

**UTILIZATION OF COMPLEMENTARY AND ALTERNATIVE MEDICINE AND
ASSOCIATED FACTORS AMONG PREGNANT MOTHERS IN NAGONGERA
HEALTH CENTRE IV, TORORO DISTRICT, UGANDA**

TEREZA NYAMWENGE

RS21M07/002

**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**

February, 2026



**UGANDA CHRISTIAN
UNIVERSITY**

A Centre of Excellence in the Heart of Africa

DECLARATION

This dissertation is my original work and has not been presented for a degree at any other university.

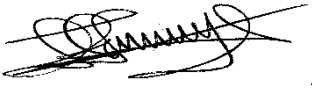
Signature..........

Date...23/03/2026.....

NYAMWENGE TEREZA

RS21M07/002

This dissertation has been submitted to my supervisor for review.

Signature..........

Date: 23/03/2026

MR. SSEMUJJU STEPHEN

Department of Public Health

Faculty of Health Sciences

Muni university

ACKNOWLEDGEMENT

My first acknowledgement goes to my supervisor, Mr. Semujju Stephen, for his wonderful and continuous support and guidance in undertaking this research proposal. I also appreciate the entire family at Uganda Christian University for the good study environment they have provided me with. Lastly, I appreciate the staff and management of Nagongera sub-county for allowing me to conduct this preliminary study at their organization.

DEDICATION

I dedicate this research project to my German mother, Kerstin Gollner, my Ugandan Family, my husband, and my children for their tireless encouragement and support towards this dissertation.

Table of Contents

DECLARATION	i
ACKNOWLEDGEMENT	ii
DEDICATION	iii
List of Tables	viii
List of Figures	ix
Abstract	x
CHAPTER ONE: INTRODUCTION	1
1.1 Background	1
1.2 Statement of the problem	3
1.3 Study Objectives	3
1.3.1 Major Objective	4
1.3.2 Specific Objectives	4
1.4 Research Questions	4
1.5 Scope of the Study	4
1.5.1 Geographical Scope	5
1.5.2 Time Scope	5
1.5.3 Significance of the Study	5
1.6 Justification of the Study	6
1.7 Assumptions	6
1.9 Conceptual Framework	7
CHAPTER 2: LITERATURE REVIEW	9
2.1 LITERATURE REVIEW	9
2.2.1 The Health Belief Model (HBM)	9
2.3 EMPIRICAL LITERATURE REVIEW	13
2.3.1 Utilization of CAM Among Pregnant Women	13
2.3.2 Individual Factors Influencing CAM Utilization	14
2.3.3 Socio-Cultural Factors Influencing CAM Utilization	15

2.3.4 Economic Factors Influencing CAM Utilization	16
2.3.5 Summary of Empirical Literature and Research Gaps.....	17
CHAPTER 3: RESEARCH METHODOLOGY	18
3.0 Introduction.....	18
3.1 Study design.....	18
3.2 Area of study.....	19
3.3 The study population	20
3.4 Sampling Procedures	20
3.4.1 Sampling Design.....	21
3.5 Inclusion and Exclusion Criteria	22
3.5.1 Inclusion Criteria	22
3.5.2 Exclusion Criteria	22
3.5.3 Study Limitations.....	22
3.5.4 Sample Size.....	23
3.6 Data Collection Methods and Instruments.....	24
3.6.1 Quantitative Data Collection Instrument	24
3.6.2 Qualitative Data Collection Instrument.....	25
3.6.3Instrument Rationale.....	25
3.6.4 Interview Guide and Validity	26
3.6.5 Questionnaire Validity	27
3.6.6 Face Validity	27
3.6.7 Content Validity	27
3.7 Quantitative Data Management	28
3.7.1 Qualitative Data Management.....	28
3.7.2 Data Security	28
3.8 Data Analysis	29

