

UNIVERSITY OF GHANA - LEGON



**PERCEPTION AND USE OF PRECONCEPTION CARE AMONG WOMEN IN
THEIR CHILDBEARING AGE IN THE EASTERN REGION, GHANA**

BY

SAAH JANET ABA

(11007532)

**THIS THESIS IS SUBMITTED TO THE UNIVERSITY OF GHANA, LEGON IN
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DECLARATION

I, Saah Janet Aba, hereby affirm that this study is based on the findings of my independent research, with appropriate citations for the work of others and relevant textbooks. This research was conducted under the supervision of Dr. Caroline Dinam Badzi and Dr. Emma Annan, both from the School of Nursing and Midwifery at the University of Ghana. I also confirm that this thesis has neither been fully nor partially submitted for any other degree, nor is it being concurrently considered for any other academic qualification.

SAAH JANET ABA

Signature

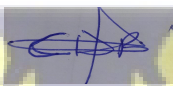


Date 12/11/2025

(Candidate)

DR. CAROLINE DINAM BADZI

Signature



Date

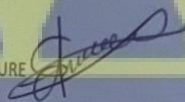
27/11/25

(Supervisor)

DR. EMMA ANNAN

(Co-Supervisor)

SIGNATURE



DATE:

24/11/25



DEDICATION

I formally dedicate this work to Dr. and Mrs. Amuasi, whose unwavering support has been instrumental in my academic journey.

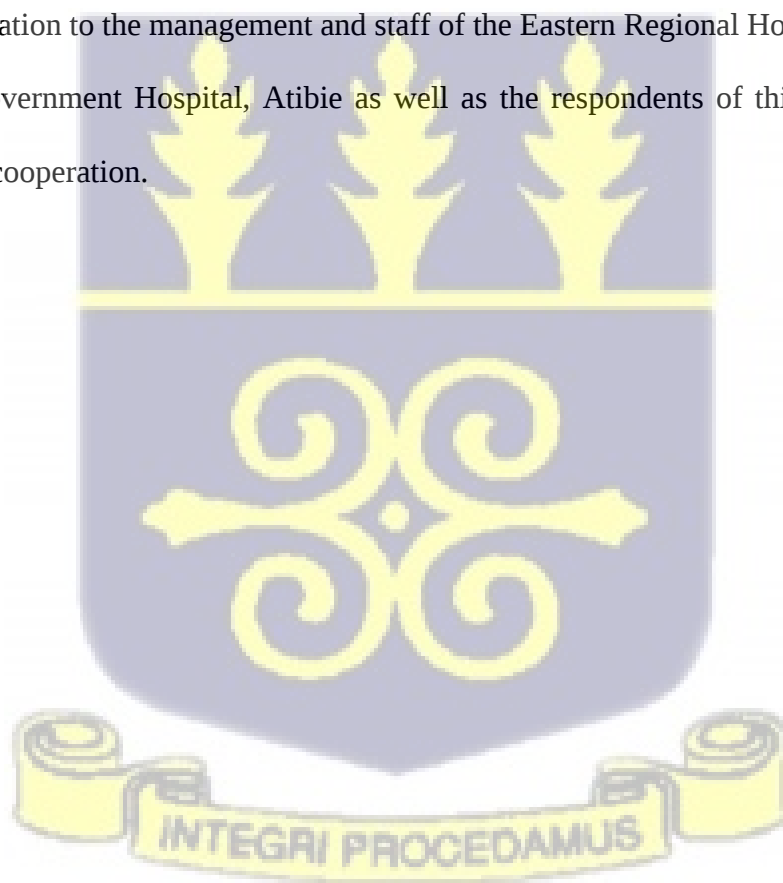


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LIST OF ABBREVIATIONS

CDC	Centre for Disease Prevention and Control
FIGO	International Federation of Gynaecology and Obstetrics
HBM	Health Belief Model
PBC	Perceived Behavioural Control
PCC	Preconception Care
SCT	Social Cognitive Theory
SPSS	Statistical Package for Social Sciences software
TBP	Theory of planned Behaviour
WHO	World Health Organization



ABSTRACT

Preconception care is crucial for maternal and child health, influencing pregnancy outcomes and enhancing reproductive health. Women's perception and access to preconception care are shaped by their attitude, subjective norms, and perceived behavioural control (PBC), which together influence their decision regarding its use. This study examined the perception and utilization of preconception care among women of reproductive age through an analytical cross-sectional design and a Theory of Planned Behaviour questionnaire. The sample consisted of 133 respondents selected from Koforidua Regional Hospital and Kwahu Government Hospital, Atibie, using a systematic random technique. Data were analysed using descriptive statistics, correlation and regression analysis. The results showed that most respondents were aged 19-28 (59.4%), Christians (91.7%), Akans (54.9%), and did not have children (59.4%); but were planning to have children in the future (93.2%). A significant portion (84.2%) of respondents had positive perceptions towards preconception care. There was a statistically significant weak positive correlation between attitude and intention, and a moderate positive correlation between perceived behavioural control (PBC) and intention to seek preconception care. Additionally, there was a strong negative correlation between intention and acceptability of preconception care (reported at 65.4%). The study concludes that women of childbearing age showed positive perception in their attitudes, strong intention and acceptance towards preconception care, influenced positively by their subjective norm (healthcare providers and close social relations) but negatively by perceived behavioural controls. This study has implications for practice, research and health policy to enhance perception and use of preconception care among women in their childbearing age.

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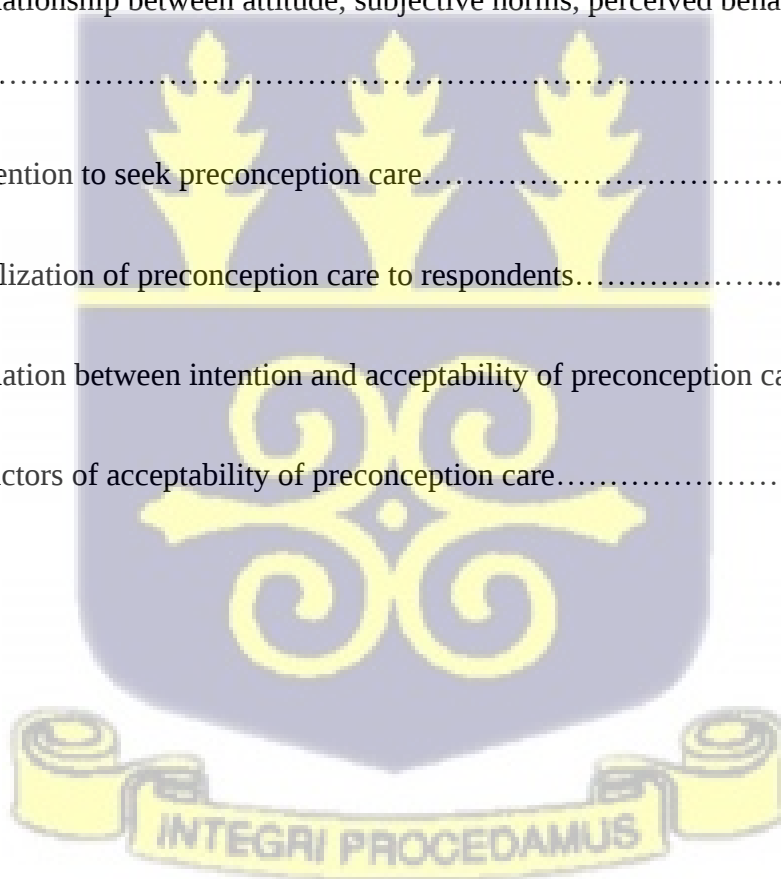
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CHAPTER ONE

INTRODUCTION TO THE STUDY

1.1 Background of the study

Consider a young woman in Ghana who is optimistic about starting a family and is not aware that the decisions she makes now, long before she becomes pregnant, could shape the health of her child for a lifetime. Across communities, countless women face this reality, often missing out on vital care that could prevent complications and save lives. It is in this context that the World Health Organization (WHO) defines preconception care as a range of biomedical, social, and behavioural interventions offered to women or couples before conception or throughout their childbearing years (WHO, 2013a). Because preconception care greatly lowers maternal and neonatal morbidity and mortality while improving pregnancy outcomes, it is crucial for improving the health of both mothers and children (Annadurai et al., 2017; WHO, 2013a). It is viewed as a continuous approach to care, beginning in adolescence and spanning pre-pregnancy, childbirth, and the postpartum period, aimed at optimizing reproductive health and pregnancy outcomes (Annadurai et al., 2017; WHO, 2015). This intervention seeks to address and control risk factors associated with medical, social, behavioural, and reproductive health disorders (Dean et al., 2014; WHO, 2013a). Preconception care also offers economic benefits and fosters male involvement in women's health while reducing environmental risk factors, such as tobacco and alcohol use, that affect pregnancy outcomes (Beyuo et al., 2021; WHO, 2013a).

Globally, in 2017, 211 maternal deaths occurred for every 100,000 live births worldwide, with over 800 women losing their lives to avoidable pregnancy-related causes every day (WHO, 2020). Maternal death rates in Ghana rose from 244 per 100,000 live births in 2019 to 263 per 100,000 live births in 2020, highlighting the pressing need for policies to address these preventable deaths (Abayneh et al., 2022). Accessible, high-quality healthcare before, during,

and after pregnancy could drastically reduce these statistics in low socioeconomic groups (WHO, 2015).

Preconception care covers a range of healthcare services that aim at improving the overall health and improving the maternal health outcome of reproductive age women. Evidence indicates that preconception care improves maternal and neonatal outcomes by addressing risk factors, encouraging healthy behaviours, and enabling early detection of complications. The WHO (2013) and FIGO (2023) both stress its importance in reducing morbidity and preventing severe complications. Recent studies in Sub-Saharan Africa also link preconception care with better pregnancy outcomes (Adjei et al., 2025; Gebretsadik et al., 2025).

The International Federation of Gynecology and Obstetrics (FIGO) 2023 has catalogued a comprehensive set of preconception care services that are essential for improving maternal and neonatal outcomes. These services include vaccination to prevent infectious diseases, nutritional counselling, and birth planning to ensure healthy pregnancy intervals. FIGO also emphasizes supplementation with key micronutrients such as folic acid to reduce the risk of neural tube defects, alongside targeted interventions to manage pre-existing chronic medical conditions. Such recommendations highlight the multidimensional nature of preconception care, underscoring its role in addressing both preventive and therapeutic needs before conception (Crider et al., 2022; FIGO, 2023; McAuliffe et al., 2020; Miller et al., 2025). Also, lifestyle modification to enhance physical activity, cessation of drug use, and improvement of environmental safety are counselling services provide during preconception care (Benedetto et al., 2024).

According to the WHO (2013), specific preconception care services include: screening and implementing appropriate management approaches to medical conditions such as anaemia, diabetes mellitus, and genetic disorders; birth control health services such as facilitating contraceptive use or safe sex methods; as well as services aimed at prevention of teenage

pregnancy, which include keeping girls in schools, prevention of drug abuse, and empowering girls to resist forced sex (Benedetto et al., 2024; WHO, 2013, 2015).

Studies confirm that these measures reduce maternal and child morbidity and mortality and optimize health outcomes (FIGO, 2023; WHO, 2013). Globally, strategic plans such as preconception care are being implemented to improve neonatal and birth outcomes through utilization of preconception care in modifying risk factors and optimizing maternal and foetal health before pregnancy (Adjei et al., 2025; Benedetto et al., 2024; FIGO, 2023; Gebretsadik et al., 2025). This information comes from a systematic review on preconception care, highlighting its role in preventing neonatal birth disorders for policymakers to prioritize the services of preconception care in reducing these deaths (Khekade et al., 2023).

Preconception care programs have been adopted with varying approaches in both developed and developing nations, including the Philippines, Italy, and the United States of America (USA), proving their efficacy in addressing the health risks to mothers and newborns (WHO, 2013a). For example, as preconception care options, the U.S. Centers for Disease Control and Prevention (CDC) highlighted risk reduction, pre-pregnancy checkups, nutritional supplements, and public health campaigns (Gardiner et al., 2008). Additionally, during preconception care, women are provided counselling on possible congenital effects from drugs, chemicals and toxins and effects of tobacco use, alcohol, and recreational drugs on the foetus and the mother (Dean et al., 2014).

In Sub-Saharan Africa, preconception care is implemented in different ways. For instance, in Nigeria, preconception care services are often informal, provided only upon women's initiative or when deemed necessary by medical professionals, particularly for women with medical conditions or infertility issues (Ojifinni & Ibisomi, 2020; Zuhlke & Acquah, 2016). The rollout of preconception care in Koforidua Regional Hospital started in early 2024 with less patronage, but personnel are available to provide the services. Data obtained from the Kwahu Government

hospital indicate that women aged 22 years to 45 years patronise the services, but most are grouped as infertility treatment, subfertility treatment and secondary fertility treatment with components of preconception care being the initial care provided.

However, the significance of preconception care remains misunderstood within communities, leading to complex health issues and financial burdens due to delayed treatment for preventable conditions (Gebretsadik et al., 2025; Kedzior et al., 2024; Poix et al., 2025). Despite its potential, preconception care remains underutilized and inaccessible to many reproductive-aged women, posing barriers to achieving successful pregnancies and healthy outcomes (Boakye-Yiadom et al., 2020; Cassinelli et al., 2023; Dean et al., 2014).

Utilization of preconception care has not been encouraging, most especially in Sub-Saharan Africa, as studies have reported low prevalence or patronage. The pooled prevalence reported for the utilization of preconception care in Sub-Saharan Africa was 24.05% (Woldeyohannes et al., 2023). In Ghana, utilization of preconception care was reported as 15% at Tamale-Northern part of Ghana (Boakye-Yiadom et al., 2020) and 15.8% in Accra, Southern Ghana (Beyuo et al., 2021).

Although the global importance of preconception care is well-documented, research on its perception and utilization within communities remains limited, with evidence showing low awareness, cultural misconception and underutilization of services despite their proven benefits in improving maternal and neonatal outcome (Ayalew et al., 2017; M'hamdi et al., 2017). Studies focusing on community-level barriers, cultural perceptions, and systemic healthcare challenges are lacking. Improving mother and child health outcomes requires closing these gaps. To provide insights for focused interventions and policy development, this study investigated the perceptions and factors influencing the utilization of preconception care among women in their childbearing age in Eastern Ghana.

1.2 Problem statement

Preconception care is recognized globally as a critical component for improving maternal and neonatal health, with the potential to significantly reduce preventable deaths and complications (Clark & Mager, 2022; Mason et al., 2014). In many developed countries, these services are well-integrated into healthcare systems. However, in sub-Saharan Africa, including Ghana, its implementation and utilization remain limited due to barriers such as inadequate access, low awareness and socio-cultural perception (Wegene et al., 2022). Resulting in adverse pregnancy outcomes and increased health risks for women of childbearing age (WHO, 2013).

Despite the urgent need, Ghana continues to experience high maternal mortality rates, rising to 263 per 100,000 live births in 2020. These deaths are often linked to preventable complications that could be addressed through early interventions like preconception care (Abayneh et al., 2022; Khekade et al., 2023; Rosa-Mangeret et al., 2022). Yet, preconception care is underutilized and is not well-integrated into routine healthcare, especially at the community level in regions such as the Eastern Region. Existing research is sparse, leaving critical gaps in understanding the factors that shape women's perception and use of these services. Even where trained personnel and services exist, patronage remains low and many women miss opportunities for early intervention. For example, at Kwahu Government Hospital, women aged 22 to 45 access services such as infertility treatment, subfertility treatment, and secondary fertility treatment, with preconception care provided as the initial component. However, some women become pregnant without receiving any prior infertility therapy, indicating missed opportunities for early intervention.

The low level of awareness and utilization of preconception care in Ghana underscores the urgent need for target efforts to promote these services and improve health outcomes for mother and newborns. Addressing these gaps is essential for guiding effective interventions and policies that can increase uptake and ultimately save lives (Beyuo et al., 2021). This study aims

to provide insights that will inform strategies to enhance the perception and use of preconception care among women of childbearing age in Eastern Region of Ghana.

1.3.0 Objectives of the study

1.4.1 General objectives

To evaluate the perceptions of women of childbearing age in the Eastern Region of Ghana and the factors influencing their use of preconception care services.

1.3.2 Specific objectives

The following construct from the Theory of Planned Behaviour (TPB) conceptual framework served as the foundation for the goals of this study. To

1. determine the perception of women in childbearing age on preconception care.
2. examine the relationship between attitude, subjective norm, perceived behavioural control and behavioural intention in women of childbearing age on preconception care.
3. determine the relationship between intentions and behaviour in women of childbearing age on preconception care.
4. examine the factors that predict behaviour in women of childbearing age regarding the use of preconception care.

