcare

professionals to bridge the gap between theory and practice. Additionally, increased awareness campaigns targeting the target population during healthcare encounters are crucial to enable PCC uptake and improve pregnancy outcomes.

6.2.3. Nursing and Midwifery Management.

Nursing and Midwifery managers, in collaboration with hospital administrative managers, play a pivotal role in the advancement of PCC services. They need to prioritize continuous professional development for nurses and midwives through refresher courses, conferences, and seminars, ensuring updated knowledge and skills. Again, strong leadership within the healthcare organisations is crucial in advocating for PCC by fostering a culture of change and providing necessary resources like guidelines and protocols for proper implementation of PCC. Moreover, managers need to make educational materials available for clients, utilising fliers, posters, and social media to raise awareness. They also have to engage stakeholders and advocate for PCC under national insurance coverage to ensure comprehensive access to PCC.

6.2.4. Nursing and Midwifery Research.

The importance of evidence-based practices in nursing and midwifery underscores the need for increased research collaboration between researchers and clinical colleagues in exploring PCC. The dearth of data on PCC interventions in the Ghanaian context demonstrates the necessity for nursing and midwifery researchers to contribute to the existing knowledge base. Furthermore, the dissemination of research findings through publications and workshops is vital to inform nursing and midwifery practice and ensure the effective implementation of PCC services. To add on, researchers' involvement in developing innovative strategies based on

research findings is essential to seamlessly integrate PCC into existing maternal health services and promote reproductive life planning among individuals of reproductive age.

6.3. Strength of the Study.

This is the first study conducted in the Municipal Health Facility in the Asante Akim North District, which offered a comprehensive understanding of factors hindering the implementation of PCC. Also, its rigorous qualitative approach revealed subtle insights that were not achievable through quantitative methods. Consequently, these findings will significantly inform the development of locally tailored strategies to facilitate PCC deployment in the health care facility. Furthermore, given the scarcity of literature in the Ghanaian context on this subject, this study makes a notable contribution to enhancing the existing knowledge base in this regard.

6.4. Limitations of the Study.

Although the purposely selected key informants for the study provided valuable insights, resource constraints prevented the inclusion of a broader range of other multidisciplinary healthcare professionals who could have also revealed additional perspectives that may not have been captured in this study. To minimise this limitation, participants were purposively drawn from both administrative and clinical categories directly involved in maternal and reproductive health, and triangulation was used to enhance credibility. While this may have restricted the breadth of perspectives, the findings remain sufficiently robust to address the research objectives. Nevertheless, future studies should consider incorporating a wider multidisciplinary sample to provide a more holistic understanding of the subject matter, as diverse professional perspectives are essential for strengthening maternal health interventions. Furthermore, since participants were given information on the topic before the study, there is a possibility that some participants

may have consulted online resources to enhance their understanding before the interviews. This external source of information could have influenced their responses, potentially leading them to include PCC components they might not have been aware of.

6.5. Recommendations for Stakeholders in Facilitating PCC Implementation in Ghana.

Considering the research findings, several recommendations are proposed for key stakeholders in Ghana's healthcare system who play pivotal roles in advancing the country's healthcare service. Thus, the Ministry of Health (MOH), Ghana Health Service (GHS), Christian Health Association of Ghana (CHAG), and the Nursing and Midwifery Council (NMC) of Ghana.

The following recommendations are tailored to each of these stakeholders:

1. The Ministry of Health (MOH) should:

- Develop and implement comprehensive national PCC policies and guidelines, integrating them into existing healthcare programs judiciously to enforce the deployment of PCC.
- Allocate sufficient resources and funding to support PCC initiatives, including training for healthcare professionals.

2. The Ghana Health Service (GHS) and Christian Health Association of Ghana (CHAG) should:

- Collaborate with the MOH in the implementation of PCC policies and guidelines by ensuring that PCC is incorporated into routine maternal and child healthcare services across healthcare facilities in Ghana.
- Facilitate regular training and capacity building for healthcare workers to enhance their competencies in PCC.
- Establish community–based initiatives to raise awareness and provide education on PCC within the communities.