3.8.1 Quantitative Data Analysis.....	29
3.8.2 Qualitative Data Analysis	29
3.8.3 Integration of Quantitative and Qualitative Findings	30
3.9 Ethical Considerations.....	30
3.9.1 Informed Consent	30
3.9.2 Respect and Dignity	30
3.9.3 Confidentiality and Privacy	31
3.9.4 Academic Integrity.....	31
CHAPTER 4: RESULTS PRESENTATION	32
4.0 Introduction.....	32
4.1 Quantitative Results.....	32
4.1.1 Demographic factors of the respondents.....	32
4.1.2 Bivariate analysis of individual factors associated with complementary and alternative medicine utilization among pregnant women in Nagongera HC IV.....	34
4.1.3 Bivariate analysis of the socio-cultural factors that influence the use of CAM among pregnant women in Nagongera HC IV	37
4.1.3 Bivariate analysis of the economic factors that influence the use of CAM among pregnant women in Nagongera HC IV	38
4.1.4 Multivariate analysis of individual factors associated with complementary and alternative medicines utilization among pregnant women in Nagongera HC IV	40
4.1.5 Multivariate analysis of the socio-cultural factors that influence the use of CAM among pregnant women in Nagongera HC IV.....	41
4.1.5 Multivariate analysis of the economic factors that influence the use of CAM among pregnant women in Nagongera HC IV	42
4.1.6 The common therapies of CAM used among pregnant women in Nagongera HC IV.	43
4.2 QUALITATIVE RESULTS	45
4.2.1 SPECIFIC OBJECTIVE 1: USE OF COMPLEMENTARY AND ALTERNATIVE MEDICINE (CAM) DURING PREGNANCY.	46

4.2.2 SPECIFIC OBJECTIVE 2: INDIVIDUAL FACTORS ASSOCIATED WITH CAM USE.....	47
4.2.3 SPECIFIC OBJECTIVE 3: SOCIAL -CULTURAL FACTORS INFLUENCING CAM USE.	49
4.2.4 SPECIFIC OBJECTIVE 4: COMMON THERAPIES OF CAM USED.....	50
CHAPTER 5: DISCUSSION OF FINDINGS	52
5.0 Introduction.....	52
5.2.1 Utilization of CAM.....	52
5.2.2 Individual Factors Influencing CAM Utilization	52
5.2.3 Socio-Cultural Factors Influencing CAM Utilization.....	54
5.2.4 Economic Factors Influencing CAM Utilization	54
5.2.5 Integration of Quantitative and Qualitative Findings	55
5.2.6 Dissemination Plan.....	55
CHAPTER 6: CONCLUSION & RECOMMENDATIONS.....	57
6.1 Conclusion	57
6.2 Recommendations	57
6.2.1 To the Ministry of Health, Ministry of Health Uganda	57
6.2.2 To Health Care Providers	57
6.2.3 To the Community and Traditional Practitioners	58
6.2.4 To Researchers.....	58
6.3 Areas for Further Research	58
REFERENCES.....	59
APPENDIX I: CONSENT FORM.....	65
APPENDIX II: QUESTIONNAIRE.....	68
APPENDIX III: INTERVIEW GUIDE	79

List of Tables

Table 1: Showing the distribution of respondents' demographic factors.	36
Table 2: The demographic factors associated with complementary and alternative medicine utilization among pregnant women in Nagongera HC IV	32
Table 3: The individual factors associated with complementary and alternative medicine utilization among pregnant women in Nagongera HC IV	34
Table 4: The social-cultural factors associated with complementary and alternative medicine utilization among pregnant women in Nagongera HC IV	36
Table 5: Multivariate analysis of individual factors associated with complementary and alternative medicine utilization among pregnant women.....	38
Table 6: Multivariate analysis of the socio-cultural factors that influence the use of CAM among pregnant women	41
Table 7: Shows the commonly used CAM among pregnant mothers.....	43
Table 8: The Patterns of Complementary and Alternative Medicine Utilization Among Pregnant Mothers in Nagongera Health Center IV	44

List of Figures

Figure 1: Distribution of respondents' age.....	36
Figure 2: The prevalence of CAM utilization among pregnant mothers in Nagongera HC IV	38

Abstract

Complementary and alternative medicine (CAM) remains widely used among pregnant women in low- and middle-income countries, where cultural norms, socio-economic factors, and health system characteristics shape maternal health-seeking behaviours. Despite national efforts to regulate traditional medicine in Uganda, there is limited empirical evidence on the prevalence and determinants of CAM use in rural settings. At Nagongera Health Centre IV, the extent and drivers of CAM utilization among pregnant women remain inadequately documented.