1.4 Research question

The study addressed these research questions:

1. How do women who are of childbearing age perceive preconception care?
2. How do women of childbearing age's behavioural intentions about preconception care relate to their attitudes, subjective norms, and perceived behavioural control?
3. What connection exists between women of childbearing age's intention to use preconception care and their actual behaviour to use these services?

4. What are the predictors of behaviour on the use of preconception care by women of childbearing age?

1.5 Significance of the study

The following areas will benefit from the study:

Ministry of Health: the ministry is the policy maker in the Ghanaian community. Finding of this study will form an evidence base policy on women reproductive health to various health agencies within the country.

Ghana Health Service: implementation of preconception care is by facilities within the Ghana health service, nurses, midwives, and specialist are the pioneers of implementing preconception care among women. Findings will also form an evidenced based practice to provide this care to women in their reproductive age to improve maternal health outcome, reduce infant and maternal mortality and improve sexual health of women within the Ghanaian community.

Women: The health of women who are of reproductive age was the focus of the study. The purpose of this project was to gather data to raise awareness about preconception care, including how women should plan their pregnancy, where to get care, and when to evaluate preconception care for a healthy reproductive life.

Nursing/Midwifery education: Finding will also be evidence in preparing nursing curriculum that will factor preconception care as a course to train nurses and midwives to provide the services within the community they find themselves.

Nursing Research: The findings will provide reference material for future studies on women's reproductive health in preconception care.

1.6 Operational definitions of key words

Childbearing age group: Age 15 – 45 years, mostly referred to as reproductive years. The ages when women are mostly fertile and likely to get pregnant.

Perception: systematically identifying and interpreting sensory facts to comprehend the information at hand.

Preconception care: services and treatment provided for women in childbearing age before conception.

Use: making practical and effective utilization of information or a thing.



CHAPTER TWO

REVIEW OF LITERATURE AND THEORETICAL FRAMEWORK

2.0 Introduction

This chapter outlines the theoretical framework for this research. Search for the literature was done based on the construct identified in the framework. The concept, research questions, and research objectives of this study also served as the foundation for the search. This article's four primary research goals were accompanied by subheadings that directed the information search. Search was done with key words such as ‘preconception’, ‘preconception care’, ‘perception’, ‘utilization’, ‘women of reproductive age’ and other related key words to the topic. MeSH was used to search for key words such as preconception care through database to increase the scope of search for this research work.

Boolean’s operators such as ‘AND’, ‘OR’, ‘NOT’ and ‘AND NOT’ was used to combine or eliminate keywords to increase the scope of literature review of important articles and journals for the write up. The following database was most of the search engines for information: Google scholar, PubMed, Science Direct, Sage, Cochrane Medical Library, CINHALL, Scopus, thesis, unpublished and ongoing research, EBSCOhost. Mendeley electronic reference was also used to manage all data and information searched from this database to develop the literature review for the bibliography.

2.1.0 Selection of Theoretical Framework

Theoretical framework is based on existing theories that serves as a road map to develop facts for a research work, it also forms bases to summarize theories and concept from existing literature (Vinz, 2022). Theoretical framework that was adopted for this research is mostly based on behavioural and belief theory, with reference to the topic being studied.

The theory of planned behaviour, the social cognitive model, and the health belief model were all examined in this study. The theory of planned behaviour was chosen in the study because it contains constructs that successfully meet the objectives of the investigation (Kushwah, 2025). Because its constructs—attitude, subjective norm, and perceived behavioural control—align with the research aims and can answer the research questions, Ajzen's (1991) theory of planned behaviour (TPB) was chosen for this study. Additionally, the framework's constructs are interrelated, making it simple to test, analyse, apply, and implement in our contexts.

2.1.1 Health Belief Model (HBM):

The HBM is a psychosocial framework that forecasts a person's health-related behaviours based on their health beliefs and how their health impacts their lives. Hochbaum and Rosenstock created this model (1952) (Norman & Conner, 2016; Stern, 2015; Sutton, 2001). The model predicts that an individual will be considerate about their health and change their behaviour when these three constructs are available: modifying factors, individual beliefs and likelihood of actions. The modifying factors construct: the demographic variables which will be considered in the literature and data analysis to identify any correlational analysis. The individual belief variables consist of how the individual attach importance of their health, their risk of illness and how they overcome the disease condition (Jones et al., 2015). The likelihood action construct entails the benefit an individual will get, when necessary, measures are taken to overcome the perceived condition.



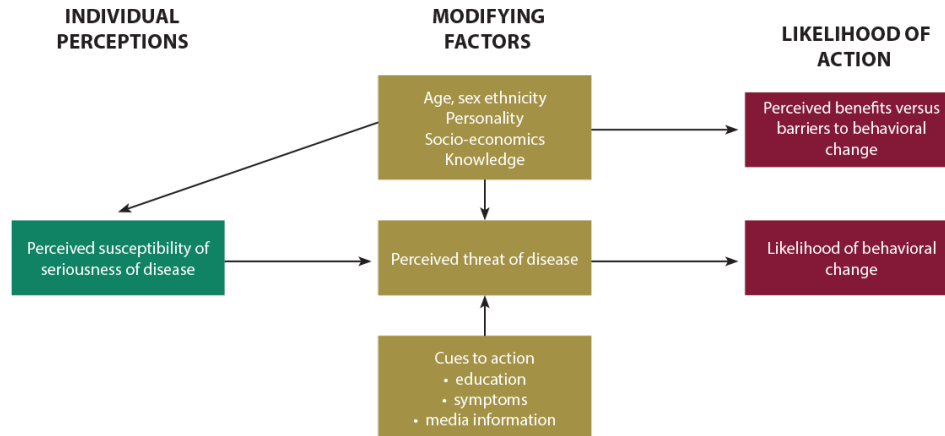


Fig 1 Health belief model (Rosenstock, 1952)

This theoretical framework was not adopted for the current study because it looks at relationship between perception, other determinants of behaviour and likelihood of action rather than the action itself (behaviour), which was the variable considered in this study.

2.1.2 Donabedian Quality-of-care model

This is a conceptual framework that evaluate health services, and the quality of care provided. It was developed by Avedis Donabedian in 1966, he is a researcher and physician. The model has three constructs: “structure”, “process” and “outcome”. The framework evaluates how well-informed clients are about health care services and how satisfied they are with their care. (Jahani Shourab et al., 2012) the “structure” variable in the model examines the physical facilities, equipment and the staffing and motivations in each facility. This variable can relate to the “utilization” of the study. The process construct entails the action taken by variables in the structure to provide quality care. It includes the diagnosis, treatment, patient education and preventive services provided in each facility. This construct can relate to the research objective “factors that affect utilization of preconception care”. The “outcome” construct entails the process that influenced or caused a change in the health status of the individual. It includes change in health status, behaviour and knowledge (Arah et al., 2003; Campbell et al., 2000).

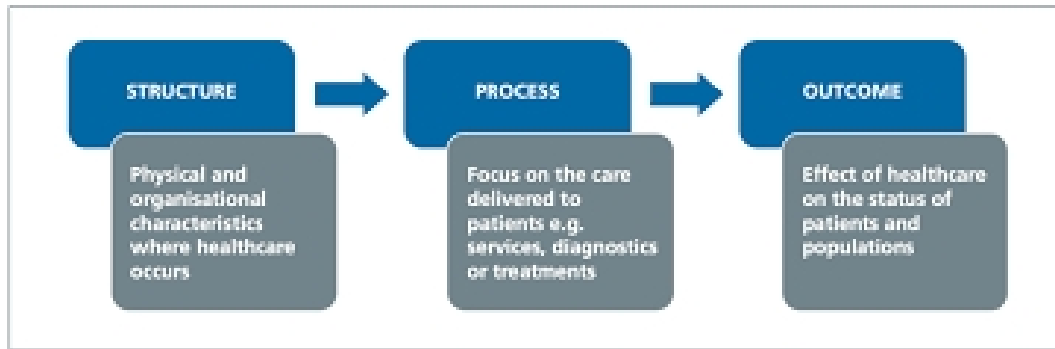


Fig 2 Donabedian Quality-of-care model (Donabedian, 1966)

Because it takes no notice of the variables of attitude, subjective values, perceived behavioural controls, and behaviour, this model was not chosen for the study.

2.1.3 Theory of Planned Behaviour (TPB)

In 1985, social psychologist Icek Ajzen developed the theory (Ajzen, 1991, 2012). It is a psychological theory that connects the relation of beliefs to human behaviour. This model evaluates an individual behaviour to follow a particular behaviour that will improve and influence their health and result in change in health behaviour (Tunner et al., 1989). An intention to modify behaviour is formed by the interaction of three essential elements: attitude, subjective norm, and perceived behavioural control. Depending on the specific circumstances, attitude affects whether the behaviour is perceived favourably or unfavourably (Ajzen, 2012; Tunner et al., 1989).

A person's attitude, subjective norm, perceived behavioural control, and intention are thought to be important determinants of how they behave in relation to their health. The perception of behavioural control, combined with these elements, contributes to significant changes in health-related behaviours. In the conceptual framework, intention is the central factor of the concept (Ajzen, 1991, 2012). The driving forces behind a person's actions (behaviour) are their intentions. This predicts the effort an individual invests in a behaviour to overcome barriers (such as time, money, skills etc) to cause in their behaviour. Behaviour which is the last construct of the framework is the ability to perform the intended behaviour based on available

factors such as human behaviour, facilitating factors, opportunities and resources (Ajzen, 2011). Intention construct is evaluated by attitude, which is the main determinant of an individual behaviour, subjective norm which is the individual belief of what others think of the intended behaviour to perform and perceived behavioural control (Tunmer et al., 1989).

Then perceived behavioural control construct relates to people's concepts on how easy or challenging a behaviour would be when it is performed (Ajzen, 2012). This construct is related to Bandura's self-efficacy construct which examines the individual confidence to perform the intended behaviour, and the intended behaviour is within her control (Tunmer et al., 1989).

Ajzen's (1991) theory of planned behaviour predicts human actions based on three key beliefs:

- The behavioural beliefs: which assess the consequences of a behaviour and the outcome result of the consequence on the person.
- Normative beliefs: evaluate social pressure and consequences related to a behaviour.
- Control beliefs: this evaluates the barriers or facilitators of participating in a behaviour and the result of those barriers or facilitators on the individual behaviour (Ajzen, 1991).

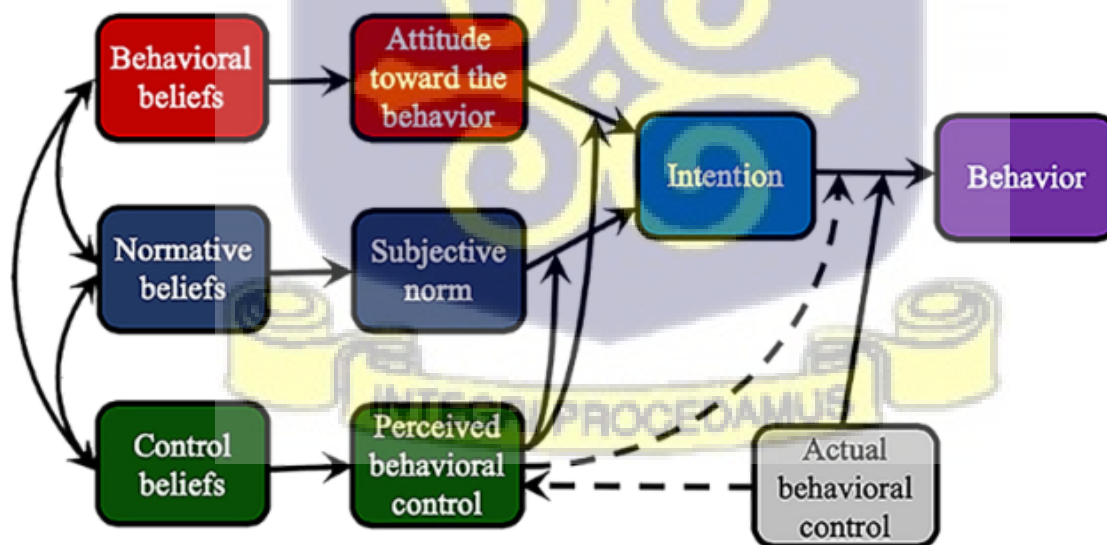


Fig 3 Theory of planned behaviour (Ajzen, 2019)

The idea states that these beliefs predict a person's attitude toward a behaviour, which in turn affects their subjective norm and ultimately dictates their specific behaviour and behaviour intents (Ajzen, 2012; Tunner et al., 1989). The TPB has been used to forecast people's behaviour or actions in a variety of academic domains, such as environmental studies, nursing, and health promotion (Ajzen, 2020; Bosnjak et al., 1841). Attitude, Subjective Norm, Perceived Behavioural Control, Behavioural Intention, and behaviour are the core concepts of the theory.

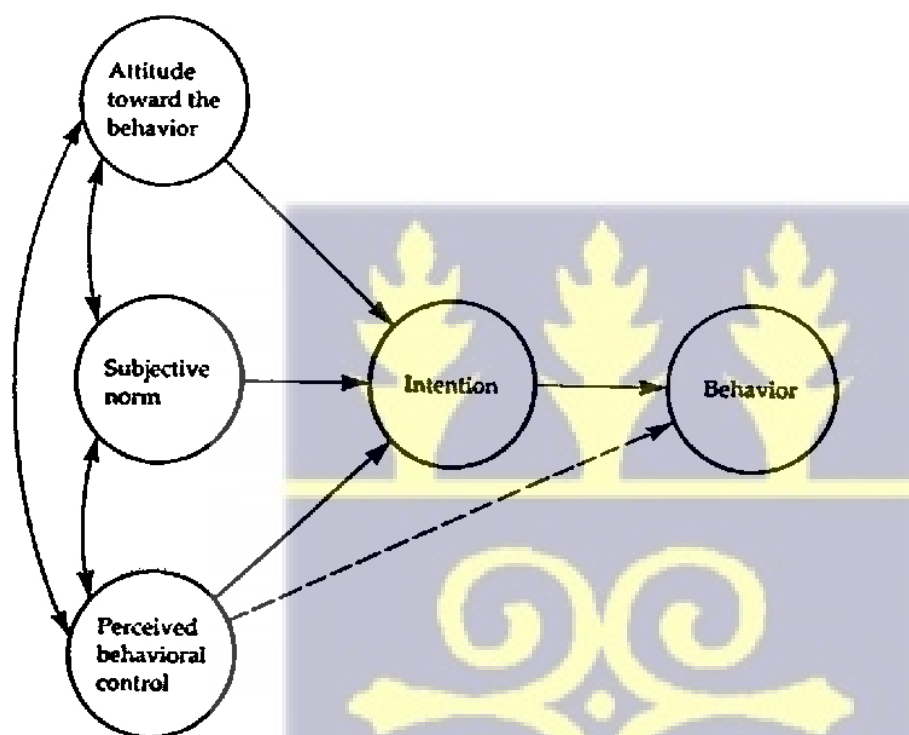


Fig. 4 Ajzen (1991) Theory of Planned Behaviour

2.2 Empirical Review

2.2.1 Attitude towards Preconception Care

An individual's attitude toward a behaviour is their perception of that behaviour, whether it be favourable or unfavourable (Ajzen, 1991). Attitude is posited to be influenced by an individual's behavioural beliefs; specifically, their expectations about the outcomes of a particular behaviour. Therefore, if the individual foresees a positive outcome of that behaviour,

they are more likely to engage in that behaviour but with a negative outcome they are reluctant to indulge in that behaviour (Ajzen, 2012). Again, Ajzen posited that attitude in the context of human behaviour is divided into two: the instrumental and affective attitude (Kushwah, 2025). Ajzen further explained that instrumental attitude pertains to what the individual will benefit from adopting this health behaviour with regards to the mother and the future child with the intention of changing a behaviour. A systematic review on Preconception care: nutritional risks and interventions, according to their data, 32% of mothers who are underweight increase the risk of preterm births during the preconception phase, and mothers who are obese increase the risk of hypertensive diseases throughout pregnancy. The way a person links her feelings to her behaviour in seeking health care is known as her affective attitude (Dean et al., 2014; Shawe et al., 2015).

Health outcomes are improved when preconception treatment is viewed positively. Quantitative studies on the attitudes and knowledge of reproductive-age women with chronic illnesses regarding preconception care in Amhara, Ethiopia, provide evidence of this. With a sample size of 844, the study discovered that 416 respondents (50.2%) had a positive view regarding preconception care. Additionally, 505 (61.6%) of the participants concurred that preconception care is most effectively utilized when it is given in a hospital atmosphere, which encourages women to adopt positive attitudes and behaviours when utilizing the services (Demeke et al., 2024).

