UNIVERSITY FOR DEVELOPMENT STUDIES

SCHOOL OF PUBLIC HEALTH

DEPARTMENT OF POPULATION AND REPRODUCTIVE HEALTH

EXPLORING THE DETERMINANTS OF INITIATION OF ANTENATAL CARE AMONG PREGNANT WOMEN IN NANTON DISTRICT OF NORTHERN GHANA

SARPONG PRINCE

UDS/MCH/0031/22

2024

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THESIS SUBMITTED TO THE DEPARTMENT OF POPULATION AND REPRODUCTIVE HEALTH, SCHOOL OF PUBLIC HEALTH, UNIVERSITY FOR DEVELOPMENT STUDIES IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF A MASTER OF PUBLIC HEALTH, MATERNAL, AND CHILD HEALTH DEGREE

SEPTEMBER, 2024

DECLARATION

DECLARATION

Student

I hereby declare that this thesis is the result of my own original work and no part of it has been presented for another degree in this University or elsewhere:

11/09/2024

SARPONG PRINCE — DATE

(Student)

I hereby declare that the preparation and presentation of this work were supervised in accordance with the guidelines on supervision laid down by the University for Development Studies.

11/09/2024

DR. GILBERT T. NACHINAB — DATE

(Supervisor)

ABSTRACT

The mother's and child's health are negatively affected by the late start to antenatal care. Adverse maternal health outcomes, such as maternal deaths are influenced by the delayed commencement and insufficient use of ANC throughout pregnancy. The study therefore explored the determinants of late initiation of antenatal care among pregnant women in Nanton District of Northern Ghana. The study employed a descriptive exploratory design in a qualitative approach. Fifteen late antenatal care initiators within the reproductive age 18-49 years in the Nanton District were purposively recruited for the study. A semi-structured interview guide was used by the researcher for data collection. Thematic analysis was employed for data analysis. Every participant recruited for the study was assigned with a code based on their chronological order of recruitment. The study found nine participants were within the 18-29 years range, seven of them were housewives, eight participants had attained primary education, thirteen of the women were Dagomba's, twelve belonged to the Islamic religion, and eight of them indicated it was their first pregnancy. Knowledge of the pregnant women on the effects of late initiation of antenatal care was found to be good as participants revealed it helps mother and child, missing initial routine medications/vaccines, and difficulty during labor. Increased confidence and rapport, better pregnancy outcomes, learning about changes in pregnancy, sex, and estimated date of delivery of the baby, and education from healthcare personnel were some of the benefits revealed by the women they derive from initiating antenatal care. The barriers found were financial difficulty, cost of medical services, and transportation issues which included poor road network, long distances to the health facility, and non-availability of commercial vehicles. Husband-related factors, family-related issues, and presence of cultural beliefs and practices. The sources of information on the effects of initiating ANC late were television, radio stations, community information centers, health providers/facilities, and family and friends. The government of Ghana through the Ghana Health Service should invest in upgrading healthcare facilities to ensure a comfortable and private environment for antenatal care visits, consistent provision of training for healthcare providers on compassionate care, and effective communication to improve their knowledge in caring for pregnant women were some of the recommendations the study made.

ACKNOWLEDGEMENT

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I also appreciate my research assistants and all the pregnant women who spent their valuable time participating in this study. I thank the director, staff, and all the heads of the selected health facilities within Nanton District Health Directorate for permitting me to carry out the study.

Finally, my gratitude goes to my family, friends, and colleagues whose encouragement and support have brought me this far. I can only say God bless you abundantly.

DEDICATION

I dedicate this thesis to the memory of my late father who stood by me through my academic journey and made me realize that with determination, everything is possible.

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LIST OF ABBREVIATIONS

ANC: Antenatal Care

HBM: Health Belief Model

NDHD: Nanton District Health Directorate

GSS: Ghana Staistical Service

WHO: World Health Organization

MHCS: Maternal Health Care Services

CHPS: Community-based Health Planning and Service

SDGs: Sustainable Development Goal

CHAPTER ONE

INTRODUCTION

1.1 Background

Regular monitoring of pregnant women is essential to reducing birth-related difficulties, providing supportive care, and promoting safer parenthood (Hijazi et al., 2018). Undoubtedly one of the most significant initiatives for enhancing antenatal care (ANC) is the provision of services related to maternal health. By deploying qualified healthcare professionals, antenatal care (ANC) services assist pregnant mothers in ensuring the best possible health conditions for the unborn child during pregnancy (Battu et al., 2023).

Pregnancy-related issues can be identified early and treated with specialized treatment known as antenatal care (ANC), which is offered to expectant women through maternal health care services (MHCS) (Zeleke & Haymanot, 2020). Since low- and middle-income nations account for 99% of all maternal and neonatal fatalities, developing nations carry the heaviest burden of maternal and infant mortality due to poverty, lack of infrastructure, and poor healthcare services (Tola et al., 2021). Pregnant women in underdeveloped nations are more likely to experience problems throughout pregnancy, childbirth, and the early postpartum phase. They are also more likely to experience pregnancy-related deaths. However, many of the issues can be avoided with the right prenatal care (Townsend et al., 2017).

Pregnancy and childbirth care must be managed appropriately to protect the health of both the mother and the fetus (Manyeh et al., 2020). During ANC the services provided include risk identification and assessment, conditions related to or associated with pregnancy prevention and management, health

education, and health promotion. Crucial measures encompass prompt identification and management of pregnancy-related problems (pre-eclampsia and eclampsia), identification and management of sexually transmitted infections (HIV/AIDS, syphilis, and other infections), tetanus toxoid vaccination, and sporadic preventative therapy for malaria (WHO & USAID, 2018).

Every year, almost 210 million women become pregnant worldwide. There are 31 million stillbirths, 80 million unintended pregnancies, and 47,000 deaths of women as a result of unsafe abortions (Battu et al., 2023). Globally, an estimated number of 500,000 maternal fatalities occurs every year and close to 4 million neonatal deaths. About 98% of these take place in low- and middle-income nations (Tran et al., 2012). Under international human rights law, countries must ensure that women and adolescent girls have access to the means of surviving pregnancy and childbirth for them to exercise their rights to sexual and reproductive health and to live humane lives (Human Rights Council, 2012; Redi et al., 2022). Women and teenage girls should see an ANC practitioner at least four to eight times during pregnancy, according to World Health Organization (WHO) recommendations, in order to improve prenatal outcomes and women's experiences with treatment. For the first visit, it is usually recommended in the first trimester (Townsend et al., 2017).

The mother's and child's health are negatively affected by the late start to antenatal care. Adverse maternal health outcomes, such as maternal death are influenced by the delayed commencement and insufficient use of ANC throughout pregnancy (Redi et al., 2022a). Despite significant strides in ANC coverage over the past two decades, 40% of women worldwide still do not obtain the necessary eight routine ANC visits (Begum et al., 2018). According to the World Health Organization, Maternal Mortality Ratio (MMR) is considered to be low when it ranges from 0 to 99 deaths per 100000 live births, high/moderate when it

ranges from 100 to 499 deaths per 100000 live births, very high when it ranges between 500 and 999 deaths per 100000 live births and extremely high when it exceeds 1000 deaths per 100000 live births (WHO, 2021)

According to WHO, every pregnant woman in developing nations should obtain ANC throughout the first trimester of pregnancy while being monitored by qualified medical experts (Gelagay et al., 2023). WHO advises scheduling the initial prenatal care appointment with a qualified medical professional as early as possible in the first trimester (Townsend et al., 2017). In accordance with WHO recommendations, pregnant women should be encouraged to take iron and folate supplements to prevent and treat anemia, as well as to treat malaria prophylactically and get tetanus vaccination. During antenatal care (ANC), health education is also provided on nutrition, STI monitoring and treatment (including HIV/AIDS), and other chronic illnesses, as well as early identification, treatment, and warning indicators of problem (Manyeh et al., 2020). Most pregnant women took a while to book their first ANC consultation because they were unaware of the number of ANC visits that are necessary, when to plan the initial visit and pregnancy symptoms (Battu et al., 2023).

Ghana's maternal mortality rate for the year 2020 was 263.00 per 100,000 live births, a 7.79% increase from 2019 (GHSS 2021) unbearably high and continues to be a serious public health problem. In response to this undesirable condition, the government of Ghana launched important initiatives to lower maternal mortality by fostering access to and utilization of maternal and child health services, such as prenatal care (Ayelepuni et al., 2022). Goal 3.2 of the Sustainable Development Goals calls for ending the preventable deaths of infants and children under the age of five. By 2030, all countries must reduce neonatal mortality

to at least 12 per 1,000 live births and under-5 mortalities to at least 25 per 1,000 live births. Target 3.1 of SDG 3 aims to reduce maternal mortality to less than 70 per 100,000 live births (UN, 2018).

According to a scoping assessment carried out in sub-Saharan Africa, women often begin antenatal care (ANC) later than necessary, which leads to a failure to meet the required number of ANC visits (Pell et al., 2013). Women who report late may arrive at health facilities with difficulties that require additional management expenses (Zeleke & Haymanot, 2020).

Even if pregnant women in certain places use essential health care, maternal mortality still occurs. Indicators of maternal health reveal that Ghana is using more of the necessary maternal health care services (MHCS) (Ayelepuni et al., 2022). Data from Ghana's MHCS usage by women in both urban and rural environments reveals unequal access to these vital health treatments. Due to the misconception that pregnancy is not a disease, financial difficulties preventing enrollment in the national health insurance program, and work-related justifications, the majority of women in Northern Ghana do not properly use ANC (Nachinab et al., 2019). This study seeks to utilize the Health Believe Model (HBM) to explore the determinants of late initiation of ANC in Nanton district of Northern Ghana.

1.2 Problem Statement

It is recommended by the WHO that all pregnant women attend ANC at least eight times, with two visits in the second trimester, one in the first trimester, and five in the third trimester, in order to detect and prevent pregnancy-related issues (WHO & USAID, 2018). According to American College of Obstetricians and Gynecologists, the delayed diagnosis of fetal anomalies or growth limits that might have

been discovered earlier with prompt and routine checkups may be caused by the delayed initiation of ANC (American College of Obstetricians and Gynecologists, 2018). The period of time that healthcare professionals have to deliver preventive treatments like immunizations, iron supplements, and health education is decreased due to late ANC initiation (Tessema et al., 2019). Health education given during ANC visits is essential for equipping women with knowledge about pregnancy, nutrition, and danger signs. The late commencement of ANC reduces the number of opportunities for such education (Ghana Health Service, 2019). Research indicates that postponing the start of prenatal care (ANC) raises the risk of mother and newborn deaths, particularly in underdeveloped nations (Hogan et al., 2015; Redi et al., 2022).

However, according to WHO, late ANC attendance restricts pregnant women's and their families' ability to participate in birth preparation activities, such as arranging for a qualified birth attendant and choosing a hospital for delivery (World Health Organization, 2016). Late initiation of antenatal care is linked to higher risk of maternal complications such as hypertensive disorders, gestational diabetes, and anemia (Konje & Ladipo, 2014). Due to the requirement for more extensive and costly medical treatments to treat problems that may have been avoided with early detection and management, delayed ANC can lead to increased healthcare expenses. (Tessema et al., 2019). Additionally, delay ANC initiation decreases the likelihood of early diagnosis and treatment of pregnancy-related issues, this may negatively impact the mother's and the unborn child's health (World Health Organization, 2016).

According to the Nanton District Health Directorate, ANC coverage in the district is high with a percentage of 109.8% in 2022 due to the attendance of some pregnant women from the nearby districts like Karaga, and Savelugu district (NDHD, 2022). Despite this high coverage there is low registration for

ANC within the first and second trimester in the Nanton District. According to the Annual Health Report (2022), only 58.8% of expectant mothers reported having their first ANC visit in the first trimester, whereas 37% of expectant mothers reported having their first ANC visit in the second trimester.

Despite the free maternal healthcare intervention by the government of Ghana, the efforts by non-governmental organizations, and the numerous educational campaigns on maternal and child health, pregnant women do not still initiate ANC on time in the Nanton District. It is also largely unknown why pregnant women do not initiate ANC early in the Nanton District. Providing information on why pregnant women initiate ANC late in the district could help stakeholders put in measures to advocate for early initiation of ANC visits in the municipality.

This study aims to explore the determinants of initiation of antenatal care among pregnant women in Nanton District of Northern Ghana. This study will primarily offer information regarding women's general perspectives and attitudes around late ANC booking, which will assist in making decisions that will help lessen the challenges brought on by late ANC bookings.

1.3 Research Objectives

1.3.1 Main Objective

The study's main objective is to explore the determinants of initiation of antenatal care among pregnant women in the Nanton District of Northern Ghana.

1.3.2 Specific Objectives

1. To explore the knowledge of pregnant women on the effects of late initiation of antenatal care

2. To explore the perception of pregnant women on the benefits of early initiation of antenatal care in Nanton District.

3. To explore the barriers to early antenatal care initiation among pregnant women in Nanton District.

4. To explore the sources of information on when one should start antenatal care among pregnant women in Nanton District.

1.4 RESEARCH QUESTIONS

1. What is the knowledge of pregnant women on the effect of late initiation of antenatal care?

2. What are the perceived benefits of pregnant women in early initiation of antenatal care?

3. What are the perceived barriers to early antenatal care initiation in the Nanton district?

4. What are the sources of information on when one should start antenatal care?

1.5 Justification

The investigation of delayed antenatal care commencement holds great importance in mitigating health inequities, optimizing mother and fetal health outcomes, and elevating public health in general. Therefore, in an effort to improve people's quality of life, the World Health Organization, Ghana Health Service, and

other non-governmental organizations constantly put out efforts and plans. Since the death of a pregnant woman results in the loss of two lives that of the woman and the unborn child maternal health with a focus on ANC cannot be excused. Thus, the field of health and research must promptly address issues related to maternal health, with a focus on antenatal care. Although there have been numerous research in Ghana on prenatal care services, none of the study are known to be specifically focused on investigating the factors that contribute to pregnant women in the Nanton district of Northern Ghana starting prenatal care later than expected have been done. This information gap may make the planning and delivery of maternal healthcare services less effective. Therefore, research like this one, which aims to investigate the factors that contribute to pregnant women in the Nanton area starting ANC later than expected and to further provide further information on how pregnant women see late ANC booking, is necessary to guide decisions about the prevention of maternal and prenatal mortality. Finding out what factors pregnant women believe contribute to the late start of prenatal care could thus be a crucial first step in developing policies that will raise awareness of the consequences of the late start of prenatal care in Ghana's Nanton district. By investigating the perspectives of pregnant women on the factors that contribute to the delayed commencement of prenatal care in the Nanton district, this study aims to close this gap in the literature and also add to existing literature.

1.6 Organization of the Study

Six chapters make up the structure of the study. The background information, problem statement, objectives, research questions, study significance, and study organization are all included in the first chapter. In the second chapter, relevant theoretical and empirical literature is reviewed. The methodology

is presented in Chapter three and covers the study population, sample size determination, sampling strategy, data collection instruments, data validity and reliability, and data analysis methods. The fourth chapter contains the study's findings. A summary of the study's main discussion can be found in Chapter five. In Chapter six, the study's overview, implications, conclusion, limitation, and suggestions are provided.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter begins with a thorough literature search to find studies that have been done on the late initiation of antenatal care that are thought to be important to this study. The conceptual framework of the health belief model (HBM) and all of its elements such as modifying factors, individual beliefs, and cues to action are described. An empirical literature review organized according to the specific objectives of the study is presented.

2.1 Literature search

A database search was conducted to find articles on late initiation of antenatal care using Google, Zendy, Google Scholar, PubMed, and Jstor. The search utilized a variety of keywords including “late initiation” or “late antenatal care” in conjunction with expressions like “barriers”, “level of knowledge”, “factors”, “effects” and “benefits”. In order to conduct the literature review, the publications were examined for publication status, supporting data, publication year, and applicability to the study's main concerns. Majority of the studies used were those released between 2017 and the present. Some older studies were nevertheless included because they were deemed necessary to properly explore the concept under investigation.

2.2 Conceptual Framework of the Health Belief Model

The Health Belief Model (HBM) was initially established in the 1950s by professionals in social psychology in the U.S. Public Health Service to explain the pervasive lack of participation in efforts to prevent and detect disease (Hochbaum, 1958). The HBM is based on the idea that people would take any available action to lessen their vulnerability to a disease and any potential repercussions (threats) that may result from it (Carpenter & Carpenter, 2010; Glanz, 2008). However, this will only be accomplished if the expected advantages of the activity outweigh the disadvantages (cost of) the action. The HBM includes fundamental elements that forecast why people will take action to avoid, detect, or manage health issues. Modifying factors, individual beliefs, action cues, and action are some of these constructs (Shepherd et al., 2013).

The HBM has been employed to learn about patient adherence to anti-hypertensive therapy. Also, it helped clinicians and researchers to comprehend how to control diabetes, quit smoking, and exercise (Pinto et al., 2006). Additionally, it has been used in the dentistry industry, many cancer investigations, and food hygiene practices (Buglar et al., 2010). The researcher was unable to locate a study that used the HBM in antenatal initiation, even though the model seems to be important in areas that affect human behavior.

The HBM operates under the idea that people will take whatever action to lessen their susceptibility to a disease and its associated consequences (threats). People take action if the expected advantages exceed the costs and obstacles associated with the action. Primary components in the Health Belief Model (HBM) explain why people will take action to avoid, screen for, or control medical problems.

Modifying Factors

The individual beliefs as a construct in the HBM are directly impacted by modifying factors. Socio-demographic characteristics and knowledge level are modifying elements that may affect how people perceive or believe about their health (Glanz et al., 2002). Personal traits including age, marital status, religion, the number of children and education level are examples of modifying factors that have a great impact on the beliefs of individuals on how to promote their health. Exploring the knowledge of pregnant women will help to know whether there is a need for further education about the need for pregnant women to initiate ANC early or not. If knowledge is low recommendations can be to expand educational programme on the importance of early initiation of ANC.

Individual Beliefs

The Health Belief Model states that a person's beliefs influence their actions or behaviors related to their health. People are more inclined to take action when they feel personally threatened or at risk, but only if the benefits of doing so outweigh the drawbacks. Perceived advantages, perceived obstacles, and perceived severity/susceptibility are examples of personal beliefs (perceived threats).

Perceived Benefits

The Health Belief Model (HBM) and health behavior psychology use the term "perceived benefits" to describe a person's subjective belief of the advantages or favorable results they expect to obtain from engaging in certain health-related behaviors. The motivation of an individual to take part in health-promotion activities is greatly influenced by these perceived benefits.

According to Rosenstock, (1974) Perceived benefit refers to a person's opinion of the efficacy of various health-related activities that can be taken to lessen maternal complications and mortality that emerge from late antenatal registration. Perceived advantage and susceptibility are two factors that influence how someone approaches avoiding or treating a disease or illness. This will aid in figuring out how women perceive the success of their efforts to decrease late ANC booking.

Perceived Barriers

Perceived barriers are the impediments or challenges that people think they will face while attempting to adopt a certain health-related activity. An individual's decision-making process and motivation to take steps to promote their health might be strongly influenced by these perceived barriers. According to (Rosenstock, 1974), When someone perceives a barrier as being social, personal, environmental, or financial, it means they are evaluating how difficult it is to carry out a particular behavior or reach their intended target position in relation to that conduct (Rosenstock,1974). According to the Glanz et al., (2002), a person's perceptions of obstacles or barriers can vary greatly. HBM approach will be used to find out how pregnant women perceive the barriers that prevent them from registering for ANC early.

Perceived Susceptibility

Perceived susceptibility refers to an individual's estimate of the possibility that they may experience a specific ailment. For someone to act, they must perceive that they are in danger from a sickness, an illness, or a bad health consequence. If someone feels they are at risk of getting a certain sickness, they are more likely to take preventative measures that eliminate or lower that risk. When assessing how serious a

condition is or will become if treatment is not received, perceived severity also takes into account potential social repercussions (such as the condition's effects on work, family life, and social relationships) in addition to medical and clinical consequences (such as pain, disability, and death). The sum of perceived severity and vulnerability has been characterized as perceived threat. The perspective of late ANC among pregnant women, including the risk factors, will be clarified as a result of this research. According to the Glanz et al., (2002), a person is more likely to take action if they think they are at risk of being sick. Thus, if a pregnant woman who registers for ANC late thinks she could experience complications, she might advise a course of action to avoid late ANC registration. The analysis of women's perceptions of being susceptible to late ANC registration will therefore be aided by this study.

Self-Efficacy

This represents the level of self-assurance an individual has in their ability to do a task. Many behavioral theories include self-efficacy as a concept since it directly affects whether an individual does the intended action (Ti-enkawol, 2016). Most of the time, people won't do something new unless they believe they are better equipped to accomplish it successfully. Even when people are aware of the advantages associated with a behavior, they are only really inclined to try engaging in it if they are confident in their capacity to do so successfully (Ti-enkawol, 2016). This will make it easier to assess the efforts made by pregnant women to begin early ANC booking.

Cues to Action

This refers to the triggers or external stimuli that cause people to act and engage in health-promoting behaviors. These cues act as messages or prompts that affect a person's decision to start or continue a certain health-related behavior. These indicators can be external (such as suggestions from others, a family

member's illness, a newspaper article, source of information etc.) or internal (such as chest pains, wheezing, etc.) (Glanz et al., 2002). This will again trigger the initiation of early ANC by pregnant women when the benefits and effects are known.

Actions

These are personal behaviors that show how personal ideas and action signals affect an individual. A person's actions are indicative of their general mental state or the measures they take as a result. The individual's behavior exemplifies the influence of personal beliefs, signals to action, and moderating variables.

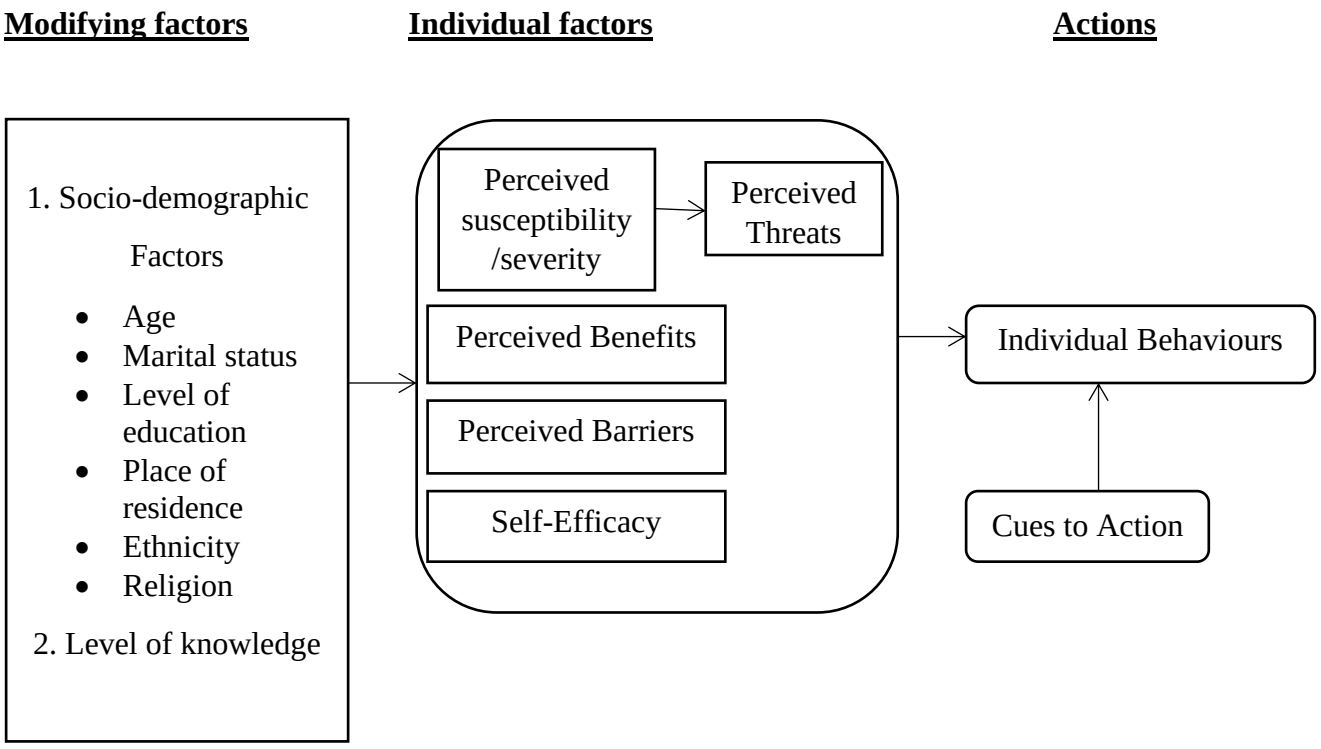


Figure 1 Health Belief Model

Source: Champion and Skinner, (2008)

2.3 Empirical Review

2.3.1 Concept of Antenatal Care

The term "antenatal care" refers to the medical attention trained health professionals provide to pregnant women to ensure the health of the unborn child throughout pregnancy (Tunçalp et al., 2017). Antenatal care makes it easier for any pregnancy-related problems and comorbid illnesses to be identified early and treated. As a result, there is a direct decrease in maternal and neonatal morbidity and death. Indirectly, the decrease occurs through the early referral of women and girls to the next authorized level of care when difficulties arise during pregnancy, labor, or delivery. Additionally, ANC entails providing counseling and health education in order to promote wellness. 2018 saw the results of global retrospective research showing that maternal morbidity and death were still high (Otundo Richard, 2019).

About 2.6 million stillbirths occurred in 2015, with half of those deaths occurring in the third trimester, while an estimated 303,000 mothers died from pregnancy-related reasons. In their first month of life, 2.7 million newborns still perished (Tunçalp et al., 2017). According to research conducted by the Healthy Newborn Network in ten countries, the Democratic Republic of the Congo, Rwanda, Nigeria, Zambia, Egypt, Nepal, Jordan, Haiti, Colombia, and Indonesia those whose health care service designs adhered to international recommendations still had inadequate health care packages (Benova et al., 2018).