This study aimed to determine the utilization of CAM and its associated factors among pregnant women attending antenatal care (ANC) at Nagongera Health Centre IV. A facility-based cross-sectional study using a convergent parallel mixed-methods design was conducted among 405 pregnant women, recruited consecutively as they attended ANC services (response rate: 92%). Quantitative data were analyzed using SPSS version 26, while qualitative data from 10 in-depth interviews were analyzed thematically.

The prevalence of CAM use during pregnancy was 52.6% (213/405). Herbal medicine was the most commonly used modality (67.1%), followed by consultation with traditional birth attendants (39.4%) and massage (34.7%). Nearly half (45.5%) of CAM users reported daily use, and 58.7% spent less than UGX 10,000 per month on CAM.

Multivariate analysis showed that lower knowledge levels strongly increased the likelihood of CAM use (AOR = 2799.53; 95% CI: 61.23–127,988.60; $p < 0.001$). Perceiving CAM as culturally embedded significantly increased odds of use (AOR = 11.57; 95% CI: 1.73–77.34; $p = 0.012$). Family recommendations were also strongly associated (AOR = 1294.39; 95% CI: 113.42–14,771.50; $p < 0.001$). Economic factors were significant: women from households with adequate footwear were more likely to use CAM (AOR = 2.50; 95% CI: 1.47–4.26; $p = 0.001$), whereas households consuming three or more meals per day had lower odds of CAM use (AOR = 0.27; 95% CI: 0.17–0.43; $p < 0.001$).

Qualitative findings supported the quantitative results, highlighting cultural inheritance, peer influence, perceived effectiveness in easing labour, dissatisfaction with health facility services, and affordability as major drivers of CAM use.

In conclusion, CAM utilization among pregnant women at Nagongera Health Centre IV is high and shaped by interrelated cultural, informational, and socio-economic factors. Strengthening antenatal counselling, promoting respectful maternity care, and providing culturally sensitive health education may help reduce unsafe and undisclosed CAM use.

CHAPTER ONE: INTRODUCTION

1.1 Background

Pregnancy is a transformative period in a woman's life, accompanied by unique physiological and emotional changes. Expectant mothers aim to maintain optimal health for themselves and their unborn children throughout this journey. Traditionally, healthcare has focused on conventional medicine as the standard approach to maternal care (Hall, Griffiths, McKenna, & Lucke, 2021). However, in recent decades, there has been a marked increase in the use of complementary and alternative medicine (CAM) among pregnant women (Hall et al., 2021).

CAM encompasses a broad range of health practices, therapies, and products that are not considered part of conventional medicine, including herbal medicines, acupuncture, homeopathy, dietary supplements, and mind-body practices such as yoga (Kennedy, Lupatelli, Koren, & Nordeng, 2020). According to the World Health Organization (WHO, 2023), CAM refers to healthcare practices that are not part of a country's conventional medicine and are not fully integrated into its healthcare system. In some countries, CAM is used interchangeably with traditional medicine.

The rising popularity of CAM during pregnancy is influenced by multiple factors, including cultural beliefs, personal preferences, perceived effectiveness, and the desire for holistic care (Steel, Adams, Sibbritt, Broom, Gallois, & Frawley, 2020). Human societies have used CAM for thousands of years, including for pregnancy-related care, to manage discomfort and treat illnesses (Mothupi, 2021; Hall et al., 2021). Common CAM modalities in pregnancy include herbal medicines, vitamins and mineral supplements, aromatherapy, relaxation therapies such as yoga, massage, meditation, chiropractic, acupuncture, and spiritual remedies (Bishop & Adams, 2020; Hernandez & Farinholt, 2020). These therapies are often self-prescribed and used to alleviate pregnancy-related ailments such as nausea, vomiting, headaches, back pain, respiratory infections, and skin conditions (Nordeng & Havnen, 2020; Bishop et al., 2020; Hernandez et al., 2020; Kennedy et al., 2020).