Accordingly, a person's sociodemographic traits, past health behaviours like family planning, counselling sessions with medical professionals, the existence and duration of co-morbid diseases, and knowledge of preconception care services all influence their attitude to carry out a behaviour. A bivariable analysis revealed a P-value of less than (≤ 0.25) (Demeke et al., 2024; Fransen et al., 2018; Hristova-Atanasova et al., 2023). They further explained that these can influence the individuals to develop either negative or positive attitude towards

preconception care which is the intended behaviour (Demeke et al., 2024; Hristova-Atanasova et al., 2023; Shawe et al., 2015). All six European nations such as Italy, Netherlands, Denmark, Belgium, United Kingdom have preconception care recommendations for women, according to an electronic search and analysis of preconception policies, guidelines, recommendations, and services. However, behavioural beliefs significantly influence the utilization and attitudes towards this care. Women who develop a negative attitude towards preconception care may believe it is unnecessary and only relevant when there are existing health conditions preventing them from conceiving (Shawe et al., 2015). With an intention mean value of 21.4 (SD 2.5), a cross-sectional study grounded in the theory of planned behaviour revealed that women in Arba who are of reproductive age have a favourable attitude about receiving preconception care. However, their decision to use these services is heavily influenced by their perception of behavioural control (Tena et al., 2024). This finding suggests that while positive attitudes toward preconception care are important, women's actual use of these services is significantly shaped by their confidence in their ability to access and utilize them. Perceived behavioural control refers to an individual's belief about how easy or difficult it is to perform a particular behaviour (Kushwah, 2025), which can be influenced by factors such as availability of services, financial resources, and social support. Therefore, even when women intend to seek preconception care, barriers like limited access, cost, or lack of information may prevent them from following through. This underscores the need for interventions that not only promote positive attitudes but also address practical obstacles to utilizing preconception care.

2.2.1.1 Predictors of Attitude towards Preconception care

2.2.1.1.1 Health Literacy and Knowledge

The US Department of Health and Human Services (HHS) has outlined an objective in Healthy People 2030, stating that health literacy is fundamental to achieving a healthy population and well-being (Santana et al., 2021). According to an observational study titled Before the

Beginning: Nutrition and Lifestyle in the Preconception Period and Its Importance for Future Health, an organization can enhance health literacy by enabling people to obtain, understand, and apply information and services to make positive, well-informed and health-related decisions (Santana et al., 2021; Stephenson et al., 2018).

A study conducted by Kinoshita et al (2024) with a sample size of 1,920, a cross-sectional study carried out in Japan investigated whether health literacy affects health-related lifestyle behaviours among health management specialists (Kinoshita et al., 2024). Their study found out that individuals with higher levels of health literacy are more likely to understand both the benefits of seeking healthcare (preconception care) services and the risks associated with not adopting certain behaviours. This understanding positively impacts their attitude towards health-related decisions to utilize the services (preconception care) (Ishikawa & Kiuchi, 2010; Kinoshita et al., 2024; Nakayama et al., 2015). Therefore, individuals who understand the benefits of preconception care will be most likely engage in this behaviour (Ayele et al., 2021).

Two hundred pregnant women at Tamale West Hospital in Ghana participated in a descriptive cross-sectional study on preconception care, examining awareness, knowledge, attitude, and practice (Boakye-Yiadom et al., 2020). Their study indicated that while 23.5% of women had a greater level of understanding about preconception care, 42.5% (85/200) had limited knowledge. Furthermore, only 2.0% of respondents disagreed with the significance of preconception care in a woman's life, while 48% strongly agreed that all reproductive women should have it at some time in their lives since it is a vital component of health (Ayalew et al., 2017; Boakye-Yiadom et al., 2020; Dean et al., 2014). It was concluded that 80% of the respondents have a negative attitude towards preconception care, which affects its utilization as well as the health of both the mother and future babies (Boakye-Yiadom et al., 2020; M'hamdi et al., 2017).

To increase the utilization and enable people develop positive attitude towards preconception care, 56% of the respondents attest that preconception units are not available in the Tamale hospital, and this affect their behaviour towards preconception care services (Boakye-Yiadom et al., 2020). Increasing health literacy on preconception care through routine medical follow-up care can encourage people to develop a positive attitude toward preconception care, according to a cross-sectional study that examined the knowledge and attitude toward preconception care and associated factors among 828 women of reproductive age with chronic disease in Amhara, Ethiopia (Demeke et al., 2024).

According to a study conducted in the Netherlands, socioeconomic reasons, a lack of knowledge, and the perception of a lower risk of perinatal issues cause women with low health literacy to frequently decline preconception counselling (Fransen et al., 2018). In conclusion, reproductive health care should be accessible to women in lower socioeconomic communities. Additionally, providing comprehensive reproductive information to their families is essential for informed decision-making (Yue et al., 2021).

2.2.1.1.2 Cultural Beliefs and socioeconomic factors

Cultural beliefs and values surrounding reproductive health and healthcare has a great influence on the decisions people take which affect their behaviour towards health (Adams et al., 2022). Some cultures, traditional beliefs and practices can be viewed either in support or hinder the acceptance of preconception care. also, some cultures may see preconception care services as unnecessary, or the individuals may be stigmatised for accessing the services and this may negatively affect other people's attitude to utilize the services (Dean et al., 2014; M'hamdi et al., 2017; WHO, 2013). People from culturally and linguistically diverse ethnic groups have different attitudes toward engaging in such behaviours, either positively or negatively, according to a scoping review that used the theory of planned behaviour to examine adults' mental health help-seeking behaviours (Adams et al., 2022).

A systematic review and meta-analysis on preconception care: promoting reproductive planning explains that in some cultures, reproductive health care before marriage or pregnancy planning is seen as a taboo leading to negative attitude towards preconception care (Dean et al., 2014). A person's belief about healthcare can also influence their attitude towards preconception care either positively or negatively. Also, people attitude towards preconception care may differ from one ethnic group to the other, this may influence their access to the services and influence their behaviour (Ukoha & Mtshali, 2021). As in a cultural context where reproductive health is not openly discussed among reproductive age women, their attitude towards preconception care can be negatively affected before conception.

2.2.1.1.3 Perceived relevance and previous experience

Previous experience and individual health belief influence a person's attitude towards preconception health greatly. Women who perceive their health and childbirth relevant are more likely to have positive attitude towards preconception health. A cross-sectional study on knowledge and attitudes concerning preconception care and related factors among women of reproductive age with chronic disease in Amhara, Ethiopia, involving 828 women, found that those who had exposure to family planning were 2.8 times more likely to develop a positive attitude towards preconception care (AOR: 2.853; 95% CI: 1.866, 4.362). Additionally, women who have ever received preconception counselling are 2.2 times more likely to have a favourable opinion toward preconception care (Demeke et al., 2024). A qualitative study explored the perception and practice of preconception care among healthcare workers and high-risk women in South Africa. The findings revealed that 24 women had positive attitudes towards preconception care due to its perceived benefits in preventing congenital malformations in babies, as they would be screened, tested and counselling will be provided (Ukoha & Mtshali, 2021).

2.2.2 Subjective norms that affect perception and use of preconception care services

Subjective norm refers to the impact of societal expectations on the choice to participate in or avoid a particular behaviour (Ajzen, 1991, 2020). A cross-sectional study conducted in Ethiopia aimed to determine behavioural intention and its predictors toward the use of preconception care. The study found that individuals believe they require support and approval from significant others, such as family members, friends, spouses, teachers, religious leaders, or healthcare providers, to act on using preconception care services (Kalolo & Kibusi, 2015; Tena et al., 2024). Support from significant others is essential for changing behaviour to use preconception care services.

A study of 262 hospitalized patients partaking in free smoking cessation program found that women who supported by their spouse or families are more likely to see preconception care as useful for planning pregnancy. Likewise, partners or families who viewed preconception care as unnecessary, the women are less likely to develop positive attitude towards seeking the care (Daly et al., 2022).

Again, subjective norm can vary from one cultural and social context to the other. Some cultures encourage reproductive health from younger age throughout the reproductive life of a woman and in other social context women are prevented from seeking reproductive health (Tena et al., 2024). Once more, it is believed that health professionals have a significant influence on the subjective norms that influence the use of preconception care. When women of reproductive age seek medical attention for reproductive health issues, health professionals typically advise them to consult a specialist for additional fertility treatment. This makes them go through preconception health care before advance treatment is given (Dean et al., 2014; Tena et al., 2024).

A qualitative study on preconception fear of childbirth stated that, though they expect to receive support from health professionals during their childbirth process, but they had limited of that

which made them feel abandoned and left on their own with little or no experience of childbirth process (Rondung et al., 2022). This explains that healthcare professional affect utilization of preconception care and affect intention for behaviour change.

Again, in as much as health professionals are needed in facilitating preconception care, a quantitative study in Debre-Ethiopia with a sample of 424 reproductive age women stated that health facility related issue also affects the utilization of preconception care as the presence of health professional providing the services. They mentioned that preconception care facilities are available (100%) in most health facilities with availability of medical (74.9%) and laboratory (70%) services (Ayalew et al., 2017; Demeke et al., 2024; M'hamdi et al., 2017). Also, though the facility were available, (93.3%) of women who are married are supported by their spouse for preconception care screening and the 7.7% of unmarried women mostly do not get family support due to inadequate knowledge on preconception care benefits (Ayele et al., 2021; Demisse et al., 2019).

This shows that support and encouragement from peers and healthcare providers will enhance the perception women have about preconception care leading to a favourable behavioural intention and change in their behaviour. And women who perceive that their peers and family value preconception care usually have the strong desire to positively seek for the services. A review by (Owino et al., 2022) agrees with this that most women have the belief that they need assistant from someone in other to strengthen their decision to utilize preconception care with (p value of <0.001) and culture has a profound influence on some of their decision.

2.2.3 Factors related to perceived behavioural control (PBC) that influence how preconception care is perceived and utilized

Again, perceived behavioural control refers to women's perception and self-assurance regarding their capacity to carry out a specific task or action (Ajzen, 1991, 2011). That is their

self-efficacy. Studies has revealed that perceived behavioural control has shown the highest predictors of preconception care utilization (Kushwah, 2025; M'hamdi et al., 2017). A cross-sectional study on determinants of behavioural intention and its predictors towards preconception care use in Ethiopia revealed that women who had control over their health behaviours ended up being engaged more in preconception care (Tena et al., 2024). This demonstrates that women will have a high desire to use preconception care services when they are zealous about controlling the factors that affect their health or utilization of preconception care.

The effect of perceived behavioural control, attitude, and empowerment on condom use was investigated in a quantitative study carried out in Tanzania (Kalolo & Kibusi, 2015). Their findings indicated that adolescents' intention to use condom is shaped by their personal decision to engage in the behaviour, the significance they attach to it, and the benefits they expect to gain from it. Though women have the power to determine the performance of a behaviour, this decision may be affected by factors such as inadequate knowledge, cultural and social values and availability of the services centres within the community, and this may affect preconception care utilization. These identified factors are attended to and improved, utilization of preconception care will be accessed by most women (Ghafoori et al., 2018).

Additionally, a cross-sectional study that looked at the relationship between patient knowledge and self-efficacy regarding adherence to the use of oral contraceptives discovered that respondents with high levels of perceived knowledge ($p < 0.001$) and self-efficacy ($p < 0.001$) showed a strong correlation with adherence to the use of oral contraceptives (Tomaszewski et al., 2017). Therefore, healthcare professional, the media and reproductive stakeholders must invest in these factors to drive behavioural change in women and encourage the utilization of preconception care services.

Again, a qualitative study in Kenya on socio-cultural influence on utilization of preconception care stated that preconception awareness and utilization can be improved through the media, setting up clinics and integrating preconception care services within these facilities. Also, through women level of education affect the utilization of the care and their confidence, improving interaction with healthcare providers will change their behaviour to utilize the services (Okemo et al., 2021).

According to a review conducted in Kenya on the factors influencing the utilization of preconception care, women's self-efficacy to utilize preconception care is significantly impacted by their sociodemographic characteristics, including their employment status and their spouse's income level (p values = 0.006, 0.035, 0.015, and 0.022, respectively) (Owino et al., 2022). Again, according to the review, about 71.7% of their finding, cultural belief is not a hindrance to utilize preconception care services. A qualitative study in United Kingdom on ethnic influence on preconception care utilization concluded that, it is influenced by the cultural context of women such as inadequate exposure of women to pregnancy preparation, most pregnancies are unplanned and that is what most women are exposed to as routine, the secrecy of trying to conceive and it being sensitive issue to the woman and her partner with the fear that they will be tagged as infertile (Tuomainen et al., 2013).

Comprehensive sexuality education programs help prevent adolescent pregnancy among young women in the region, according to a cluster randomized control trial carried out in Ghana to assess the impact of an educational intervention program on sexual abstinence in the Northern region (Yakubu et al., 2019). This confirms that education through various means on reproductive health helps improves women confidence and knowledge upgrade to have an intention to utilize preconception care and this is culturally specific.

From the literature review, a key strategy to influence young women to access preconception care is through awareness creation in schools and integration of preconception health into broader health

promotion programs (Asumah et al., 2024; Lassi et al., 2014; M'hamdi et al., 2017; Steel et al., 2025; WHO, 2013). WHO (2013) emphasizes that preconception care interventions should be embedded within existing health systems and educational platforms to reach women early in their childbearing age. Also, school-based and community awareness programs are effective in improving knowledge and uptake of preconception services. Similarly, M'hamdi et al., (2017) stated that integrating preconception health into routine health promotion activities ensures sustainability and equity of access. Asumah et al., and Lassi et al., provided evidence that targeted awareness campaign in schools and youth-friendly health promotion initiative significantly increase women in their childbearing age engagement with preconception care. This means that cultural context influences self-efficacy of women to decide to utilize preconception care, as some cultures promote early exposure of women to screening for health condition other culture prevent women from being in their known of their reproductive health (Ayalew et al., 2017; Dean et al., 2014; Steel et al., 2025). Also, healthcare providers need to ensure positive interactions and support to increase women confidence in their ability to utilize preconception care (Ayalew et al., 2017; Steel et al., 2025; Zeleke et al., 2025). Women's confidence and readiness to use preconception care are greatly influenced by their healthcare providers. It has been demonstrated that respectful communication, positive interactions, and supportive counselling increase trust and promote service utilization. According to Ayalew et al. women's perception of the quality of care are significantly influenced by the attitudes and interpersonal skills of their providers, which in turn influences their health-seeking behaviour. Also, Steel et al. incorporating provider support into programs for preconception health improves women's participation and lowers access obstacles. Similar to this, Zeleke et al. showed that active empowerment and support from healthcare professionals foster women's self-efficacy and improves the use of preconception services. When taken as a whole, these results highlight how crucial provider-patient interactions are in influencing the use of preconception care.

2.2.4 Behavioural intention in perception and use of preconception care

Since it most accurately predicts whether a person will engage in a behaviour, behavioural intention is a key concept in the theory of planned behaviour. To improve its use in the context of preconception care, it is essential to comprehend the elements that influence behavioural intention (Ajzen, 2011). Key predictors of the intention to use preconception care include the attitude towards preconception care, the subjective norm and women perceived behavioural control (Tena et al., 2024). According to the literature reviewed on a cross-sectional study with 415 respondents in Ethiopia on determining behavioural intention and its predictors. The results showed that women's desire to undertake a behaviour was significantly predicted by direct perceived behavioural control ($\beta = 0.263$, $p < 0.001$), direct attitude ($\beta = 0.201$, $p < 0.001$), and direct subjective norm ($\beta = 0.158$, $p < 0.006$) (Tena et al., 2024). This means that it is the responsibility of health professional to manage these predictors to ensure women develop positive attitude towards a behaviour.

Also, with positive attitude towards preconception care, it reflects the perceived benefits and how important the care is to women of childbearing age. This has a strong association of higher behavioural intentions (Ayalew et al., 2017; Steel et al., 2025). Evidence indicates that when women perceive preconception services as valuable and relevant, they are more likely to plan for and utilize them. Ayalew et al. found that positive attitudes toward preconception care were significantly associated with higher intentions to seek such services among Ethiopian women, underscoring the role of perception in health-seeking behaviour. Similarly, Steel et al. highlight that positive attitudes embedded within health promotion programs enhance women's motivation and increase the likelihood of translating intention into actual use. Together, these findings demonstrate that attitude is a critical antecedent of behavioural intention in the Theory of Planned Behaviour framework, reinforcing the importance of fostering positive perceptions of preconception care. Therefore, women who have positive attitude towards the care are likely

to intend to engage it. Perceived social pressure also has a role in influencing women to engage in a behaviour. Some women perceived that with support from their significant others such as, religious leaders, spouse, health professionals and friends they are more likely to have higher behavioural intention (Owino et al., 2022; Tena et al., 2024). Women who feel confident in their ability to seek preconception care services are more likely to intend to use it.

