FACTORS INFLUENCING UTILIZATION OF PERINATAL CARE SERVICES AMONG ADOLESCENT MOTHERS IN KOTIDO DISTRICT, KARAMOJA, UGANDA

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A DISSERTATION SUBMITTED TO THE FACULTY OF PUBLIC HEALTH, NURSING AND MIDWIFERY IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF PUBLIC HEALTH AND LEADERSHIP OF UGANDA CHRISTIAN UNIVERSITY

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DECLARATION

I, Susan Moding hereby declare that this research report is my personal work and it has not been published or tendered for any other degree award to any other university or institute before.

Signed……

Susan Moding

Research Student

26/02/2026

Date: .....

APPROVAL

I certify that this study has been done under my supervision and it is now ready for submission to the external examination.

Dr Edward Kiboikyo Mukooza 2nd March 2026

DEDICATION

I dedicate this research paper to my children (Achilla Ethan Lee and Naale Patience Nella), for being patient with me during the entire course, and to my former colleague and supervisor (Mr. Moses Echodu Tom) for being tolerant and understanding my study schedules, and most importantly always being positive and approving my study leave, and my dear Husband (Mr. Okello Francis Burton) for the moral and financial support.

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ABBREVIATIONS AND ACRONYMS

RRH – Regional Referral Hospital

TBA – Traditional Birth Attendant

WHO – World Health Organization

etc. – Elimination of Mother to Child Transmission

HF – Health Facility.

HIV – Human Immunodeficiency Virus

ANC – Antenatal Care

C – S – Cesarean Section

HSB- Health Seeking behavior.

ABSTRACT

Background: Adolescent mothers face heightened risks during pregnancy and childbirth, particularly in marginalized and hard-to-reach regions such as Karamoja. Understanding the factors influencing perinatal care utilization among adolescent mothers is essential for improving utilization of perinatal care services and reducing maternal and neonatal morbidity and mortality. This study examined factors influencing utilization of perinatal care services among adolescent mothers in Kotido District, Uganda, guided by the Socio-Ecological Model.

Methods: The study employed a cross-sectional survey design. A sample of 200 adolescent mothers was selected using cluster sampling where the researcher zeroed to a particular sub county, and parishes and selected villages which had the highest population of early and teenage pregnancies, and administered questionnaires to them. Data were collected using structured questionnaires. The data was analyzed using descriptive statistics and inferential analysis. Bivariate analysis was conducted using the Chi-square test to determine the likelihood of selected factors influencing perinatal care utilization among adolescent mothers. Statistical significance was set at $p < 0.05$.

Results: The findings indicated a relatively high level of perinatal care utilization among adolescent mothers in Kotido District. Specifically, 78% of respondents reported attending routine antenatal care services, and 80.4% delivered in public health facilities under the care of skilled birth attendants. Bivariate analysis showed that age at marriage (individual factor), place of residence (relational factor), cultural beliefs (community factor), and availability of healthcare services (societal factor) were significantly associated with perinatal care utilization among adolescent mothers.

Conclusion: The study concludes that perinatal care utilization among adolescent mothers in Kotido District is shaped by multi-level factors operating at individual, relational, community, and societal levels, consistent with the Socio-Ecological Model. While overall utilization of maternal healthcare services was relatively high, targeted interventions addressing cultural practices, and service availability are necessary to sustain and further improve adolescent mothers' engagement with perinatal care services.

Keywords: Perinatal care utilization, adolescent mothers

OPERATIONAL DEFINITION OF TERMS

Level of Utilization: This is defined in terms of ANC attendance, delivery in hospital setting and supervision.

Social -Cultural Factors: Involves the beliefs, values, religion, norms, education, family dynamics and gender roles that shape individual behaviors.

Perinatal Care: Comprehensive approach to medical care that begins before pregnancy and extends through the postpartum period, focusing on continuous risk

Individual Factors: This referred to those personal demographic characteristics identified within an individual that would influence his health seeking behavior for health service.

Age: In this study, age looked at how old a respondent was at the time of the study. It was measured in complete years, e.g. Below 15, 16 to 18, and above 18.

Level of Education: This looked at the level of education attained by the respondent by the time of the study. It was measured using categorical ordinal scale as: No formal education, Primary school, secondary school, college/university

Cultural Beliefs: According to the study**,** this referred to whether there existed any social or cultural factors that would support or hinder male involvement in eMTCT. An index score will be used to measure this variable. a score with 5 nominal responses of "Yes" or "No" was used.

Peer influence: This referred to how much influence peers had in determining the level of health seeking behavior. An index score with 5 nominal responses was used to measure this variable.

Distance from HF: This referred to the length of journey from the respondent's home to the nearby health facility. It was measured using a continuous scale by stating the actual figures in kilometers e.g., 1km, 2kms, 3kms, etc.

CHAPTER ONE: INTRODUCTION

1.1 Introduction

This study brings out the factors affecting the utilization of perinatal care services among adolescent mothers in Kotido district, Uganda. According to Jochim, et al., (2022) it is estimated that 18 million children are born by adolescent mothers in Sub Saharan Africa. Adolescent mothers undergo numerous challenges including maternal deaths, multiple health complications, early school dropout, and socioeconomic challenges. Literature shows that during pregnancy, adolescent mothers stand a risk of maternal mortality and complications such as eclampsia, puerperal endometritis, systemic infections and death (Anaba, et al., 2022; Noori, et al., 2022). However, the number of adolescent mothers seeking Perinatal care is reportedly low especially in developing countries like Uganda. Some of the studies that have been conducted on Utilization of Perinatal care services in Uganda (Atuyambe, Mirembe, Annika, & Kirumira, 2009; Buregyeya, et al., 2011; Byamugisha, Tumwine, Semiyaga, & Tylleskar, 2010; Musoke, Boynton, Butler, & Musoke, 2015; Mukooza, Carabine, & Kikule, 2018). All these studies lack a contextual understanding of the utilization of perinatal healthcare services among adolescent mothers in karamoja, Kotido district. This chapter provides a background of the problem of utilization of perinatal care services among adolescent mothers aged 14–19 years, and presents the objectives of the study and the significance of the study.

1.2 Background of the Study

1.2.1 Conceptual background

According to WHO (2016) Perinatal care services refer to the continuum of health services provided to adolescent mothers from pregnancy through the postpartum period. Perinatal care services comprise of three components: Antenatal care (ANC) provided by skilled health care professionals, skilled birth attendance by accredited health professional such as midwife, doctor and nurse and postnatal care (PNC), care provided to the mother and new born immediately after birth and during the first six weeks of life.

Utilization of perinatal care services therefore means, an adolescent mother aged 14-19 years attended at least four ANC visits, delivered with assistance from a skilled health professional and received postnatal care for herself and her new born within 48 hours of birth.

According to Noubani, et al. (2020), Utilization of perinatal care services is influenced by some of the following factors such as; delays in formal health systems, widespread social stigma, prohibitive service

costs, lack of health coverage, limited awareness of the health services available, and limited trust in the quality of services offered.

The factors were associated to mental illness. The current study borrows the measures of health seeking behavior used by Abuduxike, et al. (2020), which include routine medical check-ups, admission to health centers due to illness, preference to refusal to seek healthcare when sick, and preference for a private or public health center.

1.2.2 Theoretical Framework

The study anchors on the Socio-Ecological Model, first introduced in health science by Urie Bronfenbrenner in the 1970s. The Socio-Ecological Model states that health quality of a person is an interplay of factors such as the individual, community, physical, social, and political environment (Kilanowski, 2017). According to (Kilanowski, 2017), the model is built on five levels; Individual, Interpersonal, Organizational, Community, and Public Policy. Public health challenges are too abstract to be explained by a single-level analysis and the environment in which we operate has its own influences on our behavior (Townsend & Foster, 2011). Therefore, the health seeker should not be seen independent of the environment in which they operate.

The current study borrows from the socio-ecological model to explain the diversity of factors that affect utilization of perinatal care services. The adolescent's individual characteristics such as literacy status, age, and gender influence utilization of perinatal care services. Interpersonal factors such as the family, the spouse, and peers can influence one's degree of utilization of perinatal care services. Similarly, the organization covers the healthcare providers' characteristics, the community covers the stigmatization, while the public policy may cover drug stock-outs and the distance to the health facility.

1.2.3 Historical background

Globally, pregnancies in adolescents (10–19 years) are associated with adverse birth outcomes including higher risks of preterm birth, low birth weight, and small for gestational age neonates (Woog V, et al 2022) These pregnancies are also associated with increased risk of fetal death and infant mortality as well as higher risk of anemia, eclampsia, endometritis, and systemic infections. Births among adolescents are often unplanned and are more common among poorer, rural, and indigenous populations, and in those with less access to health care. Adolescent pregnancies and births are indicators of overall socioeconomic vulnerability, which itself plays a role in the incidence of adverse health outcomes. Adolescent pregnancies and births are therefore important markers of social inequity and may also perpetuate social and health inequities (Williamson N. 2013)

According to Ayalew & Geja (2020), approximately 92% of adolescent mothers who are HIV positive are living in the Sub-Saharan Africa (SSA), yet the region still suffers the low rate of health seeking behavior among the adolescent mothers. A brief review of Initiatives in the region showed that adolescent mothers have low rate of health seeking behavior with a range from 1.8 to 32% (Ampt, et al, 2015). Another systemic review conducted in Ethiopia showed that the rate of health seeking behavior among the adolescent mothers raised from 14 to 30% (Adera, et al., 2015). In Ethiopia, poor health seeking behavior contributes up to 95% of all health complications as a result of infections, which erodes the potential benefits of preventive efforts (Ngangue et al., 2021). In Tanzania, the poor health seeking behavior was among one of the barriers towards low effectiveness of adolescent mothers, resulting into failure to achieve the illnesses (Elias et al., 2017). While these studies provide some evidence of low healthcare seeking behavior in Africa, the findings therein are likely to differ from Uganda due to contextual factors, which is the focus of the current study.