Globally, CAM utilization among pregnant women varies but remains high in both developed and developing countries. In Australia, 52% of pregnant women reportedly use CAM (Frawley, Steel, Galligan, & Adams, 2021), while in the United Kingdom, 57.1% of women use CAM during pregnancy (Hall & Jolly, 2014). In Germany, the prevalence is 50.7% (Kalder et al.,

2011), whereas in the United States and Australia, rates as high as 87% and 91% have been reported, respectively (Emiru, 2021). In the Middle East, studies indicate 75% of pregnant women utilize CAM. Globally, the WHO estimates that over 80% of populations in developing countries rely on CAM for health improvement and disease management (WHO, 2019).

In Sub-Saharan Africa, CAM use among pregnant women is widespread due to its affordability, accessibility, and cultural acceptance (Watanabe, 2023). Despite these benefits, many users are unaware of potential adverse effects on maternal and fetal health (Emiru, 2021). Studies in the region show varying prevalence: 45% in the Democratic Republic of Congo (Yisma, Dessalegn, & Astatkie, 2022), 52% in Zimbabwe (Yisma et al., 2022), 55% in South Africa (Mabuza & Ngcobo, 2021), 55% in Tanzania (Godlove, 2011), and 80% in Ethiopia (Yisma et al., 2022). On average, over 70% of pregnant women in Sub-Saharan Africa reportedly use CAM during pregnancy (WHO, 2020; WHO, 2019; Zakarija-Grkovic & Stewart, 2020).

In Uganda, approximately 70% of women use CAM as part of maternal healthcare (Musa, Senkungu, & Nakaggwa, 2020). Factors influencing CAM utilization include socio-demographic characteristics such as age, education, income, and occupation; cultural and social influences such as family guidance, norms, and beliefs; health-related factors including perceived efficacy and accessibility of conventional medicine; and psychological factors like attitudes toward modern medicine and risk perception.

Despite the progress in modern healthcare systems, CAM remains widely used among both urban and rural populations due to these interrelated factors. However, pregnant women should be cautious with CAM, particularly herbal medicines, as safety profiles are often unknown, and some products may affect maternal and fetal outcomes. Traditional medicines are widely perceived as natural and safe, yet few studies have rigorously evaluated their safety, purity, or potential adverse effects during pregnancy. In rural areas such as Nagongera, there is currently no data on the prevalence or determinants of CAM use, highlighting the need for research to bridge this knowledge gap. This study aims to investigate the utilization, types, and factors influencing CAM among pregnant mothers attending antenatal care at Nagongera Health Center IV, Tororo District.

1.2 Statement of the problem

Complementary and Alternative Medicine (CAM) is widely used across many parts of the world, particularly in low- and middle-income countries where traditional medicine remains an important component of healthcare. In Uganda, the Ministry of Health recognizes the role of traditional medicine in the health system and has undertaken efforts to regulate and integrate Complementary and Alternative Medicine into formal healthcare structures. Policies such as the Traditional and Complementary Medicine Act (2019), the National Drug Authority regulations, and collaboration with the World Health Organization aim to ensure the safety, quality, and appropriate use of CAM practices. These initiatives include licensing traditional health practitioners, promoting research into traditional medicine, and educating the public about the safe use of CAM.

Despite these policy efforts, the use of CAM remains common, particularly among pregnant women in rural communities where access to conventional healthcare may be limited and cultural beliefs strongly influence health-seeking behaviours. The use of unregulated herbal medicines and other forms of CAM during pregnancy raises important maternal health concerns, including potential adverse effects, incorrect dosage, delays in seeking appropriate medical care, and exposure to unsafe or unverified treatment practices.

Although CAM use during pregnancy has been reported in several settings, there is limited local evidence on the utilization of CAM among pregnant women in specific rural communities in Uganda. In particular, little is known about the extent to which pregnant women attending antenatal care at Nagongera Health Centre IV use complementary and alternative medicine, the types of CAM practices commonly used, and the factors influencing their use. These factors may include individual characteristics, socio-cultural beliefs, and health facility-related influences that shape health-seeking behaviours during pregnancy.