2.3 Summary of Literature review

Preconception care has become a central approach for enhancing the health of expectant mothers and newborns. It includes a wide range of interventions to improve women's health prior to pregnancy, such as screening, risk management, dietary counselling, health education, and counselling. Evidence from global and regional studies highlights the significant benefits of preconception care, such as reducing maternal and infant mortality, preventing congenital abnormalities, and enhancing overall pregnancy outcomes (Dean et al., 2014; WHO, 2013). Developed countries have successfully integrated preconception care into public health systems, offering services like genetic counselling, immunization, family planning, and mental health support (Annadurai et al., 2017).

Preconception care is still not widely utilized in developing countries, despite these benefits. Research from sub-Saharan Africa shows that reproductive women are neither well-informed about nor have easy access to preconception care treatments. Sociocultural beliefs, resource constraints, and inadequate healthcare infrastructure further hinder the adoption of preconception care practices (Munthali et al., 2020; Ojifinni & Ibisomi, 2020). Moreover, while women in some regions express positive perceptions of preconception care, significant gaps exist in translating these perceptions into active utilization of services (Beyuo et al., 2021).

In Ghana, maternal mortality remains a critical public health issue, with rates showing a concerning rise in recent years (Abayneh et al., 2022). Although studies highlight the potential

of preconception care to lower these deaths, there are not many thorough studies in the country examining how women of reproductive age perceive and have access to preconception care. The development of focused treatments to enhance mother and child health outcomes is hampered by this knowledge vacuum. Addressing this gap through research focused on the factors influencing perceptions and use of preconception care is crucial. Such studies can inform policy development, healthcare provider training, and community-based education campaigns, ultimately promote the widespread adoption of preconception care practices and improve reproductive health outcomes in Ghana.



CHAPTER THREE

METHODOLOGY

3.0 Introduction

The study's design, target population, sample size, sampling procedures, inclusion and exclusion criteria, data collection tools, data analysis strategies, validity and reliability, and ethical considerations are all described in this section.

3.1 Study design

This study is based on the positivist paradigm, which assumes that reality is objective, measurable, and can be studied through systematic observation (Cohen et al., 2018; Creswell & Creswell, 2018; Mohammad Ali, 2024). They also stated that the application of quantitative methods to identify relationships and predictors of behaviour is emphasized by positivism. In the context of preconception care, this paradigm supports the investigation of measurable constructs such as subjective norm, perceived behavioural control, attitudes, and behavioural intention. By employing a cross-sectional survey design, the study seeks to generate generalizable findings that can inform policy and practice. The positivist approach ensures reliability, and statistical validity, making it suitable for examining factors that influence the use of preconception care among women of childbearing age.

For this study, the researcher used a quantitative analytical cross-sectional design. The foundation of quantitative research is the gathering and examination of numerical data that can be utilized to forecast, characterize, clarify, or regulate a variable of interest in a phenomenon (Babbie, 2020; Mohammad Ali, 2024). An analytical cross-sectional study was adopted for this research using a questionnaire for the collection of data. They also stated that unlike a descriptive cross-sectional design which only interprets and describes a phenomenon, an analytical cross-sectional design is a non-experimental design that measures relationship or

association between an exposure and an outcome (Schmidt & Brown, 2019), investigating how a phenomenon is likely to happen with reference to another (Thomas, 2023). Cross-sectional survey was adopted due to the study being carried out within a short period to determine the outcome of interest of a population (Setia, 2016; Wang & Cheng, 2020). In contrast to other research methods that follow trends of an idea and analyse data at a later period, this methodology was chosen to allow data gathering and analysis to occur simultaneously.

3.2 Settings of the Research

The study was conducted in Eastern Region Ghana, with study sites located at Kwahu Government Hospital, Atibie and Eastern Regional Hospital, Koforidua. The Koforidua Regional Hospital setting was selected due to the establishment of preconception care centre in the facility that offers services to couples who wish to become pregnant and those who are of reproductive age. It is also a regional hospital that receives clients from the various sub-communities with varied socio-demographic characteristics. Although, preconception care unit is available in this setting, the patronage is low hence, the addition of Kwahu Government Hospital (Koforidua Regional Hospital – Preconception Care Unit).

Kwahu Government Hospital - Atibie was also selected due to the provision of preconception care services, although, not as a unit providing the services, but the service is captured under obstetric and gynaecological special services provided for women who are preparing and seeking for pregnancy. The facility is a district hospital which serves as a referral point for many health facilities within its catchment area. This setting was added also due to proximity to the researcher (Kwahu Government Hospital, Atibie – Reproductive Health Unit).

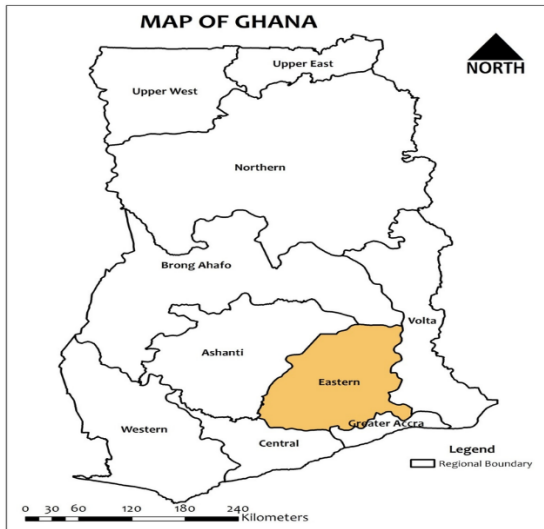


Fig. 5 Map of Ghana, Eastern Region (Google search)

3.3 Target Population

The term "population" describes the entire set of people or things that are the subject of a study or analysis and have similar characteristics (Willie, 2023). It is the total set of people where individuals are sampled from for generalization of study result (Etikan, 2016). Target population is the smaller group of individuals from the population who have specific features that meet the researcher's criteria for the study being conducted. Sampling from target population is based on the research objectives from whom data will be collected (Willie, 2023). Accessible population is the sample to which data are taken from analysed and result are generalized which the researcher can readily select the required sample from (Stadtländer, 2009). Thus, women in their childbearing age between the ages of 18 and 45 who visited the Obstetric and Gynaecological unit at Kwahu Government Hospital and the preconception care unit at Koforidua Regional Hospital made up the study's target population. The age of 18 years is considered as the legal age in Ghana at which the female can get married (Ahonsi et al., 2019) and after marriage the individual is expected to conceive. The ages above 45 years are risk factors for women at this age and special care is instituted to ensure the woman can conceive (Mogilevkina et al., 2016). Advancing maternal age is associated with a decrease in ovarian

reserve, increased risk of chromosomal abnormalities, and increased chance of pregnancy complications such as hypertension, gestational diabetes, and miscarriage (American College of Obstetricians and Gynecologists (ACOG), 2020; Steiner & Jukic, 2016). To maximize result, they stated that women over 45 years require individualized preconception counselling and closer monitoring. Evidence suggests that supportive interventions, including assisted reproductive technologies, lifestyle modification, and early screening, have shown to increase the likelihood of conception and reduce adverse maternal and neonatal outcomes.

3.4 Inclusion criteria

- Women between the ages of 18 and 45 who were planning to conceive.
- Women who have had unsuccessful pregnancy and are between the ages of 18 and 45.

3.5 Exclusion criteria

The following group in the target population were excluded.

- Women who were aged 18-45 but are very sick and are mentally unstable.
- Women aged 18 to 45 who did not give their consent were excluded from the study.

3.6 Sampling technique and sample size

Study sample according to; (Taherdoost, 2016) refers to some elements within the target population who are selected for the study. Yamane's 1967 formula was used for the sample size calculation (Adam, 2020). This method is recommended where the entire population size is available (Etikan, 2016; Israel, 2019; Madow, 1968; Singh & Masuku, 2014).

Yamane's formula:

$$n = \frac{N}{1 + N(e)^2}$$

Where:

- e = precision level/margin error in the calculation (alpha level) – 0.05

- N = accessible population size for the study – 200
- n = sample size
- $n = 200/1 + 200 (0.05)^2$
- $n = 200/1 + 0.5$
- $n = 200/1.5 = 133$
- $n = 133$

To address the issue of possible attrition and incomplete data, the sample size was adjusted upward by 10%; thus, the sample size for data collection was 146.

In using the convenient and efficient sampling method, the systematic random sampling approach selects responders in a systematic way from the available population list (Mostafa & Ahmad, 2018). The 146 respondents were selected at a regular interval through an ordered list. The sampling interval is the distance in the list between each of the individuals selected for the sample size (Mostafa & Ahmad, 2018; Taherdoost, 2016). They stated that the technique involves a random start and proceeds to involve every k th element in the accessible population. Therefore, $k = (\text{population size}/\text{sample size})$. From the first to the k th element on the list, the first person on the list is randomly selected rather than being the first choice.

There was preparation of a sampling frame of all units in the accessible population with proper identification. A sample interval was determined at the k th element. A random number was determined from the accessible population (R) such that $I < K < R$ (R was the random start number). The accessible population with serial number as the random start was selected first as the sample unit then every k th number until the total sample size is obtained.

Therefore: $N = 200$, $n = 146$,

$$K = 200/146 = 2$$

$$I < K < R$$

Which is, if the smallest number is 1 as the random start, then every 2nd unit in the accessible population after 2 had the equal probability of being selected until 146 was obtained.

3.7 Data collection instrument

Data collection was carried out using previously validated instruments that has been widely applied in similar studies. The tool was adopted to ensure reliability and validity of findings. Utilizing validated questionnaire ensures the credibility of the study outcomes, as the instrument has undergone prior psychometric testing and demonstrated consistency across different population. Minor contextual adaptations and rephrasing of some wordings were made to suit the study settings, while retaining structure of the instrument (Creswell & Creswell, 2018; Taherdoost, 2016). Since the researcher was attempting to explain the dependent variable (behavioural intention or actual behaviour) based on the independent variable, data was gathered using the theoretical framework's construct (the theory of planned behaviour) under the independent variables of attitude, subjective norm, and perceived behavioural control. The idea behind this was that the independent variable would be antecedent to the dependent variable (Ajzen, 2020; McDermott et al., 2015; Tena et al., 2024). Several studies have applied the Theory of Planned Behaviour (TPB) to examine intentions toward preconception care utilization in low-resource settings, typically using structured Ajzen-derived questionnaires to measure attitude, subjective norms and perceived behavioural control. In cases such as (Setegn, 2021) and (Moshi et al., 2018) used TPB instruments to identify predictors of intention to use preconception services, findings that positives attitude and greater perceived behavioural control were associated with stronger intentions. Adding up to these findings, (Tena et al., 2024) used established measures of behavioural intention to guide sociodemographic data collection while (Demeke et al., 2024) explored attitudes and related characteristics among reproductive-age women with chronic illness. Although these studies converge on the importance of TPB construct, they vary in sample population,

measurement details and analytic approach. This heterogeneity, together with limited cross-study synthesis, leaves an incomplete representation of how sociodemographic characteristics interact with TPB variables across contexts: the present study addresses this gap by examining the perception and factors influencing the use of preconception care among women of childbearing, integrating sociodemographic and TPB-derived measures to clarify how these elements shape care-seeking intentions and behaviour.

The data collection tool for this study was structured in six sections: Section A of the questionnaire asked about sociodemographic variables; Section B asked about attitude; Section C asked about subjective norms; Section D asked about perceived behavioural control; Section E asked about behavioural intention and Section F asked about Predictors of use of preconception care.

3.7.1 Validity and Reliability

Validity refers to how correctly a research tool measures what it is expected to measure (Ahmed & Ishtiaq, 2021; Heale & Twycross, 2015). The validity of the questionnaire was ensured by content validation after pretesting. Pre-testing was done using 20 childbearing age women between 18-45years at the Holy Family Hospital, Nkawkaw. Ethical approval letter was sent to the hospital administration and permission was granted. The researcher and supervisors took the effort to formulate questions and offer more suitable response alternatives to improve the validity of the questionnaire after gaps were found after a successful pretest.

Reliability, on the other hand, is the consistency of measurement throughout time, by various individuals, and with various instruments (Ahmed & Ishtiaq, 2021; Andersson et al., 2024). in this study, reliability was enhanced by adopting questions from validated questionnaire with high reliability scores. The reliability level of the constructs by (Setegn, 2021) was Cronbach's Alpha at attitude = 0.665 subjective norms = 0.757, intention= 0.771. Tena et al. (2024)

Cronbach's alpha was 0.7 for all the constructs and (Demeke et al., 2024) Cronbach was 0.87 for attitude assessing tool.

3.8 Data Collection Procedures

The Ghana Health Service's Ethical and Research Committee (ERC) provided an ethical clearance certificate (GHS-ERC:029/12/24) prior to data collection. The University of Ghana's School of Nursing and Midwifery provided the introductory letter. These documents were presented to the Ghana health Service for approval. Afterwards, these documents were presented to the management of Koforidua Regional Hospital and Kwahu Government Hospital for permission to conduct the research in the facilities then each participant who met the inclusion criteria was presented with these approval letters. Consent was obtained from respondents, who were then given time to respond to the questionnaire. Additionally, respondents were made aware that participation in the study was optional and that they might leave at any time. Also, respondents were informed that, in answering the questionnaire, they are not required to provide their name, address or telephone number to maintain confidentiality of information given.

Respondents were given a detailed explanation of the consent form and were reassured of the privacy and confidentiality of the information gathered. Respondents were advised not to provide their names, residential address, or contact information. Pseudonyms were given to each participant for easy identification and grouping of data. They were encouraged to sign the consent and informed that test items on the questionnaire were written in English and guidance were provided in situations where they do not understand English. Also, respondents gave time that was convenient for them. Questionnaire were paper-base and in google form for those who were comfortable with any of the above. Respondents were given comfortable seats and privacy at the hospital conference room during data collection. Data was taken from respondents routinely from January to March, guided by the objectives of the study and the

conceptual framework. This made it easier for respondents to provide information about their attitudes, subjective norms, perceived behavioural control, and behavioural intents that affect how women of reproductive age view and utilized preconception care. Respondents used at least 10 - 15 minutes in responding to all the items in the questionnaire.

3.9 Data Management

Data collected from participant was password-protected and made available only during analysis period.

3.10 Pretesting of Data collection tool

As stated by the Council of the Inspectors General on Efficiency and Integrity (2009) pretesting is an important step in data collection process. To ensure validity and reliability, data collection tool was accessed with permission from scholars who have research in these areas, the supervisors of this study also accessed the validity of the test items for data collection.

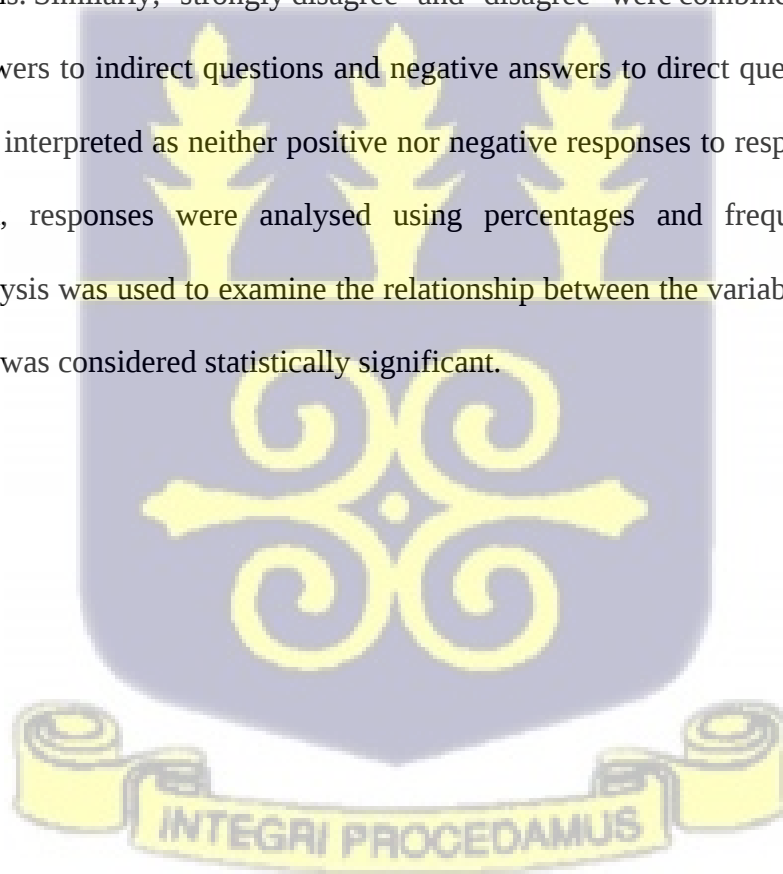
Pre-testing was done using 20 childbearing age women between 18-45years at the Holy Family Hospital, Nkawkaw. This process facilitated the identification and revision of unsuitable items in the questionnaire before the main study. It also gave an estimate of how long the respondents would need to finish the questionnaire. All respondents approached for the pretesting were willing to respond.