Uganda is one of the countries that face challenges in provision of quality perinatal care. According to Uganda Demographic and Health Survey (DHS) 2016, only 60% of the women surveyed had attended the recommended four antenatal visits during the pregnancy leading to their most recent birth, and less than one third had their first visit during the first trimester of pregnancy. Similar findings were reported in other studies across the country. Furthermore, education, occupation, age, parity, being wealthy and caesarian section as a mode of delivery were found to be associated with perinatal care.

Karamoja, a region in North eastern Uganda is being supported by a number of quality improvement projects in order to reduce the risk of maternal and infant mortality including: 1) USAID- Uganda Health activity, Irish Aid, Doctors with Africa- CUAMM and the government of Uganda through Ministry of health have continued to equip and build the capacity of the health system to ably manage, deliver and sustain improvements in reproductive, maternal, new born, child and adolescent health programming aiming at improving the utilization of essential reproductive, maternal, newborn, child and adolescent health services, addressing the three delays in health care including the delay in decision to seek care, in reaching care, and in receiving adequate and appropriate health care. Despite this support, the region registered the nation’s lowest scores on several indicators of maternal health care in the 2016 DHS survey.

1.2.4 Contextual background

Karamoja, a region in North eastern Uganda is being supported by a number of quality improvement projects in order to reduce the risk of maternal and infant mortality including: 1) USAID- Uganda Health activity, Irish Aid, Doctors with Africa- CUAMM and the government of Uganda through Ministry of health have continued to equip and build the capacity of the health system to ably manage, deliver and sustain improvements in reproductive, maternal, new born, child and adolescent health programming aiming at improving the utilization of essential reproductive, maternal, newborn, child and adolescent health services, addressing the three delays in health care including the delay in decision to seek care, in reaching care, and in receiving adequate and appropriate health care. Despite this support, the region registered the nation's lowest scores on several indicators of maternal health care in the 2016 DHS survey.

In Karamoja, adolescent mothers do not go to seek for healthcare services because of distance from the HF, waiting time, Health worker's attitudes and quality of services (World Health Organization, 2020). According to Byamugisha, et al. (2010), only 0.5% of adolescent mothers in Eastern Uganda sought for health care services. Musa (2016) found that healthcare seeking behavior among the adolescent mothers was 20% in Moroto against 1.8% in Kotido both of which are districts in the greater region of Karamoja.

1.3 Statement of the Problem

Improvement in the quality of perinatal care is essential in reducing maternal and neonatal mortality, and is required in order to meet the Sustainable Development Goal three target aimed at: 1) reducing the maternal mortality ratio (MMR) to less than 70 deaths/100,000 live births by 2030; 2) reducing the neonatal mortality rate (NMR) to less than 7/1000 live births by 2035; and 3) reducing the number of still births to less than 8 still births/1000 total. Various studies have been conducted in other parts of Uganda, for example a study conducted by Muwema M, Kaye DK, Edwards G, Nalwadda G, Nangendo J, et al. (2022) in Bunyoro concluded that the region registered the nation's lowest scores on several indicators of maternal health care.

In Uganda, adolescent health seeking behavior has been found to be critical in reducing the risk of ailments and other sexual reproductive health condition by more than 40% (Nassozi, 2012).

The 2021 records from Kotido General Hospital on uptake of Perinatal care service among adolescent mothers suggested low utilization of the services the district. In a total of 5,657 adolescent mothers, only 476 adolescent mothers (8.4%) visited the health facilities (Kotido Hospital Health Records, 2021). This behavior level was also far below the national levels of health seeking behavior, which stood at 26.5% (UNICEF, 2020)

Closing search gaps require more research to guide in design of tailored interventions across the country. However, no particular study has been conducted in Karamoja region and Kotido district particularly to study the factors associated with the utilisation of perinatal care services which this study sought to address

1.4 Study Objectives

1.4.1 General Objective

To examine the factors influencing utilization of perinatal care services among adolescent mothers in Kotido District, Karamoja, Uganda.

1.4.2 Specific Objectives

The study was guided by the following specific objectives:

i. To assess the level of utilization of perinatal care services among adolescent mothers in Kotido District.
ii. To investigate the social cultural-factors affecting ANC service utilization and place of delivery among adolescent mothers in Kotido District.

1.5 Scope of the study

The scope of the study covered the content, the geographical location, and the time.

1.5.1 Content scope

The study focused on the factors that influence the level of healthcare seeking behavior among adolescent. This study examined the factors influencing utilization of perinatal care services among adolescent mothers in Kotido District, Karamoja, Uganda. The study focused on perinatal care service utilization as the outcome variable. The content on perinatal care services covered the number of times one had medical check-ups during ANC, place of delivery, delivery supervision and the preference to a private or public health center.

1.5.2 Geographical scope

The study was carried out in Kotido District, Karamoja Sub- region. Kotido has one county called Jie, with 6 sub counties and among the sub counties, Rengen was selected, that has 5 parishes and we selected 3 parishes of our focus, and we targeted all the villages in the 3 parishes, this sub county was selected because it had many issues of teenage pregnancies, forced marriages, rape and defilement and most illiterate young

mothers came from that sub county. Therefore, this location lies approximately 482.2 kilometers by road, northeast of Kampala. The coordinates of the district are: 02 44N, 33 40E. The area was purposively selected among the many because of its unique characteristics and composition of urban and semi-rural setups.

1.5.3 Time scope

The time scope of the study covered the period from 2020 to 2022. This is the period when healthcare seeking behavior in Kotido district reportedly fell below the regional and national statistical levels.

1.6 Significance of the Study

The study findings are beneficial to the policy-makers at national and local level to design and redesign health policies that promote accessibility of health services and improve healthcare seeking behavior. At local government level the study findings are beneficial to design local tailored programs that target to improve healthcare seeking behavior in Kotido District.

At national and organization levels, study findings can contribute to designing programs that are specific to their needs. Further, the findings are also beneficial to scholars, as a basis for literature review and gain knowledge regarding the status of health seeking behavior among adolescents in their location, the research also adds to the existing body of knowledge and deeper understanding of utilization of healthcare services among the study population.

1.7 Conceptual Framework

Figure 1 looks at the study objectives and research questions in which a conceptual framework is designed. The framework illustrates the relationship between independent and dependent variables to be studied. The figure shows the study variables like association between (independent variable) which is indicated by individual factors, health systems factors and community factors; and the (dependent variable) which is indicated utilization of perinatal care services.

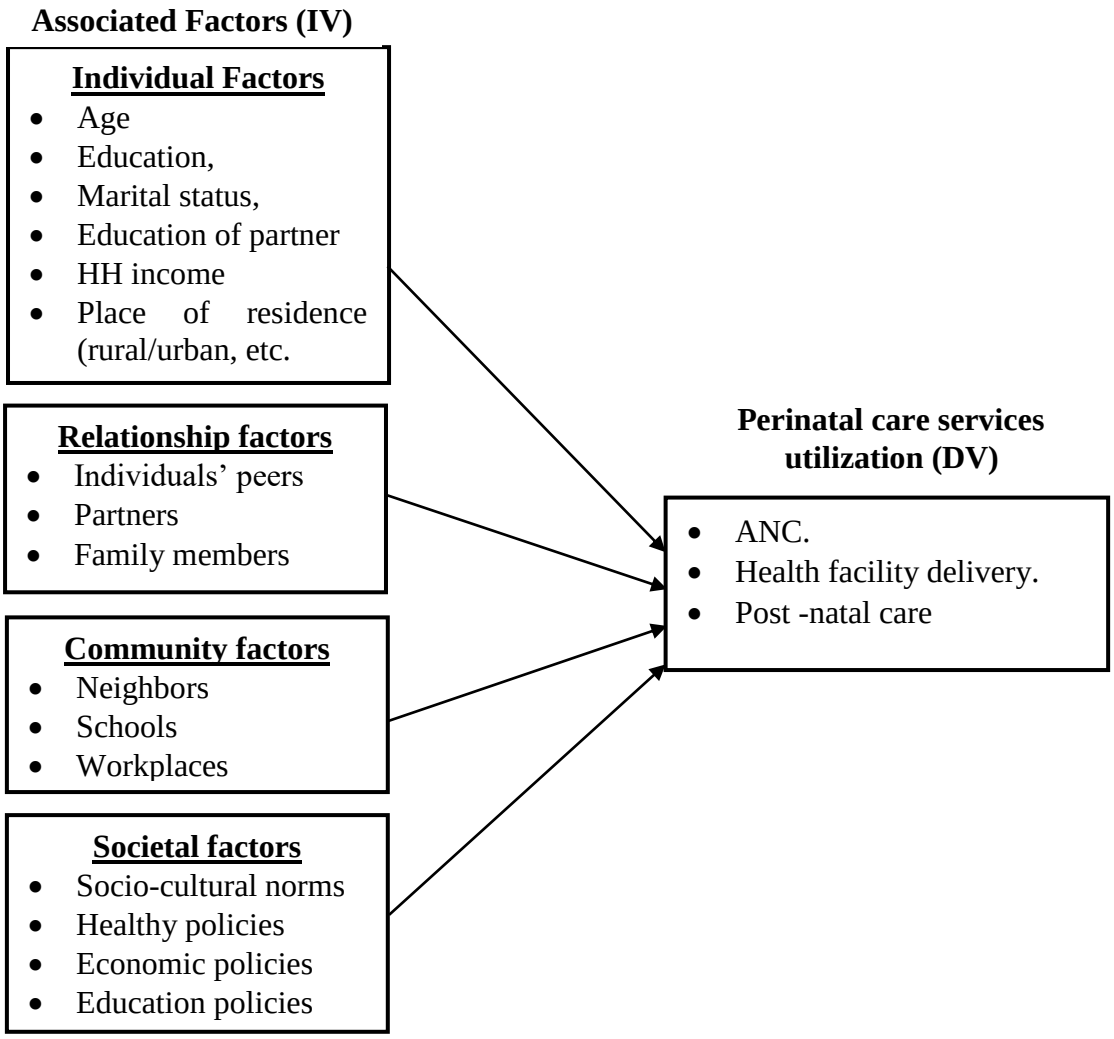


Figure 1: Conceptual Framework.