The lack of context-specific evidence on CAM use among pregnant women in Nagongera limits the ability of healthcare providers and policymakers to design targeted interventions that promote safe maternal health practices. Therefore, this study aimed to assess the utilization of CAM and identify the individual, socio-cultural, and health facility-related factors associated with its use among pregnant women attending antenatal care at Nagongera Health Centre IV.

1.3 Study Objectives

1.3.1 Major Objective

To assess the utilization of complementary and alternative medicine (CAM) use and the factors associated with its utilization among pregnant women attending Nagongera Health Centre IV, Tororo District, Uganda.

1.3.2 Specific Objectives

- I. To assess the utilization of Complementary and Alternative Medicine (CAM) use among pregnant women attending antenatal care at Nagongera Health Centre IV.
- II. To assess the individual factors associated with CAM utilization among pregnant women attending antenatal care at Nagongera Health Centre IV.
- III. To explore the socio-cultural factors influencing CAM utilization among pregnant women attending antenatal care at Nagongera Health Centre IV.
- IV. To assess the economic factors associated with CAM utilization among pregnant women attending antenatal care at Nagongera Health Centre IV.

1.4 Research Questions

- I. What is the utilization of CAM use among pregnant women attending antenatal care at Nagongera HC IV?
- II. What individual factors are associated with CAM utilization among pregnant women attending antenatal care at Nagongera HC IV?
- III. What socio-cultural factors influence CAM use among pregnant women attending antenatal care at Nagongera HC IV?
- IV. What are the economic factors associated with CAM utilization among pregnant women attending antenatal care at Nagongera HC IV?

1.5 Scope of the Study

Content:

This study focused on expectant mothers receiving antenatal care at Nagongera Health Centre IV. It examined the utilization of complementary and alternative medicine (CAM), the types of CAM therapies commonly used by pregnant mothers, and the factors motivating their use in this setting.

The researcher explored individual characteristics such as age and educational background, socio-economic factors including family income and living conditions, and community influences, as these were expected to significantly shape pregnant women's choices regarding CAM use.

1.5.1 Geographical Scope

The study was conducted at Nagongera Health Centre IV, located in Tororo District, Uganda. Nagongera sub-county is situated approximately 26.5 km west of Tororo town, the district headquarters. According to the 2020 census, the estimated population of Nagongera is 14,300, comprising 7,300 females and 7,000 males.

1.5.2 Time Scope

This study was conducted over a period of two years, from February 2024 to February 2026.

1.5.3 Significance of the Study

The insights obtained from this study contribute to the existing knowledge on CAM utilization during pregnancy and shed light on the factors driving its use among expectant mothers. The findings provide valuable information to healthcare providers, policymakers, and pregnant women, enabling informed decisions regarding the integration, regulation, and monitoring of CAM therapies in prenatal care.

By promoting safe and evidence-based approaches to prenatal healthcare, the study supports improved maternal and fetal outcomes and the overall well-being of expectant mothers. The results also offer supporting evidence to guide decision-making at systemic, institutional, and individual levels concerning CAM use during pregnancy and provide a foundation for future research on the effectiveness of these therapies in managing pregnancy-related complications.

Additionally, the knowledge generated is beneficial to the educational sector, particularly the Departments of Public Health and Medicine, as well as to policymakers. The findings provide data for policy dialogue and community engagement, informing the Ministry of Health, local communities, and expectant and lactating mothers. Furthermore, the study helps mothers,

religious leaders, and cultural leaders understand the potential risks of neglecting conventional medicines, thereby enhancing health-related decision-making.

1.6 Justification of the Study

Potential Benefits and Risks:

While many pregnant women use CAM therapies to alleviate pregnancy-related symptoms or promote well-being, these practices carry potential risks, including adverse effects and interactions with conventional medical treatments. This study explored both the benefits and risks of CAM use during pregnancy, underscoring its relevance to maternal healthcare.

Prevalence and Increasing Trend:

CAM use during pregnancy is becoming increasingly common worldwide. By highlighting the utilization of CAM among pregnant women attending antenatal care at Nagongera Health Centre IV, this study contributes to understanding its determinants and implications for maternal and fetal health.