3.11 Data Analysis

At end of data collection, 138 responses were received. Out of 138 responses, 2 were incomplete, leaving 136 from which the first 133 were selected and analysed. Version 28.0 of the Statistical Package for Social Sciences Software (SPSS) was used to analyse the data that was gathered. When necessary, data frequencies were used to spot errors or omissions. To guarantee correctness and applicability, the entered data was examined several times. The analysis was carried out in accordance with the aims of the study, and some data were changed

as needed to make interpretation simpler. Descriptive statistics, such as frequency and percentage, were computed in the data analysis to look at the respondents' demographic traits.

Analysing the data on perception, attitude, subjective norms, perceived behavioural controls, intention to use preconception care and utilization of preconception care was done using descriptive statistics. Since these variables were assessed using a 5-items Likert scale with responses: “strongly agree”, “agree”, “neutral” “disagree” and “strongly disagree”, related responses to the same question were combined and interpreted as a common response to the question. In other words, the respondents' "strongly agree" and "agree" answers were aggregated and interpreted as positive answer to direct questions and a negative answer to reverse questions. Similarly, "strongly disagree" and "disagree" were combined and interpreted as positive answers to indirect questions and negative answers to direct questions. “Neutral” responses were interpreted as neither positive nor negative responses to respective questions. Following that, responses were analysed using percentages and frequencies. Pearson correlation analysis was used to examine the relationship between the variables. A p-value of less than <0.05 was considered statistically significant.



CHAPTER FOUR

RESULTS

The study's results are presented in this chapter. This study assessed women in Eastern Region who were of reproductive age how they perceived and utilized preconception care. This study also looked at the relationship between reproductive-aged women's behavioural intention regarding preconception care and their attitude, subjective norms, and perceived behavioural controls. It also looked at the relationship between preconception care utilization predictors and intention.

4.1 Socio-demographic characteristics of respondents

respondents. Respondents' sociodemographic characteristics that were assessed included age, marital status, parity, level of education and household economy. These results are presented in table 4.1.1 and 4.1.2 below:

Table 4.1.1 below shows the results, which show that most responders 79 (59.4%) were aged 19-28, majority 122 (91.7%) were Christians and Akans 73 (54.9). Majority 79 (59.4) of respondents did not have children; however, 124 (93.2%) planned to have children in the future.

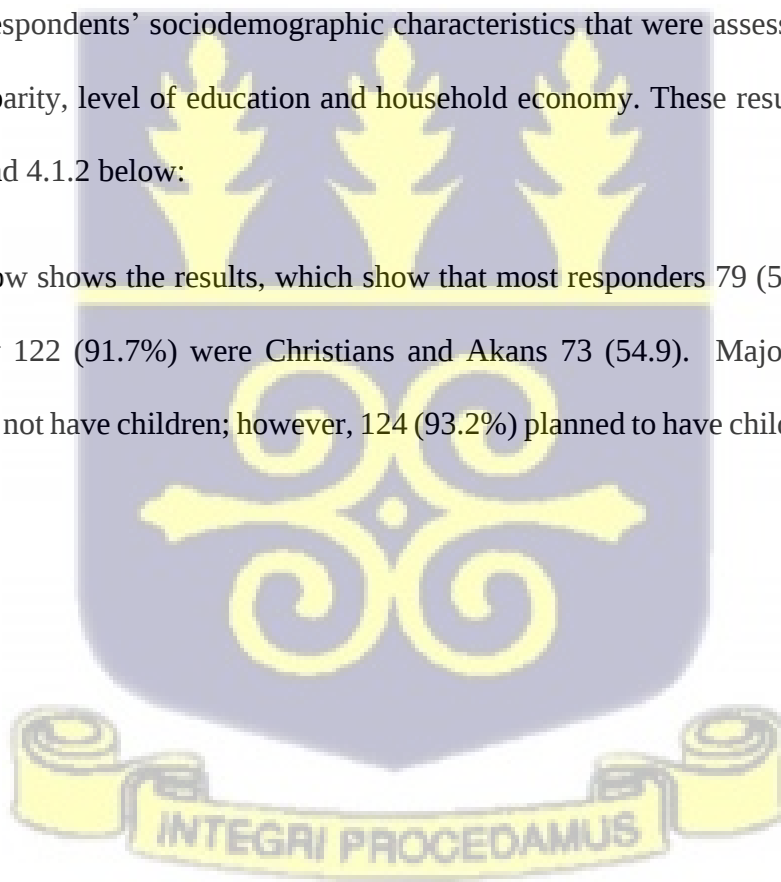


Table 4.1.1 Socio-demographic characteristics of respondents

Variable	N (%)
Age	
19-28	79 (59.4)
29-38	49 (36.8)
39-49	5 (3.8)
Religion	
Christianity	122 (91.7)
Islam	11 (8.3)
Traditionalist	0 (0.0)
Other	0 (0.0)
Ethnicity	
Akan	73 (54.9)
Ewe	27 (20.3)
Ga	18 (13.5)
Krobo	5 (3.8)
Others	10 (7.5)
Language spoken	
Akan	64 (48.1)
Ewe	10 (7.5)
Ga	10 (7.5)
Akan, Ewe	8 (6.0)
Akan, Ga	5 (3.8)
Shai	5 (3.8)
Others	31 (23.3)
Do you have children?	
Yes	54 (40.6)
No	79 (59.4)
Do you plan to have children in the future?	
Yes	124 (93.2)
No	9 (6.8)
Not Sure	0 (0.0)

From table 4.1.2 below, 53 (39.8%) respondents were married, 36 (27.1%) were in a relationship, 41 (30.8%) were single and 3 (2.3%) were divorced. On respondents' educational status, 61 (45.9%) had attained tertiary education and 45 (33.8%) had schooled up to senior high level. On their employment status, 53 (39.8%) of respondents were formally employed, 29 (21.8%) were students and 26 (19.5%) were self-employed. This result suggests that at least 59.3% of respondents had reliable income and could be independent of financial aid. Results

further indicate that most of the respondents with employment 49 (36.8%) earned GH¢ 1, 000-2,900 and 27 (20.3%) earned GH¢ 3, 000-3,900, 14 (10.5%) earned less than GH¢ 1, 000 while 8 (6.0%) earned GH¢ 5, 000 and above. An assessment of respondents' spouses' employment and income status indicates that 77 (57.9%) of respondents' spouses were formally employed and 10 (7.5%) were self-employed. Most of respondents' spouses 36 (27.1%) were earning GH¢ 3, 000- 3,900 and 21 (15.8%) were earning GH¢ 5, 000 and above. Majority 71 (53.4%) of respondents lived in urban areas and 35 (26.3%) lived in rural areas.



Table 4.1.2. Sociodemographic characteristics of respondents

Variable	N (%)
Marital status	
Married	53 (39.8)
In a relationship	36 (27.1)
Single	41 (30.8)
Divorced	3 (2.3)
Level of education	
Tertiary	61 (45.9)
SHS	45 (33.8)
JHS	15 (11.3)
No formal Education	12 (9.0)
Employment Status	
Formally employed	53 (39.8)
Unemployed	25 (18.8)
Student	29 (21.8)
Self-employed	26 (19.5)
Household income (GHC)	
Less than 1,000	14 (10.5)
1,000-2,900	49 (36.8)
3,000-3,900	27 (20.3)
4,000-4,900	0 (0.0)
5,000 and above	8 (6.0)
Not Applicable	35 (26.3)
Employment Status (Spouse)	
Employed	77 (57.9)
Unemployed	0 (0.0)
Student	2 (1.5)
Self-employed	10 (7.5)
Not Applicable	44 (33.1)
Household income (Spouse) (GHC)	
Less than 1,000	5 (3.8)
1,000-2,900	19 (14.3)
3,000-3,900	36 (27.1)
4,000-4,900	6 (4.5)
5,000 and above	21 (15.8)
Not Applicable	46 (34.6)
Residence	
Urban	71 (53.4)
Suburban	27 (20.3)
Rural	35 (26.3)

4.2 Perceptions of women in childbearing age on preconception care.

The results on respondents' views of preconception care are shown in this section. On a Likert scale of 1 to 5, the perception of preconception care was evaluated. Responses that indicated "strongly agree" and "agree" were regarded as positive responses and were reported as such for each item, whereas responses that indicated "strongly disagree" and "disagree" were regarded as negative responses and were reported as such. Results are presented in table below:

Table 4.2 Perception of preconception care

Statement	SA	A	N	D	SD
Preconception care can help reduce pregnancy risks and complications	77(57.9)	47(35.3)	5(3.8)	4(3.0)	0(0.0)
Preconception care is unnecessary if I feel healthy	10 (7.5)	9 (6.8)	13(9.8)	60(45.1)	41(30.8)
Preconception care can improve my overall health before pregnancy	75(56.4)	40(30.1)	9 (6.8)	9 (6.8)	0(0.0)
Preconception care is available for women who have delivered babies with congenital malformations	32(24.1)	39(29.3)	10(7.5)	24(18.0)	28(21.1)
Preconception care helps in preventing potential health issues before pregnancy	85(63.9)	34(25.6)	5 (3.8)	9(6.8)	0 (0.0)
Preconception care provides valuable health information to women	74(55.6)	50(37.6)	5(3.8)	4(3.0)	0(0.0)
Preconception care would improve my knowledge about pregnancy	82(61.7)	42(31.6)	5(3.8)	4(3.0)	0(0.0)
Preconception care would help me feel more prepared for pregnancy in terms of health readiness	86(64.7)	38(28.6)	5(3.8)	4(3.0)	0(0.0)
I am confident that I can access preconception care services if I decide to	49(36.8)	57(42.9)	23(17.3)	4(3.0)	0(0.0)

Study respondents reported different perceptions of preconception care. Results indicate that respondents perceived preconception care as an intervention that can help reduce pregnancy risks and complications (124, 93.2%). Respondents rejected the assertion that preconception care is unnecessary if a woman feels healthy (101, 75.9%). Respondents also perceived

preconception care as an intervention that can improve overall health before pregnancy (115, 86.5%), available for women who have delivered babies with congenital malformations (71, 53.4%) and helps in preventing potential health issues before pregnancy (119, 89.5%). Furthermore, respondents perceived preconception care as an intervention that provides valuable health information to women (124, 93.2%), would improve their knowledge about pregnancy (124, 93.2%), and help them feel more prepared for pregnancy in terms of health readiness (124, 93.2%), as well as an intervention that is readily accessible (106, 79.7%). The results collectively indicate that respondents had good or positive perceptions of preconception care.

4.3 Relationship between attitude, subjective norms, perceived behavioural control and intention to use preconception care

The results on the association between attitude, perceived behavioural control, subjective norms, and intention to use preconception care are shown in this section. The results of the descriptive analysis are shown first, followed by the inferential statistics, to provide a clear understanding of the relationship between these variables. These variables were assessed on a Likert scale of 1-5, therefore, responses: “‘strongly agree’ and ‘agree’” were considered positive responses and were reported collectively as such, while responses: “‘strongly disagree’ and ‘disagree’” were treated as negative responses and collectively reported as such for each item. Likewise, for subjective norms, responses: “‘Very influential’ and not very influential were treated as positive responses while responses: “‘somewhat influential and not influential’” were treated as negative responses and reported collectively as such. Results are reported as presented in table 4.3.1, 4.3.2, 4.3.3 and 4.3.4 below:

Table 4.3.1 Respondents' beliefs and attitude towards preconception care

Statement	SA	A	N	D	SD
I believe Preconception care can help reduce pregnancy risks and complications	77(57.9)	47(35.3)	5 (3.8)	4 (3.0)	0 (0.0)
I believe preconception care can improve my overall health before pregnancy	75(56.4)	40(30.1)	9 (6.8)	9 (6.8)	0 (0.0)
Preconception care is unnecessary if I feel healthy	11(8.3)	8 (6.0)	13(9.8)	60(45.1)	41 (30.8)
I know preconception care is available for women who have had babies with congenital malformations	28(21.1)	25(18.8)	10(7.5)	39(29.3)	31 (23.3)
I am confident that preconception care would help in preventing potential health issues before pregnancy	85(63.9)	34(25.6)	5 (3.8)	9 (6.8)	0 (0.0)
I am convinced that preconception care provides valuable health information to women	74(55.6)	50(37.6)	5 (3.8)	4 (3.0)	0 (0.0)
I am confident that preconception care would improve my knowledge about pregnancy	82(61.7)	42(31.6)	5 (3.8)	4 (3.0)	0 (0.0)
I am confident that preconception care would make me feel more prepared for pregnancy in terms of health readiness	86(64.7)	38(28.6)	5 (3.8)	4 (3.0)	0(0.0)
I am confident that I can access preconception care services if I decide to	49(36.8)	57(42.9)	23(17.3)	4 (3.0)	0(0.0)

According to the results in table 4.3.1 above, most respondents 124 (93.2%) believed that preconception care can help reduce pregnancy risks and complications, 115 (86.5%) of respondents believed that preconception care can improve my overall health before pregnancy, while 101 (75.9%) of respondents disagreed that preconception care is unnecessary if they feel healthy. Likewise, 70 (52.6%) knew that preconception care is available for women who have had babies with congenital malformations and 119 (89.5%) were confident that preconception care would help in preventing potential health issues before pregnancy. Majority of respondents 124 (93.2%) were convinced that preconception care provides valuable health information to women; 124 (93.3%) of respondents were confident that preconception care would make me feel more prepared for pregnancy in terms of health readiness while 106 (79.7%) were confident that they can access preconception care services if they decide to. These results

collectively indicate that respondents had positive beliefs and attitudes towards preconception care.

Table 4.3.2 Subjective norms that influence intention of preconception care use

Statement	SA	A	N	D	SD
I am likely to seek preconception care if advised by my Healthcare provider	49 (36.8)	71 (53.4)	5 (3.8)	8 (6.0)	0 (0.0)
My family's belief that preconception care is necessary before having children will influence me to seek preconception care	14 (10.5)	73 (54.9)	34 (25.6)	8 (6.0)	4 (3.0)
I will seek preconception care because my close friends think it is important to seek preconception care before pregnancy	31 (23.3)	60 (45.1)	33 (24.8)	9 (6.8)	0 (0)
How influential are the following people in your decision to seek preconception care?	Very Influential (VI)	Not very influential (NVI)	Neutral (N)	Somewhat Influential (SWI)	Not influential at all (NIAA)
Partner/spouse	100 (75.2)	10 (7.5)	8 (6.0)	15 (11.3)	0 (0.)
Family members	20 (15.0)	18 (13.5)	22 (16.5)	69 (51.9)	4 (3.0)
Friends	33 (24.8)	4 (3.0)	42 (31.6)	45 (33.8)	9 (6.8)
Healthcare provider	106 (79.7)	0(0.0)	8 (6.0)	19 (14.3)	0(0.0)

From table 4.3.2 above, results indicate that majority of respondents 120 (90.2%) were likely to be influenced by their healthcare providers' advice to seek preconception care, family members' beliefs about the necessity of preconception care would influence preconception care seeking intention of 87 (65.4%) of respondents whiles 91 (68.4%) of respondents would be influenced by the thought of their close friends regarding the importance of preconception care. Concerning how influential some persons of significance could be to respondents in terms of their intention to seek preconception care, 110 (82.7%) indicated that their partners/spouses were influential in making decision about preconception care, 114 (85.7%) indicated that their healthcare providers were influential in their decision making about preconception care and 73 (54.9%) indicated that their family members were influential in their decision making about preconception care. However, respondents were balanced on whether their friends were

influential in their decision making about preconception care as 37 (27.8%) indicated that they were influential and 54 (40.6%) indicated that they were not influential with 42 (31.6%) being neutral. This study, therefore, identified healthcare providers, family members, spouses/partners and close friends as significant others that influenced respondents' intention to seek preconception care.

Table 4.3.3 Perceived behavioral controls that affect acceptability of preconception care to respondents

Statement	SA	A	N	D	SD
Having easy access to healthcare services that provide preconception care increases acceptability of preconception care to me	21(15.8)	56(42.1)	34(25.6)	17(12.8)	5(3.8)
Having sufficient information can help me make informed decisions about preconception care	34(25.6)	60(45.1)	20(15.0)	19(14.3)	0(0.0)
Increasing accessibility to preconception care services would improve their utilization.	78(58.6)	32(24.1)	10(7.5)	8(6.0)	5(3.8)
Access to more education about preconception care would make it easier for me to utilize these services	69(51.9)	46(34.6)	9 (6.8)	4(3.0)	5(3.8)
Providing more educational resources about preconception care would be beneficial	73(54.9)	46(34.6)	5 (3.8)	4(3.0)	5(3.8)
Availability of affordable preconception care services would facilitate my access to preconception care	83(62.4)	32(24.1)	9 (6.8)	4(3.0)	5(3.8)
Support from family and community would encourage me to engage in preconception care	54(40.6)	51(38.3)	19(14.3)	4(3.0)	5(3.8)
Lack of awareness about preconception care makes it challenging for me to access preconception care	69(51.9)	43(32.3)	16(12.0)	0 (0.0)	5(3.8)
Financial constraints make it difficult for me to utilize preconception care services	46(34.6)	47(35.3)	22(16.5)	18(13.5)	0(0.0)
Cultural beliefs and social norms discourage me from using preconception care services	21(15.8)	22(16.5)	25(18.8)	47(35.3)	18(13.5)

From table 4.3.3 above, results indicate that having easy access to healthcare services that provide preconception care increases acceptability of preconception care to respondents (77, 57.9%), having sufficient information can helped respondents 94 (70.7%) to make informed

decisions about preconception care while increasing accessibility to preconception care services would improve their utilization by respondents (120, 82.7%). Similarly, majority of respondents 115 (86.5%) indicated that access to more education about preconception care would make it easier for them to utilise these services while providing more educational resources about preconception care would be beneficial to a majority of respondents (119, 89.5%) and availability of affordable preconception care services as well as support from family and community would facilitate acceptability of preconception care to 115 (66.5%) and 105 (78.9%) of respondents respectively.