Pregnancy has social and economic aspects, including spiritual, psychological, physiological, and sociocultural aspects. Pregnancy is a state, not an illness (Mabetha et al., 2022). Additionally, pregnancy is a time to encourage healthy lifestyle choices, prevent stillbirths, and control or steer clear of other serious new infections. During pregnancy, ANC packages and relevant interventions are given. These packages of interventions include those for managing sexually transmitted infections (STIs), detecting and

treating them, immunization against tetanus, HIV, syphilis, and other management interventions like nutrition, preparation, and counseling, as well as warning signs related to pregnancy and childbirth (Black et al., 2016). The term "care before birth" (ANC) offers a range of services including screening, counseling, and education that are intended to monitor the welfare of both the mother and the unborn child and to promote their overall well-being (Amoadu et al., 2022). This allows primigravida and their families to create birth plans based on their unique requirements, circumstances, and resource availability. It is important to understand that full usage of ANC services is the only way to identify and mitigate pregnancy-related risk factors (Nichols et al., 2007).

It is crucial to understand that optimal utilization of antenatal care services by primigravidas is a prerequisite for achieving positive results for both mother and newborn health (USAID, 2010). The availability of high-quality maternal health care services, which is essential for improving the health of mothers and children, has led to the reduction of maternal mortality in some nations. It also acts as a forum for communication amongst primigravidas and medical professionals. The pregnant woman's demographics, sociocultural concepts, beliefs, and other value systems are the source of this interaction (USAID, 2010).

Antenatal care refers to the medical care and support provided to pregnant women to ensure the health and well-being of both the mother and the unborn child. It involves a series of regular check-ups and screenings throughout pregnancy to monitor the progress of pregnancy, identify any potential complications or risks, and provide appropriate interventions or treatments when necessary (WHO, 2015). The primary goal of antenatal care is to promote a healthy pregnancy and delivery, minimizing the risks and maximizing the chances of a positive outcome for both the mother and the baby. This includes

ensuring that the mother receives proper nutrition, adequate rest, and necessary vaccinations, as well as managing any existing medical conditions or addressing any potential problems that may arise during pregnancy (WHO, 2015).

ANC's main objectives are to educate mothers about personal hygiene, healthy eating habits, the birthing process, early pregnancy problem detection and management, early birth plan development to ensure successful delivery, and good physical, mental, and social care for the mother and child (WHO et al., 2012). Moreover, expectant women, are often advised to begin prenatal care appointments within the first three months of their pregnancy. This allows expectant mothers to observe twelve to thirteen ANC checks during pregnancy (WHO et al., 2012). It is noteworthy to mention that the World Health Organization suggests that a pregnant woman may only be considered to have completed an ANC if she has had four minimum visits or more during her pregnancy. Visits should be scheduled, at the end of the fourth week, at the end of sixteen weeks, at the end of twenty-eight weeks, at the end of thirty-two weeks, at the end of thirty-three weeks, and at the end of thirty-six weeks, or until delivery (WHO, 2015).

About five out of six moms (84%) started ANC during their first trimester, according to research conducted in the United States (Abera et al., 2023). According to research conducted in Addis Ababa, Ethiopia, 42.0% of pregnant mothers who sought care in public health facilities in Africa started their first antenatal visit after 16 weeks of pregnancy (Gulema & Berhane, 2017).

Only 25% of expectant mothers in Rwanda began ANC within the WHO-recommended timeline, despite the country's initiation of universal coverage of ANC for pregnant women (Mkandawire et al., 2019). Fewer than 43% of South African women began antenatal care (ANC) as advised by the nation's health recommendations, according to a 2018 study by Natey et al. At a median gestational age of 16 weeks, the

women in this trial began their ANC (Nattey et al., 2018). Another study conducted in the South Africa revealed that a significant portion of the population (72%), during the first three months of pregnancy, attended their first prenatal checkup (Ebonwu et al., 2018a). At the start of prenatal care, the average gestational age in the Gambia was 22.58±6.96 weeks (Drammeh et al., 2018).

In addition, 86.6% of pregnant women in Zambia's Ndola District booked their antenatal care appointments after the recommended 12 weeks of pregnancy (Najmabadi, 2017). The majority of women (65.6%) delayed starting ANC, according to research done in Kwale County, Kenya, which found low early ANC attendance (Wekesa et al., 2018). Further research conducted in Kenya's Murang'a County revealed that just 27% of the women completed the necessary four visits, far less than the 62% national average for ANC attendance at the first appointment (Mutai & Otieno, 2021).

2.3.2 Knowledge of pregnant women on the effects of late initiation of antenatal care

A study assessed the knowledge of pregnant women on antenatal Care in Amatere Health Center, Massawa, Eritrea by Gebremariam et al., (2023) found majority of mothers (70.2%) stated that during their prior pregnancy, they gave birth in a medical facility. In addition, 7.6% of deliveries were made at home because of transportation issues (6.9%) and a lack of a local medical institution (2.1%). The majority of mothers (65.4%) said that the first antenatal visit should occur within the first three months of pregnancy, and the majority (95.6%) believed that a pregnant woman should attend at least four antenatal visits during her pregnancy. The majority of mothers accurately stated that blood pressure checks, HIV testing, and blood group screenings are necessary for expectant women. According to the majority of the mothers, fetal growth during pregnancy can be impacted by high blood pressure (92.4%), maternal

smoking (96.6%), alcohol use (97.2%), infections (92.7%), and medications (98.3%). The majority of mothers (99%) said that a pregnant woman should give birth at a medical institution, and 99.7% said that they should notify a medical facility if they exhibit any pregnancy-related danger symptoms (Gebremariam et al., 2023). ANC initiation is an opportunity for pregnant women to screen for blood pressure check, HIV testing and blood group screening. Hence, pregnant women are educated on the impact of high blood pressure, maternal smoking, alcohol use and infections on the health of the mother and baby.

A study conducted in Ethiopia by Edessa et al., (2023) found 326(94.8%) of the total respondents were aware of the significance of ANC services for the mother. The vast majority of respondents (96.5%) stated that ANC services lower the rates of maternal death. Of those surveyed, 331 (96.2%) and 337 (98%) knew that getting the first ANC scheduled as soon as possible increases the likelihood that both the woman and the fetus will have a successful pregnancy (Edessa et al., 2023a). Again, the study found 329 mothers (95.6%) who were asked about when they thought the first ANC should be started said that it should happen during the first four months of pregnancy, or earlier. More than half of the participants, 208(60.5%) of the total surveyed participants stated they were not at danger of pregnancy difficulties, while 136 mothers (39.5%) stated all expectant mothers are at risk. Yet 311 mothers (90.4%) said that expecting mothers ought to see a doctor for an ANC procedure (Edessa et al., 2023a). Another study conducted in Ethiopia by Yezengaw, (2022) found 163 (78.7%) antenatal care attendees assessed ANC as highly important and had awareness of its importance for the health of both the mother and the fetus. Few respondents stated that ANC has little bearing on the health of the mother and the fetus (Yezengaw, 2022).

A study done in Tanzania by Lilungulu, (2016) revealed 399 (79.8%) of the women who were interviewed knew that the first antenatal check-up and examinations should be performed by midwives in the antenatal clinic. About 39 (7.8%) of the women were unaware that pregnant women need to attend at least five antenatal follow-up visits throughout their pregnancy. About 199 (39.8%) of the women were unaware of the complications that can arise from high blood pressure, and that pregnant women's fetus growth will be impacted (G Lilungulu, 2016).

According to a study conducted in Nigeria by Ogunba & Abiodun, (2017), approximately 76.4% of respondents agreed that ANC can prevent newborn deformity, 84% agreed that ANC can improve or correct micronutrient deficiencies, and 38% disagreed that anemia during pregnancy is caused by the body having too much iron. Of all respondents, 87.2% agreed that attending ANC is crucial for preventing and treating malaria, anemia, and other pregnancy-related complications. As a consequence, 56.4% of the participants had a moderate understanding of prenatal care (Ogunba & Abiodun, 2017).

A study by Redi et al., (2022) found 353 (94.1%) expectant mothers stated that antenatal care (ANC) is vital, and 314 (83.7%) and 343 (91.5%) respondents were aware that scheduling the first ANC as soon as possible enhances the mother's health and the prognosis of the fetus, respectively. Out of all the pregnant women, only 211 (56.3%) were aware that the first anticoagulant should be started within 16 weeks of the pregnancy. One hundred eighty (48%) expectant mothers were aware that they needed four ANC visits or more (Redi et al., 2022b). Of the expectant women, 157 (41.9%) began their first antenatal care appointment on schedule. The first antenatal care appointment could be scheduled anywhere between 4 and 40 weeks of pregnancy, with an average visit lasting 18 weeks (Redi et al., 2022b).

A study by Edessa et al., (2023b) found 326(94.8%) of the total respondents were aware of the significance of ANC services for the mother. The vast majority of respondents (96.5%) stated that ANC services lower the rates of maternal death. Respondents 337 (98%) and 331 (96.2%) were aware that scheduling the first ANC as soon as possible enhances the mother's and fetus's chances of a healthy pregnancy (Edessa et al., 2023b). The study further found 329 mothers (95.6%) who were asked about when they thought the first ANC should be started said that it should happen during the first four months of pregnancy, or earlier. More than half 208(60.5%) of the total survey participants stated they were not in danger of pregnancy difficulties, while 136 mothers (39.5%) stated all expectant mothers are at risk. Yet 311 mothers (90.4%) said that expecting mothers ought to see a doctor for an ANC procedure (Edessa et al., 2023b).

2.3.3 Perceived Benefits of Early Initiation of Antenatal Care.

A survey in Ethiopia by Yezengaw, (2022), found one (0.5%) ANC attendee thought that four or more ANC visits were required. Conversely, 206 individuals (99.5%) felt that fewer than four antenatal care visits were adequate for the duration of the pregnancy (Yezengaw, 2022). A qualitative study done in Tanzania by Mgata & Maluka, (2019) found most of the people surveyed stressed the value of beginning antenatal care as soon as a pregnancy is confirmed. The participants had the opinion that early antenatal care attendance provides expectant mothers with the chance to get testing and advice aimed at improving their health and preventing harm to the unborn child. After confirming a pregnancy, seeking antenatal care services was prompted by concerns about uncertainty and pregnancy risks (Mgata & Maluka, 2019).

The study by Wolde et al., (2019) indicated 247 (67.9%) and 241 (66.2%) said ANC was crucial for both the fetus and themselves. Of the total study participants, 143 (or 39.3%) believed that scheduling the first

ANC visit should happen before 12 weeks. Of the total, 139 people, or 38.2%, believed that ANC required at least eight visits. One hundred ninety-six (53.8%) of the respondents thought that pregnant women required dietary supplements. In terms of the mothers general understanding of ANC, 220 (or 60.4%) had good knowledge (Wolde et al., 2019b). According to a study by Villar et al., (2014) early antenatal care dramatically decreased the incidence of maternal and prenatal problems, including preterm birth, low birth weight, and preeclampsia (Villar et al., 2014). A systematic review by Dowswell et al., (2015) on antenatal care revealed that early ANC initiation is linked to a lower incidence of stillbirths and neonatal mortality. It enables medical professionals to educate expectant mothers about pregnancy-related topics such as preparation for childbirth, breastfeeding, and lifestyle choices. It has been demonstrated that these educational initiatives enhance mothers' attitudes and knowledge, which benefits the health of both mothers and babies (Ditri et al., 2017). Pregnant mothers who receive early antenatal care benefit emotionally and psychologically. Pregnant women can feel reassured, address their fears, and develop a trustworthy relationship with the healthcare team through routine check-ups and discussions. This assistance enhances mothers' mental health and general well-being (Small et al., 2002). According to a study by Schummers et al., (2015), pregnant women with pre-existing medical issues are identified and treated with early prenatal care. Early ANC initiation will help in diagnosis and effective intervention that can reduce the risk of difficulties for both the mother and the fetus in conditions such as diabetes, hypertension, and thyroid abnormalities (Schummers et al., 2015).

2.3.4 Barriers to early initiation of antenatal care

A qualitative study conducted in Tanzania by Mgata and Maluka, (2019) found majority of expectant mothers, particularly those in their first trimester, postponed attending ANC clinics because they were unsure of the best time to begin and the suggested number of appointments (Mgata & Maluka, 2019). The study further found that all categories of respondents such as young women without children and adolescents often conceal their pregnancies to prevent negative outcomes including gossip, stigmatization, and expulsion from school. Because they were afraid of witchcraft, several women feared to reveal their pregnancy too soon (Mgata & Maluka, 2019). A study in Ghana by Kotoh and Boah, (2019) found participants revealing that some traditional practices are known to postpone ANC initiation. It is believed that these rituals will shield the fetus and the pregnant woman from "evil eyes"(Kotoh & Boah, 2019).

Anthropological research conducted in Mozambique and Southern Tanzania revealed that pregnant women postponed initiating antenatal care to shield their unborn child from the envious neighbors' witchcraft and sorcery (Chapman, 2003; Haws et al., 2010). Because it was widely believed in Zimbabwe that the first trimester was the most susceptible to witchcraft, expectant mothers were afraid to attend ANC during that time (Mathole et al., 2004). Low ANC attendance during the first trimester was shown to be a result of the women concealing their pregnancy in the early months to avoid being “bewitched”. One key informant stated, "I believe that most of the women here don't start ANC early because they typically try to hide the pregnancy to avoid being witched." "Elderly women give some of us traditional medicine that protects the pregnancy from being bewitched and advise you to wait for the pregnancy to grow before starting ANC," remarked a different woman during FGDs (Chimatiro et al., 2018).

In a study by Chimatiro et al., (2018) participants were questioned about local cultural customs in focus group discussions and in-depth interviews. It was discovered that before beginning ANC, many women wait for marriage counselors from their husbands' side to visit and offer guidance (Chimatiro et al., 2018).

It was discovered that a large number of women either refuse to go with their husbands or do not start ANC early when their husbands are away (Chimatiro et al., 2018). The majority of women do not begin ANC treatment at an early stage because they are not being attended to early if they visit the health facility without their spouses. It has been observed that if a woman is single, she must obtain a letter of authorization from the traditional leader to receive antenatal care at the health facility. Failure to do so will prevent her from receiving necessary medical attention (Chimatiro et al., 2018). "I cannot go to start ANC alone because I know that I will not be attended to," a woman stated during one of the FGDs if her husband had refused to go with her (Chimatiro et al., 2018).

A qualitative study conducted in Ghana, Kenya and Malawi by Pell et al., (2013) found medical professionals in Malawi and Kenya encouraged husbands to participate in ANC by offering incentives such as free child shawls and preferential treatment to those who brought their spouses to ANC sessions. However, for some Kenyan women, the stigma associated with HIV combined with husbands' involvement in ANC decision-making made it difficult for them to attend (Pell et al., 2013). According to Pell et al., (2013), the women were reluctant to go for ANC because they would be told they were HIV positive, and if their husbands found out, it would have serious consequences. In most extreme cases, husbands accused their wives of adultery and left them instead of taking the test, a Kenyan case study revealed that the women delayed seeking medical attention to avoid learning about their HIV status (Pell et al., 2013).

According to a study conducted in Malawi by Nyando et al., (2023), several participants indicated, the attitude of healthcare professionals is one of deterrence when it comes to starting antenatal care during the first trimester. The participants expressed their displeasure that they were made fun of for not being able to feel anything on their abdomen, as though they were acting pregnant. Participants also reported being yelled at by healthcare personnel for failing to cover the bed before lying down on the examination couch. Participants stated that health workers behaved as if they had ever quarreled before, this is because they talk to them rudely (Nyando et al., 2023). It was also found by Chimatiro et al., (2018) that, the decision to begin ANC early is influenced by health staff's negative attitudes toward their patients. They discovered that a few of the facility's medical staff seldom ever upheld confidentiality. "There is a certain nurse there who even reveals what you have worn inside your wrapper (Chitenje)" a woman revealed during one of the FGDs (Chimatiro et al., 2018). A study conducted in Ethiopia by Nyando et al.,(2023) found most of the participants said that because of the large number of pregnant women visiting the facility, they had to wait a long time to receive assistance. They also mentioned how demoralizing the lengthy lines are to them and how they report to the facility at 6 a.m. and leave at 2 p.m. The first antenatal care visit participants reported experiencing additional delays because of the several steps they had to take, including taking a history, getting tested for syphilis, and testing for HIV. To prevent such circumstances, participants were also discouraged from beginning ANC early (Nyando et al., 2023). Another study conducted in Ghana by Afaya et al., (2020) found that in medical facilities where they evaluated care, 38.2% of the participants reported having to wait a lengthy time. Staff reprimands came in second place with 28% and irregular service hours with 24.5% of the participants (Afaya et al., 2020).

The study in Malawi by Chimatiro et al., (2018) found the integration of family planning services with ANC women resulted in lengthy wait times for them to get services at the facility, according to study

participants. According to the reports, health professionals were starting to see ANC customers after giving priority to family planning clients. In a detailed interview, a lady stated, "I always come early for ANC so that I can be assisted and go back on time, but nurses give priority to those who have come for family planning before us, so we usually go back home very late" (Chimatiro et al., 2018).

According to a qualitative study conducted in Tanzania by Mgata & Maluka, (2019), the significance of having peers and family support was emphasized by the respondents. Support was strong in certain instances, which led to early ANC visits. In others, the influence of peers resulted in women to delay ANC visits because they tried to conceal their pregnancy from their peers (Mgata and Maluka, 2019). The study by Afaya et al., (2020) in Ghana found women faced significant obstacles in effectively utilizing ANC services, including their partners' assessment of the relevance of ANC and the long distance to the health facility (31.1%). In addition, over 27.6% of respondents listed financial difficulties as well as cultural attitudes (7.9%) as obstacles to attending prenatal clinics (Afaya et al., 2020).

The study in Tanzania by Mgata & Maluka, (2019) found women inability to pay for transportation, women from low-income households who lived far from medical facilities opted to wait until delivery time (Mgata & Maluka, 2019). Another qualitative study by Warri and George, (2020) found accessing the services was made difficult and stressful. Some participants complained about the impolite behavior of health workers and unhelpful booking procedures that affected their decision to schedule antenatal visits (Warri & George, 2020).

According to a study by Nyando et al., (2023) in Ethiopia, the participants in the IDIs and FGDs, perceived barriers to the health system as having to travel more than seven to twenty kilometers to receive ANC services as a major challenge. The pregnant women explained that they delayed first-trimester antenatal

visits because they lacked the funds for transportation and they could not walk to the health centers since it was distant from their homes. Motorbikes and minibuses were the most prevalent modes of transportation they utilized. The participants added that they needed extra cash to purchase food, such as snacks, while they waited to be served at the facility because the distances were so great (Nyando et al., 2023).

In Malawi, a study by Chimatiro et al., (2018) found that the decision to begin ANC early is influenced by the distance between one's residence and the facility. Some women claimed that to receive ANC services, they had to travel more than 7 miles, frequently on foot. This keeps women from beginning prenatal care too soon in the first trimester. "I come from very far from the clinic, I do not want to have many visits and get tired before delivery," a woman stated, explaining why she was unable to begin ANC early. "When I think about the distance from home to here, I always get discouraged to start," said one of the other participants (Chimatiro et al., 2018).

A qualitative study conducted in Cameroon by Warri and George, (2020) revealed that, costs of ANC services are a concern for a few of the expectant mothers. They had to postpone starting ANC since they had to make plans and gather funds to cover the costs (Warri & George, 2020). A study in Ghana by Kotoh & Boah, (2019) found that, even though ANC is provided free of charge under the NHIS, some pregnant women cannot afford the pregnancy test, other fees, or transportation to the clinic. Notwithstanding the free ANC services, participant comments imply that commencing ANC later is caused in part by the expense of transportation and other related expenses (Kotoh & Boah, 2019).

A study conducted in Ghana, Kenya, and Malawi by Pell et al., (2013) observed in Kenya through observations and interviews with pregnant women that different health facilities and responders charged

different amounts for antenatal care (ANC). The ANC card was free, and laboratory tests were charged when available. In a similar vein, even though pregnant women in the Ashanti Region of Ghana are entitled to free health insurance, instances of charging for some ANC services have been documented. While this is not the case at every facility, the opaque pricing structure has led to complaints from women (Pell et al., 2013). Pell et al., (2013) in their study found that ANC attendance came with additional indirect expenditure. Travel expenses differed depending on the location and the respondents at each location. For instance, women in northern Ghana primarily walked to the clinic, incurring negligible travel expenses because there were few public vehicles in the area. Bicycle taxis were available in Kenya and Malawi, and pregnant women who could afford to pay made use of them due to their weariness. Some women rode on their husbands' bicycles, while a small percentage of Kenyan women made use of motorbike taxis due to their increased comfort. The food that women bought for themselves or their accompanying children while they waited to be attended to is another example of an indirect expense (Pell et al., 2013).

Again, making decisions on ANC initiation is made more difficult by the fact that women without direct access to money sometimes rely on their husbands or other family members to cover expenses. In several cases, though, getting to the medical institution required not just having access to money but also a means of transportation—like a husband's bicycle (Pell et al., 2013). However, there were few reports of women postponing ANC initiation due to opposition from their spouses or a family member in charge of household finances. One Kenyan lady who worked as a live-in caregiver brought attention to the challenges that some women encounter in getting access to cash. She stated that she waited for her employer, who was aware of her pregnancy, to pay her wages before starting ANC (Pell et al., 2013).

A study conducted in Ethiopia by Nyando et al., (2023) found some participants thought that because they made their living from small-scale businesses like selling flitters (Mandasi), it was a waste of time to wait in huge queues at the clinic. They added that they were constantly busy with business since they had to labor to make ends meet to afford food and other needs in this little town. The participants kept delaying the antenatal care appointment because they felt it was a loss to spend the entire day without selling their items (Nyando et al., 2023). According to a study by Chimatiro et al., (2018), the decision to begin ANC early was influenced by business. For financial reasons, some women chose to pursue commercial ventures over ANC when their pregnancies lasted less than five months. This shows that socioeconomic factors do have an impact on the decision to begin ANC treatment early. One more person stated, "It is preferable to go to the market and sell millet if you have it and it is a market day while you are also supposed to go for ANC so that you can have something to feed your family"(Chimatiro et al., 2018).

A qualitative study conducted in Cameroon found in certain instances, the spouse's lack of support had a role in the delayed commencement (Warri & George, 2020). Some husbands did not believe their wives when they informed them they were pregnant because they lacked trust. Because of this, the husbands were hesitant to provide funds for the early start of antenatal care (Warri & George, 2020). The study in Ethiopia by Nyando et al., (2023) found few individuals felt their spouses did not provide them with enough support. For them to begin antenatal treatment in the first trimester, participants said they wanted their spouses to provide money for transportation and refreshments. Expectant mothers stated that they anticipated their spouses to give them new wrappers, or Zitenje. Participants further said that they felt disoriented using sulfadoxine-pyrimethamine tablets for malaria prevention, which is why they expected to be given cash to purchase snacks (Nyando et al., 2023).

The study by Nyando et al., (2023) also found the majority of participants reported realizing they were pregnant after three months and after exhibiting symptoms of pregnancy, such as fetal movements or vomiting (Nyando et al., 2023). Some women become pregnant without knowing they have pick seed within the first three months until the pregnancy progresses further and they begin to exhibit major symptoms like fetal movement. Hence they end up initiating ANC late.

The study by Warri and George, (2020) found some of the participants delayed starting antenatal care out of a desire to postpone announcing their pregnancies due to concerns about alleged "enemies" who may endanger their pregnancies. Some women reported that they were embarrassed or shy when the pregnancy was still early, so they put off telling anyone they were expecting (Warri & George, 2020). The study further found the majority of single women, particularly young girls, claimed that their delayed disclosure of pregnancy and subsequent delayed start of ANC were caused by their dread of their parents' unfavorable reactions (Warri & George, 2020).

Nyando et al., (2023) in Ethiopia also found the majority of participants thought prenatal visits were excess for them. The participants expressed their preference for fewer trips, stating that they would simply become fatigued and felt that numerous visits were unnecessary. For some individuals, it was advantageous to have three visits. Additionally, some participants said that they did not want monthly prenatal appointments from doctors if they began prenatal treatment within three months of becoming pregnant, while others were deterred by remarks from their friends that frequent visits were uninteresting (Nyando et al., 2023). The study by Pell et al., (2013) revealed delay in commencement was also caused by the way health workers scheduled ANC appointments and how women perceived appointments as required, especially in Kenya. Women and medical personnel in Kenya and Ghana reported that, except

in the weeks leading up to their due date, when women were scheduled for weekly or biweekly visits, follow-up appointments were often arranged for one month following each appointment. Appointments were scheduled every two months in Malawi, except the ninth month. Women stated that they would postpone attending ANC until the sixth or seventh month to reduce the number of trips and, thus, the overall expense of ANC. This was especially the case in Kenya and Malawi (Pell et al., 2013).

Kotoh and Boah, (2019) in their study found the primary justification for delaying initiating ANC was the lack of problems. Many late adopters of ANC claim that they did not perceive the necessity for care during the first trimester when they were well and did not detect any pregnancy symptoms (Nachinab et al., 2019). The replies from this group of participants indicate that while they are aware of the value of early antenatal care, they do not know enough about the advantages of seeking it out in the first trimester. According to them, healthy expectant mothers can wait until the first indications of pregnancy appear before starting ANC (Kotoh & Boah, 2019). One cause for non-attendance among the 54 women who did not report for ANC was sickness (44.4%) (Kidist et al., 2013). The majority of participants in the FGDs also concurred that maintaining one's health was the primary deterrent to not attending ANC (Kidist et al., 2013).

According to the study by Kotoh & Boah, (2019) much of the excitement of pregnancy is lost during an unwanted pregnancy. When compared to an intended pregnancy, such pregnancies are not valued or given the necessary attention (Kotoh & Boah, 2019). When couples are well prepared for a child, they place special attention to such pregnancies by receiving the necessary healthcare (ANC) services in other to deliver a healthy baby. On the other hand, couples who did not intend to be pregnant will not or do not place attention on the health of their pregnancies by attending ANC clinics for services.