Patient-Centred Care:

Pregnant women often seek CAM therapies to complement conventional prenatal care and address their unique healthcare needs and preferences. This study emphasizes the importance of understanding women's perspectives and experiences with CAM, supporting patient-centred care and shared decision-making in maternal healthcare.

Addressing Research Gaps:

Despite widespread CAM use, there remain significant gaps in research, including limited data on specific CAM modalities, variations across different populations, and the factors influencing utilization patterns. This study contributes new knowledge and insights, helping to fill these gaps and inform both practice and future research in maternal health.

1.7 Assumptions

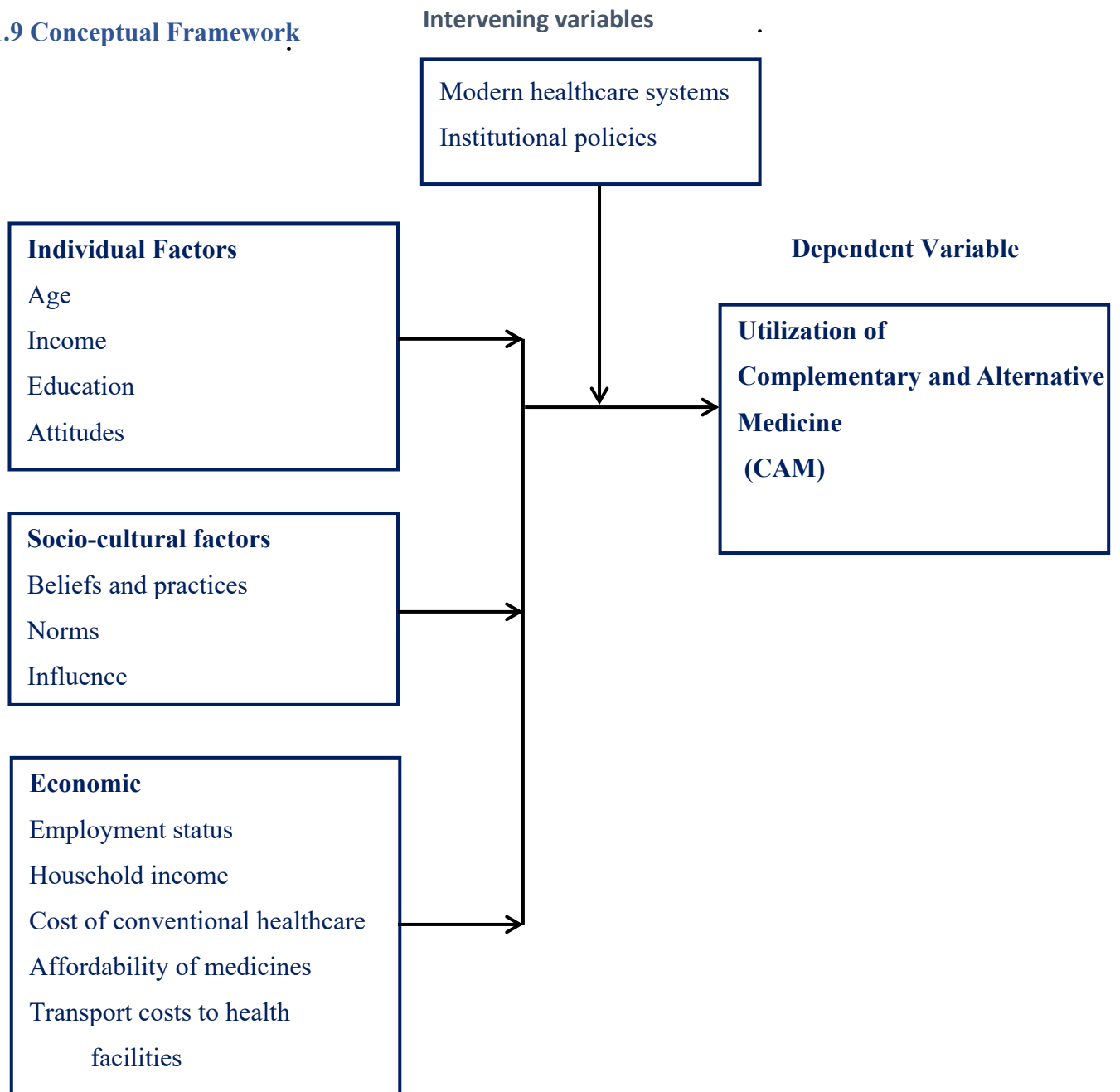
The study was based on the following key assumptions:

Various expectant mothers attending antenatal care at Nagongera Health Centre IV may prefer complementary and alternative medicine (CAM) over conventional medical treatments. After delivery, some may continue using local herbal remedies rather than seeking formal healthcare.