This study looks at a number of contextual factors that are known to explain utilization of perinatal care services. Drawing from the socio-ecological model, the study argues that no single-level factor is adequate in explaining utilization of perinatal care services. On the other hand, healthcare seekers must make a number of decisions on routine medical check-up, health center admissions, whether to seek healthcare or whether to go for public or private healthcare services. When the associated factors change in favor of utilization of perinatal care services, more adolescents are likely to seek healthcare, and vice versa. The researcher observes that the individual factors, relational factors, and community factors used in this study are the predisposing factors in the modified Andersen's Behavioral Model (Babitsch, Gohi, & Lengerke, 2019). The societal factors used in this study are the enabling factors in the Andersen's Behavioral Model. Notwithstanding, the current study focuses on the socio-ecological model.

Source: Adapted from the socio-ecological model by Kilanowski (2017), Dahlberg & Krug (2002), Oberoi, et al. (, 2016).

Ecological models recognize multiple levels of influence on utilization of perinatal services, including:

Intrapersonal/individual factors, which influence behavior such as Age, Education, Marital status, Education of partner, HH income, Place of residence (rural/urban, etc.)
An individual's various traits and identities make up this level of the Social Ecological Model. These characteristics have the capacity to influence how adolescent mothers seek perinatal services. These factors are important to consider when constructing public health strategies

Interpersonal/Relationship factors, such as Individuals' peers, Partners, Family members
interactions with other people, which can provide social support or create barriers to the utilization of perinatal care services contributing to maternal and child mortality. The relationships and social networks that a person takes part in also have great potential to impact behaviors. Families, friends and traditions are key players at the interpersonal stage of the model.

Community factors, such as Neighbors, Schools, Workplaces
formal or informal organizations that exist within the community, can limit or enhance health seeking behaviors towards the utilization of perinatal care services. This level of the Social Ecological Model focuses on the networks between organizations and institutions that make up the greater community. These associations include businesses and functions of the "built environment," such as parks. Community structures are often important in determining how populations behave and what customs they uphold. It is important to understand the community level to determine where health seeking behaviors originate.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter reviews literature related to the study. The purpose is to highlight what existing literature examines as the trends, factors and gaps that influence perinatal care services utilization among adolescents. It reviews is conducted from journal articles, textbooks, e-books, dissertations, and other internet sources. The review has been done following the specific objectives. The review considers critical analysis of the relationship between the independent variable and dependent variable.

2.2 The Socio-Ecological Model

The study anchors on the Socio-Ecological Model, first introduced in health science by Urie Bronfenbrenner in the 1970s. The Socio-Ecological Model states that health quality of a person's health is an interplay of a number of factors including the individual, the community, and the physical, social, and political environment (Kilanowski, 2017). The Socio-Ecological Model accounts for individual, and their affiliations to people, organizations, and their community at large to explain how they influence perinatal care services utilization of people. The model examine five aspects that influence health seeking behaviors, and these include individual, interpersonal, organizational, community, and public policy (Kilanowski, 2017). Public health challenges are too abstract to be explained by a single-level analysis and the environment in which we operate has its own influences on our behavior (Townsend & Foster, 2011). Therefore, the health seeker should not be seen independent of the environment in which they operate.

Trego, et al. (2021) used the social ecological model to understand the unique factors that influence military women's health in USA. The social ecological level factors that featured in this study were the military environment, community, healthcare system, regulations and the military culture. While the level factors discussed in the study are unique to the military environment and culture, the application is limited to USA women, moreover women in military. Kaiser, et al. (2019) used the social ecological model to study the importance of interpersonal relationships in delaying care-seeking and access during maternity period in Zambia. The findings indicate no single individual is responsible for helping women reach a healthy facility. When the relatives and community health workers fail in their roles to help pregnant women, there is a high likelihood these women won't deliver at a health facility. The role of the relatives and community health workers in Zambia cannot be generalized to Uganda, and particularly Karamoja.

Shahabuddin, et al. (2017) used the social ecological model to explore maternal healthcare seeking behavior of married girls in Bangladesh. Girls' decision making on the use of skilled maternal health services was highly influenced by the family and interpersonal factors. The study recommended the incorporation of all

level factors in developing interventions for helping adolescent girls. Elsewhere, UNICEF (2018) used the socio-ecological model to explain the relationship between children and adolescent's optimal development and well-being. The research demonstrated that biological, environmental factors and service structures affect the wellbeing and development of children.

Fleury and Lee (2006) used the social ecological model to study the factors influencing regular physical among the African American women. The review on the contextual factors surrounding physical activity provided a strong theoretical background for developing a physical activity intervention for such a population. Similarly, (Nelson, et al., 2010) applied the socio-ecological model to indigenous Australians to understand engagement in physical activity. The theoretical gaps were considered important in promoting physical activity interventions and a range of physical-activity related ailments. Besides, the authors' coverage leaves out the theoretical applications of the socio-ecological model to adolescent mothers in Karamoja.

Golden, et al. (2015) used the socio-ecological model to propose the thinking among health educators, community, and activists on producing health and environmental policies, and structural changes. The authors argue for placing the environment, individual, and social networks, and organized groups in building health and environmental related policies. Health practitioners can promote health initiatives and equitable distribution of resources.

While the socio-ecological model has been used to study healthcare seeking behavior, other models such as Andersen's Behavioral Model has also been helpful in understanding factors that explain utilization of health services. In this model, the predictor factors to utilization of health care services are categorized into predisposing and enabling factors. According to (Babitsch, Gohi, & Lengerke, 2019), the predisposing factors characterize individual, social, mental, and contextual factors. Given that the current study is very particular to age (14 - 19) years and gender (female), the predisposing factors that are likely to explain utilization of health care services in Karamoja are the social factors, the mental factors, and contextual factors. Contrary to the socio-ecological model, Andersen's model looks at societal factors as enabling factors, which include the nature and organization of the health facilities and the generic policies on health.

2.3 Level of perinatal care services utilization among adolescent mothers

Healthcare-seeking behavior (HSB) refers to actions' individuals take when they perceive a health need, including the decision to seek care, the choice of care provider, and the adherence to prescribed treatment (Latunji and Akinyem, 2018). Understanding HSB is crucial for designing effective health interventions and policies. Healthcare-seeking behavior among adolescent mothers is a critical area of public health, as early and adequate care is essential for both maternal and infant health outcomes.

A study by Xu et al. (2020) highlighted that healthcare utilization is high among households with higher income and education levels are positively associated with increased. Individuals from higher socioeconomic backgrounds are more likely to afford healthcare costs and are better informed about the benefits of seeking care. A study by Okawa et al. (2021) in Zambia found that adolescent mothers with higher socio-economic status were more likely to seek antenatal care (ANC) and delivery services in healthcare facilities. Financial constraints were a significant barrier, particularly in rural areas where transportation costs and service fees were prohibitive for many young mothers. While these studies focus on low social economic status as a predictor of healthcare utilization, they lack the context of Kotido district.

Research by Masiye et al. (2019) in Zambia indicated adolescent mothers who rely on traditional healers or home remedies, delay or avoid formal medical care. Many young mothers relied on traditional birth attendants or family members due to cultural preferences and mistrust of formal healthcare systems (Bintabara et al., 2018). These studies suggest that cultural norms and traditional beliefs influence healthcare-seeking behaviour among adolescent mothers. However, they focus on cultural barriers in isolation, ignoring other predisposing factors.

Rural populations, for instance, are less likely to seek healthcare due to physical and logistical barriers (Aboagye et al., 2021). Many adolescent mothers in rural areas had to travel long distances to access care, leading to delays or complete avoidance of essential services. Geographical and infrastructural barriers often impede access to necessary healthcare (Atuyambe et al., 2019). Access to healthcare services, including the availability of transportation and the proximity of healthcare facilities, significantly affected healthcare-seeking behavior (Nyamtema et al., 2018). Adolescent mothers living in remote areas with limited access to healthcare facilities were less likely to seek timely care, leading to adverse maternal and neonatal outcomes.

The quality of healthcare services also affects healthcare-seeking behavior. A study by Ameyaw et al. (2020) in Ghana noted that negative experiences with healthcare providers, including discrimination and lack of privacy, discouraged adolescent mothers from seeking care. According to a study by Maravanyika et al. (2022) in Zimbabwe, adolescent mothers who failed to attend ANC or seek skilled birth attendance were at a higher risk of complications during pregnancy and childbirth, leading to adverse health outcomes for both the mother and infant. Inadequate healthcare-seeking behavior among adolescent mothers is associated with higher rates of maternal and neonatal morbidity and mortality.