2.3.5 Source of information on when pregnant women should start antenatal care.

A qualitative study conducted by Alison et al., (2022) found that mothers were among the social ties that shared information regarding early ANC initiation most frequently. A considerable number of research participants stated that their mothers had advised or even urged them to get ANC. According to Alison et al., (2022), a pregnant woman indicated that her mother suggested to her to visit the hospital when her menstruation stopped coming monthly. When it came to the best time for the first ANC visit, mothers' opinions varied. As disclosed by a study participant, her boyfriend disapproved of her obtaining antenatal care (ANC) so early in the pregnancy. Her mother believed that ANC should have been sought in the first trimester (Alison et al., 2022). A study by Broeke et al., (2022) found nearly all of the pregnant women in the research, 96.4% of early pregnancy and 98.5% of late pregnancy, received information from a midwife at some stage. The utilization of additional professional resources, such as pamphlets from caregivers, was less common among women. Peers, such as other mothers and pregnant women, 86% and 91%, respectively, for early and late pregnancy, as well as relatives or friends, 92% and 93.3%, were commonly used informal traditional knowledge sources (Broeke et al., 2022). The study by Broeke et al., (2022) further found that Social media, such as Twitter, Facebook, and Instagram, was used less frequently by women than digital sources, such as websites regarding pregnancy and childbirth, 86.9% of early pregnant women and 90.9% of late pregnant women, or apps, 75.3% of early pregnant women and 70.3% of late pregnant women (Broeke et al., 2022).

Another study by Grimes et al., (2014) found that "talk with a midwife" was the most popular information source, as indicated by 70%(n=350) of women. Thirty-nine percent of women (136/350) of the women used the written material that the midwives supplied. Sixty-one percent of women used the brochure

"Having Your Baby at The Women's" (The Royal Women's Hospital, 2010), which is given to women at their first antenatal appointment (Grimes et al., 2014). A study by Fagbamigbe et al., (2013) found a total of 237 respondents (45.0%) indicated that health workers were their primary source of information about ANC facilities, whereas 12.4%, 19.1%, 19.3%, and 2.2% indicated that their information came from friends, family, the news media, and faith-based organizations respectively. (Fagbamigbe et al., 2013).

2.6 Summary of literature review

The health belief model was utilized as an organizing framework to review the evidence on the factors that contribute to late prenatal care beginning in this chapter. According to the literature study, there are several research on prenatal care conducted in numerous nations. These investigations combine qualitative and quantitative methodologies. Even though the literature analysis also identified environmental impediments to the use of antenatal care, there were few studies on the practice in the research region. Several from Africa, specifically Kenya, Ethiopia, Tanzania and some Asia countries like Bangladesh and India have explored the concept of ANC studies (Abera et al., 2023; Afulani et al., 2019; Ahinkorah, Seidu, Agbaglo, et al., 2021; Akter et al., 2020; Battu et al., 2023; Nyando et al., 2023; Redi et al., 2022b; Tola et al., 2021; Townsend et al., 2017; Warri & George, 2020; Wolde et al., 2019a) . About six studies were reviewed from Ghana (Afaya et al., 2020; Asundep et al., 2013; Ayelepuni et al., 2022; Kotoh & Boah, 2019; Owusu, 2021a; Pell et al., 2013) . None of these studies were conducted in the Nanton District.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter presents information on the methodology that was used to answer the research questions. It entails the study setting, study design, study population, the inclusion and exclusion criteria, sampling techniques and sample size, research instrument, method of data collection, quality control, data analysis and ethical considerations.

3.1 Study Setting

The Nanton district is one of the 16 districts in the Northern Region of Ghana. According to the 2021 Population and Housing Census, Nanton District has 50,767 residents. The population comprises of 2510 females and 25,257 males(Ghana Staistical Service (GSS), 2021).

In the population 12 years of age and older, 60.1% are married, compared to 33.4% who have never married, 0.5% in permissive partnerships, 4.2% widowed, 1.0% divorced, and 0.9% living apart. Males and females 12 and older who are married make up more than half of the population (Ghana Statistical Service, 2014). Its approximate area is 80 km2, and it borders the Sagnarigu Municipal to the north, the Karaga District to the east, the Tamale Metropolis to the west, and the Savelugu Municipal to the south. The majority of the population lives in rural areas. With 84 villages, it has 8.7/km2 population density.

The district has 18 health care facilities. These consist of 14 operational Community-based Health Planning and Service (CHPS) zones and 4 health centers. Outpatient care, ANC, child welfare clinics, and delivery services are among the offered services. Savelugu municipal hospital serves as a referral center.

3.2 Research Design

Research design is the general strategy for addressing the research questions (Polit & Beck, 2008). The study employed a descriptive exploratory design in a qualitative approach. A qualitative research approach aids in revealing incredibly detailed, subjective, hidden facts and truths regarding participants' meanings and expressions (Madureira et al., 2009).

Exploratory research design is conducted for a research problem when the researcher has no past data or only a few studies for reference (Asika, 2004). Exploratory descriptive design is a research design that aims to describe phenomena by exploring them from the participant's perspective (Hunter et al., 2019). This study seeks to explore pregnant women's individual perceptions with late ANC initiation. This approach was employed to enable the examination of the opinions and experiences of the participants. In addition to being democratic and empowering, this approach allows for free communication among participants, unlike quantitative techniques that employ closed-ended questions.

3.3 Study Population

The study was conducted among pregnant women in the Nanton District within the reproductive age of (18 – 49 years).

3.4 Inclusion and Exclusion Criteria

3.4.1 Inclusion criteria

The participants were pregnant women who reported for ANC after 12 weeks of pregnancy, have stayed in the Nanton District for at least 12 months and voluntarily agree to participate in the study. The study was conducted among pregnant women who could speak English Language, Twi or Dangbani.

3.4.2 Exclusion criteria

The study excluded pregnant women who were seriously ill or pregnant women who were not in the right psychological state to participate.

3.5 Sample Size Determination and Sampling Technique

3.5.1 Sample size determination

In qualitative research, the attention is on the quality of the information obtained from the participants rather than a larger sample size (Burns & Grove, 2001). The sample size for this study was 15 pregnant women who initiated ANC late and this was based on data saturation. Data saturation is the point in a data collection process where enough data has been collected to draw necessary conclusions, and any further data collection will not produce value-added insights (Saunders et al., 2018).

3.5.2 Sampling Technique

The term "sampling technique" refers to case selection strategy, which is the procedure and strategies used to choose a portion of the population's units (Mohsin, 2021). The benefits of the sampling technique

include ease of use, comprehensive and in-depth data collecting, appropriate use of scarce resources, and improved rapport (Haute, 2021). A convenient sampling technique was used to select the seven CHPS located in the Nanton District for the study. Convenience sampling technique is refers to the type of sampling technique where samples are chosen according to their availability (Rahim, 2008). When samples are hard to come by, this approach is employed. Convenience sampling was employed in choosing the seven CHPS since that is affordable, rapid, and practical. Convenience sampling is helpful and do not need any preparation. Purposive sampling technique was used to select the participants. Purposive sampling, often referred to as judgment sampling involves selecting participants based on the attributes or experiences they possess (Dolores & Tongco, 2007). Purposive sampling technique was used for selecting participants in this study because it helped the researcher to select the right participants. The researcher contacted the heads of the various facilities for contact information of women who initiated antenatal late. The pregnant women with late ANC initiation records were followed up by the researcher and those that meet the inclusion criteria were purposively selected for the study.

3.6 Data Collection Tool

A semi-structured interview guide was used by the researcher for data collection. The interview guide was developed by the researcher based on the purpose of the study. The interview guide was divided into five sections. Section A consisted of questions on the sociodemographic characteristics of the respondents, Section B assessed the knowledge of pregnant women on the effects of late initiation of antenatal care, Section C assessed the perception of pregnant women on the benefits of early initiation of antenatal care

Section D assessed the barriers to early initiation of antenatal care in Nanton district, and Section E assessed the source of information on when one should start antenatal care and.

3.7 Pretesting

The interview guide was pre-tested using participants in two CHPS in Savelugu Municipal with similar characteristics to the facilities selected for the study. Pretesting of the interview guide aimed at clarifying the ability to elicit information that answered the research questions. This helped the researcher to determine the acceptability of the interview guide and as well approximate the time required for each interview. After pre-testing, amendments were made to the interview guide to ensure clarity of the questions and a final version was then used for the data collection.

3.8 Data Collection Procedure.

Approval to commence the study was obtained from the Department of Population and Reproductive Health. Ethical approval was also obtained from the University for Development Studies Ethics Committee Review Board. An introductory letter was submitted to the various selected study facilities introducing the researcher to them. The researcher explained the purpose of the study to the heads of the facilities. The researcher then met the heads of the selected CHPS to obtain basic information of potential participants. The volunteers helped the researcher to identify and trace the women at their various homes. The researcher then screened the potential participants to see if they met the inclusion criteria. The pregnant women who met the inclusion criteria were followed up by the researcher who explained and

gave information sheets on the study to those who can read. The researcher in consultation with the pregnant women agreed on a particular date and time for the interview.

The participants' residences served as the interview locations. Face-to-face individual interviews were conducted in Dagbani, Twi and English. Permission was obtained from the participants to audio-record the interviews with a digital voice recorder. Probing questions were used to elicit further information, participants were encouraged to relax and share their ideas. The participants were assured of confidentiality of the information obtained.

3.9 Data Analysis

Thematic analysis was employed for data analysis. Thematic analysis is regarded as an adaptable method that was used to give a thorough and comprehensive description of participant qualitative data (Braun et al., 2017). The perspectives of various study participants was analyzed using thematic analysis to show similarities and distinctions, resulting in a final report that is well-organize (Clarke & Braun, 2015). Data collection and analysis was carried out simultaneously. The audio-recorded interviews were transcribed verbatim for the interview conducted in English Language. For interviews conducted in Dangbani and Twi, they were transcribed based on the meanings conveyed by the participants in the interviews. Transcripts that emanated from interviews conducted in local languages was given to an expert to help interpret from to English language. The transcription took into account the field notes and the participants' nonverbal cues. To fill in any gaps, the audio recordings was played several times and compared to the texts. The analysis process employed Braun & Clarke's (2006) six-steps for thematic analysis.

Familiarization: To comprehend the information and produce appropriate themes, the researcher went over the transcripts several times to grasp the meaning of the words and phrases, taking into account their professional, cultural, and contextual connotations.

Generating Initial Codes: After reading each transcript line by line, the researcher underlined significant passages that best capture the participants' voices and annotate them with terms or phrases. These terms and frames were referred to as the initial codes. Every transcript underwent first coding procedure, and any additional codes that surfaced was added.

Searching for Themes: Many codes were produced throughout the transcribed data as a result of the first coding. Here, the researcher categorized all the coded data extracts that were relevant to the study findings into themes.

Reviewing the Themes: In order to determine whether the coded data extracts for each theme creates a cohesive pattern or not, the researcher evaluated the data extracts during this step. It was possible to find shortcomings in the original coding and theme construction through inductive reasoning used in this approach. This was the point at which codes that overlap or are deemed unrelated to the theme were eliminated.

Defining and Naming the Themes: According to Braun and Clarke (2006), researchers should ascertain the interesting aspects of each topic and what part of the data it captures.

Based on the specific characteristics that each topic reflected, the themes in this data analysis was labeled using the constructs of the health belief model consistent with the specific objectives of the study

Producing the report: This phase involves providing a write-up that offers a succinct, logical, cohesive, non-repetitive, and engaging explanation of the facts within the themes. The narrations were supported with participant statements taken verbatim.

3.10 Data management

Every participant recruited for the study was assigned with a code such as participant 1, 2 ,3 etc based on their chronological order of recruitment. The Dagbani and Twi translation of the recorded interview into English was done based on the meaning of the information recorded. The researcher discussed the transcription with a speaker of Dagbani and Twi as well as English in order to ensure accurate translation while maintaining confidentiality. This was done to ensure correctness and to check translations. The translator was made aware of the need for confidentiality. A summary of the key points was utilized to check the meanings for each participant after the completion of each interview. The printed transcripts of the interviews were kept secure in a locked cabinet. Every interview was meticulously transcribed in a different colored font and all the files had different names. The interviews were also recorded, preserved, and kept on an external disc with a password to prevent data loss.

3.11 Methodological Rigor

Due to the particular nature of each research's intended outcome, the concept of rigour in a qualitative investigation differs from that in a quantitative study (Guba & Lincon, 1985). In qualitative research, reliability or methodological rigor has to do with the validity and dependability of the study design. It can be argued that, without rigor the research conducted can become fictional and worthless in adding

knowledge. The credibility, transferability, dependability, and confirmability of a study's findings define their degree (Grove, Burns, & Gray, 2013).

Dependability (Consistency): Dependability is the quality of a study's findings being consistent with those of other groups in a comparable setting (Korstjens & Moser, 2018). The procedure utilized for data collection, analysis, and interpretation were documented in the report to make sure of dependability. For the purpose of validating the results of this study, non-participants with similar experiences were also contacted. Similar to that, the results were shared with experienced researcher in this area for peer review. The supervisors had access to the written transcripts, developing topics, and the audios.

Confirmability: Confirmability depends on how much the researcher is aware of his own biases (Abdalla et al., 2018). The researcher made sure that the findings fairly represent the participants' experiences and opinions rather than his own characteristics and preferences. Another approach was to make an audit trail that allows the reader to track each choice and procedure that was used to conduct the inquiry while it was being done. The field notes, transcribed data, and interview recordings serves as an audit trail for an objective assessment and validation of the information included in the documents. The supervisors of the researcher have access to all of these materials.

Credibility: This entails the reader's belief in how closely the researcher's findings correspond with the opinions of the participants (Johnson et al., 2020). Prior to the interview, the researcher first got to know the participants to establish rapport that encouraged free sharing of information during data collection. Face-to-face interviews was conducted by the researcher to allow for probing and obtaining additional crucial information. Data was transcribed verbatim considering gestures, voice tones, and field notes. The correctness of the transcribed data and emerging themes were verified through member check.

Transferability: The issue of transferability focuses on how extensively the study's findings may be used in other circumstances (Petty et al., 2012). Transferability helps readers better understand the phenomena under investigation and make comparisons between the occurrences described in the research report and those they emerge in other situations. The researcher ensured transferability and enable readers to apply the results independently by providing sufficient background about the circumstances. The researcher provided description of the study setting, procedure for participant's selection and data collection procedure.

3.12 Ethical clearance

Ethical approval was obtained from the University for Development Studies Ethical Review Committee with reference number UDS/RB/046/24.The researcher followed the established principles for the conduct of research among human participants. For the purpose of recording and transcribing the interview process, all participants were requested to sign or thumbprint an informed consent. Participants were given assurances of confidentiality. The confidentiality of the participants was upheld throughout the interview and discussion process, and the data collected was kept secret. Nobody was pressured or compelled to take part in the research. In other words, before interviewees are given the option to participate or not, they were informed about the research and any potential indirect benefits. Participants were asked to engage without restrictions and at their discretion. Participants were made aware that there were no incentives and that they may withdraw from the study at any time. Participants were informed that the information was only used for academic purposes. A password-protected folder was used to keep audio recordings. The textual data and consent forms will be safely maintained for about 5 years.

CHAPTER FOUR

RESULTS

4.0 Introduction

Results obtained from interviews conducted with the interview guide are presented in this chapter. The sociodemographic details of the participants are presented, followed by the findings, which are organized into four major themes with subthemes and categories. Verbatim quotes from the interviews are used to bolster the subthemes.

4.1 Sociodemographic characteristics of respondents

The sociodemographic characteristics indicate fifteen participants for the study. All participants were females. Nine participants were within the 18-29 years range whereas three participants on a level head were within 30-39 years and 40-49 years. Seven of the participants were housewives whereas four were traders. On educational status, eight participants revealed they had attained primary education while three participants had no formal education. Thirteen of the women were Dagomba's. Twelve of them belonged to the Islamic religion while three belonged to the Christian religion. Eight of them indicated it was their first pregnancy. With regards to husbands' occupations, five participants revealed their husbands were farmers while five indicated their husbands were indicated to be self-employed. Twelve of the husbands were Muslims. Five participants revealed their husbands had no formal education whereas four participants indicated their husbands had attained SHS/vocational education.

Table 4. 1Sociodemographic characteristics of respondents

Participant	Age	Occupation	Educational status	Ethnicity	Religion	Is this your first pregnancy	Husband occupation	Husbands religion	Husbands educational status
Participant 1	21	Housewife	JHS	Dagomba	Muslim	Yes	vulcanizer	Muslim	JHS
Participant 2	24	Housewife	JHS	Dagomba	Muslim	Yes	Scrub dealer	Muslim	SHS
Participant 3	41	Trader	No formal education	Dagomba	Muslim	No	Security man	Muslim	Primary
Participant 4	25	Housewife	Primary	Dagomba	Muslim	No	Seamstress	Muslim	No formal education
Participant 5	25	Trader	Primary	Dagomba	Muslim	No	Farmer	Muslim	JHS
Participant 6	20	Seamstress	JHS	Dagomba	Christian	Yes	Driver	Christian	JHS
Participant 7	31	Housewife	No formal education	Dagomba	Muslim	No	Carpenter	Muslim	Primary
Participant 8	32	Trader	SHS	Mamprusi	Christian	No	Construction worker	Christian	SHS
Participant 9	46	Trader	Primary	Dagomba	Muslim	No	Teacher	Muslim	Tertiary
Participant 10	19	Hairdresser	Primary	Dagomba	Muslim	Yes	Farmer	Muslim	Primary
Participant 11	21	Housewife	Primary	Dagomba	Muslim	Yes	Herbalist	Muslim	No formal education
Participant 12	23	Housewife	Primary	Dagomba	Muslim	Yes	Herbalist	Muslim	No formal education
Participant 13	43	Trader	SHS	Dagomba	Muslim	Yes	Business man	Muslim	SHS
Participant 14	19	Housewife	Primary	Dagomba	Muslim	Yes	Fuel attendant	Muslim	SHS
Participant 15	30	Farmer	Primary	Konkomba	Christian	No	Farmer	Christian	No formal education

4.2 Organization of Themes

The thematic findings of the study are organized based on the study objectives. Based on the objectives, four main themes, and sub-themes were developed with their corresponding categories. Table 4.2 below presents the four main themes, subthemes, and their corresponding categories.

Table 4. 2 Main themes, Subthemes and categories

Main Themes	Sub-Themes	Categories
1. Knowledge on the effect of late ANC initiation	• Negative effect on mother and unborn child • Miss initial routine medications/vaccines • Difficulties during labor	
2. Perceived benefit of early ANC initiation	• Increase confidence and rapport • Better pregnancy outcome • Learn about changes in pregnancy • Sex and estimated date of delivery of the baby • Education from healthcare personnel	
3. Barriers to early initiation of ANC	• Financial Barrier	• Inadequate finances • Pregnant women not having job • Out of pocket service • Economic Situation
	• Transportation Barrier	• Poor road network • Long Distance • No Commercial Vehicle

	• Social Barrier	• Decision-making to attend ANC • Family-related issues
	• Cultural beliefs and practices	• Presence of cultural beliefs and practices • Effects of not performing the rites
	• Healthcare system factors	• Inadequate staffing • Limited availability of flexible appointment schedules • Attitude of healthcare personnel • Inadequate infrastructural issues • Lack of privacy
	• Fear of cesarean section (C/S) • Ignorance	
4. Sources of Information on early ANC	• Mass media	• Television • Radio station • Community information center
	• Health Providers/Facility • Family and friends	

4.3 Knowledge on Effects of Late Initiation

One of the main themes was knowledge of the effects of late initiation of antenatal care. The women expressed knowledge of various aspects of the effects of late initiation of ANC. This led to the formation of subthemes namely negative effect on mother and child, effect on the mother, effect on the child, missed diagnosis, miss Initial routine medications/vaccines, and difficulty during labor. All the women expressed their understanding on the effects of late initiation of antenatal care.

4.3.1 Negative effect on mother and child

Responses from some of the pregnant women revealed that not initiating ANC early has negative consequences on the health of both the mother and child.

> *"What I know about the effect of late initiation of ANC is, that when you do not attend ANC early and something is happening to your unborn child, you will not know which will intend to affect you the mother*" **(Participant 1).**

> *"Late initiation of ANC services may affect the health of the mother and unborn baby. This may due to infections which may occur during the time you became pregnant period as a results of poor hygienic practices*" **(Participant 12).**

The effect of late initiation of antenatal care on the mother was elaborated by participants. They made it known that underlying health conditions such as pregnancy-induced hypertension and low levels of blood will not be noticed. Participant 6 and 7 stated that:

*"According to the midwives, when you don't initiate ANC early and there is any underlying condition such as high blood pressure during pregnancy you may not know which will intend to create serious health implications for the mother" (***Participant 6).**

*"I have now realized that when you do not attend ANC and your hemoglobin (blood) level is low, you will not be able to detect it unless you go to the health facility for the midwife to check for you" (***Participant 7).**

Regarding the effect of initiating antenatal care late on the child, the women reported that you will not be able to know the heartbeat of the unborn child, you may not know the actual state and development of the baby, and it can lead to low birth weight of the child when born.

These are some of the reports from the women:

"One of the effects of attending ANC late on the unborn child is, that you will not be able to know the heartbeat of the unborn child whether it is normal or not which can lead to the loss of the baby" **(Participant 7).**

When you initiate ANC late, you may not know the actual state and development of the baby" **(Participant 9).**

"Late initiation of antenatal care can have a great impact on the pregnancy because it can lead to low birth weight of the child when born. When the mother has no knowledge about the right medications and the right food to eat, it may lead to complication due to lack of required nutrients for the better growth of the baby" **(Participant 11).**

A respondent reported that initiating antenatal care late can lead to miss diagnosis of certain conditions of the mother or baby

Below is her response:

> *"I know that when you don't initiate ANC early and your baby is not formed well or lying well, thus formed outside your womb, you will not be able to detect it. According to the midwife, when this happens and is not detected, both the mother and the unborn child may lose their lives"* (**Participant 3).**

4.3.2 Miss Initial routine medications/vaccines

Some participants made specific reference to missing initial routine medications/vaccines during the early stage of pregnancy.

Participants had this to say:

> *"What I know about the effect of late initiation of ANC is that you will miss the medicines they give to all pregnant women. According to the midwife, these medications are used to treat or prevent weak bones and anemia in pregnancy*" (**Participant 5).**

> *"When you initiate ANC late, you may miss the initial required medications that you are supposed to take for proper development of the unborn child"* **(Participant 15).**

Another participant specifically indicated that, late initiation of antenatal care leads to unhealthy pregnancy.

Late initiation of ANC can lead to unhealthy pregnancy because, you may miss the required vaccine you are supposed to take to boost your immune system to fight against any diseases and infections **(Participants 14).**

4.3.3 Difficulties during labor

Some participants asserted late initiation of antenatal care can lead to difficulty during labor, especially for first-time mothers.

Below are some of the difficulties during labor that participant 15 and 11 indicated:

"When you do not initiate ANC early it can lead to difficulties in delivery especially first-time pregnant women which may result in post-delivery complications such as bleeding and infections" **(Participant 15)**

"What I know about the effects of initiating ANC late is that labor may be difficult and the health status of the mother and the unborn child won't be known" **(Participant 11).**

4.4 Benefits of Early ANC

The benefits of early ANC initiation were one of the main themes. Subthemes such as increasing confidence and rapport, better pregnancy outcomes, learning about changes in pregnancy, addressing and

managing maternal health issues, sex and estimated date of delivery on the baby, and education from healthcare personnel were some of the subthemes form from it.

4.4.1 Increase confidence and rapport

Participant 1 asserted that initiating antenatal care early builds or increases confidence with healthcare providers as they interact regularly.

> *"Going for ANC has boosted my confidence through the interaction with the health worker on the sense of control over the pregnancy*" **(Participant 1).**

Another participant revealed antenatal care attendance has helped to prepare her mentally and physically.

> *"Antenatal care services prepare you mentally and physically to know how to take proper care of yourself and baby when delivered"* **(Participant 14).**

Some participants explained that they now understand the benefits of initiating antenatal care early. They elaborated that it has helped to familiarize and rapport with healthcare providers hence, they feel comfortable expressing themselves before them

> *"I have now understood that there are several benefits to early initiation of antenatal care because it helps you to build a cordial relationship with the health workers. Establishing a rapport with the midwives and nurses can lead to better communication and trust throughout the pregnancy period. You can even take their contact and seek clarification if something is bothering you*" (**Participant 6).**

"Early initiation of ANC also helps you to familiarize yourself with the healthcare providers which makes it easy for you to voice out your concern when something is bothering you" **(Participant 12).**

4.4.2 Better pregnancy outcomes

Some of the pregnant women also admitted that initiating antenatal care early helps to ensure better pregnancy outcomes. Hence, participant 9 also revealed it reduces still death.

These are the reports from participants:

"The education given to us by midwives when you initiate ANC early helps in a better outcome of your pregnancy because early antenatal care helps reduce death in babies. Initiation of ANC will help ensure that, individuals receive the necessary vaccines which will protect both the mother and the unborn child from any diseases" (**Participant 5).**

*"When you initiate ANC early, it will help in positive outcomes of the pregnancy and delivery due to the adherence to what the health personnel will tell you to do" (***Participant 9).**

A participant indicated that initiating antenatal care early helps to reduce the risk of pregnancy complications and even during childbirth.

"Early ANC can address and manage maternal health issues, reducing the risk of complications during pregnancy and childbirth" (**Participant 2).**

Some participants also indicated initiating antenatal care helps health care providers to examine the pregnant woman intensively to guide and provide her the necessary advice she needs.

"The benefits I have derived from initiating ANC early is that it helps the nurses and midwives monitor the growth of the unborn child" **(Participant 7).**

"When you initiate early ANC, the health personnel will run some laboratory investigations about your HIV status so that when you are positive they will put you on medication and educate you on the option of delivery which is cesarean section to prevent transferring it to your baby. According to the midwives when a pregnant woman is positive, they refer to Savelugu Municipal Hospital for the cesarean section to be done because CHP compound doesn't do the cesarean section" (**Participant 8).**

4.4.3 Learn about changes in pregnancy

Some participants indicated that initiating antenatal care early helps to learn about several body changes in the pregnancy journey. As a result, pregnant women can adapt or prepare well before delivery sets in.