- Develop a robust monitoring and evaluation strategy to enable the systematic tracking and assessments of the impact of these outreach initiatives to obtain data to know if the desired outcomes are achieved.

3. The Nursing and Midwifery Council of Ghana (NMC) should:

- Update and align nursing and midwifery curricula with the latest PCC guidelines and best practices.
- Promote ongoing professional development and training opportunities for nurses and midwives in the field of PCC.

These recommendations aim to strengthen the healthcare system's capacity to provide complete and accessible PCC, ultimately improving reproductive health outcomes in Ghana.

6.6. Conclusion

The study identified multiple challenges impeding the implementation of PCC across various levels, which were notably centered on knowledge gaps among healthcare providers and the community. To address this, enhancing the health system's capacity through human resource development and community awareness emerged as relevant strategies for a broader PCC utilization within the healthcare delivery system. Stakeholders' involvement in policy design, coupled with extensive training programs for healthcare providers at different educational levels, was recommended to boost their competencies in PCC implementation. In addition, linking PCC with existing healthcare strategies, such as the National Health Insurance Scheme, was proposed to address economic barriers, aiming to improve maternal health outcomes and bridge gaps in maternal health continuity. These recommendations collectively aim to minimize missed opportunities and enhance maternal outcomes within the continuum of care.

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APPENDIX A: CHAG IRB – ETHICAL CLEARANCE

CHRISTIAN HEALTH ASSOCIATION OF GHANA (CHAG)
RESEARCH DEPARTMENT - INSTITUTIONAL REVIEW BOARD (IRB)
21 JUBILEE WELL STREET, LABONE, ACCRA. TELEPHONE: 0202904777. EMAIL chagirb@chag.org.gh

26th June 2023

ETHICAL CLEARANCE

CHAG IRB PIN : CHAG-IRB02042023

On **26th June 2023,** the Christian Health Association of Ghana (CHAG) Institutional Review Board (IRB) reviewed and approved your protocol detailed as follows,

TITLE OF PROTOCOL: **Factors Associated with Non-Implementation of preconception care at Agogo Presbyterian Hospital; the perspectives of stakeholders**

PRINCIPAL INVESTIGATOR: **Vivian Appiah Ankobeah**

Please note that a final review report must be submitted to the Board at the completion of the study. Your research records may be audited at any time during or after the implementation.

Any modification of this research project must be submitted to the IRB for review and approval prior to implementation.

Please report all serious adverse events related to this study to CHAG-IRB within seven days verbally and fourteen days in writing.

This certificate is valid till **30th June 2024**. You are to submit annual reports for continuing review.

Signed by: .....

THE ADMINISTRATOR
INSTITUTIONAL REVIEW BOARD
CHRISTIAN HEALTH ASSOCIATION OF GH

Mr. Okyere Boateng
(CHAG IRB Chairman)

APPENDIX B: INSTITUTIONAL APPROVAL LETTER

PRESBYTERIAN HEALTH SERVICES
AGOGO HOSPITAL

BANKERS:
GCB Bank
Agogo, Ashanti-Akim
Barclays Bank
Prempeh II Street, Adum Kumasi

P. O. Box 27
Agogo, Ashanti - Akim
Ghana-W/Africa
E-mail:info@agogopresbyhospital.org
Website:www.agogopresbyhospital.org

Our Ref: APH/ADM/RES-135/23

Your Ref:

August 21, 2023

CHARLES A. KLUTSE
UNIVERSITY OF GHANA
SCHOOL OF NURSING AND MIDWIFERY
COLLEGE OF HEALTH SCIENCES

RE: PERMISION FOR RESEARCH STUDY

This is in response to your letter dated March 20, 2023 with the aforementioned subject.