A study by Badu et al. (2018) in Nigeria demonstrated the effectiveness of community-based programs in improving healthcare-seeking behavior among adolescent mothers. The programs provided education,

financial support, and transportation assistance, which significantly increased ANC attendance and delivery in healthcare facilities. Policy interventions that focus on reducing financial barriers and improving access to adolescent-friendly healthcare services have also been recommended. A systematic review by Firoz et al. (2019) concluded that policies promoting universal health coverage and removing out-of-pocket costs for maternal health services are essential for improving healthcare-seeking behavior among adolescent mothers in low-resource settings.

According to a study by Madhiwalla et al. (2019) in India, socio-economic factors significantly influence healthcare-seeking behavior among adolescent mothers. The study found that adolescent mothers from low-income families were less likely to seek antenatal care (ANC) and skilled birth attendance due to financial constraints and lack of access to affordable healthcare services. A study in Uganda by Kabakian-Khasholian et al. (2020) highlighted the role of cultural norms in shaping healthcare-seeking behavior. The researchers found that traditional beliefs and practices often led adolescent mothers to rely on traditional birth attendants rather than formal healthcare services. This reliance was driven by cultural expectations and mistrust of the healthcare system.

Research by Ijadunola et al. (2020) in Nigeria demonstrated that educational attainment is a crucial determinant of healthcare-seeking behavior. The study showed that adolescent mothers with higher levels of education were more likely to utilize healthcare services, including ANC and postnatal care, compared to their less educated peers. Education was found to increase awareness of the importance of healthcare and empower young mothers to seek the care they needed. Research by Moindi et al. (2020) in Kenya emphasized the role of education in improving healthcare-seeking behavior. Adolescent mothers with higher levels of education were more likely to attend ANC and seek skilled birth attendance. The study suggested that educational interventions targeting young mothers could be effective in increasing their engagement with healthcare services.

A study by Finlayson and Downe (2018) found that adolescent mothers are less likely to attend the recommended number of ANC visits compared to older mothers. The study, conducted in Sub-Saharan Africa, noted that many adolescent mothers initiate ANC late in their pregnancies, often due to fear of stigma and lack of support from their families and communities. A study by Neves et al. (2019) in Brazil showed that while there is an increasing trend in skilled birth attendance among adolescent mothers, disparities still exist. Adolescent mothers from rural areas and lower socio-economic backgrounds were less likely to have skilled attendants during childbirth, increasing the risk of complications. The contexts in these studies do not appropriately mirror Kotido.

Research by Mokgatle et al. (2021) in South Africa highlighted low utilization of postnatal care services among adolescent mothers. The study found that many adolescent mothers did not return for postnatal visits, often due to lack of awareness, perceived irrelevance of the visits, and logistical challenges such as transportation and time constraints. A study by McLeish and Redshaw (2020) in the United Kingdom identified stigma and discrimination as significant barriers to healthcare-seeking among adolescent mothers. The study found that negative attitudes from healthcare providers and community members discouraged adolescent mothers from seeking care, particularly during pregnancy and childbirth.

A study by Wulifan et al. (2018) in Ghana found that lack of autonomy was a significant barrier to healthcare-seeking behavior. Many adolescent mothers were dependent on their families or partners for financial support and decision-making, which often resulted in delayed or inadequate healthcare-seeking.

A study by Bohren et al. (2019) in multiple low- and middle-income countries found that systemic barriers such as long waiting times, lack of adolescent-friendly services, and poor quality of care were significant deterrents to healthcare-seeking among adolescent mothers. The study emphasized the need for health system reforms to address these barriers and improve the accessibility and quality of care for adolescent mothers. A study by Chukwuemeka et al. (2020) in Nigeria demonstrated the effectiveness of community outreach programs in improving healthcare-seeking behavior among adolescent mothers. These programs provided education, support, and resources to young mothers, leading to increased utilization of ANC, skilled birth attendance, and postnatal care.

A study by Patton et al. (2018) in Australia emphasized the importance of adolescent-friendly health services in improving healthcare-seeking behavior. The study found that services tailored to the needs and preferences of adolescents, including privacy, respectful care, and flexible hours, significantly increased healthcare utilization among adolescent mothers. Research by Lim et al. (2019) in Cambodia showed that financial incentives, such as cash transfers and subsidies for healthcare services, were effective in encouraging adolescent mothers to seek care. These incentives reduced the financial barriers that often prevent adolescent mothers from accessing necessary healthcare services.

2.4 Individual factors and perinatal care services utilization

The individual level looks at one’s knowledge and skills about diseases and seeking health care from a health facility. These therefore informs individuals of disease occurrence and its associated threats to their lives. Knowledge is key in influencing attitudes and decisions individuals make. (Larouche & Ghekiere, 2018).

Tanner, et al. (2014) investigated the factors influencing perceptions on healthcare seeking behaviors among immigrant Latino sexual minority men and transgender individuals. From a participatory community-based of 180 Latino sexual minority men and transgender individuals, the results indicate a low level of healthcare seeking. The individual factors responsible for the low-level healthcare seeking were the years of staying in North Carolina, and perceptions of discrimination. The study was conducted in a developed country, where the contextual environment differs from Uganda. A related study by Chung, et al. (2018) shows that perception of illness, mistrust, length of residency in the US, language barrier, and ageing as individual factors affecting health-seeking behavior among older Korean immigrants. While the foregoing studies consistently agree on the role of individual factors, they do not bring out the concept of 'adolescent girls'.

Jabar (2023) investigated health-seeking behavior among Filipino workers based on 3001 respondents. The findings indicate that the respondents were healthy on average. The factors responsible for the general health were perceived health status, sickness in the past two years, level of education, age, and number of children. Income and sickness increased the likelihood of visiting a traditional healer while age and sickness in the past two years influenced self-medication. This study is lacking in concept and context. Conceptually, the focus was made on workers (both male and female) while contextually, the study was conducted in Filipino.

Latunji and Akinyemi, 2018) investigated healthcare seeking behavior among civil servants among civil servants in Ibadan. The results show that respondents from the poorest quartile have inappropriate healthcare seeking behavior than the richest respondents. Lower cadres and particularly those with low education are lacking in healthcare seeking behavior. Rood, et al. (2017) found a positive correlation between HIV acceptance attitudes and mother's health-seeking attitude. On the other hand, age and urban/rural location influence the rate at which individuals visit traditional, patent medicine vendors, and churches/mosques for healthcare services (Olasehinde, 2018). The focus of these studies do not cover the healthcare seeking behavior of adolescent mothers in Uganda. Besides, the likelihood of adolescent mothers having HIV and not seeking healthcare are high. Individuals who buy health insurance products are likely to go for medical check-up than those who do not (Khaled, Mwale, & Kamninga, 2020). This variation was however common among non-citizens. This suggests that being a non-citizen was a factor in healthcare seeking behavior in Saudi Arabia. Measuring healthcare seeking behavior in terms of medical check-up is consistent with the conceptualization of the current study.

Paek, et al. 2016) investigated the impact of the universal coverage scheme on health seeking behavior in Thailand. Among the outpatients, the use of designated health facilities was influenced by low-income

status, unemployment, and chronic status group. Among the inpatients, the use of designated health facilities was influenced by low-income status, old age, and female group. In Ghana, healthcare seeking behavior during COVID-19 pandemic was influenced by health knowledge and lifestyle (Saah, et al., 2021). During the pandemic, there was a reduction in risky-health related lifestyle such as alcohol intake, sharing personal items and consumption of junk food. Regular medical check-ups and health consciousness indicated healthcare seeking behavior. While the two studies documented individual factors affecting healthcare seeking behavior, they do not have a focus on adolescent mothers.

Zhou, et al. (2021) investigated Hierarchical Medical System and healthcare seeking behavior in China. The results showed a significant positive effect on healthcare seeking behavior among urban residents. Education, income, self-assessed health, and chronic disease were among the individual factors that explained this effect. Westgard, et al. (2019) investigated health service utilization perspectives for maternal and child health services in the Amazon of Peru. Health-seeking behavior appeared to be high though affected mothers' feelings of embarrassment, fear and trust. These two studies show that individual factors influence health seeking behavior. However, the Chinese and Peruvian contexts differ from Uganda. Similarly, Ziblim, et al. (2018) show a significant association between utilization of antenatal care services and place of residence, partner's education level, and distance to health facility.

2.5 Relationship factors and perinatal care services utilization

A study by Claussen et al., (2022) examined the relationships among individual, interpersonal, institutional, community, and policy factors that influence behaviors. Using these factors they claim that behavior is affected by multiple levels of influence. For instance, a study by Noubani et al. (2020) argued that in Lebanon, trust, advice, and the support of loved ones, and confidentiality influenced perinatal care services utilization among Syrian refugees and Lebanese host communities. While the study focused on people with mental health, the predictor variable (relationship factors) influencing perinatal care services utilization is likely to explain variations among adolescent mothers in Karamoja.

In Bangladesh, Parin, et al., 2022) shows that some adult members in the family restrict adolescents from seeking healthcare from designated facilities for fear of complications. They rather recommend adoalscent mothers to traditional birth attendants. A related study in Bangladesh by Shahabuddin, et al. (2017) showed that adolescent girls have little autonomy in making decisions on where to seek heakthcare. Their decisions are mostly influenced by interpresonal and family relationship factors. The husband and the mothers-in-law played influencial roles in adolescent mothers' decision making on attending healthcare services from skilled personnel. These studies provide some clue on the influence of the family on adolescent mothers' healthcare seeking behaviour. However, there is need to explore this relationship in Karamoja.