Participants 1 and 15 stated some of the changes they have learned during their pregnancy:

"This is because I have gotten to know that some changes in my body are normal especially, enlargement of breasts, vomiting, and craving for different kinds of food" (**Participant 1).**

"Early ANC will help you to understand some of the general body changes that occur during pregnancy and also helps you to adapt to these changes to avoid fear associated with pregnancy" **(Participant 15).**

4.4.4 Sex and estimated date of delivery of the baby

Some participants also alluded that through antenatal care initiation, they were able to know the sex of their unborn babies and their due dates for delivery. This has helped them to specifically prepare for the gender of the baby and the date of delivery.

> *"It also helps you the mother to know the date of delivery of your baby so that you can prepare adequately before delivery sets in" (***Participant 3).**

> *"I have gotten to know that, the sex of my unborn child can be known through a scan test when you go for ANC. This will help you to prepare yourself adequately for your baby without any surprises"* **(Participant 13).**

4.4.5 Education from healthcare personnel

Good nutrition and personal hygiene practices were the educational benefits some pregnant women indicated that they derived from initiating antenatal care early.

> *Early ANC also provides an opportunity for healthcare providers to educate pregnant women about the need to leave a healthy lifestyle, eat nutritious food, and the need to report to the health facility when there are any complications" (***Participant 7).**

> *"When you start ANC early, it helps you to know the type of meal to eat for you and the baby to be healthy. Again, health personnel educate us on personal hygiene practices and also help to know the health status of the mother and unborn child"* **(Participant 10).**

Participants 11 who husband is herbalist also indicated that she has been well prepared for safe delivery due to the education she derived from initiating antenatal care.

> *"The benefit I have derived from ANC is that it prepares you for safe delivery through the education given to you by the health personnel. This education prepares you mentally to reduce any fear associated with pregnancy*" **(Participant 11).**

Participant 12 who is a first time pregnant woman also indicated that:

> *"The benefit I have derived from initiating ANC is, that it prepares you the mother to learn some of the basic skills on how to position and breastfeed your child"* **(Participant 12).**

Another participant revealed she has come to know several family planning methods and their benefits through antenatal care initiation.

> *"Through ANC I have gotten to know the various methods of family planning and its options. I have decided that, after giving birth I will consider doing family planning because my husband always gives excuses when I ask for money for ANC. Even though the midwife has made me known that before I can do family planning my husband has to be aware, I will do it without telling him because I know that when I tell him, he will not agree for me to do it"* (**Participant 4).**

4.5 Barriers to Early ANC Initiation

One of the main themes was barriers to early initiation of antenatal care. The women expressed their views on several barriers to early initiation of ANC. Financial barriers, transportation barriers, social barriers,

cultural beliefs and practices, healthcare facility factors, fear of cesarean section (C/S), and ignorance were subthemes formed out of the main theme.

4.5.1 Financial Difficulty

One of the subthemes was financial difficulty as a barrier to the early initiation of ANC. The participants viewed their economic challenges as a barrier preventing them from being able to buy medications. The lack of finances was centered on inadequate finances, the husband's job, the cost of service, and the economic situation.

4.5.1.1 Inadequate Finances

The study's findings revealed inadequate or lack of funds to travel to register for health insurance. Those that came to the hospital also complained of lack of finances to pay for services like laboratory tests and ultrasound. The situation was worrying as some of the women wanted to initiate ANC early but due to financial issues, they had to depend on their husbands for money.

> *"Finances are a problem because the first time I went to the health facility they told me to go and register for national health insurance, do a scan, and do some laboratory tests. I came home to inform my husband but he told me to wait for him to raise some money, I also asked my mother whether she could support me with some money. Even though she gave me some money, it wasn't enough, so I waited for my husband to top up. This made me attend ANC late" (***Participant 1).**

One of the participants explained that financial inadequacy can be attributed to women not working. Some husbands do not allow their wives to work and this increases financial inadequacy

*Finances are a problem because my husband doesn't allow me to work so anytime I need something, I have to ask him for money. My husband told me that he does not have money so this made me not start the ANC early because if I am asked to buy medicine or to do some laboratory test, I will not be able to pay so I don't have any option than to stay home till he gets money" (***Participant 4).**

Another participant expressed a deep worry about her family who does not help her financially when attending ANC since she always needs money to buy food and prescribed drugs.

*"Yes, I faced a lot of financial constrain in starting ANC. The family did not support me financially to attend ANC services because they said the government had introduced free maternal health services. I always need money to buy food and prescribed drugs for myself" (***Participant 10).**

Participant 11, who is a third wife to his husband had this to say:

"Finances are a problem because my husband already has two wives and five children and is not all that financially stable and I happen to be his third wife. Apart from the first time, that is when I was three months and three weeks pregnant he gave me money to go and register for health insurance, anytime I went for ANC, he always told me that he didn't have money. Even as we speak now there are some medicines I need to buy but he hasn't given me money to buy"

(Participant 11).

4.5.1.2 Pregnant women not having Job

Pregnant women not having job was another form of financial barrier that respondents in the study revealed that hindered them from initiating ANC early. Their expression of financial difficulty centered on their inability to work to support the family due to the pregnancy hence revenue from the participant's husband's occupations were insufficient to cater for the entire family. The participants explained that their husbands were engaged in jobs that did not yield enough income.

A participant explained that she used to sell yam with her mother to support herself and the family but due to the pregnancy, she has stopped and has to rely on her husband always.

> *"My husband is a vulcanizer and I used to assist my mother in buying yam from the nearby villages to transport it to Kumasi and Accra to sell but because of my pregnancy, I am not able to support her so all the burden is now on my husband so when he told me to wait for him to raise some money, I never pressured him"* (**Participant 1).**

Another participant added that:

> *"Yes, I am currently not working so my husband is the only one who supports me. I sometimes don't bother him with finances because he does not earn enough salary at the end of the month. I started ANC late and I sometimes miss my scheduled dates due to financial problems"* **(Participant 14).**

Participant 2 added that she has not seen nor heard from her husband ever since he traveled to another town (Kumasi) in search for a job.

> *"Yes, when I was in my second month of pregnancy, my husband told me that he was going to Kumasi to search for a better job so that he could take care of me and the unborn child but ever since he left, I haven't heard from him again. This makes me worried because I don't know what has happened to him. One of his friends has been supporting me, but it's not everything I can ask him because he also has a family. This was the reason why I started ANC late*" (**Participant 2).**

This participant also indicated that her husband's source of funds was farming and once this is a seasonal activity it was difficult for him to raise money all year round.

> *"My husband always tells me that farming is seasonal so it's not every day that he will have money. So I don't even feel like asking for money from him for ANC because it seems I am disturbing him with financial issues so this made me attend ANC late*" (**Participant 5).**

4.5.1.3 Out of pock service

The cost of services such as medication and laboratory investigations is another barrier to the early initiation of antenatal care among the participants. Their explanation of the challenge was centered on money to buy routine drugs and do laboratory tests as a result, the women skip or delay antenatal care.

Regarding buying routine drugs and laboratory tests, some participants had this to say:

"These days, you have to sometimes buy some of the routine medications yourself when they are not available at the health facility. This also deters we the pregnant women from starting ANC late because we know that when we come for ANC, the health personnel will prescribe for us to go and buy" (**Participant 3).**

"Yes, as it stands now, there are some of the laboratory test that I have not done due to financial issues. I don't work and my husband who is the breadwinner recently had an accident so life is very difficult for the family. I suggest the government should factor all these costs in its policy so that it can aid most pregnant women to start antenatal care early when pregnant" **(Participant 12).**

"Yes, finances are a great challenge because the cost of living nowadays is very high which makes it difficult to pay for health care services such as medicine and laboratory tests when the need arises" **(Participant 15).**

Another participant compared the cost involved in antenatal care and seeing a traditional birth attendant:

*"Yes, there are financial constraints in attending ANC because during my first and second pregnancy, my grandmother who happens to be a TBA gave me the herbs for free, I never paid for any of the services she rendered for me. But when my grandmother passed on and I started ANC in my seventh month of pregnancy, there was a cost involved. Due to this cost, I don't even have the joy to attend ANC because I am not working and my husband is a carpenter, it is not every day that he gets work to do" (***Participant 7).**

4.5.2 TRANSPORTATION BARRIERS

Transportation barriers was expressed by participants in different ways. The most prevailing themes were poor road network, long distances to the health facility, and no commercial vehicles.

4.5.2.1 Poor Road Network

Some of the pregnant women indicated, the bad nature of the road to the health facility especially in the raining season always makes it difficult for them to attend for antenatal care.

Some pregnant women revealed that they had miscarriages on the same road while they were going for antenatal care, which made them start ANC late.

> *"The road leading to the health facility is not good so any time it rains; the road becomes muddy which most often leads to potholes. A friend of mine who was in her fourth month of pregnancy had a miscarriage on this same road last two years when she slipped and fell when it was raining. This made me scared to ply the road to seek ANC during the rainy season when I became pregnant so I waited for the rainy season to stop before starting ANC" (***Participant 6).**

Their main means of transport for those staying far away from the health facility is a tricycle popularly known as motor king. The participants indicated the tricycle is meant to carry goods but this is what is available for them. The road on the other is also not good making the journey very difficult. The bad road in some cases have even been a major cause of miscarriages.

> *"Means of transport and the bad nature of the road is a serious problem because I lost both my first and second pregnancies due to the means of transportation and the bad nature of the road. This made me start ANC late because the major means of transportation to the health facility is*

*the tricycle (motor king), but I know that the main purpose of the motor king is to carry goods, not human beings but we have no option but to take it. So I waited for my pregnancy to grow before starting ANC to avoid losing it again" (***Participant 8).**

Some of the participants also elaborated on bad nature of the road whenever it rains which influence in their delay in seeking for early ANC:

"Even though the road is motorable but part of it leading to the health facility is not good hence it becomes muddy whenever it rains, this poses a great danger to the safety of pregnant women because one pregnant woman nearly fell when it drizzled last week morning when we came for ANC and this discourages pregnant women to start ANC early" **(Participant 3).**

"Yes, I started ANC late because erosion has taken a portion of the road leading to the health facility which sometimes makes it difficult for most of the pregnant women to attend ANC whenever it rains" **(Participant 14).**

With Participant 12, plying the road during the dry season becomes a serious challenge for her due to her health condition (asthmatic).

"Yes, the dusty nature of the road that leads to the health facility also made me start ANC late, especially during the dry season because I am an asthmatic patient so anytime I ply the main road to the health facility and a car or tricycle passes by, I find it very difficult to breathe so I am always compelled to use the bush road which is also not safe especially when I am walking alone" **(Participant 12).**

4.5.2.2 Long Distance

Long distance is a major barrier to some of the women in accessing antenatal care. Central to the experience was walking a long distance before reaching the health facility which they are always afraid of falling into the hands of bad people. Some participants further explained they have to a tricycle when the road is not good

Some participants elaborated on some of the challenges they face when plying the bush road which is shorter as compared to the main road which leads to the health facility:

> *"The long distance to the health facility also made me start ANC late. When it comes to transportation, I cannot complain because I have no option but to walk to the health facility. I always use the short route because when I use the main road, the distance is too far. The short route to the health facility is safe because I haven't heard of any bad incidents on the road before. The only challenge I face when plying that road is, that there is no hideout when there are harsh weather conditions" (***Participant 3).**

> *"I live far from the community where the health facility is located, and due to that I sometimes use the bush road which is shorter as compared to the main road when there is no tricycle (motor king). Plying the bush road is sometimes dangerous especially when I am alone because I fear that some bad person may do something bad to me" (***Participant 5).**

Another participant indicated the reason why she could not initiate antenatal care early during the first trimester of her pregnancy:

> *"I stay in a village which is not near to where the health facility is located. I have to walk several kilometers before I can access antenatal care. This made me start ANC late because, during my first three months of pregnancy, I was very weak and could not walk for long distances"* **(Participant 11).**

4.5.2.3 No commercial vehicle

The unavailability of commercial vehicles in some distanced communities was also a challenge to some participants even though they had money to pay for transportation. For fear of safety in using tricycles, they started their ANC late.

This participant narrated her experience as shown below:

> *"YES, there is no commercial vehicle that aids us to the health facility. Because of that most of the pregnant women who stays in this community take tricycle popularly known as motor king whenever we go to the health facility for ANC. This made me initiated ANC late because I think taking motor king for ANC is not safe especially for pregnant women because of the poor nature of the road (potholes) which may lead to loss of pregnancy"* **(Participant 5).**

4.5.3 Social Factors

Social factors were expressed in different ways by participants to be a major setback for them but most important were husband-related factors and family-related factors.

4.5.3.1 Decision-making to attend ANC

Decision-making to attend ANC were indicated as a social barrier by some of the women as they waited for permission from their husbands as heads of their families to initiate antenatal care.

Some participants indicated some husband related factors that lead to their late antenatal care initiation:

> *"…. I was waiting for my husband to give me the go-ahead before. I cannot do anything on my own without his approval. He always tells me that he is the man of the house so I shouldn't go contrary to any of his rules. My husband is quick-tempered; he sometimes beats me when there is a misunderstanding between us. So I had to wait for his instruction to start ANC"* **(Participant 4).**

> *"Yes, my husband who is a herbalist and culturally inclined told me to wait for the necessary cultural rites to be performed before I can initiate ANC at the health facility. I have to obey his orders because according to him, all his wives performed that rite when they got pregnant for the first time so I am not an exception since I am his third wife. He told me that the rite called "Pirigu" would be performed when my pregnancy gets to three months but I waited for four months, three weeks*" **(Participant 11).**

According to this participant, the denial of pregnancy by her husband was the husband-related factor that led to her delay in initiating ANC.

> *"Initial denial of the pregnancy by my husband made me start ANC late but with the help and intervention of some elders in the community, the matter was brought to finality. This contributed to the reason why I initiated ANC late"* **(Participant 1).**

4.5.3.2 Family-related issues

Social factors played a role in initiating ANC late as one of the participants revealed that she wanted to continue the family legacy while another participant indicated that pressure from the family made her wait for the cultural rite to be performed before initiating ANC.

This participant narrated her ordeal as:

> *"My mother was sick in the village and all my siblings have gone to the south to seek greener pastures. I am the only one who is currently here in the north so I went to take care of her. When I was going, I was already three months pregnant and I stayed there for almost three months. There were no health facilities in the community for me to access ANC services so this made me start ANC late" (***Participant 3).**

4.5.4 Cultural Beliefs and Practices

The cultural beliefs and practices were some of the barriers pregnant women suffered in initiating early antenatal care. These women who were pregnant suffered a great deal of pressure from family members. The presence of cultural beliefs and practices, what goes into the cultural belief and practice, effects of the cultural rite, and benefits of the cultural practices are the subthemes examined.

4.5.4.1 Presence of cultural beliefs and practices

Some of the women revealed the existence of cultural beliefs and practices in their communities preventing them from initiating ANC early, especially for first-time pregnant women.

Some participants asserted on the reason why they initiated antenatal care late due to the presence of cultural beliefs and practices:

> *"YES, the name of this cultural rite is called "Pirigu/Prigma". This rite is performed from the third month to the fourth month of pregnancy. When I missed my menstrual period, I told my husband to give me money for ANC but he told me to wait for him to inform his parents about the pregnancy. He later made me aware that according to my mother-in-law, I have to wait for the rite to be performed before I can begin to attend ANC. They fixed a date that fell on the fourth month of my pregnancy"* **Participant 1)**

> *"YES, the performance of the cultural rite called Pirigu/Prigma which was done when I was three months and two weeks pregnant made me initiate ANC late. The rites were being performed by my mother in-law. She cooked local dishes with vegetables, herbs and powdered fish for me to eat in the presence of some elders and a few family friends"* **(Participant 11).**

Participants also alluded to the existence of the cultural rite in the study area hindering them from initiating ANC early. Participants made it known that the community members do not recognize pregnancies until the woman go through the rite, and it has to be performed before the pregnancy is out-doored.

"YES, I waited for the cultural rites called Pirigu to be performed before initiating ANC. According to my mother-in-law, the pregnancy of a woman will not be recognized by the community until this rite is performed. **(Participant 13).**

Another participant added:

"YES, there is a cultural rite called Pirigu/Prigma. This cultural rite has to be performed before your pregnancy can be outdoors, if not you cannot uphold yourself as a pregnant woman in the community" **(Participant 14).**

Another participant indicated that, she wanted to continue the legacy of her grandmother and mother as stated below:

"I wanted to continue the legacy of my grandmother and my mother. When I was a little girl, my mum told me that it is of great honor and pride for the family of every woman who gets pregnant for the first time to perform the cultural rite called "Pirigu/Prigma" in this community. The advice from my family and the support of my husband made me wait for all these months before starting ANC to continue the legacy of my family" **(Participant 12).**

4.5.4.2 Effect of not performing the rite

Death and deformity of the unborn child as indicated by the elders were some of the effects revealed by participants for not performing the cultural rite.

Participant 5 indicated the fear of losing her unborn child is one of the effects of not performing the rite as stated below:

> **"….** *According to the elderly, if the pregnant woman refuses to perform this right, it may lead to the death of the unborn child. I waited for the pregnancy to be out-doored before starting ANC to avoid any misfortune that may occur to the unborn child.*" (**Participant 5).**

Another participant added that:

> *"According to some of the elders in the community, non-performance of this cultural rite may lead to deformity and some health-related issues in the child when born*" **(Participant 6).**

4.5.5 Health System Factors

Health system factors were also found to be major barriers to most of the women. The major themes under health system factors influencing delaying of ANC initiation were inadequate staffing, limited availability of flexible appointments, the attitude of healthcare personnel, infrastructure concern, lack of privacy, fear of surgical intervention (cesarean section), fear of surgical intervention (cesarean section), and ignorance.

4.5.5.1 Inadequate staffing

Too much pressure on health facilities and health providers was also noted as a barrier as several communities accessed/utilized a particular facility. Hence, the women reported an inadequate number of health care providers at the various facilities which always leads to long waiting times and overcrowding of pregnant women at the facility.

Some participants asserted that inadequate staffing as stated by some participants below were some of the factors that led them to initiate ANC late:

> *"Long waiting times which most often result in overcrowding due to inadequate staffing in the facility is a great concern because, anytime I go for ANC, only two midwives attend to us. The midwives always tell us that, we should exercise patience because this health facility serves more than three communities. This made me to start ANC late because the first time I went to the health facility; I couldn't wait for it to reach my turn due to the presence of more pregnant women coming for ANC"* **(Participant 1).**

> *"Inadequate staffing especially midwives is also a problem because sometimes the midwife on duty will be conducting delivery so we have to wait for her to finish before she attends to us. This prevents most pregnant women from starting ANC early"* **(Participant 15).**

4.5.5.2 Limited availability of flexible appointment

Some participants also reported that there are limited availability of flexible appointment hence there is always a shortage of chairs for them to sit when the numbers pregnant women is increases.

Some participants had this to say:

> *"Yes, limited availability of convenient hours for consultations options is also a challenge but the midwives have made us understand that Tuesdays are for new registrants who are now about to initiate antenatal care while Thursdays are for old attendees. We sometimes don't get chairs to sit*

on due to the number of pregnant women who come for ANC. Those who are lucky to get chairs to sit on are those who go to the health facility very early. This is a great challenge for pregnant women and made me start ANC late because of the numbers" (**Participant 2).**

"Yes, long waiting time due to limited schedule days which always result in overcrowding at the health facility is also of great concern because it also contributes to most pregnant women not starting ANC early and frequently" **(Participant 13).**

4.5.5.3 Attitude of healthcare personnel

The attitude of healthcare providers was another major barrier pregnant women complained of. Participants revealed that health providers are biased in how they talk to them, especially to young women or (teenagers). This increases the chances of pregnant women delaying antenatal care initiation.

Some participants stated that much attention is given to the grown-up pregnant women as compared to the teenage girls who are pregnant and this makes them feels discriminated:

"I have observed that the health workers treat everyone differently because their attitude towards teenage girls who are pregnant is different from the grown-up. They sometimes talk to the teenagers anyhow but they show some sign of respect when they are talking to the grown-up and this prevents teenage pregnant women from starting ANC early in the community" (**Participant 2).**

"Discrimination on the part of some health workers is of great concern because they mostly pay more attention to the grown-ups than the young ones (teenagers) who are pregnant. This prevents teenage pregnant women from starting ANC early" **(Participant 14).**

Some participants revealed that some healthcare providers are not polite to them and vowed not to recommend that health facility to anyone:

"Yes, some of the health personnel talked to me anyhow simply because I did not report early for ANC, especially the male nurse. I thank God that this is my last pregnancy, due to the behavior of some staff, I will never recommend this facility to anyone" (**Participant 3).**

"Yes, the bad attitude of some health workers always prevents some of us from starting antenatal care early. Some of the health care workers are not friendly and talks rudely to us especially when we come late for ANC. This always results in skipping of schedules for ANC visits due to the behavior of some health workers" **(Participant 12).**

A participant indicated that some healthcare provider are always playing with their phones whiles they are there waiting.

"Some of the nurses and midwives don't even pay attention to us, they are always on their phones without concentrating on us. Sometimes they shout at us especially those who started ANC late. I sometimes feel reluctant to go for ANC because of their behavior" (**Participant 5).**

4.5.5.4 Inadequate infrastructure issue

Other participants indicated infrastructural issues/deficits made them delay their ANC initiation. Most of the women revealed they are always asked to travel to Savelugu to run laboratory tests and do scans before they can continue with any further treatment, which is always a challenge due to financial difficulties.

Participant 5 alluded that the non-availability of laboratory and scan facilities in the health facility makes them travel to different districts to do it and also recommended that the government can do it free for pregnant women to ease the financial burden on them:

> *"Yes, deficits in structure exist because during my first pregnancy, when I first went to the health facility the midwife told me to go to Savelugu to do a scan. This was a challenging moment for me because my husband is not financially stable so because of that, I was waiting for my husband to give me money for the scan. I think the government should provide scan facilities in this community and also make it free to reduce the rate at which pregnant women attend ANC late*" (**Participant 5).**

Another participant indicated that the facility cannot handle emergency cases due to the lack of the right facility and equipment.

> *"What I have noticed about the health facility is that the health personnel can't handle emergency cases due to a lack of the right facility and equipment. This is because when I had miscarriages during my first and second pregnancies, I was referred to Savelugu Municipal for further management*" (**Participant 8).**

4.5.5.5 Lack of privacy

Congestion at the health facilities was noted by some participants as a hindrance to early initiation of antenatal care. They revealed they are not able to voice out their major concerns due to lack of privacy.

Below are the responses of some participant who indicated that they cannot voice out their real complaints due to overcrowding at the health facility:

> *"Yes, the hall they use for the ANC clinic is too small so sometimes we get congested and there is less privacy because most often you cannot voice out your real complaints because of the presence of the other pregnant women this prevents most pregnant women from starting ANC early*" (**Participant 6).**

> *"Yes, the health facility is always congested when it is ANC days, so some of us (pregnant women) have to wait outside for the health personnel to attend to those inside the hall before those who are outside can go inside. This is a worrying situation and I think the government should try and expand the facility"* (**Participant 9).**

4.5.6 Fear of surgical intervention (cesarean section)

A participant was found to have delayed antenatal care due to fear of surgical intervention due to her sister experience during delivering through a cesarean section.

> *"I started ANC late because of the fear of operation, I remember the pains my sister went through when she underwent an operation for childbirth. I was also afraid of going through the same experience until a friend of mine who is also pregnant tried to convince me that, it's not everyone who will deliver through cesarean section" (***Participant 2).**

4.5.7 Ignorance

A participant was found to be ignorant about the essence of initiating antenatal care as she indicated pregnancy is not a sickness so she decided to wait

> *".. Besides pregnancy is not a sickness so I decided to wait all this while before starting ANC. This is my second pregnancy so I have knowledge on when the baby is fine or not"* **(Participant 5).**

4.6 Sources of Information

The source of information on antenatal care initiation was a major theme. Participants revealed several sources. The subthemes formed were through mass media which have categories of television, radio stations, and community information centers. Healthcare providers/facilities and family and friends also form part of the subthemes of this study.

4.6.1 Mass media

Mass media is a primary means of communication to reach vast majority of the public. Television, radio stations and community information centers are some of the platforms indicated in the study as mass media which served as a source of information for pregnant women.

4.6.1.1 Television

Participant 1 revealed that she was watching a program on a television station about an NGO discussing maternal and child health issues where she saw the need to initiate antenatal care.

"Yes, I have heard of it before on television. I was watching a program which was about some non-governmental organization (NGO) that supports the government on the issue of maternal and child health. I remember the program head of the NGO indicated that the health of the mother and unborn child starts from the early initiation of antenatal care services" (**Participant 1).**

Another participant revealed that there was a discussion on teenage pregnancy and the need for parents to advise their girl child to attend early ANC when they get pregnant.

*"Yes, I heard of the early initiation of ANC on television. The program was about teenage pregnancy and the need for parents to advise their girl child to attend early ANC when they get pregnant. During the program, the host educated parents to be accommodative so that their wards could approach them and tell them about their issues. The host also emphasized that it's not only teenagers who are supposed to attend ANC early but adults too" (***Participant 5).**

According to participant 13, they were discussing the rise of neonatal and stillbirth and the need for pregnant women to initiate ANC early to prevent such occurrences.