The Hospital has accepted Ms. Vivian Appiah-Ankobeah, an MPhil Midwifery student of School of Nursing and Midwifery, University of Ghana Legon to collect data for her thesis on the topic:" **Factors Associated with Non-Implementation of Preconception Care in Agogo Hospital: The Perspective of Stakeholders".**

The researcher is expected to carry out her study in an ethical manner in the interest of our patients and staff.

Kindly provide the hospital with the final copy of your study after completion.

Thank you.

EMMANUEL APENTENG
Ag. HEAD, ADMINISTRATION
For: GENERAL MANAGER

cc:
- Medical Administrator, Presbyterian Hospital, Agogo
- Nursing Administrator, Presbyterian Hospital, Agogo
- PHC Coordinator, Presbyterian Hospital, Agogo
- Accounts Manager, Presbyterian Hospital, Agogo
- Research & Development Unit, Presbyterian Hospital, Agogo
- Ms. Vivian Appiah-Ankobeah, University of Ghana Legon

A MEMBER OF CHAG

APPENDIX C: INTRODUCTORY LETTER

UNIVERSITY OF GHANA

SCHOOL OF NURSING AND MIDWIFERY
COLLEGE OF HEALTH SCIENCES

Ref. No: 10938792

20th March, 2023

The Medical Director
Presbyterian Health Services
Agogo Hospital
P.O.BOX 27
Agogo, Ashanti Region

Dear Sir/Madam,

PERMISSION FOR RESEARCH STUDY

I write to introduce to you **Ms. Vivian Appiah-Ankobeah**, an MPhil Midwifery student of the School of Nursing and Midwifery, University of Ghana, Legon.

As part of the requirements of the MPhil. programme, the student is to undertake a research study and she intends to use your institution as the main study site for the research.

The title of her research is **"Factors Associated with Non-Implementation of Preconception Care in Agogo Hospital: The Perspective of Stakeholders."**

I write to seek your permission to enable her undertake this necessary assignment.

Thank you.

Yours faithfully,

Charles A. Klutse
School Administrator

INTEGRI PROCEDAMUS

P. O. Box LG 43, Legon, Accra, Ghana | Tel: +233 (0) 303 970 801
Email: nursing@ug.edu.gh | Website: www.nursing.ug.edu.gh

UG

APPENDIX D: CHAG IRB – CONSENT FORM

Project Title: Exploring Factors Associated with Non-Implementation of Preconception Care at Agogo Presbyterian Hospital: The Perspectives of Healthcare Providers and Hospital Administrative Managers.

Principal Investigator: Vivian Appiah- Ankobeah,

University of Ghana, School of Nursing and Midwifery

Public Health Department,

P. O. Box LG 43, Legon-Accra, Ghana.

+233551655804 / +233240943534

vivianaankobeah@gmail.com

General Information about Research

This research seeks to explore the factors that contribute to the non-implementation of preconception care as part of maternal healthcare services. It is envisioned that upon completion of the study, the findings will describe the factors at the individual, interpersonal, community, and healthcare institution levels that are associated with the non-implementation of preconception care. The information you will provide in this research process is for research and academic purposes only. You will be engaged in an in-depth interview for about 30 to 60 minutes under strict privacy at a place chosen by you and at your convenience. The interview will be recorded using an audiotape recorder for analysis. You are encouraged to respond to questions asked by the interviewer and you are also free to offer further explanations for your responses. You are also free to remain silent or refuse to answer certain questions.

Potential Risks and Discomforts

Participating in this research has no risk whatsoever to you, be it physical, psychological, legal, or social. Your involvement in this study will not implicate you in any form, especially in your line of duty. There is no potential risk or discomfort associated with your involvement in this study.

Possible Benefits

Your participation in this study offers you the opportunity to share your opinion about factors associated with the non-implementation of preconception care. The findings will help in making recommendations to facilitate the effective implementation of preconception care which is evidence-based to prevent adverse pregnancy outcomes. Again, the findings of the research will be disseminated through workshops, conferences, and publication in an accredited scientific journal. You will bear no cost for participating in this study since the researcher will bear the sole responsibility for the study's costs.