On the other hand, lack of awareness about preconception care makes it challenging for respondents 112 (84.2%) to access preconception care while financial constraints hindered preconception care services utilization to 93 (69.9%) respondents. This study identifies easy access to preconception care services, sufficient information about preconception care, increasing accessibility to preconception care services, access to more education about preconception care, providing more educational resources and availability of reasonably rated preconception care services as factors that facilitated or will facilitate their utilization of preconception care, while lack of awareness about preconception care and financial constraints hindered utilization of preconception care by respondents.

Table 4.3.4. Relationship between attitude, subjective norms, perceived behavioral control and intention

	Intention to seek preconception care	
	Correlation Coefficient (r)	P-value
Attitude	0.289**	0.001
Subjective norm	0.174*	0.045
Perceived behavioural control	0.509**	0.000

****.** Correlation is significant at the 0.01 level (2-tailed).

**. Correlation is significant at the 0.05 level (2-tailed).*

According to the results shown in table 4.3.4 above, there was a statistically significant weak positive correlation ($r=0.289$, $p=0.001$) between the intention to seek preconception care and attitude toward preconception care; a significant weak positive correlation ($r=0.174$, $p=0.045$) between the intention to seek preconception care and subjective norms; and a moderately positive correlation ($r=0.509$, $p = 0.000$) between the intention to seek preconception care and perceived behavioural controls. These results suggest that respondents' intention to seek preconception care may rise in response to increases in any of the following variables: attitude, subjective norms, and perceived behavioural controls, and vice versa.

4.4 Relationship between intention to seek preconception care and use of preconception care

This section presents results for the relationship between respondents' intention to seek preconception care and the acceptability of preconception care to them. To create a clear understanding of the relationship between intention and use, results of descriptive analysis of these two variables are presented in precession to the result on the relationship between the two variables. Since intention and use were assessed on a Likert scale of 1-5, responses “‘strongly agree’ and ‘agree’” were considered positive responses and were reported collectively as such, while responses: “‘strongly disagree’ and disagree’” were treated as negative responses and collectively reported as such for each item. Results are reported as presented in table 4.4.1, 4.4.2, 4.4.3 below:

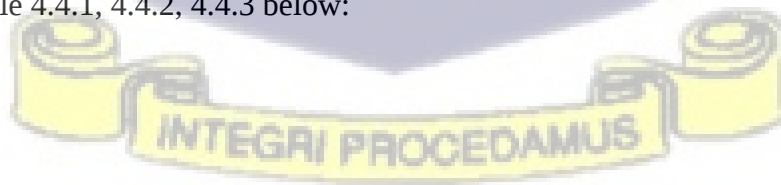


Table 4.4.1. Intention to seek preconception care

STATEMENT	SA	A	N	D	SD
I am likely to use preconception care services because I have plans to conceive in the future	50(37.6)	57(42.9)	8(6.0)	5(3.8)	13(9.8)
I intend to make an appointment for preconception care if I decide to have a baby	49(36.8)	70(52.6)	0(0.0)	5(3.8)	9 (6.8)
I intend to seek preconception counselling within the next 6 months if I plan to conceive	17(12.8)	65(48.9)	33(24.8)	9(6.8)	9 (6.8)
Cultural beliefs and social norms that do not support preconception care would discourage me from seeking it	8(6.0)	17(12.8)	43(32.3)	27(20.3)	38(28.6)
High cost associated with the preconception care would deter me from using these services	18(13.5)	40(30.1)	23(17.3)	47(35.3)	5 (3.8)
Support from family and friends would motivate me to seek preconception care	26(19.5)	55(41.4)	34(25.6)	6 (4.5)	12 (9.0)
Recommendations from healthcare providers would encourage me to utilize preconception care services	48(36.1)	57(42.9)	14(10.5)	0 (0.0)	14(10.4)

From table 4.4.1 above, majority of respondents 107 (80.5%) intended to use preconception care because they planned to have children in the future, 119 (89.4%) intended to make an appointment for preconception care if they decided to have a baby, while 82 (61.7%) intended to seek preconception counselling within six months if they planned to conceive. Adversely, certain factors negatively influenced respondents' intention to seek preconception care. Cultural beliefs and social norms that do not support preconception care hindered respondents' intention to seek preconception care as only 65 (48.9%) of them intended to seek preconception care under such circumstances. Also, high cost of services did not stimulate respondents' intention to seek preconception care, manifesting in only 52 (39.1%) of respondents expressing intention to seek preconception care at high cost. However, respondents 81 (60.9%) expressed intention to seek preconception care if supported by their family and friends. Likewise, a majority 107 (79%) of respondents intended to seek preconception care on the recommendation of their healthcare providers. The summative implication of this result is that respondents had intention to seek preconception care for various reasons and under various conditions. Building

on this, it is crucial to investigate how women's confidence and actual use of these services can be further strengthened by structural and interpersonal factors, such as support from healthcare providers, awareness campaigns, and the incorporation of preconception health into larger health promotion programs.

Table 4.4 2. Utilization of preconception care to respondents

Statement	SA	A	N	D	SD
I have used preconception medical services	54(40.6)	33(24.8)	6 (4.5)	27(20.3)	13 (9.8)
I have used preconception reproductive health services	52(39.1)	34(25.6)	5 (3.8)	28(21.1)	14 (10.5)
I have used preconception lifestyle and behavioural services	36(27.1)	49(36.8)	10 (7.5)	13 (9.8)	22 (16.5)
I have used preconception mental health services	45(33.8)	42(31.6)	14(10.5)	24(18.0)	8 (6.0)
I have used preconception social and environmental services	52(39.1)	33(24.8)	7 (5.3)	29(21.8)	12 (9.0)
I will recommend preconception care to other women	48(36.1)	44(33.1)	33(24.8)	7 (5.3)	1 (0.8)

From table 4.4.2 above, results indicate that 87 (65.4%) have used different preconception medical services, 86 (64.7%) have used different preconception reproductive health services and 85 (63.9%) have patronised preconception lifestyle and behavioural services. Likewise, 87 (65.4%) of respondents have patronise preconception mental health services, 85 (63.9%) have utilised preconception social and environmental. Respondents, having utilised preconception care expressed eagerness to recommend it to other women, manifesting in 92 (69.2%) of respondents indicating that they will recommend preconception care to other women of reproductive age. According to the results, it indicates that utilizing preconception care ranged 63.9%-69.2% and averaged at 65.4% among respondents.

Table 4.4.3. Relation between intention and use of preconception care

	Intention to seek preconception care	
	Pearson Correlation (r)	P-value
Use of preconception care	-0.068	0.440

Significance = $p < 0.05$

From table 4.4.3 above, the result indicates that there was a statistically insignificant strong negative correlation between intention to seek preconception care and utilization of preconception care to respondents ($r = -0.068$, $p = 0.440$). This implies that an increase in intention to seek preconception care was likely to result in a reduction in utilization of preconception care by respondents, vice versa.

4.5 Predictors influencing the use of preconception care

This section presents results on factors that determined utilization of preconception care to respondents. A multiple linear regression was run with use of preconception care as the dependent variable. results are presented in table 4.5 below:

Table 4.5. Predictors of use of preconception care

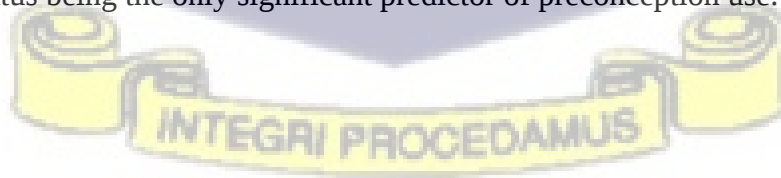
Variable	Unstandardized Coefficients		t	p-value
	B	Std. Error		
(Constant)	2.870	1.527	1.880	0.062
Educational level	-0.063	0.113	-0.560	0.576
Employment status	0.203	0.102	1.994	0.048
Marital status	0.149	0.094	1.583	0.116
Perception	-0.146	0.324	-0.452	0.652
Attitude	0.173	0.187	0.925	0.357
Subjective norm	-0.042	0.068	-0.620	0.536
Intention	-0.010	0.147	-0.070	0.944

Dependent variable: use of preconception care. Significance- $p = 0.05$, B= Coefficient of variability, $t = T$ Test

Results in table 4.5 above indicate that an increase in respondents level of education by one unit towards tertiary education resulted in a reduction towards use of preconception care by 0.063 units ($B = -0.063$, $p = 0.576$), an increase in employment status by 1 unit towards formal employment resulted in an increase in use of preconception care by 0.203 unit ($B = 0.203$, $p = 0.048$) the number of people seeking preconception care increased as their marital status increased by 0.149 units ($B = 0.149$, $p = 0.116$). An improvement in perception about preconception care resulted in a reduction in use by 0.146 units ($B = -0.146$, $p = 0.652$), and increase in attitudes towards preconception care increased utilization by 0.173 units ($B = 0.173$, $p = 0.357$) while an increase in the number of subjective norms reduced utilization by 0.042 units ($B = -0.042$, $p = 0.536$) and an increase in intention for preconception care use resulted in a reduction in utilization by 0.01 units ($B = -0.010$, $p = 0.944$). It must be noted that these effects of the various predictors of uptake were negligible and except employment status, not statistically significant, meaning that they could have happened by chance, and could not be replicated to another population. Therefore, these results must be interpreted with a careful consideration.

4.6 Summary of study findings

Respondents had positive perception and attitude toward preconception care. Attitude, subjective norm and perceived behavioural control were positively correlated with intention to seek preconception. Actual use of preconception care was lower than intention, with employment status being the only significant predictor of preconception use.



CHAPTER FIVE

DISCUSSION

Based on the research objectives, this chapter offers a breakdown of the study's result. The study explored women in Eastern Region who were of childbearing age perception and factors influencing the use of preconception care. For this study, 133 women were randomly selected using an analytical cross-section approach.

5.1. Demographic characteristics of respondents

Respondents were urban residents (71, 53.4%), lower than 77.7% reported in a previous study in Southwest Ethiopia (Alie et al., 2022); Respondents were also highly educated: senior high school-tertiary (106, 79.7%) higher than 67.9% reported in Malawi which is (97, 38.3%) attained secondary school education (Munthali et al., 2020) 59.9% in Jordan (Alkhatib et al., 2024) and 57.1% reported in Southern Ethiopia (Tena et al., 2024) but lower than 83.2% reported in North-West Nigeria (Umar et al., 2019). Respondents were formally employed and self-employed (79, 59.3%), and these finding is similar to an earlier study in Southern Ethiopia which respondents were mostly (34.2%) housewives (Tena et al., 2024) but differs from one conducted in Nepal in which majority (54.4%) of respondents were housemakers (Aryal et al., 2024) and another conducted in North-Western Nigeria which reported that 52.7% were unemployed (Umar et al., 2019). Respondents were also partnered: married and in a relationship (66.9%), a proportion lower than 75.9% reported in Jordan (Alkhatib et al., 2024), and 90.4% reported in Southern Ethiopia (Tena et al., 2024). The study indicates that demographic factors such as residence, education, employment, and marital status significantly influence perceptions and use of preconception care. While higher education increased awareness, it did not always lead to greater utilization, highlighting a gap between knowledge and action. Economic status and lower marital support also affected health-seeking behaviors

of these women, suggesting that improving preconception care requires addressing not just awareness but also broader social, structural and contextual barriers.

5.2 Perception of preconception care among women of childbearing age

This study established that respondents had positive perceptions about preconception care. They perceived preconception care as an intervention. Results indicate that respondents perceived preconception care as an intervention that can help reduce pregnancy risks and complications and rejected the assertion that preconception care is unnecessary if a woman feels healthy. This finding is like an earlier study that reported that women of reproductive age in North-Western Nigeria believed that preconception care was beneficial to their health (Umar et al., 2019).

Furthermore, respondents perceived preconception care as an intervention that provides valuable health information to women. This can be collectively interpreted as respondents perceiving preconception care as an intervention that is beneficial to their health, like earlier research in South Africa (Ukoha & Mtshali, 2021) and Ethiopia (Demeke et al., 2024).

On the average, 84.2% of respondents reported positive perceptions about preconception care. This finding is higher than those reported in earlier studies where 72.5% among women in North-Western Nigeria (Umar et al., 2019) and 74.7% among women of reproductive age in Mzuzu City, Malawi (Munthali et al., 2020) had positive perception about preconception care. Sociodemographic changes between the current study and previous ones may be the cause of the variations in the percentage of respondents who had a positive view of preconception care. The current study's respondents were highly educated and employed in some capacity. However, on the contrary, respondents' previous studies who displayed poor perception of preconception care in North-Western Nigeria were informally educated and unemployed

(Umar et al., 2019) as well as highly educated but highly unemployed in Mzuzu City, Malawi (Munthali et al., 2020).

5.3 Relationship between attitude, subjective norm, perceived behavioural control and behavioural intention of women of childbearing age on preconception care.

According to this study, attitude was a predictor of preconception care use since it was positively correlated with intention to use preconception care services. This finding is comparable to earlier cross-sectional studies conducted in rural Tanzania (Moshi et al., 2018) and in Southern Ethiopia (Tena et al., 2024). This study underscores the need to improve the attitude of women of reproductive age towards preconception care. Consistent with previous studies, this study also found a positive correlation between subjective norms and intention to use preconception care (Ayalew et al., 2017; Setegn, 2021) from North-West Ethiopia and South-West Ethiopia respectively.

All these findings point to a positive correlation between desire to seek preconception care, attitude, subjective norms, and perceived behavioural controls. This outcome is consistent with past research from Southern Ethiopia and South-West Ethiopia (Setegn, 2021) discovered that women's attitude, subjective norms, and perceived behavioural controls had a positive relationship with their intention to use preconception. This meant that a positive change in the predictor variables—attitude, subjective norms, and perceived behavioural controls—predicted, to varying degrees, an increase in the intention of women in South-West Ethiopia who were of reproductive age to use preconception care. Additionally, another study found that women's attitudes regarding pre-pregnancy care and subjective standards were very significant predictors of pre-pregnancy care use in Larestan, Iran, using the theory of planned behaviour to predict factors that affected pre-pregnancy care among women of reproductive age (Zamani et al., 2021). Furthermore, a more recent cross-sectional study revealed attitude, subjective standards and perceived behavioural controls as factors that influenced the intention

to employ preconception care by women of reproductive age in Southern Ethiopia (Tena et al., 2024).

This finding provides broad evidence to inform policymaking to increase the intention of women of childbearing age to use preconception care, as does the literature's consensus on the impact of attitude, subjective norms, and perceived behavioural controls on this intention. This result suggests actions that are intended to at improving women of reproductive age's intention to use preconception care will have high chances to succeed if they improve the women's attitude towards preconception care and sensitise their significant others on preconception care as well as provide more enablers (such as resources and more accurate education on preconception care), whiles limiting hinderances to preconception care (such as financial obligations and poor awareness of preconception care).

5.4 Relationship between intentions and behaviour of women of childbearing age's use of preconception care.

The result indicates that there was a statistically insignificant strong negative correlation between intention to seek preconception care and acceptability of preconception care to respondents ($r = -0.068$, $p = 0.440$). this result implies that the strong intention of respondents to engage in the use of preconception care was rather associated with reduced use or utilization of preconception care services. This finding differs from the discovery made by Phau et al. (2015) that someone's intention to engage in a behaviour will lead them to perform it. It also contradicts the finding that when someone have strong intention to engage in a behaviour, they end up performing it (Balau, 2018). These finding is also different from the finding of positive relationship between intention and the behaviour of self-sampled testing for human papilloma virus in a group of women of reproductive age Ontario, Canada (Smith et al., 2014). The difference between the two studies could be attributed to the fact that self-sampling, as reported in the previous study required that the respondents take their own test samples at their

convenience and just submit them to their health facility for the test unlike, preconception care which requires that the respondents present themselves to the facility for the service.