"Yes, I have heard of it before. I watched a program on television which was about the rise in the death of children. It was there I realized the importance of ANC and how attending ANC can help reduce the death in children through the taking of the required vaccines and drugs" **(Participant 13).**

4.6.1.2 Radio station

This participant revealed that she heard about antenatal care initiation from radio stations which is a reliable source of information:

> *"I first heard of ANC on radio and I think it is reliable because my husband told me that, the owner of the radio station is Imam so he will not use his radio station to teach things that are not good"* ***(*Participant 10).**

Another participant indicated that she also heard about antenatal care on radio station but her late grandmother who happens to be a traditional birth attendance changed the frequency of the radio station as stated below:

> *"Yes, I heard early initiation of ANC before on radio but I never paid attention to it. I remember we were listening to music and the host of the radio show said that some health workers are coming to educate us on pregnancy and the need for pregnant women to go for ANC early to avoid complications. What I noticed was two to three minutes into the program, my late grandmother who happens to be a traditional birth attendant (TBA) changed the frequency"* **(Participant 7).**

4.6.1.3 Community information center

Some women revealed they heard about antenatal care initiation from their community information center as health care providers used it as a means of educating the community

Participant 9 who is now forty-six years old asserted that she first heard it from the community information center when she was in her adolescence stage:

"I heard it on the community information center thus the public address system when I was in my adolescence stage. Some health personnel came and had a health discussion on ANC and the need for pregnant women to initiate ANC earl" **(Participant 9).**

Another participant also stated that she heard it from community information center to which she think it is the right source because they often hold various education programs:

"Yes, I first heard of it from the community information center. I think the source is reliable because they have been hosting various educational programs" **(Participant 14).**

4.6.2 Health providers/Facility

Health providers/facility was also found to be a major source of information to participants as a pregnant woman indicated she heard about antenatal care during a mass vaccination program. Where she was encouraged by the healthcare providers to initiate antenatal care.

"I remember when I got pregnant for the first time, some health workers came to our house and administered some vaccines to the children in the house and one of them stressed the need for pregnant women to initiate ANC early for proper care of the mother and unborn child. That is how I got to know that, there is the need to attend ANC when you are pregnant" **(Participant 3).**

However, participant 4 revealed she heard of antenatal care from a health facility and indicated that, it is the right source.

> *"Yes, I have heard of it before. I heard it from the health facility during my first pregnancy. I see this source as the authentic source because I have noticed that most pregnant women seek care at the health service when pregnant*" (**Participant 4).**

4.6.3 Family and friends

Family and friends are one of the sources pregnant women receive their information on the need for pregnant women to initiate early ANC.

"Yes, I have heard it. My husband told me to come to the health facility to seek for antennal care but I sometimes watch movies on television where most often the husband sends their pregnant wife to the health facility to seek antenatal care services" (**Participant 6).**

> *"A family member who happens to be my auntie first told me about ANC. She is someone I share my secrets with so I even informed her about my pregnancy before telling my husband. She stressed the benefits of ANC and the need for me to attend right after the performance of the cultural rite (Pirigu/Prigma"* **(Participant 12).**

Meanwhile, this participant made it known that she heard of antenatal initiation from her secondary school friend who is currently a nurse. She advised and encouraged her to initiate ANC.

> *"Yes, my first source of information was my secondary school mate who is a nurse. She taught me the importance of early ANC. When I got pregnant for the first time, I informed*

*one of my best friends way back in secondary school who is currently a nurse so she educated me on the need for ANC but it was rather unfortunate I lost both my first and second pregnancy when I was going for ANC due to the bad nature of the road" (***Participant 8).**

Participants 11 indicated that she heard of ANC initiation from her friend who had already given birth. Below is what she stated:

"My friend who has already given birth first told me about ANC and its benefits. According to her, attending ANC prepared her very well both physically and mentally before delivering" **(Participant 11)**

Another participant also indicated that even though she first heard it from her friend but her aunty also stressed the need for her to initiate early ANC at the health facility:

"I first heard about it from one of my friends who had already given birth when we were adolescence. When I got pregnant for the first time my aunty also stressed on the need for me to seek for ANC at the health facility" **(Participant 15).**

4.7 Summary of findings

The sociodemographic characteristics of the women reveal that (9) participants were within the 18-29 years range, (7) were housewives, (8) participants had attained primary education, (13) of the women were Dagomba's, (12) of them belonged to the Islamic religion and (8) of them were indicated it was first pregnant women.

The study reveals that financial difficulty, transportation issues, social factors, cultural beliefs and practices, and health system factors as the main barriers pregnant women face in initiating antenatal care in the Nanton district.

Knowledge of the women on the effects of late initiation of antenatal care was found to be good as participants revealed it has a negative effect on mother and child, missing initial routine medications/vaccines, and difficulty during labor. The source of information on the effects of initiating ANC late was found to be television, radio stations, community information centers, health providers/facilities, and family and friends.

The women were of the view that initiating antenatal care early helps increase confidence and rapport, better pregnancy outcomes, learning about changes in pregnancy, sex, and estimated date of delivery of the baby, and education from healthcare personnel were some of the benefits revealed by the women they derive from initiating antenatal care.

CHAPTER FIVE

DISCUSSION

5.0 Introduction

This chapter discusses the study's findings in light of the literature that examined late antenatal care initiation. To accomplish every goal that was established to direct the research, the discussion is arranged in accordance with the major themes and subthemes that were provided in chapter four.

5.1 Sociodemographic characteristics of respondents

The study findings reveal that nine participants who initiated antenatal care (ANC) late fell within the 18-29 years' age range, while 3 participants were in the 30-39 years and 40-49 years' age ranges. This agrees with the findings of a study conducted by Manyeh et al., (2020) in rural Southern Ghana, in comparison to older women, younger women were more likely to begin ANC later. The study made clear that obstacles that younger women may encounter include a lack of knowledge of the significance of early ANC, a lack of autonomy in making decisions, and the social stigma attached to obtaining ANC services early in pregnancy. Similar results were seen in a study conducted in rural Ethiopia by Wolde et al., (2019), wherein younger age groups showed greater rates of late ANC beginning. According to the study, younger women might not be as aware of when ANC should be started and might encounter structural obstacles like restricted access to healthcare facilities or financial limitations when trying to get ANC promptly.

The current study also found that seven of the participants who initiated antenatal care (ANC) late were housewives, while 4 participants were traders. Manyeh et al., (2020) in their study observed that compared

to women in other occupations, housewives and other domestic workers had a higher likelihood of initiating antenatal care (ANC) later in life. The study made clear that, women might not have the financial means or independence to prioritize their medical requirements. Similarly, in a study conducted in urban India by Sharma et al., (2020), women in trading occupations were more likely than those in other occupational groups to initiate ANC on time. According to the study, women who trade can seek ANC services early in their pregnancy because they frequently have more flexible schedules, better access to financial resources, and more decision-making authority.

The current study also found that eight participants who initiated ANC late had attained primary education while three participants had no formal education. The findings are in line with the study conducted in Southern Ghana by Manyeh et al., (2020) which found that women who had less education were more likely than those who had more education to start ANC later. The study made clear that women who have only completed their primary schooling or have never attended college may not be as health-literate or may not understand the significance of early ANC. Seeking ANC services may take longer as a result of this ignorance and lack of comprehension. Similarly, in another study conducted in Kumasi by Asundep et al., (2013), women without formal education were much more likely to initiate antenatal care later than women with secondary or higher education. The study also suggested that women with lower education levels might encounter obstacles like restricted information availability, less autonomy in making decisions, and sociocultural norms that discourage early ANC attendance.

5.2 Knowledge on the Effects of Late ANC Initiation

The finding from the study reveals that some pregnant women recognized the negative consequences of delayed initiation of antenatal care (ANC) on the health of both the mother and child. Early ANC enables medical professionals to promptly detect and manage possible risk factors, such as underlying illnesses, malnutrition, or pregnancy-related issues (Kuhnt & Vollmer, 2017; Moller et al., 2017). Adverse consequences for the mother and the child may be prevented or lessened with the help of this early intervention. Furthermore, as advised by the World Health Organization, routine antenatal care and counseling (ANC) visits allow medical professionals to keep an eye on the fetus's health and development, offer crucial prenatal care and counseling, and get the mother ready for a safe delivery (Kuhnt & Vollmer, 2017; Moller et al., 2017). It is encouraging that some pregnant women in this study were aware of the drawbacks of delaying ANC initiation; this suggests that they were aware of the significance of timely and consistent ANC procedures. With this knowledge, pregnant women can be encouraged to use ANC as early and regularly as possible.

According to the study, pregnant women may not be aware of underlying medical conditions like pregnancy-induced hypertension and low blood levels if they delay seeking early antenatal care (ANC). This finding is in line with the findings of research on the significance of prompt ANC for the detection and treatment of pregnancy-related complications. According to numerous studies (Moller et al., 2017; Solnes Miltenburg et al., 2015), early and routine ANC is essential for the early detection and treatment of pregnancy-related problems, such as hypertensive disorders and anemia. The finding in this present study that pregnant women's recognition of the possibility that undiagnosed underlying health issues

would remain undiscovered in the absence of early ANC initiation implies that they understand the significance of prompt access to healthcare services throughout pregnancy.

The findings from the study indicate that participants identified the negative effects of late initiation of antenatal care (ANC), such as not being able to monitor the unborn child's heartbeat, not knowing the actual state and development of the baby, and the potential for low birth weight, are consistent with the existing literature on the importance of timely and comprehensive ANC for maternal and child health. The results show that participants understood the value of keeping an eye on the baby's actual condition and development during pregnancy, which is consistent with the literature's emphasis on the relevance of ANC in tracking fetal growth and development (Moller et al., 2017). Frequent antenatal care visits give medical professionals the chance to evaluate the baby's size, position, and general health. This allows them to quickly detect and treat any potential problems, like intrauterine growth restriction (Moller et al., 2017). The study corroborates the participants' worries over the possibility of low birth weight resulting from delayed ANC initiation. Improved delivery outcomes, such as a decreased chance of low birth weight—a major factor in neonatal and infant mortality and morbidity—are linked to early and frequent ANC (Kuhnt & Vollmer, 2017; Moller et al., 2017).

The study found other participants made specific references to missing initial routine medications/vaccines during the early stage of pregnancy. The finding is consistent with the studies conducted by (Moller et al., 2017; Solnes Miltenburg et al., 2015) who found delayed start to ANC can result in missed opportunities to administer routine medications on time, which can have detrimental effects on the child's development and health(Moller et al., 2017; Solnes Miltenburg et al., 2015). The fact that the participants acknowledged the significance of these early interventions during pregnancy

demonstrates their awareness of the all-encompassing nature of ANC and the possible drawbacks of delaying the start. Pregnant women could employ this information to advocate for the significance of early and consistent ANC attendance.

5.3 Benefits of Early ANC

The findings of the study reveal that early initiation of antenatal care (ANC) can build or increase confidence and rapport between pregnant women and their healthcare providers. The finding is in line with Finlayson & Downe, (2013) systematic review revealed that a major factor influencing ANC attendance was the quality of interactions between pregnant women and their healthcare providers; the review emphasized that women were more likely to initiate and continue their ANC visits when they felt respected, listened to, and received personalized care. Similarly, Pell et al., (2013) qualitative study in Ghana, Kenya, and Malawi found that ANC utilization was significantly facilitated by healthcare providers' welcoming and supportive attitude as well as the development of a trusting relationship. Pregnant women who felt secure and at ease in their interactions with providers were more likely to seek ANC services. These previous findings are consistent with the current study's conclusion that early ANC commencement can increase rapport and confidence. Women who engage with their healthcare providers frequently from the beginning of their pregnancy may feel more at ease, appreciated, and understood, which can promote a sense of trust and collaboration in their treatment.

The current study found that pregnant women understand the value of starting Antenatal Care (ANC) early for better pregnancy outcomes. The finding is consistent with a meta-analysis study conducted by Pervin et al., (2012) which found that revealed that women who started Antenatal Care (ANC) in the first

trimester were less likely to experience unfavorable pregnancy outcomes, like low birth weight, preterm birth, and stillbirth, than those who started care later in the pregnancy. The current study also found pregnant women admit that initiating antenatal care early helps to ensure better pregnancy outcomes. Women's decision to seek care early in their pregnancy might be influenced by their awareness of the advantages of timely ANC, which can also help them interact with the healthcare system.

The study also found some participants indicated initiating antenatal care early helps to learn about several body changes in the pregnancy journey hence helping them to prepare well. The finding agrees with Finlayson & Downe, (2013) investigated women's perceptions and experiences with ANC through a qualitative study. According to the study, women welcomed the chance to engage with healthcare professionals during ANC visits to learn about the psychological and physiological changes associated with pregnancy and get helpful advice on self-care and discomfort management. In a similar vein, Afulani et al., (2019) found that one of the essential elements of high-quality antenatal care that women valued was the provision of pregnancy-related information and education. According to the analysis, women might feel more prepared and confident during their pregnancy if they are taught about the changes to expect and how to manage them during the prenatal time. This data is supported by the current study's finding that participants appreciated the importance of early ANC initiation in learning about pregnancy-related bodily changes. To improve maternal health outcomes and encourage timely ANC utilization, healthcare systems and practitioners can benefit from acknowledging and utilizing women's awareness of the advantages of early ANC.

The study further found some participants revealed that through antenatal care initiation, they were able to know the sex of their unborn babies and their due dates for delivery. The availability of routine

screening and diagnostic services, such as prenatal ultrasound tests, is one of the essential elements of high-quality ANC (WHO, 2016). These ultrasound scans, which are frequently carried out in the early phases of pregnancy, give medical professionals the ability to identify the sex of the fetus, calculate the estimated due date, and evaluate the growth and development of the developing embryo. According to a comprehensive study by Dowswell et al., (2015), women were more likely to have ultrasound exams if they received more ANC visits as opposed to the usual model. Pregnant women can benefit from early determination of the fetus sex and expected delivery date, which can be made possible by the increased accessibility to ultrasound screening.

Assuring pregnant women's health and the health of their unborn child is one of ANC's main goals by offering them comprehensive education and counseling (WHO, 2016). Instructions on crucial facets of maternal health, like diet and cleanliness, are included. The present study found good nutrition and personal hygiene practices as the educational benefits the women derived from initiating antenatal care early. Girard & Olude, (2012) conducted a systematic evaluation to evaluate the efficacy of nutrition education programs provided by ANC. According to the review, pregnant women who received these interventions had better nutritional knowledge and were consuming more important minerals including calcium, folic acid, and iron. This is supported by the current study's conclusion that participants understood the educational advantages of early ANC initiation in terms of learning about healthy eating and personal hygiene behaviors. This emphasizes how crucial comprehensive ANC services are in equipping expectant mothers with the knowledge and abilities they need to support both their own and their unborn child's health.

5.4 Barriers to Early ANC Initiation

The study's findings revealed inadequate or lack of funds to travel to register for health insurance, and a lack of finances to pay for services like laboratory tests and ultrasound. Tesfaye et al., (2017) conducted a study in Nepal and discovered that financial barriers, such as transportation costs and service costs significantly influenced delayed antenatal care beginning. The study made clear that women unable to pay for their medical bills had difficulty swiftly getting ANC services. Similarly, according to a study conducted in Bangladesh by Akter et al., (2020), access to antenatal care services was significantly hampered by financial constraints, such as the inability to pay for medical bills and transportation. The study by Akter et al., (2020) stressed that improving timely access to maternal healthcare services might be achieved by removing financial barriers, especially through tactics like targeted subsidies and financial protection systems.

The present study revealed that husbands not having jobs or not earning enough incomes is a barrier to early ANC initiation. The findings concord with a qualitative study conducted in rural Bangladesh by Story et al., (2012) which indicated the impact of spouses' jobs on ANC use. According to Story et al., (2012) financial limitations prevented several women whose spouses had low-paying or irregular employment from obtaining early ANC. Additionally, a study conducted in Ethiopia by Yaya et al., (2017) found that the husband's salary and occupation were important variables that affected when and how well ANC visits were scheduled by healthcare facilities. According to the study, women who married men with low-paying or uncertain employment were more likely to start Antenatal care (ANC) later or attend it insufficiently. The decision to employ an ANC was driven by the household's limited resources and financial strain.

The findings of the present study also reveal that the cost of services such as medication and laboratory investigations was another barrier to the early initiation of antenatal care among the participants. According to a study conducted in Ghana by Anaba et al., (2022), early ANC commencement is significantly hampered by the cost of medication and laboratory tests. According to Anaba et al., (2022) pregnant women who thought ANC services would be costly were more likely to put off getting care or choose unofficial sources. Another study in Bangladesh by Akter et al., (2020) underlined the impact of cost restrictions on ANC utilization. The study discovered that one of the biggest barriers to early ANC commencement was the out-of-pocket costs, which included the price of medicine and laboratory tests. Delays or insufficient ANC attendance were frequently caused by the financial strain connected with these services.

The current study found the road to health facilities, especially in the rainy season to be bad making it difficult for the women to initiate antenatal care early. This finding is in line with the finding of a study conducted in rural Tanzania by Enuameh et al., (2016), which found poor road conditions were shown to be a major obstacle to receiving ANC treatments. The study made clear that it was difficult for women to get to health facilities when they lived in locations with poor road infrastructure, especially when it rained and the roads became impassable. This frequently caused ANC initiation to be delayed. Similarly, studies in Uganda and South Africa have revealed that inadequate road conditions were a major obstacle to receiving ANC and other maternal healthcare services (Ebonwu et al., 2018a; Nabyonga Orem et al., 2013). The studies highlighted that women who lived in rural and distant locations had trouble getting medical services because of impassable roads brought on by a lot of rain. ANC initiation was delayed and this had a resultant effect on maternal health outcomes. In addition, a study conducted in South Africa by Ebonwu et al., (2018) found that poor road conditions made it more difficult for pregnant women to

receive ANC services, particularly during the rainy season. The study showed that women were forced to walk large distances due to inadequate road infrastructure and few transportation options, which was especially difficult in inclement weather. Consequently, there were delays in the commencement of ANC.

The finding from the study also reveals that long distances to health facilities posed a major barrier to accessing antenatal care (ANC) for some women, who had to walk considerable distances and feared encountering dangerous individuals. The results agree with the findings of the study conducted in India by Hazarika, (2010), utilizing ANC was significantly hampered by distance and safety worries. Pregnant women who had to walk a significant distance to get to medical services were found to be at risk for physical tiredness and safety hazards, such as being robbed or attacked. These worries not only caused ANC initiation to be delayed, but they also had an impact on the general use of healthcare services.

The present study revealed that unavailability of commercial vehicles in some distanced communities to be a significant challenge to participants even though they had money to pay for transportation. This agrees with the finding of a study conducted by Yaya et al., (2018) in in Benin which discovered that a significant obstacle to ANC adoption in rural Benin was the scarcity of commercial cars in isolated regions. Women residing in areas with restricted or nonexistent access to commercial transportation encountered challenges while trying to get to health facilities for antenatal care appointments, leading to either infrequent or delayed care-seeking.

The study further found some pregnant waiting for their husbands to permit them before they could initiate antenatal care and denial of pregnancy by some husbands to be some of the husband-related factors that led to the delay in initiating ANC. The finding agrees with the study conducted in Egypt by Dudgeon & Inhorn, (2004) which investigated the impact of spouses on their wives' healthcare-seeking tendencies.

The study documented cases in which husbands refused to acknowledge their wives' pregnancies, causing ANC initiation to be delayed. Men who deny their wives' pregnancy may put obstacles in the way of their access to antenatal care (ANC) since they will not be supported or have their medical needs acknowledged. In Ghana, Owusu, (2021) study looked at how marital dynamics affected the use of ANC. According to the study, women who felt unbalanced control or decision-making authority in their marriages were more likely to put off starting an ANC. When spouses had a lot of decision-making power, it was difficult for women to get ANC without their consent or assistance.

The current study found social factors, such as the desire to continue the family legacy and pressure from family members to wait for cultural rites to be performed before initiating antenatal care (ANC) hinder early initiation of ANC. This result is concord with a study by Fagbamigbe & Idemudia, (2015) who investigated how cultural beliefs affected the use of ANC in Nigeria. Before using contemporary healthcare services like ANC, the study found that some women indicated a great desire to uphold the family heritage by following customs. This cultural value gave rituals and conventions a high regard, which made it necessary to wait to start ANC until after certain ceremonial procedures were completed. Similarly Ahinkorah et al., (2021) in a study in Guinea found that cultural customs and family expectations constituted important obstacles to prompt ANC start. According to Ahinkorah, et al., (2021) the women stated that they occasionally felt pressured to follow cultural and familial traditions, which interfered with getting an early prenatal appointment with an ANC. Due to these social constraints, getting necessary maternity healthcare services was frequently delayed.

The study also found the existence of (pirigu/prigma) cultural beliefs and practices in communities preventing participants from initiating ANC early, especially for first-time pregnant women. The women

indicated they abided by beliefs because they did not want to lose their unborn babies. This agrees with the findings of a study in Nigeria, which looked at the effect of cultural beliefs on maternal healthcare consumption (Dahiru & Oche, 2015). In the current study, some cultural norms viewed accessing healthcare during the early stages of pregnancy as unnecessary or even socially unacceptable. Delays in ANC initiation within this demographic group were caused by these strongly ingrained cultural norms. In a similar vein, Mgata & Maluka, (2019) investigated how cultural beliefs affected mothers' use of healthcare in Tanzania. According to the study, some groups believed that women who were pregnant for the first time were less likely to experience pregnancy-related problems and did not need early antenatal care. Due to these cultural beliefs, first-time mothers were unable to initiate ANC on time, which resulted in missed opportunities for crucial antenatal treatment.

Death and deformity of the unborn child were found to be the consequences of not performing the cultural rite. According to a study conducted in Bangladesh by Choudhury et al., (2012) on traditional birth practices in rural women and their families thought that difficulties during pregnancy, like stillbirth or congenital abnormalities, could arise if specific rites and customs were not followed. The individuals involved in the study explained these negative consequences as the result of gods' wrath or the intervention of bad spirits, and the only way to get rid off them was to carry out the necessary rites. According to the current research, the idea that failing to carry out the cultural rite could result in the unborn child's death or deformity fits with a larger understanding of the negative effects of breaking traditional customs and beliefs.

The findings of the study also reveal the purification of the unborn child and the woman from any evil attack, safe delivery, prevention of pregnancy-related complications, and any bad outcome that may occur

as benefits of performing the cultural rite. Iwelunmor et al., (2014) conducted a study on the customs surrounding pregnancy and childbirth among the Igbo community in Nigeria. The findings of the study revealed that the community members attached great significance to carrying out specific rituals in order to ward off evil spirits, purify the mother and child, and guarantee a safe delivery. These customs were thought to be essential for avoiding difficulties and guaranteeing a healthy birth experience. The idea that the cultural rite can ensure a safe delivery, reduce pregnancy-related difficulties, and purify the mother and unborn child is consistent with the larger body of literature on traditional pregnancy and birthing practices, especially in light of the current findings. These views might have their origins in the community's spiritual or cosmological perception of the risks and difficulties connected to conception, pregnancy, and childbirth.

The findings also revealed that community members do not recognize pregnancies until the woman goes through the rite, and it has to be performed before the pregnancy is outdoors. Pregnancies in some Indian indigenous tribes are frequently kept a secret or acknowledged only after a particular ceremony, (Menon, 2017). The formal acknowledgement of the pregnancy and the expectant mothers shift to a new social rank are marked by this ceremony, which usually occurs in the seventh or eighth month of pregnancy. The results of this current study emphasize how crucial it is to acknowledge and value the variety of cultural customs surrounding conception and delivery, and how researchers and healthcare professionals must work in partnership with communities to address maternal and child health issues in a way that is sensitive to cultural differences.

The study found an inadequate number of health care providers at the various facilities which always leads to long waiting times and overcrowding of pregnant women at the facility. The finding aligns with a systematic review by Tamata & Mohammadnezhad, (2023), which found that a lack of staff directly led to longer patient wait times and congested facilities, especially in the area of maternity and reproductive health services. Moreover, studies conducted in Ghana and Uganda highlighted the fact that inadequate space can result in a weakened patient-provider relationship, a compromised safety protocol, and an elevated risk of infections all of which are critical for the provision of appropriate prenatal care (Dotse-Gborgbortsi et al., 2023; Nambile Cumber et al., 2022).

The current study further found limited availability of flexible appointments for pregnant women, which leads to a shortage of chairs for them to sit in when the number of patients or pregnant women is high. The problem of restricted scheduling and restricted access to maternity care providers has a wealth of literature to support it. Research has indicated that this lack of adaptability may make it more difficult for women to receive timely and sufficient pregnancy, birth, and postnatal care, especially if they live in rural or underdeveloped locations (Izugbara & Wekesah, 2018; Moyer et al., 2014). For example, a study conducted in Nigeria discovered that pregnant women were deterred from obtaining antenatal treatment due to the inflexible appointment scheduling policies and lengthy wait times since they frequently had to wait for prolonged periods or return on a different day (Izugbara & Wekesah, 2018). Similarly, a Ghanaian study found that a major obstacle to maternal healthcare services access for women was the inability to work around their schedules, especially during agricultural seasons (Moyer et al., 2014). Another issue that has been brought up in the literature is the lack of seats or chairs for expectant mothers in crowded facilities. The discomfort and discouragement that expectant mothers may experience as a result of this inadequate waiting area may have an additional effect on their propensity to seek out and continue using

maternal healthcare services (Pembe et al., 2009). The results of this study highlight how important it is for healthcare systems to implement more flexible scheduling practices and make sure that pregnant patients have enough places to sit and wait, particularly in settings with high patient traffic. By doing this, the obstacles to receiving and using maternity healthcare services would be lessened.

The findings of the current study also revealed that the attitude of health providers was a barrier to initiating ANC, especially the way they talk to young women or (teenagers). This finding is in line with a study conducted in Malawi by Kumbani et al., (2012) young women were reluctant to seek antenatal treatment because of the unfavorable attitudes and judgmental actions of healthcare professionals, who frequently chastised or humiliated them for being pregnant at an early age (Kumbani et al., 2012). Similarly, a systematic review conducted in multiple countries found that a major deterrent to the use of maternal healthcare services, particularly for adolescent and young women, was rude and abusive treatment from healthcare providers, including verbal abuse and discrimination (Mannava et al., 2015). The results of this study highlight how important it is for healthcare systems to deal with the issue of provider attitudes and make sure all expectant mothers, regardless of their age or background, receive compassionate, respectful, and dehumanizing treatment when interacting with the system.