A study with contradicting results by Akinyemi, et al. (2019) found that maternal marital profile was not associated with healthcare seeking behaviour for diarrhea in sub-Sahara Africa. The study further found that adolescent mother whose mothers were household head were less likely to seek heath care for their children. A study conducted in Uganda on the utilization of mother-to-child transmission of HIV services among adolescent mothers in Uganda by According to Mustapha, et al. (2018), healthcare seeking among adolescents was motivated by the benefits of knowing one's HIV status, health of the unborn child, and counseling and support from health workers and peers. However, the lack of partner and family support were key demotivating factors.

2.6 Community factors and perinatal care services utilization

Studies (Wells, et al., (2018; Caperon, et al., 2022; and Noubani A., et al. (2020) that have examined community factors, such as formal or informal social norms that exist among individuals, groups, or organizations, show how such factors can limit or enhance healthy behaviors. This is because at the community level analysis is conducted in settings in which people have social relationships, such as schools, workplaces, and neighborhoods, and seeks to identify the characteristics of these settings that affect health (Caperon, et al., 2022).

Shahabuddin, et al. (2017) shows that community healthcare workers are very influence in healthcare seeking behavior among the adolescents. In most cases, adolescent mothers are closer to private sector health providers (the case of BRAC in Bangladesh) than government community healthcare workers. Besides, community leaders can help girls to use skilled healthcare services. However, Undie and Birungi (2022) conclude that pregnant and parenting teenage girls lack psychosocial support to respond to the realities of sexual violence and other challenges that come with teenage motherhood. This presents a practical gap in meeting the needs of teenage motherhood.

In a study conducted Tanzania and Ghana by Hacket, et al. (2019), healthcare seeking behavior is shaped by peers and family members. The adolescents do not seek for healthcare from designated facilities for fear of asking them to bring the husband who made them pregnant. The adolescents find this experience hurting especially when they are struggling to get the picture of the man out of their minds. Similarly, Jones, et al. (2019) found that constructions of moral judgment and maintenance of self-representations promote stigma, discrimination, isolation and exclusion among teenage mothers. Health and social care professionals take for granted peer education and peer support approaches in reproductive health. While these studies show that peer approaches shape healthcare seeking behavior, they have little information how peer approaches encourage healthcare seeking behavior.

Akeju, et al. (2016) showed that pregnant women seek healthcare from a number of sources, with high preference for traditional providers in the community, especially traditional birth attendants who are long-term residents in the community. However, this preference seems to escalate costs associated to accessing health services especially in cases of referrals.

Sychareun and Vongxay (2018) show that some of the predictors of healthcare seeking behavior are deeply rooted in the system of local values, beliefs and practices, and form part of the logic of what it is to become a healthy woman. These practices are deeply entrenched and may be resistant to new knowledge. Machira and Palamuleni (2017) studied the factors affecting the use of contraceptive by teen mothers in Malawi. Over 50% of teenage mothers remain at risk of a second teenage pregnancy. The associated factors to a repeat teenage pregnancy include the use of antenatal care, awareness of pregnancy complications, attainment of primary education and exposure to media.

Atuyambe, et al. (2009) studied healthcare seeking behavior during pregnancy and early motherhood in Uganda. The study found that adolescent mothers follow cultural practices and beliefs about childbirth in healthcare seeking during pregnancy and after pregnancy. Worse still adolescent mothers' expectations on healthcare services from designated facilities is negative due to transport and cost.

2.7 Societal factors and perinatal care services utilization

Other studies (Trego, et al., 2021; Baral, et al., 2013) have examined how social and cultural norms influence perinatal care services utilization. These societal factors are looked at the circumstances or situations that affect people's lifestyles and well-being (Baral, et al., 2013). For instance, a study by Trego, et al., (2021) examined how societal factors such as inequality in health, economic, educational and social policies influence perinatal care services utilization.

According to Noubani A., et al. (2020) the societal factors influencing healthcare seeking behaviour among Syrian refugees and Lebanese host communities were widespread social stigma, high service costs, poor health coverage, and lack of trust in the healthcare services available. While the findings extend the conceptualization of healthcare seeking behavior, they do not represent the context of Karamoja.

Massaquoi, et al. (2021) studied health-seeking behavior among adolescent mothers during Ebola epidemic in Sierra Leone. The study used focus group discussion and thematic analysis. Adolescent mothers feared seeking healthcare because of the community perceptions and fear of contracting Ebola. There was a lot of public fear and mistrust of the health professional. Unlike the genuine fears related to Ebola disease, the fears raised by the adolescent mothers towards seeking healthcare are not known. Some adolescent mothers

do not seek healthcare due to poor social networking (Parin, et al., 2022). The authors however, do not explain how social networking promotes healthcare seeking behaviour among adolescents.

Westgard, et al. (2019) reveal that the low supply of essential medicines in public health facilities, the low demand for family planning services and the ignorance of adolescent girls on the available healthcare services limit adolescents from seeking healthcare. On the contrary, a study by Yu, et al. (2019) showed how health concerns were not a priority of the adolescents but instead were more concerned about the high cost of living, the experience of being unfairly treated and the lack of opportunities.

Govender, et al. (2020) show how health compromising behaviours like multiple partners and unprotected sex, for instance, among adolescents pose risks for their ability to seek health services. Adolescent mothers need sexual and reproductive education that gives them the confidence, resilience, negotiating skills, and protective decision making in their perinatal care services utilization. This can be a partnership amongst relevant agents from educational, social and clinical fields. While the authors focused on the risk behavior and ignored healthcare seeking behavior among adolescents. McGranahan, et al. (2021) explored the role of service providers and stakeholders in promoting the sexual and reproductive rights of adolescents in Uganda. The study found that formal sources of information were frequently inaccessible, which leaves adolescents gullible to informal methods of redressing rights were often sought. While this study focused on the sexual rights and health of adolescent girls, it lacked a focus on their healthcare seeking behavior.

Oluwasola, et al. (2017) show that teenage mothers who use antenatal care are likely to use skilled birth attendance and postnatal care. However, there may be some context-specific factors that need to be considered. However, the education of the teenage mother and her partner, and financial factors remain a limiting factor in the utilization of maternal health services. Many adolescent women opt to seek healthcare support through digital platforms against the traditional health systems of friends, family, and community. However, Wu, et al. (2021) show that the information available on the web does not allow healthcare professionals to monitor the usefulness or harm of this information to the user. Another study by Krahe, et al. (2022) noted how behavioral themes such as the navigating the health system, complex referral pathways, delays and long wait times, understanding child development, and connecting to services shape young mothers' perinatal care services utilization.

2.8 Research gaps

From a contextual perspective, the socio-ecological model has been applied widely in studying behavioural practices in many fields including medicine. However, this model has not been applied to studying

utilisation of perinatal care services among adolescent mothers in Kotido district. To bridge this contextual gap, this study was conducted among adolescent mothers in Kotido district in Uganda.

From a methodological perspective, many studies on the factors associated with utilisation of perinatal care services in Uganda are qualitative, focusing on interviews and focus group discussions, which narrow their scope. Owing to the increasing number of adolescent mothers in Karamoja region, a quantitative study based on a large sample is still lacking to provide a firm ground for generalization.

CHAPTER THREE: METHODOLOGY

3.1 Introduction

This chapter describes the methodology of the study, and they include the research design, study population, sample procedures, data collection methods and tools used, validity and reliability of research instruments, data analysis, measurement of variables and ethical considerations.

3.2 Research design

The researcher used a cross-sectional design during the study, which allowed collection of data from different individuals at one point in time, analyzing this data, and making a generalization of findings to the target population (Neuman, 2014). This design was quite flexible and appropriate for this study because it accommodates quantitative approaches to data collection and analysis (Bougie & Sekaran, 2020).With regard to survey, questionnaires were used to gather quantitative data (Cohen, Manion, & Morrison, 2018).

3.3 Study Population

The study focused on Rengen Sub County, which has over 21 villages, where most of these adolescent mothers came from. With the help of the local leaders such as the LC1s, mentor mothers and peer facilitators, the researcher mobilized the adolescent mothers between the age bracket of 14 to 19 years and sampled 200 adolescent mothers. According to the Kotido Hospital Health Record (2021) about 420 adolescent mothers had visited the hospital. Using these records, the researcher was able to find out where many mothers came from and hence went to those villages to identify the adolescent mothers.

3.4 Determination of the sample size

The researcher used the Krejcie and Morgan's mathematical table of 1970 because it helps the researcher to determine the sample size for a given population sizes where the normal curve is a good approximation of the sampling distribution and the preferred margin of error is 0.05 (Bougie & Sekaran, 2020). Thus, using Krejcie and Morgan's mathematical table out of the 420 adolescent mothers as indicated in the hospital record the study came up with a sample size of 200 respondents.

3.5 Sampling techniques

The researcher in this study used both purposive and simple random sampling techniques. In Regen sub county, cluster sampling was used to select adolescent mothers aged 14-19 until the sample of 200 was obtained. This was considered the most practical way of recruiting all available adolescent mothers aged 14 to 19 years in the study area. This involved identification of the subcounty in Kotido district, which was selected based on the high population of adolescent mothers and also having high school dropout and early marriages, 3 parishes out of 8 parishes were zeroed to, and 16 villages out of 21 were sampled to select the girls between 14 to 19 years.

3.6 Data Collection Methods

Data collection is a process of gathering and analyzing accurate data from different sources to find answers to research problems (Mills & Birks, 2014). Primary data was categorized, primary data was collected directly from the selected respondents specifically for a particular study (Bougie & Sekaran, 2020). In this study the researcher used questionnaires as data collection methods.