It is therefore assumed that although, respondents had strong intention to utilise preconception care, their utilization was low because of concerns with long waiting hours, availability of preconception care services, distance between them and their health facilities and maybe cost of the preconception care services as deduced from the findings of an earlier research in Nepal (Aryal et al., 2024). This requires that further investigation is done to identify factors that could moderate or affect the relationship between intention and the utilization of preconception care. Although, the previous studies (Balau, 2018) and Smith et al. (2014) did not examine the relationship between intention and behaviour towards preconception care, but other phenomena, comparing the finding of the present study with theirs presents a clear image of the prevailing relationship between intention and behaviour which can be leveraged to improve behaviour towards any phenomenon.

5.5 Predictors of behaviour in women of childbearing age towards preconception care use.

This study reported an average acceptance level of 65.4% for all preconception care services. This level of utilization is higher than the level of 44.5% that was reported in an earlier study conducted in Nepal (Aryal et al., 2024). Although, the respondents of the two studies had attained higher levels of education, the respondents in the current study were mostly employed; therefore, could have had some level of financial empowerment to improve their acceptability, unlike the respondents in the earlier study who were mainly housewives and largely depended on their partners for their preconception care decisions (Aryal et al., 2024). To the contrary, a far lower utilization of 1.5% was reported by another study (Alie et al., 2022) in South-West Ethiopia. Differences in the socioeconomic status of the two samples may account for the discrepancy between the results of the current study and the previous one. For example,

respondents in the current study were highly educated and employed in a variety of occupations, whereas respondents in the previous study were housewives and less educated.

Utilization of preconception care was predicted by respondents' attitude. This discovery is comparable to a qualitative study that found attitude as a major predictor of preconception care utilization in a group of urban and rural women in Kenya (Okemo et al., 2021) and other studies in Ethiopia (Amaje et al., 2022; Setegn, 2021). However, an improvement in respondents' perceptions about preconception care resulted in an insignificant, negligible reduction in its use ($B = -0.146$, $P = 0.652$). This finding differs from another research that rather established that better perceptions of preconception care improved its utilization among women of childbearing age in Southern Ethiopia by a negligible amount ($B = 0.201$) (Tena et al., 2024). This difference may be explained by contextual differences in health systems and sociocultural factors. In Ghana, despite improved perceptions, barriers such as limited accessibility of preconception services, inadequate provider emphasis, and competing health priorities may have hindered actual use of preconception care. On the contrary, the Ethiopian study was conducted in a setting where community-based health education programs may have modestly facilitated the uptake, even if the effect size remained negligible. These findings point out that positive perceptions alone are inadequate; structural and systemic enablers are critical to translating awareness into practice.

It must be noted that the strength of prediction of use by perception was negligible in both the current study and the earlier, however, the finding in the present study was statistically insignificant, meaning that it could have happened by chance and might not be replicated to other populations or the same population under different circumstance. In contrast to previous research conducted in Ethiopia, respondents' use of preconception care decreased by 0.042 when subjective norms increased (Amaje et al., 2022; Fetena et al., 2023). All these studies came to the same conclusion: partners had a greater impact on childbearing age women's uptake

of preconception care. Thus, the discrepancy between the results of the current study and the earlier research may be due to respondents' varying marital statuses, with more women (78.9% in the current study compared to 93.8% in the earlier studies) (Fetena et al., 2023) and (Amaje et al., 2022) were married than 66.9% in this study who were married and in a relationship. This variation highlights the critical role of marital status in shaping preconception care use. In contexts where a higher proportion of women are married, partner influence may be more direct and supportive, thereby enhancing preconception care use. However, in the present study, the comparatively lower proportion of married respondents may have diluted this effect, as women in non-marital relationships may experience less encouragement or decision-making support regarding health behaviors. These findings suggest that marital status is not merely a demographic variable but a determinant that interacts with social support structures to influence preconception care use.



CHAPTER SIX

SUMMARY, IMPLICATIONS, LIMITATION, CONCLUSION AND RECOMMENDATIONS

The main findings of the study are summarized in this chapter, along with its significance for the nursing profession, conclusions, and suggestions for enhancing the acceptance and use of preconception among women of reproductive age.

6.1 Summary of the Study

The study's respondents had good perception on preconception care for women who are of childbearing age. To put it succinctly, they believed preconception care as an intervention can improve their overall health before becoming pregnant.

Additionally, this study found a positive correlation between the theory of planned behaviour's dimensions of attitude, subjective norms, and perceived behavioural control and the desire to use preconception care.

Additionally, there was a favourable correlation between the actual use of preconception care and the intention to utilize it.

Moreover, preconception care use was predicted by respondents' attitudes towards preconception care, subjective norms, perceived behavioural controls, intention and socio-demographic variables.

6.2 Implications for Midwifery

6.2.1 Implication for midwifery education

Respondents of this study identified healthcare providers as major facilitators of their acceptance and practice of preconception care. It is, however, a common knowledge that nursing practitioners are those around whom preconception care delivery evolves, therefore, nursing practitioners require more and adequate knowledge on preconception. This suggests

that including preconception care in nursing curricula will help nursing professionals have the necessary knowledge from the start so they can assist women of reproductive age who seek medical care in recognizing the value of preconception care and its uptake.

6.2.2 Implication for Midwifery practice

Nurses are at the forefront of preconception care delivery. Nursing practice plays a vital role in the delivery of preconception care. The results of this study show that partners and healthcare providers had a significant impact on women of reproductive age's acceptance of preconception care. This implies that nursing practitioners (nurses and midwives) who have more contact with women of reproductive age can motivate or influence their clients to accept preconception care. This requires that nursing practitioners have themselves abreast with accurate knowledge on preconception care so that they can also educate their clients (women of reproductive age) either at their health facilities or by means of public education. This could increase the acceptance of preconception care among women who are of childbearing age.

6.2.3 Implication for Midwifery research

This study has made specific, distinct and directional findings to contribute to knowledge on preconception care. However, the findings also have implications for nursing research. Further research on some topics, such as how nurses (as significant others) encourage women of childbearing age to accept preconception treatment and how nurses might help women of childbearing age can improve their perspective of preconception care, is warranted by this study.

6.2.4 Implication for health policy

The study's conclusions have consequences for health policy. Making health policies that place healthcare workers at the forefront of preconception care campaigns has a high likelihood of improving the acceptability of preconception care for women of reproductive age, as evidenced by the identification of healthcare workers as individuals who influence this acceptability. The

study's conclusions also offer guidance for health policy that aims to increase the acceptability of preconception care for women of reproductive age by increasing access to preconception care services, lowering the cost of preconception care services, and providing more education and educational materials on the topic.

6.3 Limitation of the Study

One of the weaknesses of this study is that it employed a cross-sectional design which characteristically examined respondents' perception and utilization of preconception care at a single point in time. Although definite findings were made on the variables studied, the design did not allow for further investigation into underlying factors beyond respondents' exposure and prevalence, nor did it capture how these factors influenced their behaviour towards preconception care over time

Furthermore, unlike an experimental study, this study relied solely on information from respondents in determining how their intention to use preconception care and their acceptability of preconception care were influenced by determinants (i.e. subjective norms, perceived behavioural controls). This information could have been socially desirable, therefore, might not reflect the true influence of these determinants on their intention and utilization as an experimental study would have established.

Respondents of this study were inadvertently drawn from urban and suburban settlements with high socioeconomic status characterised by higher educational attainment and reliable household income. This study may not be generalizable to all women of childbearing age because the socioeconomic status of the respondents may have influenced the results, biasing them towards women of lower socioeconomic status. As a result, these findings may not apply to women of childbearing age who live in rural areas and have low socioeconomic status.

In addition, although efforts were made to ensure clarity, language barriers may have influenced the study. Respondents who were not fluent in the language of the questionnaire (English) could have misunderstood items, leading to misinterpretation of questions or incomplete responses. The candidate addressed this by pre-testing the questionnaire, simplifying technical terms, and, where necessary, using trained research assistants fluent in local dialects (Akan) to aid comprehension.

Finally, Attrition also occurred, as some respondents declined participation and others provided incomplete data. The researcher acknowledged this limitation and attempted to minimize its impact by employing follow-up reminders, and careful screening of incomplete responses. However, these measures could not fully eliminate the risk of bias introduced by non-response and attrition.

6.4 Conclusion

This study explored women's perception of preconception care and the factors affecting its acceptance among women of reproductive age in Koforidua and Atibie applying the theory of planned behaviour. The study concludes the women of reproductive age displayed positive perception and positive attitudes towards preconception care. The women also reported strong intention and acceptance for preconception care, which were influenced positively by subjective norm (most importantly, healthcare providers and close social relations) but negatively by perceived behavioural controls.

6.5 Recommendations

6.5.1 Recommendations for practice

The following recommendations are directly based on the study findings and are targeted at specific agencies and bodies to enhance the utilization of preconception care among women of childbearing age. It is advised that:

1. Ministry of Health as the policymakers to:

- Include preconception care as a standard component of reproductive health services in Ghana's health policy. Allocate resources for training of healthcare professionals and provision of educational material.
- Subsidize or include preconception care services in the National Health Insurance Scheme to make them affordable. Provide incentives for health facility that achieve high rates of preconception care utilization.
- Develop a national framework for preconception care education **by** creating standardized guidelines and policies for healthcare providers to educate women of childbearing age about preconception care.

2. The Ghana Health Service as the major health policy implementor in Ghana

- Launch community-based campaigns to raise awareness about importance and availability of preconception care. Collaborate with local leaders and influencers to address cultural barriers and misconception.

3. The Nursing and Midwifery Council Ghana as regulator in training Nursing and Midwifery professionals:

- Update preconception care course content in the midwifery curriculum **by** ensuring that midwifery students receive comprehensive education on preconception care before graduation, especially those whose roles involve direct contact with women of childbearing age (e.g., midwives, community/public health nurses). For other nursing fields, this can be offered as an elective.

4. Regional and District Health Management Teams in management of health facilities:

- Supply essential materials and provide staff training to facilitate the delivery of preconception care services.

- Encourage healthcare professionals to use modern tools such as artificial intelligence (AI) and the internet to stay updated on best practices in preconception care.

5. At the various regional and district hospitals directly overseeing health practitioners:

- Enhance Patient Education through integration of preconception care education into routine consultation for women in their childbearing age. Use culturally appropriate materials and local languages to improve understanding and access.
- Encourage healthcare providers to proactively discuss preconception care with women, emphasising its benefits for maternal and child health. Provide training for nurses and midwives on effective communication strategies regarding preconception care.
- Involve partners and close social relations of women in educational efforts to increase the utilization of preconception care.
- Ensure preconception care services are available and visible within health facilities. Reduce waiting time and streamline service delivery to encourage utilization so that women who have intention to use preconception care services whenever they visit the health facility for other medical reasons can easily get access to it.

6.5.2 For future research

With reference to the findings of the current study and in recognition of the methodological weaknesses of this study, it is recommended that:

6. For Researchers:

- Conduct Further Studies: Investigate the specific barriers that prevent women with strong intention from utilizing preconception care. Explore interventions

that care effectively bridge the gap between intention and actual utilization/use of preconception care.

- **Monitor and Evaluate Intervention:** assess the impact of educational and policy intervention on the uptake of preconception care. Use mixed methods approaches to gain deeper insights into women's experience and challenges.



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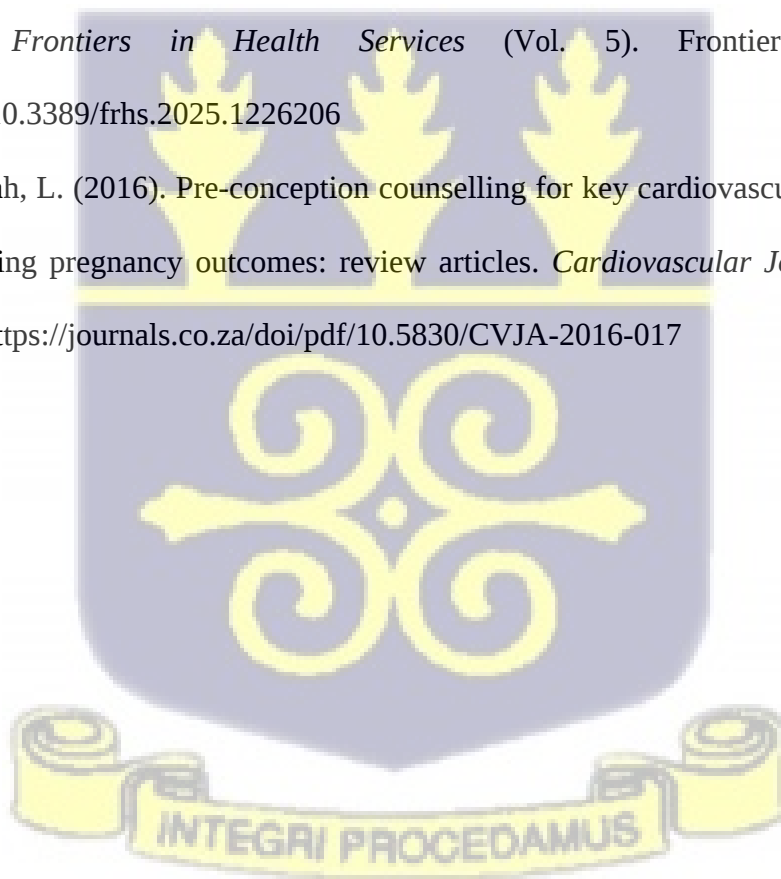
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APPENDICES

APPENDIX A: CONSENT FORM

STUDY TITLE: PERCEPTION AND USE OF PRECONCEPTION CARE

AMONG WOMEN IN THEIR CHILDBEARING AGE IN EASTERN REGION,
GHANA

Participants' Statement

I acknowledge that I have read or have had the purpose and contents of the Participants' Information Sheet read and all questions satisfactorily explained to me in a language I understand (English/Akan/Ga Adagbe). I fully understand the contents and any potential implications as well as my right to change my mind (i.e. withdraw from the research) even after I have signed this form.

I voluntarily agree to be part of this research.

Name of Participant.....

Participants' SignatureOR Thumb Print.....

Date:.....



Interpreters' Statement

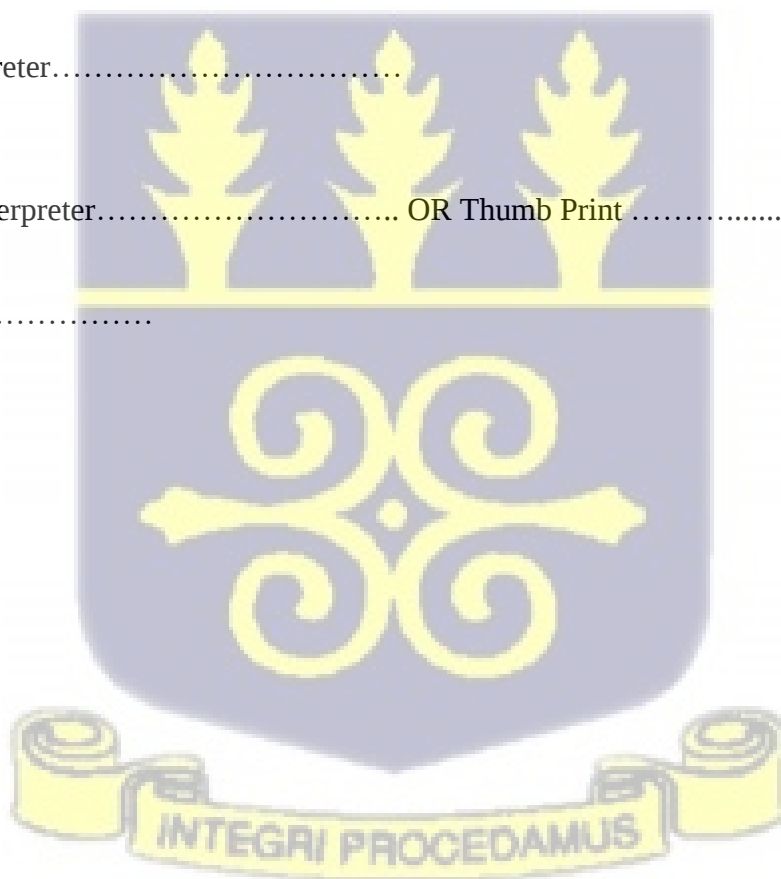
I interpreted the purpose and contents of the Participants' Information Sheet to the afore named participant to the best of my ability in the (English/ Akan/Ga Adagbe)language to his proper understanding.

All questions, appropriate clarifications sort by the participant and answers were also duly interpreted to his/her satisfaction.

Name of Interpreter.....

Signature of Interpreter..... OR Thumb Print

Date:.....