The present study also found infrastructural issues/deficits as a barrier to early ANC initiation as most of them have to travel to the district capital to run laboratory tests and do scans before they can continue with any further treatment. This finding is consonant with the study conducted in northern Uganda by (Anastasi et al., 2015) discovered that a major barrier to women seeking antenatal care (ANC) was the need to travel great distances to facilities that offered basic laboratory and diagnostic services. This requirement raised the time and financial strain on the women and their families. Similarly, the absence of diagnostic facilities

and other healthcare infrastructure is a major obstacle to receiving ANC services, according to a review of the literature on maternal healthcare consumption in sub-Saharan Africa (Moyer & Mustafa, 2013). The results of the current study demonstrate how important it is for healthcare systems to make investments in bolstering the resources and infrastructure of primary and secondary healthcare facilities in order to make sure pregnant women have access to critical services, like scans and laboratory tests, closer to where they live. This would eventually improve the outcomes for maternal healthcare by assisting in addressing the financial and geographic constraints that women have while beginning and maintaining ANC.

The current study also found congestion of pregnant women at the health facilities as a hindrance to early initiation of antenatal care as they are not able to voice out their major concerns due to lack of privacy. This finding agrees with a study conducted in Ghana by Ganle et al., (2014), pregnant women frequently chose not to seek ANC because of the lengthy wait periods and the unprivacy of the congested facilities, which prevented them from discussing their private issues with the medical staff (Ganle et al., 2014). Similarly, in a study conducted in Malawi, young women found it difficult to seek care at ANC clinics due to the lack of privacy caused by crowding, which made them reluctant to discuss personal matters with medical professionals (Kumbani et al., 2012). The results of the study demonstrate how important it is for healthcare systems to deal with the issues of crowding and privacy violations at ANC clinics, as these things can seriously impede the early and consistent use of these vital maternal healthcare services.

The present study also found pregnant women to have delayed antenatal care due to fear of surgical intervention as some participants experienced their sisters delivering through a cesarean section. The finding is in line with a study conducted in Kenya by Cheptum et al., (2014) discovered that one of the

main obstacles to ANC attendance was women's fear of cesarean sections, which they saw as an indication of medical problems or an inability to give birth naturally. As a result, they were unwilling to seek care and ran the risk of having to undergo surgery (Cheptum et al., 2014). Healthcare systems have the potential to enhance mother and child health outcomes by encouraging the early and consistent use of ANC services by tackling the obstacles and misunderstandings that exist.

The present study found ignorance as a barrier to initiating antenatal care early as some women indicated pregnancy is not a sickness so they decided to wait. The results agree with the finding of a Tanzanian qualitative study, several expectant mothers thought that pregnancy was a normal process that didn't need regular checkups with the doctor. Instead, they only sought antenatal care (ANC) when they encountered difficulties or health issues (Pell et al., 2013). Similarly, the belief that pregnancy is a non-medical occurrence frequently contributes to delayed or irregular attendance at antenatal care, according to a review of the literature on barriers to ANC utilization in low- and middle-income countries (Cheptum et al., 2014). Targeted health education and awareness programs that stress the value of routine ANC visits even without problems need to be developed by lawmakers and healthcare professionals. To ensure relevance and efficacy, these initiatives should be customized to the target populations' unique cultural and social settings (Finlayson & Downe, 2013; Pell et al., 2013). Furthermore, bridging the gap between cultural beliefs and the necessity of professional medical care during pregnancy can be facilitated by integrating community-based healthcare providers and traditional birth attendants into the maternal healthcare system (Finlayson & Downe, 2013; Pell et al., 2013).

5.5 Sources of Information

The current study revealed some participant's source of information on the benefits of early initiation of antenatal care (ANC) was from watching a program on a television station about an NGO discussing maternal and child health issues. The finding of the current study agrees with a study conducted by Fatema & Lariscy, (2020) which discovered that mass media initiatives, like radio and television shows, can successfully raise the usage of ANC services and encourage pregnancy-related healthy behaviors. To reach and educate the target group, the review emphasized the significance of using compelling and culturally appropriate content. A similar study conducted in Vietnam by Tran et al., (2014) demonstrated that a community-based health education program, comprising radio and TV broadcasts, markedly enhanced pregnant women's knowledge and attitudes regarding the significance of early ANC initiation and routine ANC visits. The results of this study indicate that the participants were able to acquire and process the material presented in the television show conducted by the NGO, which in turn affected their comprehension and enjoyment of the advantages of initiating ANC early. This demonstrates the potential of community-based health education programs and the media as powerful tools for increasing knowledge of and encouraging the use of critical ANC and other maternal and child health treatments.

It was also found in the current that some women heard about antenatal care initiation from their community information center as health care providers used it as a means of educating the community. A study conducted in Vietnam by Tran et al. (2019) showed that pregnant women's knowledge and attitudes regarding the significance of early ANC initiation and regular ANC visits were significantly improved by a community-based health education program that included community meetings and discussions led by healthcare providers. The results of the current study indicate that women were effectively reached by the

community information centers, which may have influenced their health-seeking behaviors and ANC utilization by teaching them about the significance of early ANC beginning.

The present study also found health providers/facilities to be a major source of information to participants as some women indicated they heard about antenatal care during a mass vaccination program. The finding corroborates with a study conducted in Tanzania by Damian et al., (2020), which found the advice and counseling given by medical professionals during prenatal visits was one of the main drivers of ANC utilization. The review emphasized how critical it is that medical professionals seize the chance to inform and motivate expectant mothers to begin and maintain antenatal care. Likewise, Tsawe et al., (2015) discovered in South Africa that women's ANC-seeking behaviors were strongly impacted by the accessibility and caliber of ANC services, in addition to the attitudes and communication abilities of healthcare professionals. The results of the current study indicate that pregnant women can obtain reliable and significant information from healthcare facilities and providers and that ANC education and promotion can be better utilized and understood by ANC clients when integrated into other health service delivery platforms.

The current study moreover found that family and friends are one of the key sources of information on the need for early initiation of antenatal care (ANC) for pregnant women. The findings are in line with an Ethiopian study by Lerebo, (2015) which found that women who had guidance and support from their moms and husbands were more likely to start ANC early. The authors proposed that ANC seeking habits might be improved by involving the larger family network in maternal health promotion and education. Furthermore, a qualitative study conducted in Ghana by Pell et al., (2013) discovered that women frequently turned to the wisdom and experiences of their female relatives such as mothers and

grandmothers when deciding whether or not to use ANC. The social norms that arise from these interpersonal interactions can have a big impact on a woman's understanding, beliefs, and ANC practices. The current study's discovery that family and friends are an important source of knowledge about the necessity of initiating ANC early emphasizes how crucial it is to take into account the social and cultural context in which pregnant women make healthcare decisions.

CHAPTER SIX

SUMMARY, IMPLICATIONS, CONCLUSION, LIMITATIONS AND RECOMMENDATION

6.0 Introduction

This chapter contains the summary, implication, conclusion, limitations and recommendations of the study.

6.1 Summary of the study

Late initiation of antenatal care is a major problem that prevents pregnant women in the Nanton district from starting ANC early. Early initiation of ANC helps healthcare providers detect major complications as soon as possible to suppress or prevent them. The study therefore explored the barriers to early initiation of antenatal care in the Nanto District. The health belief model served as the study's organizing framework and specific objectives were developed by its constructs. The groundwork for discussing the findings was then laid by conducting a review of the literature on late antenatal care initiation.

The study was a qualitative research with a descriptive exploratory design. Fifteen pregnant women who initiated antenatal care late in the Nanton District were purposively recruited for the study. A face-to-face interview with the use of a semi-structured interview guide was used to gather data. Every interview was audio recorded and lasted between thirty and forty-five minutes. The interviews were verbatim transcribed, and thematic content analysis was used for analysis. Four main themes, eighteen sub-themes, and twenty-three categories of topics emerged from the research.

The sociodemographic characteristics of the women reveal that nine participants were within the 18-29 years range, seven were housewives, eight participants had attained primary education, thirteen of the

women were Dagomba's, twelve of them belonged to the Islamic religion and eight of them indicated it was first pregnant women.

Knowledge of the women on the effects of late initiation of antenatal care was found to be good as participants revealed it helps mother and child, missing initial routine medications/vaccines, and difficulty during labor.

Increased confidence and rapport, better pregnancy outcomes, learning about changes in pregnancy, sex, and estimated date of delivery of the baby, and education from healthcare personnel were some of the benefits revealed by the women they derive from initiating antenatal care.

Barriers to early initiation of antenatal care in the District according to the pregnant women were financial difficulty, cost of medical services, and transportation issues which include poor road network, long distance to the health facility, and non-availability of commercial vehicles. Husband-related, factors, family-related issues, presence of cultural beliefs and practices, the effect of not performing the cultural rite, health system-related issues which entail inadequate staffing, limited availability of flexible appointments, the attitude of healthcare personnel, inadequate infrastructure issues, lack of privacy, fear of cesarean section (C/S) and ignorance were some of the barriers the pregnant women indicated in this study.

The source of information on the effects of initiating ANC late were found to be television, radio stations, community information centers, health providers/facilities, and family and friends. The majority of pregnant women were willing to initiate antenatal care early in their next pregnancy after knowing the benefits of early initiation of antenatal care. At the same time, few were indecisive on when to initiate antenatal care due to their cultural beliefs and attitudes of husbands.

6.2 Implication

The findings of the study had implications for maternal and child health research.

For maternal and child health research

Maternal and child health experts play a vital role in health delivery but their knowledge will be outmoded if it is not based on research. Maternal and child health experts cannot only rely on the findings of other professionals for their practice but will have to get engaged in research to inform their practice. Maternal and child health experts should therefore go into research on the viability of late antenatal care initiation as a treatment option for maternal and child mortalities. During the literature review for the present study, there was inadequate research-based information on late antenatal care initiation in Ghana necessitating the need for more research in this area. If studies on late antenatal care initiation are conducted in Ghana, context-appropriate and evidenced-based information will be available to inform the role Maternal and child health expects will have to play in the well-being of pregnant women.

6.3 Conclusion

In conclusion, the study underscores a significant awareness among participants regarding the critical importance of early antenatal care (ANC), highlighting benefits such as early detection of fetal abnormalities, access to routine medications, health education, and improved pregnancy outcomes. However, it also reveals the multifaceted barriers women face, including cultural norms, financial constraints, and inadequate health infrastructure, which complicate timely access to care. Furthermore, the diverse range of information sources identified spanning radio, television, community centers, medical professionals, and social media emphasizes the necessity of implementing multi-channel health education initiatives to effectively disseminate essential information and support women in navigating the

complexities of antenatal care. This holistic approach is vital for enhancing maternal and fetal health outcomes in the community.

6.4 Strength and Limitations of the study

6.4.1 Strength

Antenatal care coverage in the district is high with a percentage of 109.8% in 2022 due to the attendance of some pregnant women from the nearby districts like Karaga, and Savelugu district (NDHD, 2022). Despite this high coverage, there is low registration for ANC within the first and second trimester in the Nanton District.

6.4.2 Limitations

The exclusion of the women's husbands from the study presents a limitation, as the conclusions will not represent both husband and wife as an entity. Also, cultural practices unearthed in this study as barriers to early initiation of ANC can be considered as specific barriers that cannot be generalized to other settings.. Again, the study suffers from the general limitation of qualitative studies, which mainly has to do with the inability to generalize the findings to the larger population because of the smaller sample size.

6.5 Recommendation

Recommendations based on this are to the Government of Ghana, Ghana Health Service, Nanton District Health Directorate, Non-Governmental Organization, and Public Health (Maternal and Child Health) researchers.

6.5.1 Government of Ghana

The government of Ghana should:

1. The government of Ghana through the Ghana Health Service should invest in upgrading healthcare facilities to ensure a comfortable and private environment for antenatal care visits.
2. Motivate healthcare personnel in deprived areas such as the Nanton district with incentives to meet the demand for antenatal care services.
3. Provide adequate medical supplies (routine medications) to ease the financial burden of pregnant women.
4. Post more health personnel in deprived areas such as the Nanton district to help lessen the workload on the health personnel for effective healthcare delivery to pregnant women and their families.

6.5.2 Ghana Health Service

The Ghana Health Service should:

1. Establish mobile antenatal care clinics that can reach remote areas or provide transportation support for pregnant women to access healthcare services.
2. Consistently provide training for healthcare providers on compassionate care and effective communication to improve their knowledge in caring for pregnant women.

6.5.3 Nanton District Health Directorate

The Nanton District Health Directorate should:

1. Conduct community awareness programs to educate husbands and families on the importance of antenatal care and involve them in the care process where possible.
2. Implement a system for scheduling appointments that accommodates the availability of pregnant women, such as evening or weekend clinic hours to help bring on board all women.
3. Try and disseminate a circular to the various health facilities within the district to attend to pregnant women who attend ANC at the health facility any day by not restricting them to some particular days only.

6.5.4 Nanton District Assembly

The district assembly should:

1. Collaborate with the district health directorate to engage with community leaders and traditional birth attendants to address cultural myths and misconceptions about antenatal care.
2. Collaborate with the district health directorate to conduct targeted community education campaigns to raise awareness about the importance of early initiation of antenatal care and its benefits to both mother and child.

6.5.5 Non-Governmental Organizations (NGOs)

NGOs should:

1. Initiate supportive services for pregnant women and their families to improve antenatal care delivery status.

2. Collaborate with the government of Ghana to strengthen deprived communities by advancing sustainable livelihood and enhancing infrastructure development such as health facilities to improve the health and well-being of pregnant women.

6.5.6 Maternal and Child Health (MCH) Researchers

MCH researchers should:

1. Include husbands, traditional leaders, elders and religious leaders in future research to ascertain multidimensional views on late antenatal care initiation.
2. Use a quantitative approach to study the determinants of late initiation of antenatal care.
3. Establish the relationship between the various constructs of the health belief model.

REFERENCES

Abdalla, M. M., Oliveira, L. G. L., Azevedo, C. E. F., & Gonzalez, R. K. (2018). Quality in Qualitative Organizational Research: types of triangulation as a methodological alternative. *Administração: Ensino e Pesquisa*, *19*(1), 66–98. https://doi.org/10.13058/raep.2018.v19n1.578

Abera, E., Azanaw, J., Tadesse, T., & Endalew, M. (2023). Prevalence and associated factors of delay antenatal care at public health institutions in Gondar city, Northwest Ethiopia, 2021: a cross-sectional study. *Contraception and Reproductive Medicine*, *8*(1), 1–7. https://doi.org/10.1186/s40834-022-00197-6

Afaya, A., Azongo, T. B., Dzomeku, V. M., Afaya, A., Salia, S. M., Adatara, P., Alhassan, R. K., Amponsah, A. K., Alorse, C., Id, A., Adadem, D., Asiedu, O., Amuna, P., & Ayanore, M. A. (2020). *Women ' s knowledge and its associated factors regarding optimum utilisation of antenatal care in rural Ghana : A cross- sectional study*. *36*, 1–19. https://doi.org/10.1371/journal.pone.0234575

Afulani, P. A., Buback, L., Essandoh, F., Kinyua, J., Kirumbi, L., & Cohen, C. R. (2019). Quality of antenatal care and associated factors in a rural county in Kenya: an assessment of service provision and experience dimensions. *BMC Health Services Research*, *19*(1), 684. https://doi.org/10.1186/s12913-019-4476-4

Ahinkorah, B. O., Seidu, A.-A., Agbaglo, E., Adu, C., Budu, E., Hagan, J. E., Schack, T., & Yaya, S. (2021). Determinants of antenatal care and skilled birth attendance services utilization among childbearing women in Guinea: evidence from the 2018 Guinea Demographic and Health Survey

data. *BMC Pregnancy and Childbirth*, *21*(1), 2. https://doi.org/10.1186/s12884-020-03489-4

Ahinkorah, B. O., Seidu, A. A., Armah-Ansah, E. K., Ameyaw, E. K., Budu, E., & Yaya, S. (2021). Socio-economic and demographic factors associated with fertility preferences among women of reproductive age in Ghana: evidence from the 2014 Demographic and Health Survey. *Reproductive Health*, *18*(1), 1–10. https://doi.org/10.1186/s12978-020-01057-9

Akter, S., Davies, K., Rich, J. L., & Inder, K. J. (2020). Barriers to accessing maternal health care services in the Chittagong Hill Tracts, Bangladesh: A qualitative descriptive study of Indigenous women's experiences. *PLOS ONE*, *15*(8), e0237002. https://doi.org/10.1371/journal.pone.0237002

Amoadu, M., Ansah, E. W., Assopiah, P., Acquah, P., Ansah, J. E., Berchie, E., Hagan, D., & Amoah, E. (2022). Socio-cultural factors influencing adolescent pregnancy in Ghana: a scoping review. *BMC Pregnancy and Childbirth*, *22*(1), 1–13. https://doi.org/10.1186/s12884-022-05172-2

Anaba, E. A., Alor, S. K., & Badzi, C. D. (2022). Utilization of antenatal care among adolescent and young mothers in Ghana; analysis of the 2017/2018 multiple indicator cluster survey. *BMC Pregnancy and Childbirth*, *22*(1), 1–8. https://doi.org/10.1186/s12884-022-04872-z

Anastasi, E., Borchert, M., Campbell, O. M. R., Sondorp, E., Kaducu, F., Hill, O., Okeng, D., Odong, V. N., & Lange, I. L. (2015). Losing women along the path to safe motherhood: why is there such a gap between women's use of antenatal care and skilled birth attendance? A mixed methods study in northern Uganda. *BMC Pregnancy and Childbirth*, *15*(1), 287. https://doi.org/10.1186/s12884-015-0695-9

Asundep, N. N., Carson, A. P., Turpin, C. A., Tameru, B., Agidi, A. T., Zhang, K., & Jolly, P. E. (2013).

Determinants of access to antenatal care and birth outcomes in Kumasi, Ghana. *Journal of Epidemiology and Global Health*, *3*(4), 279. https://doi.org/10.1016/j.jegh.2013.09.004

Ayelepuni, A., Gnimatin, J. P., & Adokiya, M. N. (2022). Utilisation of antenatal care and skilled delivery services among mothers in Nanton District of Northern Ghana: a mixed-method study protocol. *BMJ Open*, *12*(12), e066118. https://doi.org/10.1136/bmjopen-2022-066118

Battu, G. G., Kassa, R. T., Negeri, H. A., kitawu, L. D., & Alemu, K. D. (2023). Late antenatal care booking and associated factors among pregnant women in Mizan-Aman town, South West Ethiopia, 2021. *PLOS Global Public Health*, *3*(1), e0000311. https://doi.org/10.1371/journal.pgph.0000311

Begum, K., Ouédraogo, C. T., Wessells, K. R., Young, R. R., Faye, M. T., Wuehler, S. E., & Hess, S. Y. (2018). Prevalence of and factors associated with antenatal care seeking and adherence to recommended iron-folic acid supplementation among pregnant women in Zinder, Niger. *Maternal and Child Nutrition*, *14*(March 2017), 1–11. https://doi.org/10.1111/mcn.12466

Benova, L., Tunçalp, Ö., Moran, A. C., & Campbell, O. M. R. (2018). Not just a number: Examining coverage and content of antenatal care in low-income and middle-income countries. *BMJ Global Health*, *3*(2), 1–11. https://doi.org/10.1136/bmjgh-2018-000779

Black, R. E., Laxminarayan, R., Temmerman, M., & Walker, N. (2016). Reproductive, maternal, newborn, and child health. *Disease Control Priorities, Third Edition (Volume 2): Reproductive, Maternal, Newborn, and Child Health*, 1–419. https://doi.org/10.1596/978-1-4648-0348-2_ch5

Braun, V., Clarke, V., Braun, V., & Clarke, V. (2017). Applied Qualitative Research in Psychology.

Applied Qualitative Research in Psychology, *0887*(2006). https://doi.org/10.1057/978-1-137-35913-1

Broeke, M. V., Daemers, D., Budé, L., Vries, R. De, & Nieuwenhuijze, M. (2022). Sources of information used by women during pregnancy and the perceived quality. *BMC Pregnancy and Childbirth*, 1–12. https://doi.org/10.1186/s12884-022-04422-7

Buglar, M. E., White, K. M., & Robinson, N. G. (2010). The role of self-efficacy in dental patients' brushing and flossing: Testing an extended Health Belief Model. *Patient Education and Counseling*, *78*(2), 269–272. https://doi.org/10.1016/j.pec.2009.06.014

Carpenter, C. J., & Carpenter, C. J. (2010). *A Meta-Analysis of the Effectiveness of Health Belief Model Variables in Predicting Behavior A Meta-Analysis of the Effectiveness of Health Belief Model Variables in Predicting Behavior*. *0236*. https://doi.org/10.1080/10410236.2010.521906

Chapman, R. R. (2003). Endangering safe motherhood in Mozambique: prenatal care as pregnancy risk. *Social Science & Medicine*, *57*(2), 355–374. https://doi.org/10.1016/S0277-9536(02)00363-5

Cheptum, J., Gitonga, M. N., Mutua, E., Mukui, S., Ndambuki, J., & Koima, W. (2014). Barriers to Access and Utilization of Maternal and Infant Health Services in Migori, Kenya. *Investing in Human Capital*, *4*(15), 1–6. https://doi.org/10.1017/cbo9780511585982.017

Chimatiro, C. S., Hajison, P., Chipeta, E., & Muula, A. S. (2018). Understanding barriers preventing pregnant women from starting antenatal clinic in the first trimester of pregnancy in Ntcheu District-Malawi. *Reproductive Health*, *15*(1), 1–7. https://doi.org/10.1186/s12978-018-0605-5

Choudhury, N., Moran, A. C., Alam, M. A., Ahsan, K. Z., Rashid, S. F., & Streatfield, P. K. (2012).

Beliefs and practices during pregnancy and childbirth in urban slums of Dhaka, Bangladesh. *BMC Public Health*, *12*(1), 791. https://doi.org/10.1186/1471-2458-12-791

Clarke, V., & Braun, V. (2015). Thematic analysis. *Nhk技研*, *151*, 1–5.

Comfort, A. B., El Ayadi, A. M., Camlin, C. S., Tsai, A. C., Nalubwama, H., Byamugisha, J., Walker, D. M., Moody, J., Roberts, T., Senoga, U., Krezanoski, P. J., & Harper, C. C. (2022). The role of informational support from women's social networks on antenatal care initiation: qualitative evidence from pregnant women in Uganda. *BMC Pregnancy and Childbirth*, *22*(1), 1–12. https://doi.org/10.1186/s12884-022-05030-1

Dahiru, T., & Oche, O. M. (2015). Determinants of antenatal care, institutional delivery and postnatal care services utilization in Nigeria. *Pan African Medical Journal*, *21*. https://doi.org/10.11604/pamj.2015.21.321.6527

Damian, D. J., Tibelerwa, J. Y., John, B., Philemon, R., Mahande, M. J., & Msuya, S. E. (2020). Factors influencing utilization of skilled birth attendant during childbirth in the Southern highlands, Tanzania: a multilevel analysis. *BMC Pregnancy and Childbirth*, *20*(1), 420. https://doi.org/10.1186/s12884-020-03110-8

Ditri, EmiJanet M. Turan, M. O., Steinfeld, R. L., Shade, S. B., Owuor, K., Washington, S., Bukusi, E. A., Ackers, M. L., Kioko, J., Interis, E. C., Cohen, L.Zale, C. R., & W., J. (2017). Effects of antenatal care and HIV treatment integration on elements of the PMTCT cascade: Results from the SHAIP cluster-randomized controlled trial in Kenya. *Physiology & Behavior*, *176*(1), 139–148. https://doi.org/10.1097/QAI.0000000000000678.Effects

Dolores, M., & Tongco, C. (2007). Definition of Purposive Sampling. *A Journal of Plants, People and Applied Research*, *5*, 1–12. https://ethnobotanyjournal.org/index.php/era/article/view/126

Dotse-Gborgbortsi, W., Tatem, A. J., Matthews, Z., Alegana, V. A., Ofosu, A., & Wright, J. A. (2023). Quality of maternal healthcare and travel time influence birthing service utilisation in Ghanaian health facilities: a geographical analysis of routine health data. *BMJ Open*, *13*(1), e066792. https://doi.org/10.1136/bmjopen-2022-066792

Dowswell, T., Carroli, G., Duley, L., Gates, S., Gülmezoglu, A. M., Khan-Neelofur, D., & Piaggio, G. (2015). Alternative versus standard packages of antenatal care for low-risk pregnancy. *Cochrane Database of Systematic Reviews*, *2015*(7). https://doi.org/10.1002/14651858.CD000934.pub3

Drammeh, B., Hsieh, C. J., Liu, C.-Y., & Kao, C.-H. (2018). Predictors of antenatal care booking among pregnant women in The Gambia. *African Journal of Midwifery and Women's Health*, *12*(2), 65–71. https://doi.org/10.12968/ajmw.2018.12.2.65

Dudgeon, M. R., & Inhorn, M. C. (2004). Men's influences on women's reproductive health: medical anthropological perspectives. *Social Science & Medicine*, *59*(7), 1379–1395. https://doi.org/10.1016/j.socscimed.2003.11.035

Ebonwu, J., Mumbauer, A., Uys, M., Wainberg, M. L., & Medina-Marino, A. (2018a). Determinants of late antenatal care presentation in rural and peri-urban communities in South Africa: A cross-sectional study. *PLoS ONE*, *13*(3), 1–16. https://doi.org/10.1371/journal.pone.0191903

Ebonwu, J., Mumbauer, A., Uys, M., Wainberg, M. L., & Medina-Marino, A. (2018b). Determinants of late antenatal care presentation in rural and peri-urban communities in South Africa: A cross-

sectional study. *PLOS ONE*, *13*(3), e0191903. https://doi.org/10.1371/journal.pone.0191903

Edessa, A., Dida, N., & Teferi, E. (2023a). Early initiation of antenatal care and its associated factors among antenatal care followers at public health facilities in Ambo town administration, Central Ethiopia Akinaw. *Journal of Family Medicine and Primary Care*, *6*(2), 67–75. https://doi.org/10.4103/jfmpc.jfmpc

Edessa, A., Dida, N., & Teferi, E. (2023b). *Early initiation of antenatal care and its associated factors among antenatal care followers at public health facilities in Ambo town administration , Central Ethiopia*. 67–75. https://doi.org/10.4103/jfmpc.jfmpc

Enuameh, Y. A. K., Okawa, S., Asante, K. P., Kikuchi, K., Mahama, E., Ansah, E., Tawiah, C., Adjei, K., Shibanuma, A., Nanishi, K., Yeji, F., Agyekum, E. O., Yasuoka, J., Gyapong, M., Oduro, A. R., Quansah Asare, G., Hodgson, A., Jimba, M., & Owusu-Agyei, S. (2016). Factors Influencing Health Facility Delivery in Predominantly Rural Communities across the Three Ecological Zones in Ghana: A Cross-Sectional Study. *PLOS ONE*, *11*(3), e0152235. https://doi.org/10.1371/journal.pone.0152235

Fagbamigbe, A. F., Akanbiemu, F. A., Adebowale, A. S., A, A. M. O., & Korter, G. (2013). Practice, Knowledge and Perceptions of Antenatal Care Services among Pregnant Women and Nursing Mothers in Southwest Nigeria. *International Journal of Maternal and Child Health*, *1*(1), 7. https://doi.org/10.12966/ijmch.05.02.2013

Fagbamigbe, A. F., & Idemudia, E. S. (2015). Barriers to antenatal care use in Nigeria: evidences from non-users and implications for maternal health programming. *BMC Pregnancy and Childbirth*,

15(1), 95. https://doi.org/10.1186/s12884-015-0527-y

Fatema, K., & Lariscy, J. T. (2020). Mass media exposure and maternal healthcare utilization in South Asia. *SSM - Population Health*, *11*, 100614. https://doi.org/10.1016/j.ssmph.2020.100614

Finlayson, K., & Downe, S. (2013). Why Do Women Not Use Antenatal Services in Low- and Middle-Income Countries? A Meta-Synthesis of Qualitative Studies. *PLoS Medicine*, *10*(1), e1001373. https://doi.org/10.1371/journal.pmed.1001373

G Lilungulu, A. (2016). Reported Knowledge, Attitude and Practice of Antenatal Care Services among Women in Dodoma Municipal, Tanzania. *Journal of Pediatrics & Neonatal Care*, *4*(1). https://doi.org/10.15406/jpnc.2016.04.00125

Ganle, J. K., Parker, M., Fitzpatrick, R., & Otupiri, E. (2014). A qualitative study of health system barriers to accessibility and utilization of maternal and newborn healthcare services in Ghana after user-fee abolition. *BMC Pregnancy and Childbirth*, *14*(1), 425. https://doi.org/10.1186/s12884-014-0425-8

Gebremariam, H., Tesfai, B., Tewelde, S., Kiflemariam, Y., & Kibreab, F. (2023). Level of Knowledge, Attitude, and Practice of Pregnant Women on Antenatal Care in Amatere Health Center, Massawa, Eritrea: A Cross-Sectional Study, 2019. *Infectious Diseases in Obstetrics and Gynecology*, *2023*. https://doi.org/10.1155/2023/1912187

Gelagay, A. A., Belachew, T. B., Asmamaw, D. B., Bitew, D. A., Fentie, E. A., Worku, A. G., Bashah, D. T., Tebeje, N. B., Gebrie, M. H., Yeshita, H. Y., Cherkose, E. A., Ayana, B. A., Lakew, A. M., & Negash, W. D. (2023). Inadequate receipt of ANC components and associated factors among

pregnant women in Northwest Ethiopia, 2020–2021: a community-based cross-sectional study. *Reproductive Health*, *20*(1), 1–9. https://doi.org/10.1186/s12978-023-01612-0

Ghana Statistical Service. (2014). *Savelugu-Nanton District*. 1–83.