This study applied the questionnaire method on the selected adolescent mothers. This tool was applicable to cover many aspects on the lives of adolescent mothers. The questionnaire method was used because it is cheaper, covers many respondents, is convenient, gives privacy and encourages honest answers (Chawla & Sondhi, 2018). Questionnaire survey method is a quantitative approach to data collection (Bougie & Sekaran, 2020) although it can also be used to collect qualitative data. Questionnaire survey method requires responses to questions to be written in the space provided on the form (Cohen, Manion, & Morrison, 2018). The Questionnaires had closed ended questions.

3.7 Selection Criteria

3.7.1 Inclusion Criteria

- Adolescent mothers aged 14–19 years.
- Residents of Rengen Sub County.
- Those who consented (and where applicable, whose guardians consented) to participate in the study.

3.7.2 Exclusion Criteria

- Adolescent mothers who were critically ill or physically/mentally unable to participate in the interview at the time of data collection.

- Those who had communication difficulties that could not be adequately addressed during the study process.

3.8 Data Collection Instruments

In this study the researcher used questionnaires (Cohen, Manion, & Morrison, 2018) to collect data. A questionnaire with closed ended questions, which measured utilization of perinatal care services on normal scale (1 = YES, 2 = NO) was self-administered to adolescent mothers. This questionnaire was divided into three sections A, B, and C to provide back ground information. Section A participant's demographics, and section B covered level of utilization of perinatal care services among adolescent mothers in Kotido and section C covered the socio-cultural factors affecting ANC service utilization and place of delivery.

3.9 Procedure for data Collection

The researcher first got an introductory letter from the Uganda Christian University, which the researcher presented to the Chief Administrative Officer for permission to conduct research in Kotido district. After obtaining permission, the researcher introduced herself and other research assistants to community development officer, parish chiefs, that then introduced her to the VHTs, LC1s, mentor mothers, that therefore helped and mobilized the adolescent mothers of the required age bracket, the selected family members of adolescent mothers, selected members of the adolescent mothers' close and wider communities of the various villages in Rengen Sub County. Adolescent mothers of 14-19 years of age, were mobilized at their homes in the villages, and were individually asked questions in the questionnaire. The researcher purposively selected adolescent mothers of 14-19 years. The Researcher-administered questionnaires that were used to collect data from adolescent mothers. They also went ahead to find out more information from other community members, family members in order to get into the depth of information needed.

3.10 Data analysis

Data analysis is a systematic and sequential process of organizing, summarizing, and interpreting data in order to generate meaning and answer research questions. It may involve qualitative techniques, quantitative techniques, or a mixed-methods approach (Creswell, 2014). In this study, quantitative data analysis procedures were employed. Data were entered, cleaned, and analyzed using Statistical Package for the Social Sciences (SPSS) version 26. The analysis was conducted at two levels: descriptive and inferential.

At the descriptive level, measures of central tendency and dispersion specifically the mean, median, and standard deviation were computed for continuous variables. In addition, frequencies and percentages were

generated to summarize categorical variables and to describe the distribution of respondents across key study characteristics.

At the inferential level, bivariate analysis was performed using the Chi-square (χ^2) test of independence to examine associations between categorical variables. Statistical significance was determined at a 5% level ($p \leq 0.05$).

3.11 Ethical Consideration

Ethics in research refers to what researchers are expected to do and what they should not do as they conduct research (Cohen, Manion, & Morrison, 2018) In order to ensure protection of respondents, the following should be done:

Confidentiality was kept by the fact that respondents were not asked to include neither names nor contacts on the questionnaires. Secondly, the data provided was aggregated and analyzed in such a way that individual responses were not identifiable. Consent forms, seeking their acceptance to be part of the study were signed by the participants.

Approval from the university research ethics committee was done before rolling out the study, by issuing an introductory letter addressed to an appropriate authority in the area of study.

CHAPTER FOUR: RESULTS AND PRESENTATION OF FINDINGS.

4.0 Introduction

This chapter presents the results and findings of the study on factors influencing utilization of perinatal care services among adolescent mothers in Kotido District, Karamoja, Uganda. The analysis is based on data collected from adolescent mothers who participated in the study.

4.1 Descriptive Analysis

This section presents descriptive information on the background characteristics of the adolescent mothers, including age, level of education, marital status, partner's education, household income, and place of residence. These characteristics provide context for understanding patterns of perinatal care service utilization among the respondents.

Table 4-1: Participants Demographics

SN	Variable	Category	Frequency	Percentage
1	Age group	14-18	121	60.5
		19-24	79	39.5
2	Place of residence	Rural	200	100.0
3	Level of Education	No formal Education	189	94.5
		Primary	9	4.5
		Secondary	2	1.0
4	Marriage status	Married	199	99.5
		Not married	1	0.5
5	Employment status	Government or Organization employee	11	5.5
		Self employed	7	3.5
		Un employed	182	91.0
6	Telephone ownership	Yes	123	61.5
		No	77	38.5
7	Mother's level of education	No formal education	198	99.0
		Primary school	1	0.5
		Secondary school	1	0.5
8	Fathers level of education	No formal education	197	98.5
		Primary school	3	1.5
9	Mother's employment status	government employee	2	1.0
		Unemployed	198	99.0

10	Father`s employment status	Unemployed	200	100.0

The study involved 200 adolescent mothers, all of whom resided in rural areas (200). Most participants had no formal education 189 (94.5%) and were married 199 (99.5%). A large majority were unemployed 182 (91%), and 123 (61.5%) owned a mobile phone. Parental socioeconomic status was also low, with nearly all mothers 198 (99%) and fathers 197 (98.5%) having no formal education, 198 (99%) of their mothers and all fathers (200) being unemployed.

Table 4-2: Shows the distribution of respondent`s age and the Number of wives' respondents husband has.

	Respondents Age	Number of wives the husband has
Mean	18	2
Median	18	1
Minimum	14	1
Maximum	26	5

The adolescent mothers had a mean age of 2 years, with ages ranging from 14 to 19 years. Most of their husbands were monogamous, with a median of 1 wife, although the number ranged up to 5 wives in some households.

Table 4-3: Social cultural factors

SN	Variable	Category	Frequency	Percentage
1	Community perception of adolescent mothers	Accepted and supported	123	61.5
		Ignored/indifferent	4	2.0
		Stigmatized/shamed	72	36.0
		Considered going against cultural expectations	1	0.5
2	Cultural beliefs that affect adolescent mothers` decision to seek healthcare	Preference for traditional remedies	90	45.0
		Belief that pregnancy is a private/family issue	65	32.5
		Belief that adolescent mothers should not visit health facilities alone	42	21.0
		None of the above	3	1.5
3	Distance to nearest health facility	less than 1KM	13	6.5
		1-3KM	16	8.0
		4-5Km	109	54.5

		more than 5KM	62	31.0
4	Presence of TBA in the community	Yes	173	86.5
		No	27	13.5
5	Used services of TBA	Yes	112	56.0
		No	88	44.0
6	Presence of community-based initiatives or support systems	Yes	197	98.5
		No	3	1.5

Most adolescent mothers reported being accepted and supported 123 (61.5%), although 72 (36%) experienced stigma. Cultural norms influenced health decisions, with 90 (45%) preferring traditional remedies, 65 (32.5%) viewing pregnancy as a private family matter, and 42 (21%) reporting restrictions on attending health facilities alone.

Access barriers were evident, as 62 (31%) lived > 5 km from the nearest health facility Traditional Birth Attendants were widely present 173 (86.5%), and 112 (56%) of respondents had used their services. Nearly all participants 197 (98.5%) reported the existence of community-based support systems. (Non-Government Organizations like world food Programme, world vision, mercy corps and political leaders such as Members of parliament,)

Table 4-4: Perinatal care services utilization among adolescent mothers in Kotido District

SN	Variable	Category	Frequency	Percentage
1	Seek ANC in the most recent pregnancy	Yes	199	99.5
		No	1	0.5
2	Number of times went for ANC	1-4	18	9.1
		5-8	180	90.9
3	Place of delivery	Hosp-private	1	0.5
		Hosp-Public	192	96.0
		TBA	5	2.5
		Home	2	1.0
4	Delivery supervision	Nurse	75	37.5
		Midwife	118	59.0
		Doctor	3	1.5
		TBA	4	2.0