Confidentiality

Your privacy and confidentiality in this study will be safeguarded with the utmost ethical standards. Your name will not be mentioned, and during data analysis and transcription, no details that could identify you individually will be disclosed. All participants' information will be combined into one report, ensuring no individual is singled out. Supervisors may access the data for academic purposes upon request but will also uphold confidentiality.

Compensation

This research is mainly for academic purposes and so, monetary rewards will not be given. However, your participation in this study will be appreciated with some refreshments.

Additional Cost

You will not incur any financial cost for participating in this research.

Voluntary Participation and Right to Leave the Research

You have complete discretion to make an informed decision whether or not to participate in this study. Your participation in this study is entirely voluntary and as such, no form of coercion will be used to attract or retain you as a study participant. Therefore, you have every right to opt out of this study anytime you wish despite signing a consent form without suffering any penalty.

Contacts for Additional Information

If you have any concerns or issues regarding this research, kindly contact the following people

1. Appiah-Ankobeah Vivian (Principal Investigator) +233551655804 / +233240943534, email: vivianaankobeah@gmail.com
2. Dr. Josephine Mpomaa Kyei (Supervisor), School of Nursing and Midwifery, University of Ghana +233208154212, email: Mamejossy274@gmail.com
3. Dr. Vivian Senoo-Dogbey (Co-Supervisor), School of Nursing and Midwifery, University of Ghana-+233267473914, email: efuvivi@yahoo.co.uk

Your rights as a Participant

This research has been reviewed and approved by the Institutional Review Board of the Christian Health Association of Ghana (CHAG-IRB). If you have any questions about your rights as a research participant, you can contact the IRB Administrator, Mrs. Sarah Sackey Martei-Olletey at 0202904777 or email chagirb@chag.org.gh

VOLUNTEER AGREEMENT

The above document describing the benefits, risks, and procedures for the research title ……..... ……. has been read and explained to me. I have been allowed to have any questions about the research answered to my satisfaction. I agree to participate as a volunteer.

_____ _____

Date Name and signature or mark of volunteer

If volunteers cannot read the form themselves, a witness must sign here:

I was present while the benefits, risks, and procedures were read to the volunteer. All questions were answered and the volunteer has agreed to take part in the research.

_____ _____

Date Name and signature of a witness

I certify that the nature and purpose, the potential benefits, and possible risks associated with participating in this research have been explained to the above individual.

_____ _____

Date Name Signature of Person Who Obtained Consent

APPENDIX E: INTERVIEW GUIDE

You are invited to participate in a study that is exploring factors associated with non-implementation of preconception care (PCC) from the perspective of healthcare providers and Hospital managers in Agogo Presbyterian Hospital. This study will want to have a better understanding of factors that contribute to the non-implementation of preconception care as a comprehensive part of maternal health services in the context of healthcare providers, the community and the healthcare institution. The form is divided into two sessions (A&B). The interview is expected to last for 30 to 60 minutes and it will be recorded using an audiotape recorder for the purpose of analysis. Thank you.

SECTION A:
Demographic Information

1. **Pseudonym……** **Age……**
2. **Religion……** **Educational level……**
3. **Number of years of practice……** **Position/rank……**

SECTION B:
Guiding questions and probes

A. GENERAL INFORMATION ON MEANING AND BENEFITS OF PCC

1. What do you know about preconception care?
2. What does preconception care entails?

Probe:

a. The components of preconception care interventions?

b. *Which caliber of people do you think PCC is meant for?*

3. How valuable do you think PCC is to safe motherhood?

Probes:

a. *Is there any PCC service that you are aware of in this hospital?*

b. *In your opinion do you think there is a need to implement PCC in this facility?*