Girard, A. W., & Olude, O. (2012). Nutrition Education and Counselling Provided during Pregnancy: Effects on Maternal, Neonatal and Child Health Outcomes. *Paediatric and Perinatal Epidemiology*, *26*(s1), 191–204. https://doi.org/10.1111/j.1365-3016.2012.01278.x

Glanz, K. (2008). *HealtBehavior-Education.pdf* (pp. 30–34).

Glanz, K., Rimer, B. k., & Viswanath, K. (2002). *Health and Health*.

Grimes, H. A., Forster, D. A., & Newton, M. S. (2014). Sources of information used by women during pregnancy to meet their information needs. *Midwifery*, *30*(1), e26–e33. https://doi.org/10.1016/j.midw.2013.10.007

GSS. (2021). Ghana 2021 population and housing census. *News.Ge*, *2021*, 1–128.

Gulema, H., & Berhane, Y. (2017). Timing of first antenatal care visit and its associated factors among pregnant women attending public health facilities in Addis Ababa, Ethiopia. *Ethiopian Journal of Health Sciences*, *27*(2), 139. https://doi.org/10.4314/ejhs.v27i2.6

Haute, E. Van. (2021). Sampling Techniques. Sample Types and Sample Size. *Research Methods in the Social Sciences: An A-Z of Key Concepts*, *January*, 215–220. https://doi.org/10.1093/hepl/9780198850298.003.0057

Haws, R. A., Mashasi, I., Mrisho, M., Schellenberg, J. A., Darmstadt, G. L., & Winch, P. J. (2010).

"These are not good things for other people to know": How rural Tanzanian women's experiences of pregnancy loss and early neonatal death may impact survey data quality. *Social Science and Medicine*, *71*(10), 1764–1772. https://doi.org/10.1016/j.socscimed.2010.03.051

Hazarika, I. (2010). Women's Reproductive Health in Slum Populations in India: Evidence From NFHS-3. *Journal of Urban Health*, *87*(2), 264–277. https://doi.org/10.1007/s11524-009-9421-0

Hochbaum, G. (1958). Public Participation in Medical Screening Programs: A Sociopsychological Study. *Public Health Service Publication*, 1–14.

Hunter, D. J., Mccallum, J., & Howes, D. (2019). Defining exploratory-descriptive qualitative research and considering its application to healthcare. *Journal of Nursing and Health Care*, *4*(1), 1–7.

Iwelunmor, J., Newsome, V., & Airhihenbuwa, C. O. (2014). Framing the impact of culture on health: a systematic review of the PEN-3 cultural model and its application in public health research and interventions. *Ethnicity & Health*, *19*(1), 20–46. https://doi.org/10.1080/13557858.2013.857768

Izugbara, C. O., & Wekesah, F. (2018). What does quality maternity care mean in a context of medical pluralism? Perspectives of women in Nigeria. *Health Policy and Planning*, *33*(1), 1–8. https://doi.org/10.1093/heapol/czx131

Johnson, J. L., Adkins, D., & Chauvin, S. (2020). A review of the quality indicators of rigor in qualitative research. *American Journal of Pharmaceutical Education*, *84*(1), 138–146. https://doi.org/10.5688/ajpe7120

Kidist, B., Dibaba, Y., & Desalegn, W. (2013). Determinants of maternal health care utilization in Holeta town, central Ethiopia. *BMC Health Services Research*, *1420*, 1–10.

Korstjens, I., & Moser, A. (2018). Series: Practical guidance to qualitative research. Part 4: Trustworthiness and publishing. *European Journal of General Practice*, *24*(1), 120–124. https://doi.org/10.1080/13814788.2017.1375092

Kotoh, A. M., & Boah, M. (2019). *" No visible signs of pregnancy , no sickness , no antenatal care " : Initiation of antenatal care in a rural district in Northern Ghana*. 1–13.

Kuhnt, J., & Vollmer, S. (2017). Antenatal care services and its implications for vital and health outcomes of children: evidence from 193 surveys in 69 low-income and middle-income countries. *BMJ Open*, *7*(11), e017122. https://doi.org/10.1136/bmjopen-2017-017122

Kumbani, L. C., Chirwa, E., Malata, A., Odland, J. Ø., & Bjune, G. (2012). Do Malawian women critically assess the quality of care? A qualitative study on women's perceptions of perinatal care at a district hospital in Malawi. *Reproductive Health*, *9*(1), 30. https://doi.org/10.1186/1742-4755-9-30

Lerebo, W. (2015). Magnitude and Associated Factors of Late Booking for Antenatal Care in Public Health Centers of Adigrat Town, Tigray, Ethiopia. *Clinics in Mother and Child Health*, *12*(1). https://doi.org/10.4172/2090-7214.1000171

Mabetha, K., Soepnel, L., Klingberg, S., Mabena, G., Motlhatlhedi, M., Norris, S. A., & Draper, C. E. (2022). Social Support during pregnancy: A phenomenological exploration of young women's experiences of support networks on pregnancy care and wellbeing in Soweto, South Africa. *MedRxiv*, *2*(Cd), 2022.04.03.22273162. https://www.medrxiv.org/content/10.1101/2022.04.03.22273162v1%0Ahttps://www.medrxiv.org/c

ontent/10.1101/2022.04.03.22273162v1.abstract

Madureira, J., Alvim-Ferraz, M. C. M., Rodrigues, S., Goncalves, C., Azevedo, M. C., Pinto, E., & Mayan, O. (2009). Indoor air quality in schools and health symptoms among portuguese teachers. *Human and Ecological Risk Assessment*, *15*(1), 159–169. https://doi.org/10.1080/10807030802615881

Mannava, P., Durrant, K., Fisher, J., Chersich, M., & Luchters, S. (2015). Attitudes and behaviours of maternal health care providers in interactions with clients: a systematic review. *Globalization and Health*, *11*(1), 36. https://doi.org/10.1186/s12992-015-0117-9

Manyeh, A. K., Amu, A., Williams, J., & Gyapong, M. (2020). Factors associated with the timing of antenatal clinic attendance among first-time mothers in rural southern Ghana. *BMC Pregnancy and Childbirth*, *20*(1), 1–7. https://doi.org/10.1186/s12884-020-2738-0

Mathole, T., Lindmark, G., Majoko, F., & Ahlberg, B. M. (2004). A qualitative study of women's perspectives of antenatal care in a rural area of Zimbabwe. *Midwifery*, *20*(2), 122–132. https://doi.org/10.1016/j.midw.2003.10.003

Menon, S. (2017). The Semiotics of Parenthood in India: A Lived Experience. *Indian Journal of Gender Studies*, *24*(2), 194–216. https://doi.org/10.1177/0971521517697881

Mgata, S., & Maluka, S. O. (2019). *Factors for late initiation of antenatal care in Dar es Salaam , Tanzania : A qualitative study*. *0*, 1–9.

Mkandawire, P., Atari, O., Kangmennaang, J., Arku, G., Luginaah, I., & Etowa, J. (2019). Pregnancy intention and gestational age at first antenatal care (ANC) visit in Rwanda. *Midwifery*, *68*(2018),

30–38. https://doi.org/10.1016/j.midw.2018.08.017

Mohsin, A. (2021). A Manual for Selecting Sampling Techniques in Research. University of Karachi, Iqra. University. *Munich Personal RePEC Archive*, *2016*, 1–56.

Moller, A.-B., Petzold, M., Chou, D., & Say, L. (2017). Early antenatal care visit: a systematic analysis of regional and global levels and trends of coverage from 1990 to 2013. *The Lancet Global Health*, *5*(10), e977–e983. https://doi.org/10.1016/S2214-109X(17)30325-X

Moyer, C. A., Adongo, P. B., Aborigo, R. A., Hodgson, A., Engmann, C. M., & DeVries, R. (2014). "It's up to the Woman's People": How Social Factors Influence Facility-Based Delivery in Rural Northern Ghana. *Maternal and Child Health Journal*, *18*(1), 109–119. https://doi.org/10.1007/s10995-013-1240-y

Moyer, C. A., & Mustafa, A. (2013). Drivers and deterrents of facility delivery in sub-Saharan Africa: a systematic review. *Reproductive Health*, *10*(1), 40. https://doi.org/10.1186/1742-4755-10-40

Mutai, K. T., & Otieno, G. O. (2021). Utilization of focused antenatal care among expectant women in Murang'a county, Kenya. *Pan African Medical Journal*, *39*. https://doi.org/10.11604/pamj.2021.39.23.26339

Nabyonga Orem, J., Mugisha, F., Okui, A. P., Musango, L., & Kirigia, J. M. (2013). Health care seeking patterns and determinants of out-of-pocket expenditure for Malaria for the children under-five in Uganda. *Malaria Journal*, *12*(1), 175. https://doi.org/10.1186/1475-2875-12-175

Nachinab, G. T.-E., Adjei, C. A., Ziba, F. A., Asamoah, R., & Attafuah, P. A. (2019). Exploring the Determinants of Antenatal Care Services Uptake: A Qualitative Study among Women in a Rural

Community in Northern Ghana. *Journal of Pregnancy*, *2019*. https://doi.org/10.1155/2019/3532749

Nachinab, G. T. E., Adjei, C. A., Ziba, F. A., Asamoah, R., & Attafuah, P. A. (2019). Exploring the Determinants of Antenatal Care Services Uptake: A Qualitative Study among Women in a Rural Community in Northern Ghana. *Journal of Pregnancy*, *2019*. https://doi.org/10.1155/2019/3532749

Najmabadi, K. M. (2017). A systematic review and meta-analysis of randomized clinical trials on the effect of aromatherapy with lavender on labor pain relief. *Journal of Womens Health Care*, *06*(04), 4172. https://doi.org/10.4172/2167-0420-c1-006

Nambile Cumber, S., Atuhaire, C., Namuli, V., Bogren, M., & Elden, H. (2022). Barriers and strategies needed to improve maternal health services among pregnant adolescents in Uganda: a qualitative study. *Global Health Action*, *15*(1). https://doi.org/10.1080/16549716.2022.2067397

Nattey, C., Jinga, N., Mongwenyana, C., Mokhele, I., Mohomi, G., Fox, M. P., & Onoya, D. (2018). Understanding Predictors of Early Antenatal Care Initiation in Relationship to Timing of HIV Diagnosis in South Africa. *AIDS Patient Care and STDs*, *32*(6), 251–256. https://doi.org/10.1089/apc.2018.0023

Nichols, M. R., Roux, G. M., & Harris, N. R. (2007). Primigravid and Multigravid Women: Prenatal Perspectives. *Journal of Perinatal Education*, *16*(2), 21–32. https://doi.org/10.1624/105812407x192019

Nyando, M., Makombe, D., Mboma, A., Mwakilama, E., & Nyirenda, L. (2023). Perceptions of pregnant women on antenatal care visit during their first trimester at area 25 health center in Lilongwe , Malawi – a qualitative study. *BMC Women's Health*, 1–17.

https://doi.org/10.1186/s12905-023-02800-7

Ogunba, B. O., & Abiodun, O. B. (2017). Knowledge and Attitude of Women and Its Influence on Antenatal Care Attendance in Southwestern Nigeria. *J Nutr Health Sci*, *4*(2), 207. www.annexpublishers.com

Organization, W. H. (2016). Global strategy on human resources for health: Workforce 2030. *Who*, 64. https://www.who.int/hrh/resources/global_strategy_workforce2030_14_print.pdf?ua=1

Otundo Richard, M. (2019). WHO Recommendations on Antenatal Care for a Positive Pregnancy Experience in Kenya. *SSRN Electronic Journal*, *January*, 1–10. https://doi.org/10.2139/ssrn.3449460

Owusu, S. S. (2021a). *Factors associated with antenatal care service utilization among women with children under five years in Sunyani Municipality, Ghana*. https://doi.org/10.1101/2021.02.27.21252585

Owusu, S. S. (2021b). Factors associated with antenatal care service utilization among women with children under five years in Sunyani Municipality, Ghana. *MedRxiv*, *1*(165), 1–13.

Pell, C., Meñaca, A., Were, F., Afrah, N. A., Chatio, S., Manda-Taylor, L., Hamel, M. J., Hodgson, A., Tagbor, H., Kalilani, L., Ouma, P., & Pool, R. (2013). Factors Affecting Antenatal Care Attendance: Results from Qualitative Studies in Ghana, Kenya and Malawi. *PLoS ONE*, *8*(1). https://doi.org/10.1371/journal.pone.0053747

Pembe, A. B., Urassa, D. P., Carlstedt, A., Lindmark, G., Nyström, L., & Darj, E. (2009). Rural Tanzanian women's awareness of danger signs of obstetric complications. *BMC Pregnancy and*

Childbirth, *9*(1), 12. https://doi.org/10.1186/1471-2393-9-12

Pervin, J., Moran, A., Rahman, M., Razzaque, A., Sibley, L., Streatfield, P. K., Reichenbach, L. J., Koblinsky, M., Hruschka, D., & Rahman, A. (2012). Association of antenatal care with facility delivery and perinatal survival – a population-based study in Bangladesh. *BMC Pregnancy and Childbirth*, *12*(1), 111. https://doi.org/10.1186/1471-2393-12-111

Petty, N. J., Thomson, O. P., & Stew, G. (2012). Ready for a paradigm shift? Part 2: Introducing qualitative research methodologies and methods. *Manual Therapy*, *17*(5), 378–384. https://doi.org/10.1016/j.math.2012.03.004

Pinto, S. L., Lively, B. T., Siganga, W., Holiday-Goodman, M., & Kamm, G. (2006). Using the Health Belief Model to test factors affecting patient retention in diabetes-related pharmaceutical care services. *Research in Social and Administrative Pharmacy*, *2*(1), 38–58. https://doi.org/10.1016/j.sapharm.2005.11.001

Polit, D. F., & Beck, C. T. (2008). Is there gender bias in nursing research? *Research in Nursing and Health*, *31*(5), 417–427. https://doi.org/10.1002/nur.20276

Rahim, A. (2008). Chapter-87 Sampling Techniques. *Clinical Medicine Made Easy*, 550–552. https://doi.org/10.5005/jp/books/10134_88

Redi, T., Seid, O., Bazie, G. W., Amsalu, E. T., Cherie, N., & Yalew, M. (2022a). Timely initiation of antenatal care and associated factors among pregnant women attending antenatal care in Southwest Ethiopia. *PLoS ONE*, *17*(8 August), 1–12. https://doi.org/10.1371/journal.pone.0273152

Redi, T., Seid, O., Bazie, G. W., Amsalu, E. T., Cherie, N., & Yalew, M. (2022b). Timely initiation of

antenatal care and associated factors among pregnant women attending antenatal care in Southwest Ethiopia. *PLoS ONE*, *17*(8 August), 1–12. https://doi.org/10.1371/journal.pone.0273152

Rosenstock, I. M. (1974). Historical Origins of the Health Belief Model. *Health Education Monographs*, *2*(4), 328–335. https://doi.org/10.1177/109019817400200403

Saunders, B., Sim, J., Kingstone, T., Baker, S., Waterfield, J., Bartlam, B., Burroughs, H., & Jinks, C. (2018). Saturation in qualitative research: exploring its conceptualization and operationalization. *Quality and Quantity*, *52*(4), 1893–1907. https://doi.org/10.1007/s11135-017-0574-8

Schummers, L., Hutcheon, J. A., Bodnar, L. M., Lieberman, E., & Himes, K. P. (2015). Risk of Adverse Pregnancy Outcomes by Prepregnancy Body Mass Index. *Obstetrics & Gynecology*, *125*(1), 133–143. https://doi.org/10.1097/AOG.0000000000000591

Sharma, S., Sarathi Mohanty, P., Omar, R., Viramgami, A. P., & Sharma, N. (2020). Determinants and Utilization of Maternal Health Care Services in Urban Slums of an Industrialized City, in Western India. *Journal of Family & Reproductive Health*. https://doi.org/10.18502/jfrh.v14i2.4351

Shepherd, L. A., Archibald, J., & Ferguson, R. I. (2013). Perception of risky security behaviour by users: Survey of current approaches. *Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, *8030 LNCS*, 176–185. https://doi.org/10.1007/978-3-642-39345-7_19

Small, R., Yelland, J., Lumley, J., Brown, S., & Liamputtong, P. (2002). Immigrant Women's Views About Care During Labor and Birth: An Australian Study of Vietnamese, Turkish, and Filipino Women. *Birth*, *29*(4), 266–277. https://doi.org/10.1046/j.1523-536X.2002.00201.x

Solnes Miltenburg, A., Roggeveen, Y., Shields, L., van Elteren, M., van Roosmalen, J., Stekelenburg, J., & Portela, A. (2015). Impact of Birth Preparedness and Complication Readiness Interventions on Birth with a Skilled Attendant: A Systematic Review. *PLOS ONE*, *10*(11), e0143382. https://doi.org/10.1371/journal.pone.0143382

Story, W. T., Burgard, S. A., Lori, J. R., Taleb, F., Ali, N. A., & Hoque, D. E. (2012). Husbands' involvement in delivery care utilization in rural Bangladesh: A qualitative study. *BMC Pregnancy and Childbirth*, *12*. https://doi.org/10.1186/1471-2393-12-28

Tamata, A. T., & Mohammadnezhad, M. (2023). A systematic review study on the factors affecting shortage of nursing workforce in the hospitals. *Nursing Open*, *10*(3), 1247–1257. https://doi.org/10.1002/nop2.1434

Tesfaye, G., Loxton, D., Chojenta, C., Semahegn, A., & Smith, R. (2017). Delayed initiation of antenatal care and associated factors in Ethiopia: A systematic review and meta-analysis. *Reproductive Health*, *14*(1). https://doi.org/10.1186/s12978-017-0412-4

Ti-enkawol, N. G. (2016). *University of Ghana http://ugspace.ug.edu.gh SCHOOL OF NURSING COLLEGE OF HEALTH SCIENCES UNIVERSITY OF GHANA , LEGON FACTORS INFLUENCING CHILD ADOPTION AMONG WOMEN WITH INFERTILITY IN THE BAWKU MUNICIPALITY BY University of Ghana http://ugspace.ug.edu.gh*.

Tola, W., Negash, E., Sileshi, T., & Wakgari, N. (2021). Late initiation of antenatal care and associated factors among pregnant women attending antenatal clinic of Ilu Ababor Zone, southwest Ethiopia: A cross-sectional study. *PLoS ONE*, *16*(1 January), 1–11.

https://doi.org/10.1371/journal.pone.0246230

Townsend, E. S., Jolly, P., Osia, C., Williams, N. D., Sakhuja, S., Judd, S. E., Aung, M., & Carson, A. P. (2017). A Cross-Sectional Study of Antenatal Care Attendance among Pregnant Women in Western Jamaica. *Journal of Pregnancy and Child Health*, *04*(04). https://doi.org/10.4172/2376-127x.1000341

Tran, N. T., Portela, A., de Bernis, L., & Beek, K. (2014). Developing Capacities of Community Health Workers in Sexual and Reproductive, Maternal, Newborn, Child, and Adolescent Health: A Mapping and Review of Training Resources. *PLoS ONE*, *9*(4), e94948. https://doi.org/10.1371/journal.pone.0094948

Tran, T. K., Gottvall, K., Nguyen, H. D., Ascher, H., & Petzold, M. (2012). Factors associated with antenatal care adequacy in rural and urban contexts-results from two health and demographic surveillance sites in Vietnam. *BMC Health Services Research*, *12*(1). https://doi.org/10.1186/1472-6963-12-40

Tsawe, M., Moto, A., Netshivhera, T., Ralesego, L., Nyathi, C., & Susuman, A. S. (2015). Factors influencing the use of maternal healthcare services and childhood immunization in Swaziland. *International Journal for Equity in Health*, *14*(1), 32. https://doi.org/10.1186/s12939-015-0162-2

Tunçalp, Pena-Rosas, J. P., Lawrie, T., Bucagu, M., Oladapo, O. T., Portela, A., & Metin Gülmezoglu, A. (2017). WHO recommendations on antenatal care for a positive pregnancy experience—going beyond survival. *BJOG: An International Journal of Obstetrics and Gynaecology*, *124*(6), 860–862. https://doi.org/10.1111/1471-0528.14599

UN. (2018). *The 2030 Agenda and the Sustainable Development Goals An opportunity for Latin America and the Caribbean Thank you for your interest in this ECLAC publication*.

USAID. (2010). *Basic Maternal and Newborn Care: Basic Childbirth, Postpartum, and Newborn Care*. www.jhpiego.org

Villar, J., Ismail, L. C., Victora, C. G., Ohuma, E. O., Bertino, E., Altman, D. G., Lambert, A., Papageorghiou, A. T., Carvalho, M., Jaffer, Y. A., Gravett, M. G., Purwar, M., Frederick, I. O., Noble, A. J., Pang, R., Barros, F. C., Chumlea, C., Bhutta, Z. A., Kennedy, S. H., … Enquobahrie, D. (2014). International standards for newborn weight, length, and head circumference by gestational age and sex: The Newborn Cross-Sectional Study of the INTERGROWTH-21st Project. *The Lancet*, *384*(9946), 857–868. https://doi.org/10.1016/s0140-6736(14)60932-6

Warri, D., & George, A. (2020). *Perceptions of pregnant women of reasons for late initiation of antenatal care : a qualitative interview study*. *0*, 1–12.

Wekesa, N. M., Wanjihia, V., Makokha, A., Lihana, R. W., Ngeresa, J. A., Kaneko, S., & Karama, M. (2018). High parity and low education are predictors of late antenatal care initiation among women in maternal and child health clinics in Kwale County, Kenya. *Journal of Health, Medicine and Nursing*, *50*(January), 81062626.

WHO. (2015). WHO recommendations for maternal and interventions on health promotion newborn health. *Proceedings of the National Academy of Sciences*, *3*(1), 1–94. http://scholar.google.com/scholar?hl=en&btnG=Search&q=intitle:EM+Demystified:+An+Expectation-

Maximization+Tutorial#0%0Ahttps://www2.ee.washington.edu/techsite/papers/documents/UWEETR-2010-0002.pdf%0Ahttp://dx.doi.org/10.1038/srep22311%0Ahttp://www.life.um

WHO. (2021). *Maternal mortality : The urgency of a systemic and multisectoral approach in mitigating maternal deaths in Africa*. *March*.