Statement of Witness

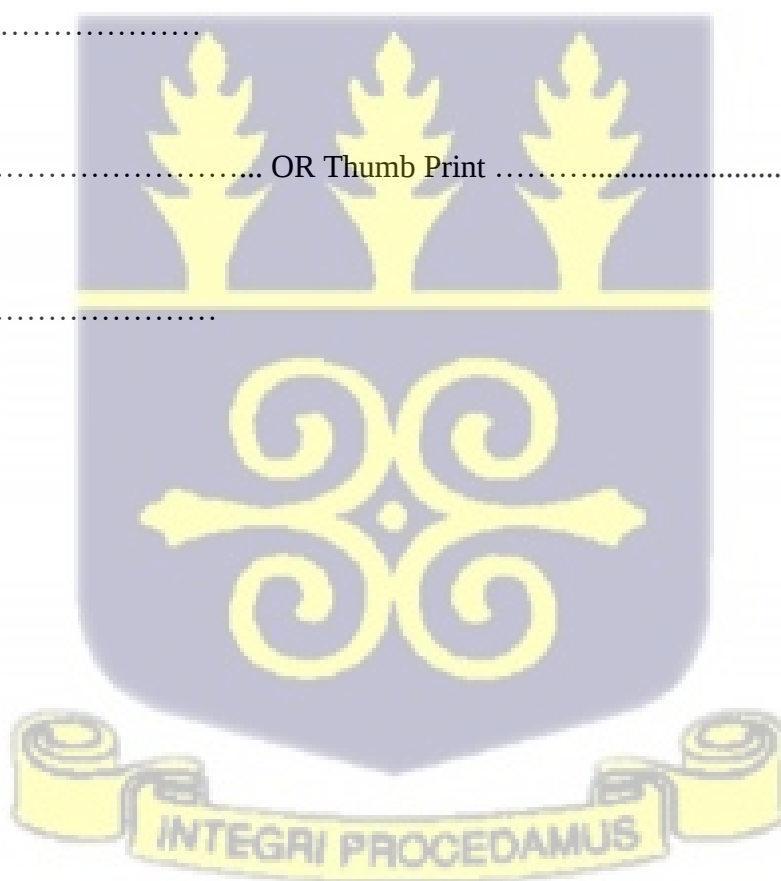
I was present when the purpose and contents of the Participant Information Sheet was read and explained satisfactorily to the participant in the language, he/she understood (English/ Akan/Ga Adagbe)

I confirm that he/she was given the opportunity to ask questions/seek clarifications and same were duly answered to his/her satisfaction before voluntarily agreeing to be part of the research.

Name:.....

Signature..... OR Thumb Print

Date:.....



APPENDIX B: DATA COLLECTION TOOL/QUESTIONNAIRE

PERCEPTION AND USE OF PRECONCEPTION CARE AMONG WOMEN IN THEIR CHILDBEARING AGE IN EASTERN REGION, GHANA

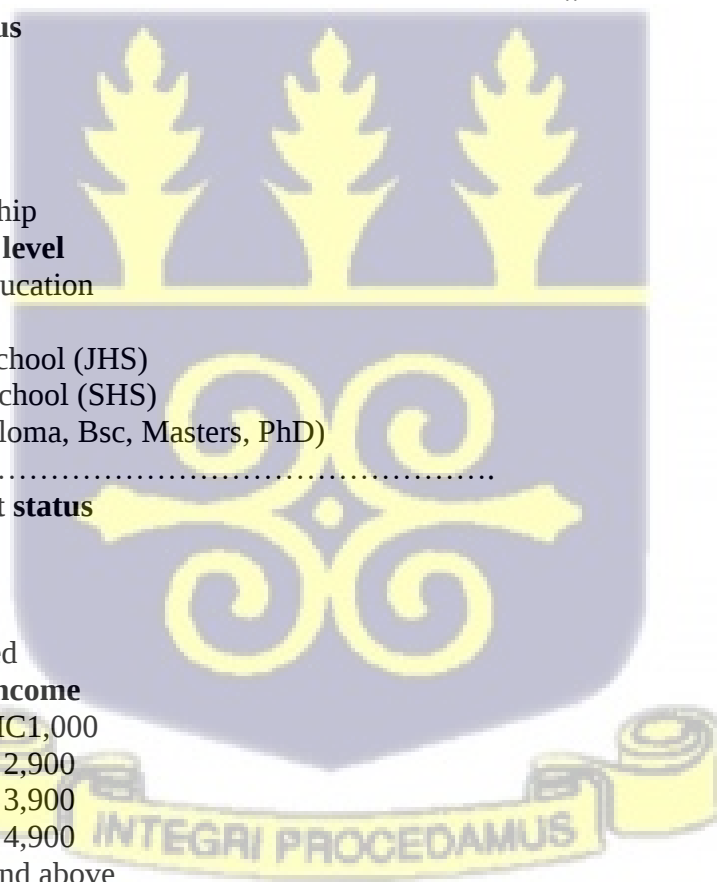
Dear Respondents,

I kindly request your voluntary participation in this study and this will take 5 minutes. This study is for academic purpose. The questionnaire is divided into six sections A, B, C, D, E and F. Section A covers socio-demographic information of respondents. Section B to F explore constructs from the research objectives under study.

Preconception Care: the health care provided to an individual in their reproductive age before pregnancy.

SECTION A: SOCIO-DEMOGRAPHIC INFORMATION

1. Age:.....
2. **Marital status**
 - () Single
 - () Married
 - () Divorced
 - () Widow
 - () In a relationship
3. **Educational level**
 - () No formal education
 - () Primary
 - () Junior high school (JHS)
 - () Senior high school (SHS)
 - () Tertiary (Diploma, Bsc, Masters, PhD)
 - () Other:.....
4. **Employment status**
 - () Employed
 - () Unemployed
 - () Student
 - () Self-employed
5. **Household income**
 - () Less than GHC1,000
 - () GHC 1,000 - 2,900
 - () GHC 3,000 - 3,900
 - () GHC 4,000 - 4,900
 - () GHC 5,000 and above
 - () Not applicable
6. **Employment Status: (Spouse/Partner)**
 - () Employed
 - () Unemployed
 - () Student
 - () Self-employed



☐ Not applicable
7. **Household income (Spouse/Partner)**

- ☐ Less than GHC1,000
☐ GHC 1,000 - 2,900
☐ GHC 3,000 - 3,900
☐ GHC 4,000 - 4,900
☐ GHC 5,000 and above
☐ Not applicable

8. **Residence**

- ☐ Urban
☐ Suburban
☐ Rural

9. **Religion**

- ☐ Christian
☐ Islam
☐ Pagan
☐ Other:

10. **Ethnicity**

- ☐ Akan
☐ Ga
☐ Ewe
☐ Hausa
☐ Other:

11. **Language spoken**

Check all that apply.

- ☐ Akan
☐ Ga
☐ Ewe
☐ Hausa
☐ Other:

12. **Do you have children**

- ☐ Yes
☐ No

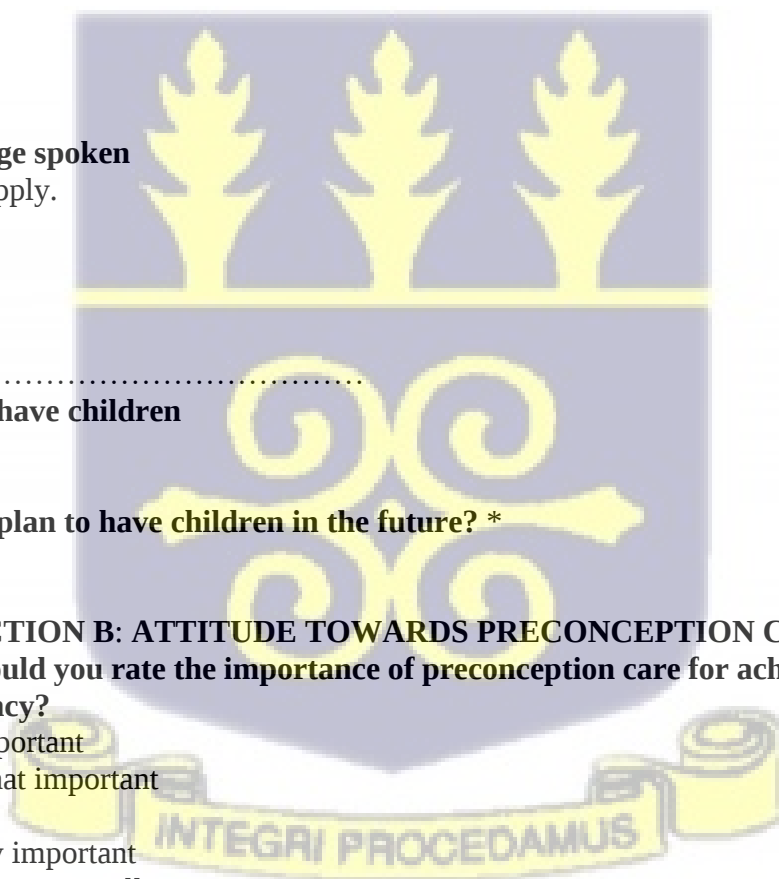
13. **Do you plan to have children in the future? ***

- ☐ Yes
☐ No

SECTION B: ATTITUDE TOWARDS PRECONCEPTION CARE

14. **How would you rate the importance of preconception care for achieving a healthy pregnancy?**

- ☐ Very important
☐ Somewhat important
☐ Neutral
☐ Not very important
☐ Not important at all



Instruction: please tick the appropriate response as defined below.

5 = Strongly Disagrees (SDA), 4 = Disagrees (D); 3 = Neutral (N); 2 = Agrees (A); 1 = Strongly Agrees

To what extent do you agree with the following statement:

15.	Knowledge on preconception care	SDA	N	A
	Preconception care can help reduce pregnancy risks and complications.			
	I believe preconception care can improve my overall health before pregnancy.			
	Preconception care is unnecessary if I feel healthy.			
	I think preconception care is only for women with health issues.			
	I know preconception care is available for women who have had babies with congenital malformations.			
	Preconception care is available for women who have family history of infertility.			
16.	Perceived Benefits of Preconception care	SDA	N	A
	Preconception care helps in preventing potential health issues before pregnancy.			
	Preconception care provides valuable health information to women.			
	Preconception care can help reduce congenital malformation in babies			
17.	Perceived concerns or disadvantages associated with preconception care			
	Preconception care requires a significant time commitment.			
	Preconception care may cause people to think that you have fertility issues.			
	Preconception care may cause unnecessary anxiety.			
18.	Perceived readiness for pregnancy due to preconception care			
	Preconception care would improve my knowledge about pregnancy			
	Preconception care would help me feel more prepared for pregnancy in terms of health readiness.			

SECTION C: SUBJECTIVE NORMS (INFLUENCE OF SOCIAL AND CULTURAL BELIEFS)

Instruction: please tick the appropriate response as defined below.

1 = Strongly Disagrees (SDA), 2 = Disagrees (D); 3 = Neutral (N); 4 = Strongly agrees (SA); 5 = Agrees (A)

To what extent do you agree with the following statement:

19.	Influence of Social and Cultural Norms	SDA	D	N	S
	I am likely to seek preconception care if advised by my Healthcare provider.				
	My family believes that preconception care is necessary before having children.				
	My close friends think it is important to seek preconception care before pregnancy.				
20.	How influential are the following people in your decision to seek preconception care (Very Influential (VI) Somewhat Influential (SWI) Neutral (N) Not very influential (NVI) Not influential at all (NIAA))	VI	SWI	N	N
	Partner/spouse				
	Family members				
	Friends				

	Healthcare provider				
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21. Have you had discussions with family or friends about preconception care?

☐ Yes

☐ No

22. If yes to question 21, please elaborate on the nature of these discussions:

.....

23. Are there any cultural or religious beliefs that impact your decision regarding preconception care?

☐ Yes

☐ No

24. If yes to question 23, please give example of these beliefs

.....

SECTION D: PERCEIVED BEHAVIORAL CONTROL

Instruction: please tick the appropriate response as defined below.

5 = Strongly Disagrees (SDA), 4 = Disagrees (D); 3 = Neutral (N); 2 = Agrees (A); 1 = Strongly Agrees

To what extent do you agree with the following statement:

25. Access to preconception care	SDA	N	A
I have easy access to healthcare services that provide preconception care.			
I am confident that I can access preconception care services if I decide to.			
I have sufficient information to make informed decisions about preconception care.			
I can afford preconception care services provided to me.			
26. Factors making access to preconception care challenging			
Lack of awareness about preconception care makes it challenging for me to access preconception care.			
Financial constraints make it difficult for me to utilize preconception care services			
Cultural beliefs and social norms discourage me from using preconception care services			

SECTION E: INTENTION TO USE PRECONCEPTION CARE

Instruction: please tick the appropriate response as defined below.

5 = Strongly Disagrees (SDA), 4 = Disagrees (D); 3 = Neutral (N); 2 = Agrees (A); 1 = Strongly Agrees

To what extent do you agree with the following statement:

27. Motivation to seek preconception care before pregnancy	SDA	N	A
I am likely to use preconception care services because I have plans to conceive in the future?			
I intend to make an appointment for preconception care if I decide to have a baby.			
I am planning to seek preconception counseling within the next 6 months if I plan to conceive.			
Cultural beliefs and social norms that do not support preconception care would discourage me from seeking it.			

	High cost associated with the preconception care would deter me from using these services.			
	Support from family and friends would motivate me to seek preconception care.			
	Recommendations from healthcare providers would encourage me to utilize preconception care services.			

SECTION F: PREDICTORS OF BEHAVIOUR TOWARDS PRECONCEPTION CARE USE

28. Have you previously utilized preconception care services?

☐ Yes

☐ No

29. If yes to question 28, what type of services did you receive?

Check all that apply.

☐ Medical check-ups

☐ Nutritional counselling

☐ Genetic screening

☐ Counselling on lifestyle factors (e.g., smoking, alcohol, exercise)

☐ Folic acid supplementation

☐ Family planning services

☐ Other:

30. How would you rate your satisfaction with the preconception care services you received?

☐ Very satisfied

☐ Satisfied

☐ Neutral

☐ Dissatisfied

☐ Very dissatisfied

Instruction: please tick the appropriate response as defined below.

5 = Strongly Disagrees (SDA), 4 = Disagrees (D); 3 = Neutral (N); 2 = Agrees (A); 1 = Strongly Agrees

To what extent do you agree with the following statement:

31. Patronage of preconception care services	SDA	N	A
Increasing accessibility to preconception care services would improve their utilization.			
Providing more educational resources about preconception care would be beneficial.			
Support from family and community would encourage me to engage in preconception care.			
Access to more information and education about preconception care would make it easier for me to utilize these services.			
Availability of affordable preconception care services would facilitate my access to preconception care.			

APPENDIX C: ETHICAL APPROVAL LETTER

 GHANA HEALTH SERVICE ETHICS REVIEW COMMITTEE Janet Aba Saah Nursing and Midwifery Training College P.O. Box 253 Kwahu-Eastern Region	Research & Development Division Ghana Health Service P. O. Box MB 190 Accra. Digital Address: GA-050-3303 Quote this number and date on all correspondence My Ref. No. <u>GHS/25/017</u> Your Ref. No. _____ Date: <u>9th January 2025</u>
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The Ghana Health Service Ethics Review Committee has reviewed and given approval for the implementation of your Study Protocol.

GHS-ERC Number	GHS-ERC: 029/12/24
Study Title	Perception and Utilization of Preconception Care among women of Reproductive Age in Eastern Region, Ghana.
Approval Date	9 th January 2025
Expiry Date	8 th January 2026
GHS-ERC Decision	Approved

This approval requires the following from the Principal Investigator

- Submission of a yearly progress report of the study to the Ghana Health Service Ethics Review Committee (GHS ERC)
- Renewal of ethical approval if the study lasts for more than 12 months,
- Reporting of all serious adverse events related to this study to the GHS ERC within three days verbally and seven days in writing.
- Submission of a final report after completion of the study
- Informing GHS ERC if study cannot be implemented or is discontinued and reasons why
- Informing the GHS ERC and your sponsor (where applicable) before any publication of the research findings.
- Please note that any modification of the study without GHS ERC approval of the amendment is invalid.
- The GHS ERC may observe or cause to be observed procedures and records of the study during and after implementation.
- Kindly quote the protocol identification number in all future correspondence in relation to this approved protocol
- Please note that in the event where samples will be shipped outside Ghana, a signed Material Transfer Agreement should be submitted to the GHS ERC for approval.
- Please note that future use of biological samples will require GHS ERC approval and the samples cannot be used for commercial purposes.

SIGNED.....
Mr. Kofi Wellington
(GHS ERC Chairperson)

Cc: The Director, Research & Development Division, Ghana Health Service, Accra.

Tel: +233-302-960628
Mob: +233-50-3030696
Email: ethics_research@ghs.gov.gh
Website: www.ghs.gov.gh