B. INDIVIDUAL LEVEL FACTORS (HCP)

4. In your opinion what are the challenges you think prevents healthcare providers from implementing PCC?

Probes:

a. *What are these challenges?*

i. *Could HCP lack of knowledge on PCC be a reason why PCC is not implemented?*

ii. *Could lack of required skills and confidence to implement PCC be a reason why the PCC is not implemented?*

5. Do you perceive implementation of PCC as a means of limiting the autonomy of women on their reproductive rights?

6. In your opinion do you perceive the outcomes of PCC (screening results) having a potential psychosocial impact on client which you perceive as a discouraging factor for HCPs to provide PCC?

Probe:

As in screening results increasing client anxiety and stigmatization and stress on relationships.

7. What solutions would you suggest to address these challenges that you have mentioned so that PCC implementation can be facilitated?

C. INTERPERSONAL LEVEL FACTORS (WORKING ENVIRONMENT)

8. From your own view, what are the challenges in the healthcare provider's immediate working environment that you think prevents the implementation of PCC?

Probe:

a. Do you perceive lack of support from peers, supervisors or management as a deterrent for HCP to implement PCC?

b. Could lack of collaboration among HCP be a discouragement in the implementation of PCC?(existing tension between different healthcare disciplines)

c. Do you perceive time limitation as a reason why PCC is currently not implemented in this healthcare facility?

d. Do you perceive the implementation of PCC as an extra Workload which is inhibiting its implementation in this facility?

e. Do you perceive confusion regarding whose role it is to provide PCC be a reason why the service is not provided in this facility?

f. Do you perceive PCC as a competition or a contradiction to other preventive maternal healthcare services (Focus Antenatal Care and Skillful birth attendance)?

g. Could it be that HCP's are not sure exactly where to fit preconception care into their routine maternal healthcare services, that is why the care is not being provided?

9. What solutions do you suggest to address these challenges you have mentioned at the inter-personal level.

D. **COMMUNITY LEVEL FACTORS**

10. From your opinion what challenges or factors at the community level do you think prevents healthcare providers from implementing PCC?

Probes:

i. *Do you think the population is aware of PCC and its importance to their reproductive health?*

ii. *In your opinion, do you think the target population has the Interest and willingness to seek PCC counseling?*

iii. *Could lack of client initiative to seek PCC discourage HCPs from implementing PCC? (Poor health seeking behavior)*

iv. *Could clients lack of confidence in healthcare providers' ability to provide care before pregnancy, discourage HCPs from providing the service?*

v. *Could anxieties around contacting and disclosing pregnancy intentions due to healthcare provider's attitude be a reason?*

vi. *Discomfort and fear in disclosing pregnancy intentions due myths and taboos be a reason?*

vii. *Attitude of unplanned pregnancy?*

viii. *Fear of the unknown outcomes of PCC?*

ix. *Do you think women's lack of autonomy in seeking reproductive healthcare be a reason why PCC is not provided?*

x. *Financial constraints*

11. *Do you think the community perceives PCC as an interference with cultural norms and practices regarding pregnancy?*

12. What solutions do you suggest to address these gaps /challenges you have mentioned at the community level?

E. INSTITUTIONAL LEVEL FACTORS

13. From your point of view, what are the challenges at the healthcare institution level that think prevents healthcare providers from implementing PCC?

Probes:

a. Could issues in relation to Staff Strength be a reason why the care is not implemented

b. Expertise to champion the implementation process?

c. Logistics in terms of medications and laboratory kits

d. Infrastructure or rooms or space for PCC service?

e. Are there any institutional guidelines or a policy that reinforces PCC implementation in this hospital?

f. Could lack of funds be a reason why PCC is not implemented in this hospital?

14. What solutions would you suggest to address these challenges you have mentioned at the healthcare institution level?

NOTE: if needed, a brief description about the recommendation of PCC will be provided before passing to the next question. The questions will be asked sequentially as they appear on this interview guide.