The use of interview guides and structured questionnaires would effectively capture information from study participants, including lactating mothers, about the factors motivating CAM use.

The findings from this study could provide generalizable insights to the public regarding safe and informed maternal health choices.

1.9 Conceptual Framework



In this study, the dependent variable is the utilization of Complementary and Alternative Medicine (CAM) among pregnant women. This outcome is influenced by several independent variables, including individual factors, socio-cultural factors, and economic factors. Individual factors such as age, education level, marital status, knowledge, and attitudes may influence women's decisions regarding CAM use. Socio-cultural factors such as beliefs, traditional practices, and family influence also play an important role in shaping health-seeking behaviour.

Economic factors, including employment status, household income, and the cost of healthcare services, may further influence the choice between conventional medicine and CAM. The relationship between these independent variables and CAM utilization may be influenced by intervening variables such as the modern healthcare system, health policies, and the availability of antenatal care services.

CHAPTER 2: LITERATURE REVIEW

2.1 LITERATURE REVIEW

This chapter reviews existing literature relevant to the utilization of complementary and alternative medicine (CAM) among pregnant women. The review examines previous studies on the utilization, types, and drivers of CAM during pregnancy, as well as the factors associated with its utilization. The purpose of this chapter is to synthesize existing evidence to provide a theoretical and empirical foundation for the current study.

The chapter begins with the theoretical framework that underpins the study, followed by a review of empirical literature on the utilization of CAM among pregnant women. It further examines literature related to individual, socio-cultural, and economic factors that may influence the use of CAM among pregnant women. Evidence from global, regional, and Ugandan contexts is discussed to highlight existing knowledge and identify gaps in the literature. These gaps justify the need to investigate the utilization of complementary and alternative medicine among pregnant women attending antenatal care at Nagongera Health Centre IV in Tororo District.

2.2.1 The Health Belief Model (HBM)

The Health Belief Model provides a useful framework for understanding health-seeking behaviour, including the utilization of complementary and alternative medicine (CAM) among pregnant women. The model was developed by Irwin M. Rosenstock in the 1950s and was later expanded by Marshall H. Becker and colleagues. The model explains health-related behaviours based on individuals' perceptions of risk, benefits, barriers, and their confidence in performing a particular health action.

According to the model, health behaviour is influenced by six key constructs: perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy. These constructs interact to shape individuals' decisions regarding whether or not to engage in a particular health behaviour. In the context of pregnancy, women may choose to use CAM based on their perceptions of the risks associated with pregnancy complications, the perceived effectiveness and safety of CAM, the barriers to accessing conventional healthcare, and external influences such as advice from family members or community members.

Perceived Susceptibility

Perceived susceptibility refers to the extent to which a woman believes she is at risk of experiencing pregnancy-related complications. Empirical evidence indicates that women who perceive themselves as vulnerable to conditions such as miscarriage, prolonged labour, or spiritual harm may seek protective measures, including the use of herbal remedies and spiritual therapies (James et al., 2020; Boateng et al., 2021). In many African contexts, perceptions of susceptibility extend beyond biomedical risks to include supernatural or spiritual threats, which may further encourage the use of traditional remedies during pregnancy.

However, some scholars argue that the Health Belief Model conceptualizes susceptibility primarily as an individual perception, which may overlook socially and culturally constructed understandings of risk (Gyasi et al., 2021). In many communities, perceptions of vulnerability are shaped collectively through cultural beliefs, traditions, and social norms rather than purely individual cognition.