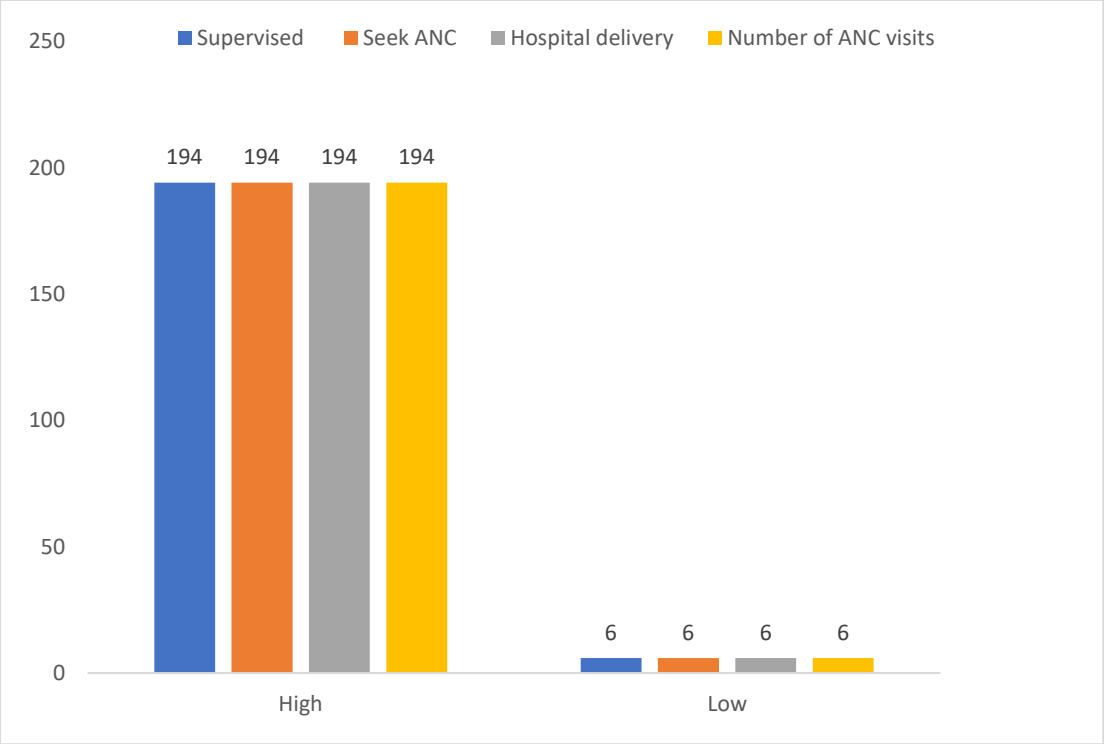
Almost all adolescent mothers 199 (99.5%) sought antenatal care during their most recent pregnancy, and the majority 180 (90.9%) attended ANC between 5–8 times, indicating high ANC attendance. Most mothers

delivered in public health facilities 192 (96%), and delivery was mainly supervised by midwives 118 (59%), followed by nurses 75 (37.5%).

High ANC attendance is attributed to interventions done by various organizations, like save the children international, Mercy corps among others, and so, this has encouraged most mothers to frequently attend to ANC and deliver in health facility and its consistent with UDHS (2022).

4.2 Level of utilization of perinatal care services among adolescent mothers in Kotido District.

This section presents the level of perinatal care services utilization related to perinatal care services among adolescent mothers in Kotido District.



Perinatal care service utilization was operationalized using a composite index derived from key maternal health indicators: attendance of antenatal care (ANC) during the most recent pregnancy, timing of the first ANC visit, number of ANC visits completed, place of delivery, and utilization of postnatal care (PNC) services. Each indicator was dichotomized and assigned a binary score based on recommended maternal health standards. Respondents who attended at least one ANC visit during their most recent pregnancy were assigned a score of 1, while those who did not were assigned 0. Completion of four or more ANC visits was scored as 1, and fewer than four visits as 0. Delivery in a health facility was scored as 1, whereas delivery outside a health facility was scored as 0. Similarly, childbirth attended by a skilled health

professional was scored as 1, and absence of skilled attendance was scored as 0. Utilization of postnatal care services was also scored as 1 if accessed and 0 if not accessed.

The individual scores were summed to generate a composite perinatal care utilization score for each respondent. Respondents who obtained a total score greater than two were categorized as having high perinatal care service utilization, while those scoring two or less were categorized as having low perinatal care service utilization as illustrated in the pie chart below.

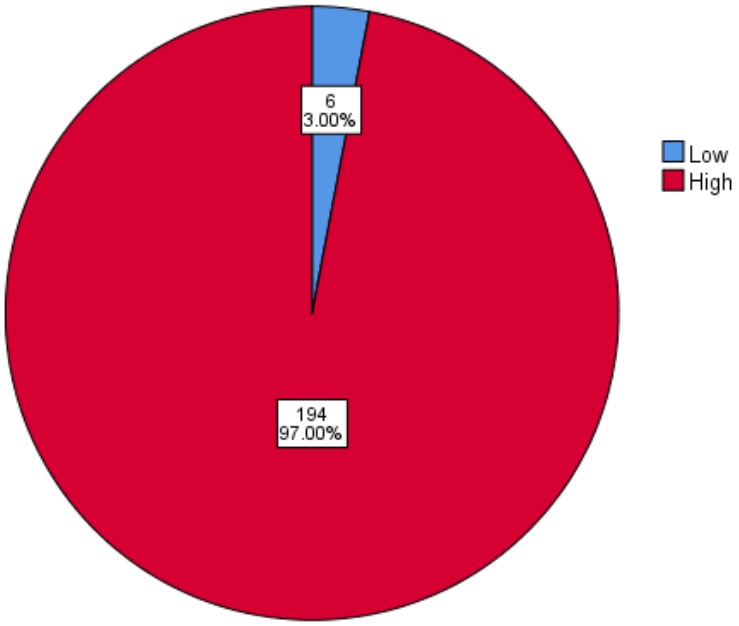


Figure 2: Showing the Level of utilization of perinatal care services

The findings show that the majority of adolescent mothers demonstrated a high level of perinatal care services utilization 194 (97%), while only 6 (3%) exhibited low perinatal care services utilization.

4.3 Bivariate analysis

Bivariate analysis was performed to determine the relationship between individual, socio-cultural, community, and health facility–related factors and the outcome variable, utilization of perinatal care services. The chi-square (χ^2) test was used to assess associations between categorical independent variables and utilization of perinatal care services. Statistical significance was determined at a p-value of less than 0.05. Results are presented using cross-tabulations, frequencies, percentages, and corresponding p-values.

Table 4-5: Bivariate analysis of perinatal care services utilization and demographic and social cultural factors.

Variables	Category	Perinatal care services utilization		P- Value
		Low	High	
Demographic factors				
Place of residence	Rural	6 (100.0%)	194 (100.0%)	
Age group	14-18	5 (83.3%)	116 (59.8%)	0.406
	19-24	1 (16.7%)	78 (40.2%)	
Level of Education	No formal Education	6 (100.0%	183 (94.3%)	
	Primary	0 (0.0%)	9 (4.6%)	1.000
	Secondary	0 (0.0%)	2 (1.0%)	
Marriage status	Married	6 (100.0%)	193 (99.5%)	1.000
	Not married	0 (0.0%)	1 (0.5%)	
Employment status	Government or Organization employee	1 (16.7%)	10 (5.2%)	0.436
	Self employed	0 (0.0%)	7 (3.6%)	
	Un employed	5 (83.3%)	177 (91.2%)	
Telephone ownership	Yes	3 (50.0%)	120 (61.9%)	0.678
	No	3 (50.0%)	74 (38.1%)	
Mother's level of education	No formal education	6 (100.0%)	192 (99.0%)	
	Primary school	0 (0.0%)	1 (0.5%)	1.000
	Secondary school	0 (0.0%)	1 (0.5%)	
Fathers level of education	No formal education	6 (100.0%)	191 (98.5%)	1.000
	Primary school	0 (0.0%)	3 (1.5%)	
Mother's employment status	government employee	0 (0.0%)	2 (1.0%)	
	Unemployed	6 (100.0%)	192 (99.0%)	1.000
Father`s employment status	Unemployed	6 (100.0%)	194 (100.0%)	
Social cultural factors				
Community perception of adolescent mothers	Accepted and supported	4 (66.7%)	119 (61.3%)	1.000
	Ignored/indifferent	0 (0.0%)	4 (2.1%)	
	Stigmatized/shamed	2 (33.3%)	70 (36.1%)	
	Considered going against cultural expectations	0 (0.0%)	1 (0.5%)	
	Preference for traditional remedies	1 (16.7%)	89 (45.9%)	0.205

Cultural beliefs that affect adolescent mothers` decision to seek healthcare	Belief that pregnancy is a private/family issue	2 (33.3%)	63 (32.5%)	
	Belief that adolescent mothers should not visit health facilities alone	3 (50.0%)	39 (20.1%)	
	None of the above	0 (0.0%)	3 (1.5%)	
Distance to nearest health facility	less than 1KM	2 (33.3%)	11 (5.7%)	0.039*
	1-3KM	1 (16.7%)	15 (7.7%)	
	4-5Km	2 (33.3%)	107 (55.2%)	
	more than 5KM	1 (16.7%)	61 (31.4%)	
Presence of TBA in the community	Yes	6 (100.0%)	167 (86.1%)	0.414
	No	0 (0.0%)	27 (13.9%)	
Used services of TBA	Yes	6 (100.0%)	106 (54.6%)	0.036*
	No	0 (0.0%)	88 (44.0%)	
Presence of community-based initiatives or support systems	Yes	6 (100.0%)	191 (98.5%)	1.000
	No	0 (0.0%)	3 (1.5%)	
***Significant at 0.05 level**				

Most demographic and sociocultural variables showed no statistically significant association with perinatal care services utilization among adolescent mothers. However, two factors were significantly associated with perinatal care services utilization at the 0.05 level.

Distance to the nearest health facility demonstrated a significant association with perinatal care service utilization ($p = 0.039$). With majority 107 (55.2%) of the respondents having a high perinatal care services utilization residing at least 4-5Km from a health facility.

Use of Traditional Birth Attendants (TBAs) was significantly associated with utilization of perinatal care services ($p = 0.036$). All adolescents with low utilization of perinatal care services 6 (100%) reported having used services of TBAs, compared to 106 (54.6%) among those with high health-seeking behavior.

No other demographic or sociocultural variables including education level, marital status, parental characteristics, community perceptions, cultural beliefs, TBA presence, or support systems showed a significant relationship with perinatal care services utilization ($p > 0.05$).

4.4 Multivariate analysis

Table 4-6: Multivariate analysis of perinatal care services utilization and demographic and social cultural factors.