WHO, UNICEF, UNFPA, & Bank, W. (2012). Trends in maternal mortality: 1990 to 2010. *New Zealand Medical Journal*, *83*(563), 72. https://doi.org/10.1007/978-1-4899-3079-8_24

WHO, & USAID. (2018). *WHO Recommendations on Antenatal Care for a Positive Pregnancy Experience : Summary Highlights and Key Messages from the World Health Organization ' s 2016 Global Recommendations for Routine Antenatal Care*. *10*(January), 1–10. https://doi.org/10.1186/1742-4755-10-19.5

Wolde, H. F., Tsegaye, A. T., & Sisay, M. M. (2019a). Late initiation of antenatal care and associated factors among pregnant women in Addis Zemen primary hospital, South Gondar, Ethiopia. *Reproductive Health*, *16*(1), 73. https://doi.org/10.1186/s12978-019-0745-2

Wolde, H. F., Tsegaye, A. T., & Sisay, M. M. (2019b). *Late initiation of antenatal care and associated factors among pregnant women in Addis Zemen primary hospital , South*. 1–8.

Yaya, S., Bishwajit, G., Ekholuenetale, M., Shah, V., Kadio, B., & Udenigwe, O. (2017). Timing and adequate attendance of antenatal care visits among women in Ethiopia. *PLOS ONE*, *12*(9), e0184934. https://doi.org/10.1371/journal.pone.0184934

Yaya, S., Uthman, O. A., Amouzou, A., Ekholuenetale, M., & Bishwajit, G. (2018). Inequalities in maternal health care utilization in Benin: A population based cross-sectional study. *BMC*

Pregnancy and Childbirth, *18*(1), 1–9. https://doi.org/10.1186/s12884-018-1846-6

Yezengaw, T. Y. (2022). Late Initiation of Antenatal Care and Associated Factors among Antenatal Care Attendees in Governmental Health Centers of Harar. *Journal Womens Health Care*, *11*, 1–10. https://doi.org/10.35248/2167-0420.22.11.561

Zeleke, E. A., & Haymanot, A. N. T. (2020). Food insecurity associated with attendance to antenatal care among pregnant women: Findings from a community-based cross-sectional study in Southern Ethiopia. *Journal of Multidisciplinary Healthcare*, *13*, 1415–1426. https://doi.org/10.2147/JMDH.S275601

APPENDIX I: INTRODUCTORY LETTER FROM UDS

UNIVERSITY FOR DEVELOPMENT STUDIES

(GRADUATE SCHOOL)

Tel: +233 (0) 372 005 909
Website: www.uds.edu.gh
E-mail: dean_graduateschool@uds.edu.gh
registry_graduateschool@uds.edu.gh

P. O. Box TL 1350, City Campus
Tamale, Ghana

Ref: UDS/MCH/0031/22

Your Ref:.....

OFFICE OF THE DEAN

Date: August 17, 2023

Dear Sir/Madam

TO WHOM IT MAY CONCERN

LETTER OF INTRODUCTION: MR. PRINCE SARPONG

Mr. Prince Sarpong is a student of the School of Public Health, University for Development Studies.

He gained admission into the University in the 2022/2023 Academic year to pursue a two (2) year MPhil programme in Maternal and Child Health in the Department of Population and Reproductive Health, Tamale Campus.

Mr. Prince Sarpong has successfully completed the course work and is currently working on her thesis.

Therefore, I would be grateful if you could assist him with the necessary support as a Graduate Student of the University.

Please accept the assurance of our highest consideration in this matter.

Yours faithfully

S. Owusu Yeboah (PhD)
(Snr Asst Registrar, Graduate School)

APPENDIX II: APPROVAL LETTER FROM STUDY AREA

GHANA HEALTH SERVICE

OUR CORE VALUES:
1. People-Centred
2. Professionalism
3. Team work
4. Innovation
5. Discipline
6. Integrity

My Ref No GHS/NR/NDHD/
Your Ref No: .....

Nanton District Health Directorate
Ghana Health Service
P.O. BOX 45
Nanton

TEL: 0243081405/0202659908
GPS Address: NU-1510-2654
Email: dhdnr@ghs.gov.gh

Friday 9th February, 2024

MR. PRINCE SARPONG
HEADQUATERS NORTHERN COMMAND
NYONI CAMP
TAMALE

ACCEPTANCE LETTER FOR RESEARCH PROJECT IN NANTON DISTRICT

I am pleased to inform you that your request to conduct data collection for your Master of Public Health (Maternal and Child Health) research in selected health facilities within the Nanton District has been approved. You are granted permission to begin your data collection activities with effect from 15th February 2024.

You are hereby granted permission to proceed with your research activities in the specified health facilities. We trust that your study will contribute valuable insights into maternal and child health within the district.

Please ensure that all data collection is conducted in accordance with ethical guidelines and respect the privacy and confidentiality of the patients and healthcare providers involved.

We are eager to collaborate with you throughout the research process and provide any support or assistance you may need during your time in the Nanton District.

Once again, congratulations on your acceptance, We wish you the best of luck with your research and look forward to your valuable contributions to the field of public health.

DISTRICT DIRECTOR
Ghana Health Service
NANTON

DR. SHEBA KUNFAH
(Ag. DISTRICT DIRECTOR OF HEALTH SERVICES)

APPENDIX III: ETHICAL APPROVAL NOTIFICATION

UNIVERSITY FOR DEVELOPMENT STUDIES

Tel: 03720-93382/26634/22078
Email: registrar@uds.edu.gh
Website: www.uds.edu.gh
Our Ref: UDS/RB/0H6/24

P. O. Box TL 1350
Tamale, Ghana

Your Ref:.....

OFFICE OF THE REGISTRAR

Date: 29TH MARCH, 2024.

GILBERT TIENKAWOL NACHINAB.
SCHOOL OF NURSING AND MIDWIFERY,
UNIVERSITY FOR DEVELOPMENT STUDIES,
TAMALE

ETHICAL APPROVAL NOTIFICATION

With reference to your request for ethical clearance on the research proposal titled "**Determinants of Late Initiation of Antenatal Care Among Pregnant Women in Nanton District,**" I write to inform you that the University for Development Studies Institutional Review Board (UDSIRB) found your proposal including the consent forms to be satisfactory and have duly approved same. The mandatory period for the approval is six (6) months, starting from 29th March, 2024 to 29th August, 2024.

Subject to this approval, you are please required to observe the following conditions:

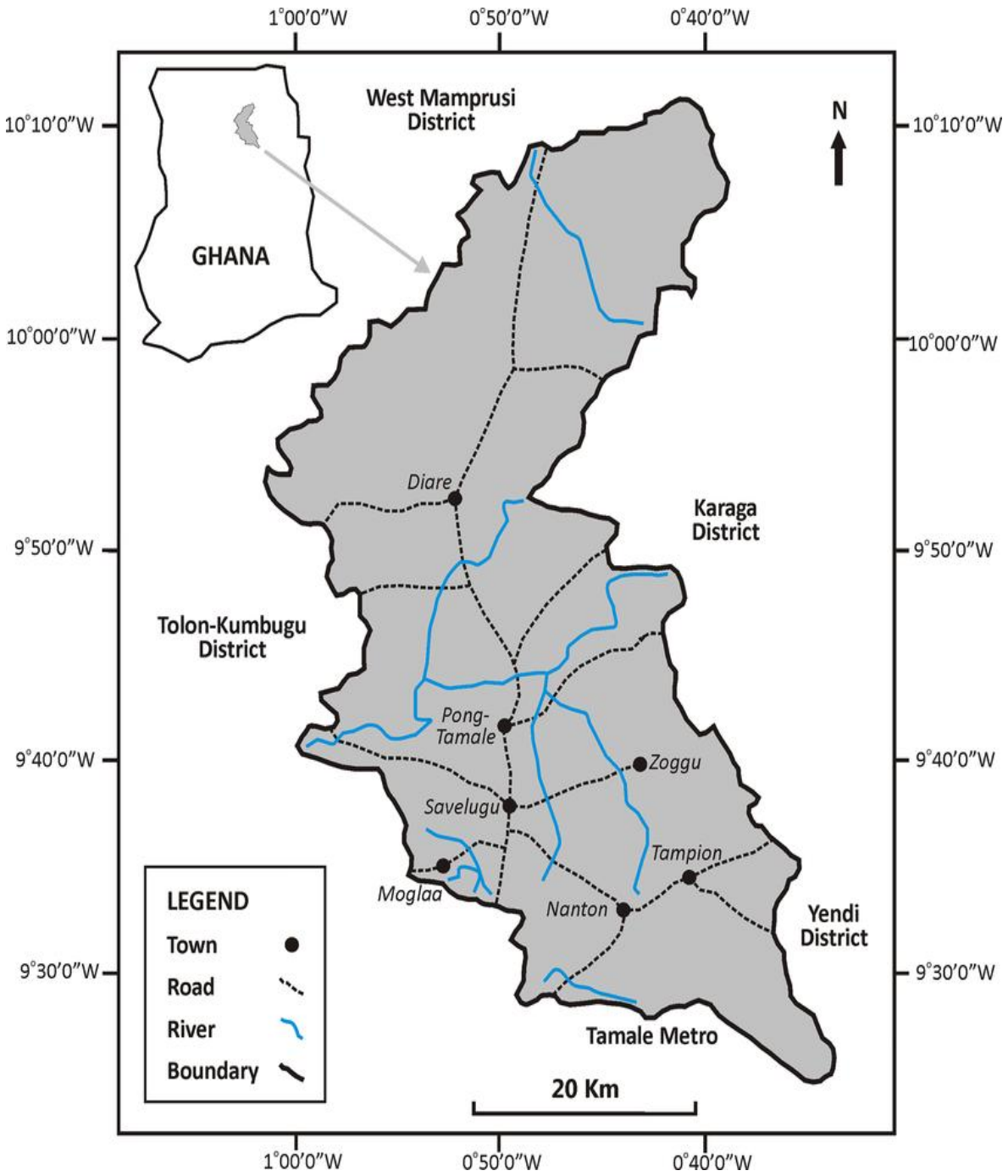
1. That the anonymity of the respondents shall be guaranteed as mentioned in the consent forms.
2. That you will acknowledge the source of the data collected in any publication related to this research.
3. That you will submit a field report and a copy of the research report to the UDSIRB.
4. That you may apply to the UDSIRB for any amendments relating to recruiting methods, informed consent procedures, study design and research personnel.
5. That you will strictly abide by the code of conduct of this University.

Please do not hesitate to refer any issue (s) that you may deem necessary for the attention of the Board.

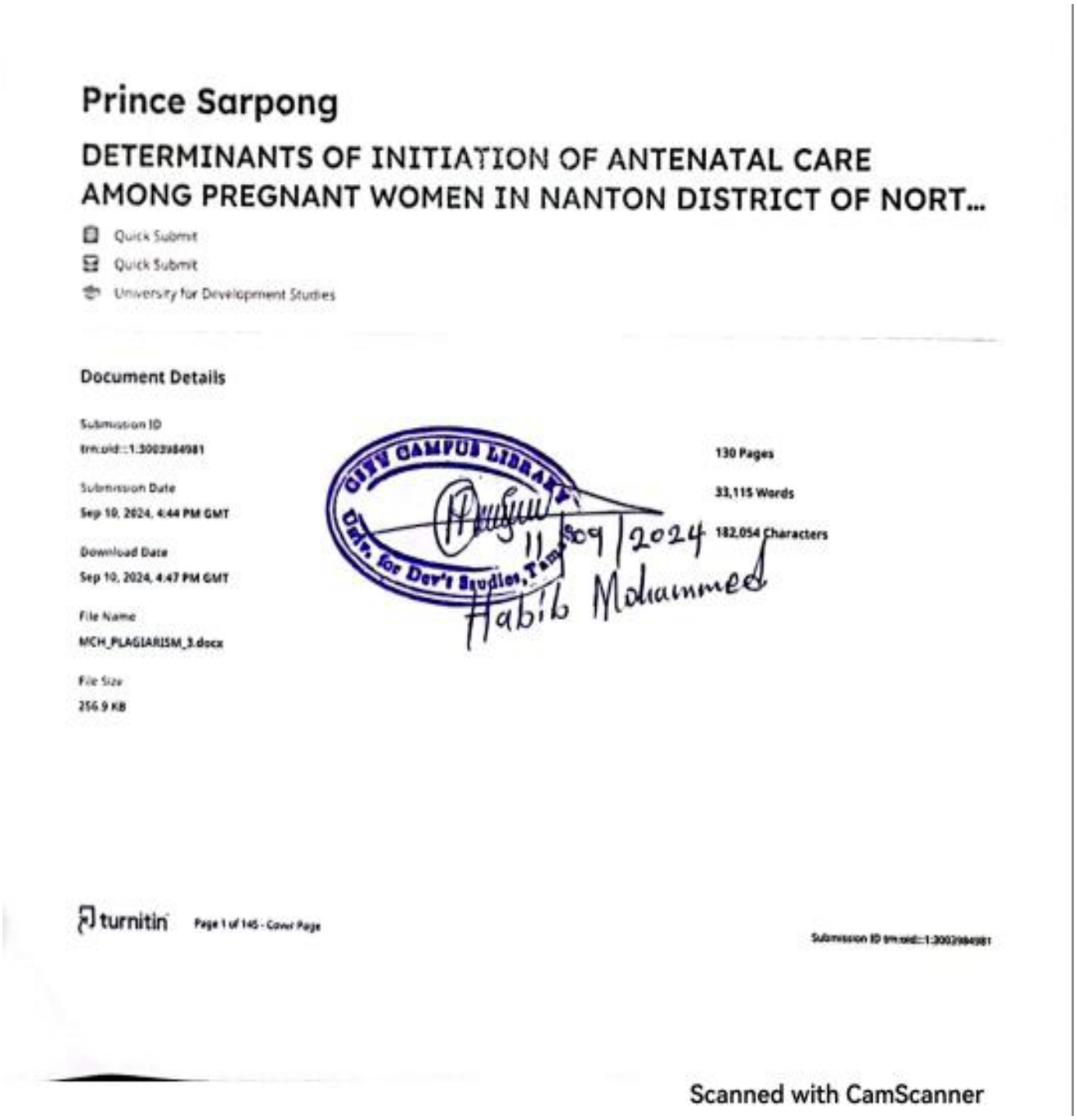
Thank you.

Prof. Nafiu Amidu
Chairman, UDSIRB
Cc: file

APPENDIX IV: MAP OF NANTON DISTRICT



APPENDIX V: PLAGIARISM REPORT



Prince Sarpong

DETERMINANTS OF INITIATION OF ANTENATAL CARE AMONG PREGNANT WOMEN IN NANTON DISTRICT OF NORT...

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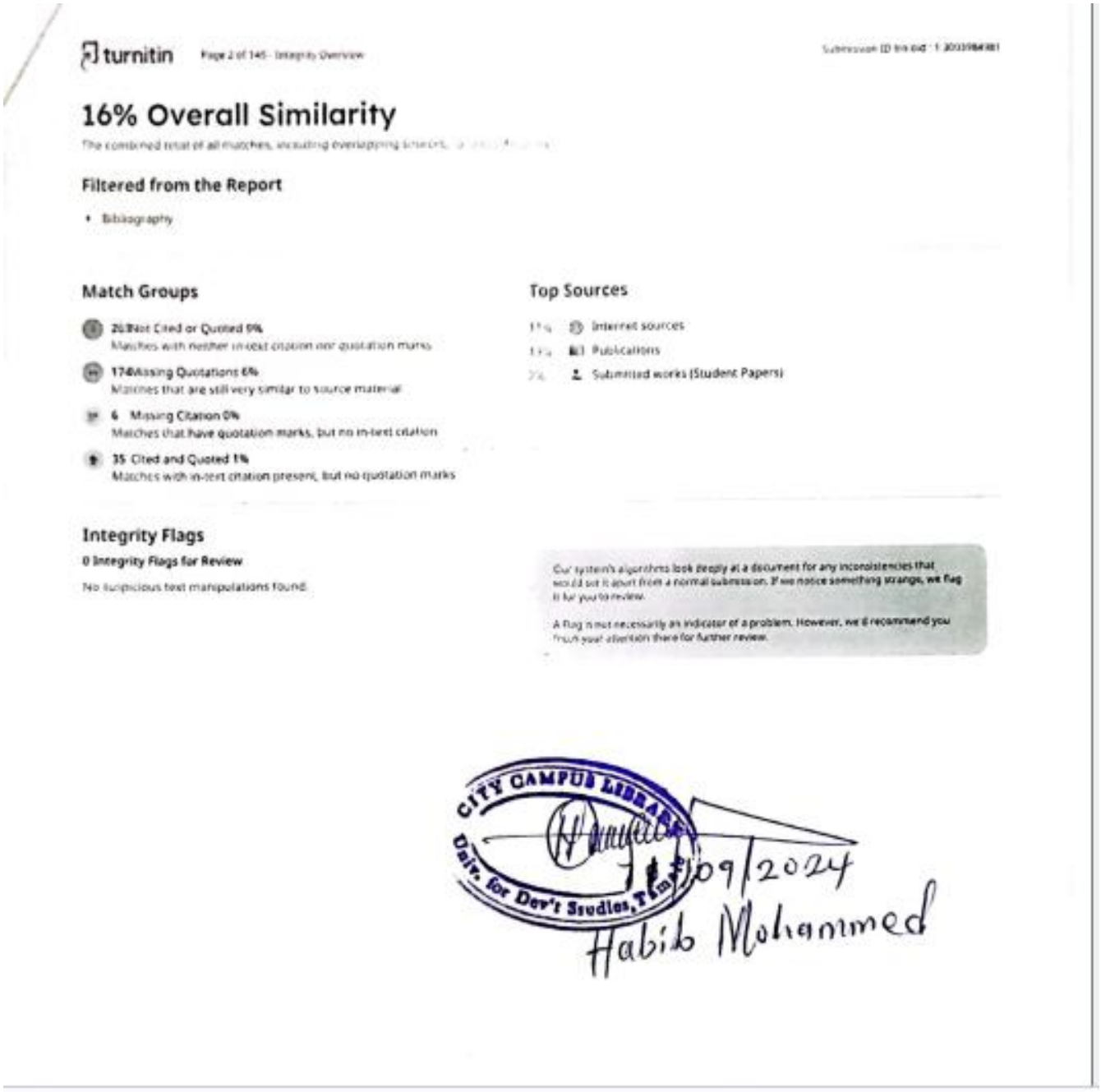
APPENDIX V: PLAGIARISM REPORT



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Habib Mohammed

APPENDIX VI: INFORMATION SHEET FOR PARTICIPANTS

Study Title: Determinant of late initiation of antenatal care among pregnant women in Nanton district of Northern Ghana.

Introduction: I am Mr. Prince Sarpong a Master of Public Health (Maternal and Child Health) student at the University for Development Studies. As part of the requirement, I am conducting a study on the above-mentioned topic to help shape maternal and child care in the district and Ghana as a whole.

Background and purpose of research: Late initiation of antenatal care can have significant implications for maternal and fetal health outcomes. Delayed access to prenatal care may result in missed opportunities for early identification and management of pregnancy-related complications, such as gestational diabetes, hypertension, or infections. It can also lead to inadequate prenatal education and support, which are crucial for promoting healthy behaviors, addressing maternal concerns, and preparing for childbirth and parenting. I intend to explore the determinants of late initiation of antenatal care among pregnant women in the Nanton district. Your views and experiences on such factors of late initiation of antenatal care will be appreciated.

Nature of research: I am interested in your views and experiences on the subject so there is no right or wrong answer. You will be interviewed. Participants will include pregnant women who initiated antenatal care late within the district.

Participants involvement:

- **Duration /what is involved**: I am inviting you for an individual face-to-face interview on the determinants of initiation of antenatal care among pregnant women in the Nanton district of Northern Ghana. The interview will last between 30-45minutes.

- **Potential Risks:** Participating in this study will not lead to emotional or psychological consequences. Similarly, there will be no penalty for individuals who do not wish to participate in the study.
- **Benefits:** There will be no direct benefits or compensation for answering participating in the interviews. However, the study will lead to the development of a framework to improve the quality of maternal and child care in Ghana
- **Costs:** You will not incur any cost by participating in this study. The interviews will be conducted at your home or place of your convenience.
- **Compensation:** You will not be given any money for answering the questions.
- **Confidentiality:** The information that you give in the interview will be kept confidential
- **Voluntary participation/withdrawal:** Your participation in this study is voluntary and you are free to withdraw from the study at any time without penalty and without having to give any reasons.
- **Outcome and Feedback:** Data collected will help to well strategize maternal and child care in the country.
- **Funding information:** The study is self-funded by the principal investigator.
- **Sharing of participants' information/data:** The Principal investigator owns data, and it will be protected according to the data protection policy outlined by the ethics review committee.
- **Provision of information and consent for participants:** A copy of the Information Sheet and Consent Form will be given to you after it has been signed or thumb-printed to keep.

Who to Contact for Further Clarification/Questions

If you have questions about the research, you may also contact me or my supervisors.

Researcher: Sarpong Prince, School of Public Health, Department of Population and Reproductive Health (Maternal and Child Health), University for Development Studies. princesarps@gmail.com. +233547802180.

Supervisor: Dr. Gilbert Ti-enkawol Nachinab, School of Nursing and Midwifery, Department of Nursing, University for Development Studies. gilbertnaknab@gmail.com. +233249787993.

APPENDIX VII: CONSENT FORM

STUDY TITLE: Determinant of late initiation of antenatal care among pregnant women in Nanton district of Northern Ghana.

Introduction: I am **Sarpong Prince,** a Master of Public Health maternal and Child Health student. I am undertaking my research on the topic, Determinants of late initiation of antenatal care among pregnant women in the Nanton district. Your honest and thoughtful responses will greatly contribute to our understanding of how pregnant women perceive the advantages of accessing antenatal care early in their pregnancy. Please answer the following questions to the best of your knowledge and experience. Remember, there are no right or wrong answers, and your responses will remain confidential.

Thank you.

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 (……*name of language*). 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 endorsed this form.

I voluntarily agree to be part of this research.

Name or Initials of Participant…….. ID Code ……..

Participants' Signature ……...OR 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 (……*name of language*) language to their 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…….. Date: ……

Contact Details:

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 she understood (….*name of language*)

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

Name: ……

Signature…….... OR Thumb Print …….....

Date: ……

INVESTIGATOR STATEMENT AND SIGNATURE

I certify that the participant has been given ample time to read and learn about the study. All questions and clarifications raised by the participant have been addressed.

Researcher's name……

Signature ……

Date……

APPENDIX VIII: INTERVIEW GUIDE

SECTION A: Demographic Information

Please tell me about yourself

Probes

1. Age of respondent
2. Occupation of respondent
3. Educational Background of respondent
4. Number of pregnancies of respondent
5. Household size of respondent
6. Religion of respondent
7. Residential area of respondent (rural or urban)
8. The educational background of the husband
9. Occupational status of husband

SECTION A: Knowledge on effect of late initiation of antenatal care

1. How would you define late initiation of antenatal care?
2. What do you believe are the potential effects of late initiation of antenatal care?

Probe

- On the health of the mother
- On the health of the baby

3. How do you think the lack of awareness or knowledge about the effects of late initiation of antenatal care affects women's decision-making?
4. What do you think can be done to improve the knowledge and awareness of pregnant women regarding the effects of late initiation of antenatal care?
5. Based on your experiences or observations, what strategies or actions could be implemented to encourage early initiation of antenatal care and improve women's knowledge?

SECTION B: Perceived benefits of early initiation of antenatal care

1. What do you believe are the potential benefits of initiating antenatal care early in pregnancy?

Probe

- On the health of the mother
- On the health of the baby

2. Have you received any information or counseling from healthcare providers regarding the benefits of early antenatal care? If yes, please describe your experience.
3. Have you personally experienced any benefits or positive outcomes as a result of initiating antenatal care early? If yes, please describe them.
4. In your opinion, what strategies or actions could be implemented to further promote the benefits of early initiation of antenatal care and encourage pregnant women to seek it early?
5. Based on your experiences or observations;

   - How can healthcare providers contribute to enhancing the perception of the benefits of early initiation of antenatal care?

- How can community organizations contribute to enhancing the perception of the benefits of early initiation of antenatal care?

SECTION C: Barriers to early initiation of antenatal care

a) Financial Constraints

1. Are there any financial constraints or economic factors that contribute to the late initiation of antenatal care in your community? If yes, please describe them.
2. How do these financial constraints impact the decision to delay seeking antenatal care?

b) Transportation and Accessibility

1. Are there transportation-related barriers that prevent pregnant individuals from accessing antenatal care services in your community? If yes, please describe them.
2. How does the lack of transportation options or difficulties in commuting impact the decision to delay seeking antenatal care?

c) Cultural Beliefs and Practices

1. Are there any cultural beliefs or practices in your community that affect the timing of antenatal care seeking? If yes, please describe them.
2. How do these cultural beliefs and practices influence the decision to delay the initiation of antenatal care?
3. Are there any specific cultural norms or traditions that discourage seeking antenatal care during the early stages of pregnancy? If yes, please elaborate.

d) Social and Family Factors

1. Do social or family pressures play a role in delaying the initiation of antenatal care in your community? If yes, please provide examples.
2. Are there any gender-related factors that contribute to the late initiation of antenatal care? Please elaborate.

e) Healthcare System Factors

1. Are there any structural or systemic barriers that hinder access to antenatal care services in your community? If yes, please describe them.
2. How can you describe the attitude of health care personnel towards pregnant women?

SECTION D: Source of information on when one should start antenatal care

1. How did you first hear about the concept of antenatal care?
2. What sources of information did you rely upon when determining when to start antenatal care during pregnancy? Explain your experience with each source you used.
3. Have you sought information from healthcare providers (doctors, midwives, etc.) regarding the timing of antenatal care initiation? If yes, please describe your experience.
4. Have you sought information from family members, friends, or acquaintances regarding the timing of antenatal care initiation? If yes, please describe your experience.
5. Have you encountered conflicting information from different sources regarding the timing of antenatal care initiation? How did you navigate through this?

6. In your opinion, what are the advantages and disadvantages of relying on different sources of information for determining when to start antenatal care?