HSB	Odds Ratio	P-value	[95% Conf. Interval]	
Used services of TBA				
Yes	1			
No	1			
Distance to nearest health facility				
less than 1KM	1			
1-3KM	3.5	0.336	0.272523	44.95031
4-5Km	8.375	0.047	1.03319	67.88747
more than 5KM	4.25	0.265	0.33408	54.06634

The findings indicate that distance to the nearest health facility was associated with perinatal care services utilization among postnatal mothers. Mothers who lived 4–5 km away from the nearest health facility were significantly more likely to utilize health facility delivery services compared to those who lived less than 1 km away (OR = 8.375, $p = 0.047$, 95% CI: 1.033–67.887). This suggests that distance within this category had a statistically significant influence on perinatal care services utilization.

Although mothers living 1–3 km away (OR = 3.5, $p = 0.336$, 95% CI: 0.273–44.950) and those living more than 5 km away (OR = 4.25, $p = 0.265$, 95% CI: 0.334–54.066) also showed higher odds of utilizing health facility delivery services compared to those living less than 1 km away, these associations were not statistically significant since their p-values were greater than 0.05.

Regarding the use of Traditional Birth Attendant (TBA) services, the table shows no observable variation in odds ratios between categories, suggesting that the variable may not have contributed significantly to the model or may have had insufficient variability in the data.

CHAPTER FIVE: DISCUSSION, CONCLUSION AND RECOMMENDATION

5.0 Introduction

This chapter shows the discussion, conclusion and recommendation. The discussion of the findings of the study is in line with the specific objectives and the reviewed literature.

5.1 Discussion

5.1.1 Level of Perinatal Care Services Utilization among Adolescent mothers.

The findings on the level of perinatal care services utilization among adolescent mothers in Kotido indicated that a majority of respondents (97%) demonstrated high levels of perinatal care services utilization, while only a small proportion (3%) exhibited low perinatal care services utilization. This suggests that most adolescent mothers in the study area are seeking formal healthcare services especially antenatal care and skilled delivery services. The findings align the studies by Badu et al. (2018) and Firoz et al. (2019) which shows evidence that where community outreach, free maternal health services, and targeted maternal health programs exist, adolescents are more likely to seek care despite socio-economic vulnerabilities. The high level of perinatal care services utilization observed may be attributed to enabling factors at the community and health-system levels in accordance with the socio-ecological framework. These include the presence of community-based initiatives, availability of maternal health services, and increased awareness of pregnancy-related risks. UNICEF (2018) also emphasized that when service structures are accessible and responsive, adolescents are more likely to engage with healthcare systems regardless of individual limitations such as low education or unemployment.

However, the findings are in line with UDHS (2022) , that indicates that Karamoja uptake of ANC is high with 91.9% of women receiving ANC from a skilled provider and 46% of women receiving at least 4 ANC visits. Therefore, in Kotido District, this is attributed to repeated exposure to maternal health messaging and outreach activities, and motivation by their political leaders have contributed to normalizing the use of health facilities among adolescent mothers. The high ANC attendance is also motivated by the member of parliament for Kotido district, who awards women who have attended ANC from the start to the end, by giving them basins, bedsheets, and soap, and so, this has encouraged most mothers to frequently attend to ANC and deliver in health facility. Nonetheless, the presence of a small group with low perinatal care services utilization remains concerning, given the heightened vulnerability of adolescent mothers to

obstetric complications. This finding emphasizes the need for targeted interventions to reach adolescents who remain disengaged from formal healthcare services.

5.1.2 Social and Cultural Factors Affecting ANC Utilization and Place of Delivery among Adolescent Mothers.

The study also sought to investigate the social and cultural factors affecting antenatal care (ANC) utilization and place of delivery among adolescent mothers. Only two factors i.e. distance to the nearest health facility and use of traditional birth attendants (TBAs) showed a significant influence on ANC utilization.

Distance to health facilities showed a statistically significant association with ANC utilization indicating an inverse pattern, where adolescent mothers living closer to health facilities were more likely to exhibit low perinatal care services utilization. This finding diverges from prevailing evidence, which consistently demonstrates that geographical proximity facilitates access to and uptake of maternal health services (Nyamtema et al., 2018; Atuyambe et al., 2019). There is a possibility that in this area, other factors are stronger driver's health care access than distance or physical proximity. Another plausible explanation for this unexpected pattern may lie in the statistical limitations of the present study given that most mothers were using ANC and other services. Notably, only six adolescents were categorized as having low perinatal care utilization, resulting in small cell counts within the regression model. The observed relationship may indicate that physical accessibility alone does not guarantee service utilization among adolescents. Other contextual and individual-level factors such as perceived quality of care, attitudes of health workers, concerns about confidentiality, or the absence of adolescent-friendly services may play a more influential role in shaping care-seeking behavior. Similar findings have been documented in studies highlighting how social and experiential barriers can undermine utilization even in settings where services are geographically accessible (Ameyaw et al., 2020; Bohren et al., 2019).

The use of TBAs was also significantly associated with ANC seeking behaviour. All adolescent mothers with low perinatal care services utilization reported using TBAs, compared to about half of those with high perinatal care services utilization. This finding aligns with studies that show that reliance on TBAs is linked to reduced utilization of formal maternal health services, especially in rural and culturally conservative settings (Akeju et al., 2016; Masiye et al., 2019). TBAs are often trusted community members who provide culturally acceptable and emotionally supportive care, which may be especially appealing to adolescent mothers who fear stigma or harsh treatment in formal health facilities.

The findings showed that most demographic and socio-cultural factors, including age, education level, marital status, parental characteristics, community perceptions, and cultural beliefs, were not statistically

significantly associated with ANC seeking behaviour among the adolescents. The non-significant associations of the socio-cultural variables suggests that traditional determinants such as education, marital status, and parental background may have limited explanatory influence on ANC utilization in Kotido district. This finding contradicts findings from studies conducted in Nigeria, Kenya, India, and Bangladesh, where low education levels, lack of autonomy, and restrictive family norms significantly constrained adolescents' use of ANC and skilled delivery services (Shahabuddin et al., 2017; Ijadunola et al., 2020; Moindi et al., 2020). In Kotido District, the homogeneity of socio-cultural characteristics such as low educational attainment and high levels of poverty may reduce variability resulting to the weakened statistical associations.

The findings further found out that community perceptions of adolescent motherhood, including stigma or social acceptance, did not significantly influence perinatal care services utilization. This finding contrasts with studies from South Africa and the United Kingdom, where stigma and discrimination have been shown to discourage adolescent mothers from seeking care (Jones et al., 2019; McLeish & Redshaw, 2020). This suggests that adolescent motherhood in Karamoja may be relatively normalized within the community, reducing the negative influence of social judgment on care-seeking decisions.

5.2 Conclusion

This study examined the level of perinatal care services utilization and the social-cultural factors influencing antenatal care (ANC) utilization and place of delivery among adolescent mothers in Kotido District. The findings indicate that majority of adolescent mothers demonstrated a high level of perinatal care services utilization, suggesting increased engagement with formal maternal health services in the study area. This reflects a positive shift from patterns reported in many low-resource and marginalized settings, where adolescent mothers often delay or avoid seeking care.

Despite this encouraging overall level of perinatal care services utilization, the study identified important contextual dynamics. Most demographic and socio-cultural factors, including age, education level, marital status, parental characteristics, and community perceptions, were not significantly associated with perinatal care services utilization. This suggests that in Kotido District, individual and household-level characteristics may play a less decisive role in determining ANC utilization and place of delivery than broader community and health system factors.

Notably, distance to the nearest health facility and the use of traditional birth attendants (TBAs) were significantly associated with perinatal care services utilization. The inverse relationship between proximity to health facilities and service utilization highlights that physical access alone does not guarantee healthcare

use. Perceived quality of care, provider attitudes, and the availability of adolescent-friendly services likely influence adolescents' decisions to seek care. Furthermore, the strong association between reliance on TBAs and low perinatal care services utilization underscores the continued influence of traditional and community-based care pathways in shaping maternal health practices.

Overall, the findings affirm the relevance of the socio-ecological model in understanding healthcare-seeking behaviour among adolescent mothers. Perinatal care services utilization in Kotido District is shaped by interactions between community norms, trusted social actors, and health system responsiveness, rather than solely by individual demographic characteristics.

5.3 Recommendations

TBAs should be trained to identify pregnancy danger signs and supported to refer adolescent mothers promptly to health facilities, rather than serving as substitutes for skilled care and also enhance deliveries under the supervision of skilled providers

Improve quality of care and client experience at health facilities. Interventions should go beyond improving physical access to facilities and address service quality, including reducing waiting times, improving communication, and ensuring consistent availability of essential maternal health services. Enhancing client experience may increase utilization even among adolescents living near health facilities.

Strengthen community-based health education and outreach, community health education programs should continue to focus on the importance of early ANC attendance and skilled delivery, while addressing misconceptions about facility-based care. Engaging community leaders, parents, and male partners may further reinforce supportive norms around adolescent maternal healthcare utilization.

Target adolescents with persistently low perinatal care services utilization, Tailored interventions should be designed to reach the small but vulnerable group of adolescent mothers who exhibit low perinatal care services utilization. These may include home visits, peer support groups, and linkage to social support services.

More research to be done in other parts of Karamoja to ensure that results can be compared and come up with tailored strategies to address the health gaps.

5.4 Future research

Further studies using mixed-methods approaches are recommended to explore underlying reasons for the inverse relationship between proximity to health facilities and utilization, as well as adolescents' perceptions of care quality. Longitudinal studies could also provide deeper insight into changes in perinatal care services utilization over time among adolescent mothers in Karamoja.

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