Perceived Severity

Perceived severity refers to an individual's belief about the seriousness of potential pregnancy complications and their possible consequences. Women who perceive conditions such as hemorrhage or obstructed labour to be severe may be more likely to adopt multiple health-seeking strategies, including the use of complementary and alternative medicine (CAM) alongside biomedical care to enhance protection (Adane et al., 2020).

However, perceived severity alone may not always predict behaviour. Broader contextual constraints, including economic limitations and access to resources, may influence the choices women make regarding healthcare (Johnson et al., 2022; WHO, 2019). In many rural settings, these contextual factors may shape how women respond to perceived health risks during pregnancy. This highlights the importance of considering both cognitive and socio-economic determinants when analyzing CAM utilization in settings such as Nagongera.

Perceived Benefits

Perceived benefits refer to an individual's belief in the positive outcomes of adopting a particular health behaviour. Among pregnant women, complementary and alternative medicine (CAM) is

often perceived to provide several benefits, such as relieving nausea, enhancing maternal well-being, promoting fetal growth, and facilitating a smoother delivery process (Boateng et al., 2021). In addition to these perceived physical benefits, emotional and spiritual reassurance may also reinforce the continued use of CAM during pregnancy.

However, some scholars argue that perceptions of benefits are frequently shaped by social and cultural influences rather than scientific evidence. Family members, community networks, and traditional healers may promote the perceived effectiveness of herbal remedies, which can strengthen positive attitudes toward CAM even when biomedical evidence is limited (Tiran, 2020; Gyasi et al., 2021). In the context of this study, perceived benefits provide insight into why pregnant women may prioritize the use of CAM alongside or instead of conventional medical care.

Perceived Barriers

Perceived barriers refer to the obstacles that prevent individuals from adopting a particular health behaviour. In the context of pregnancy, these barriers may include financial constraints, limited resources, and other socio-economic challenges that make it difficult for women to rely solely on biomedical care (WHO, 2019; Adane et al., 2020). As a result, some pregnant women may turn to complementary and alternative medicine (CAM) as a more accessible or affordable option for managing pregnancy-related concerns.

The Health Belief Model suggests that individuals are less likely to engage in a health behaviour when perceived barriers outweigh the perceived benefits. However, scholars have argued that these barriers are not only subjective perceptions but may also reflect broader structural inequalities such as poverty, gender disparities, and limited economic opportunities (Gyasi et al., 2021). Recognizing these broader contextual factors is important for understanding patterns of CAM utilization among pregnant women.

Self-Efficacy

Self-efficacy refers to an individual's confidence in their ability to perform a particular health behaviour. In the context of CAM utilization, pregnant women who have previously used herbal remedies or other traditional therapies may feel confident in their ability to continue using these

practices during pregnancy (Boateng et al., 2021). Prior positive experiences with CAM may therefore reinforce continued use.

However, in many rural communities, health-related decision-making is often influenced by family members, spouses, elders, or broader community expectations. This suggests that maternal health behaviours may not be driven solely by individual confidence but also by collective beliefs and social influences (Gyasi et al., 2021). Understanding self-efficacy within this broader social context is therefore important for analyzing patterns of CAM utilization among pregnant women.

Cues to Action

Cues to action refer to the triggers that stimulate individuals to adopt a particular health behaviour. In the context of CAM utilization during pregnancy, these cues may include advice or recommendations from family members, traditional healers, peers, or other influential members of the community. In many collectivist societies, social expectations and cultural norms strongly shape maternal health decisions. Pregnant women may therefore use complementary and alternative medicine (CAM) not only because of personal beliefs but also due to social influence or compliance with the authority of elders and community leaders (James et al., 2020; Johnson et al., 2022).

This observation highlights an important limitation of the Health Belief Model, which primarily focuses on individual perceptions and may underestimate the role of social pressure and collective decision-making in shaping health behaviours.

Summary

Overall, the Health Belief Model provides a systematic framework for understanding the utilization of complementary and alternative medicine (CAM) by highlighting the cognitive determinants of maternal health behaviour. The model explains how perceptions of susceptibility, severity, benefits, barriers, self-efficacy, and cues to action influence women's decisions regarding CAM use during pregnancy.

However, critics argue that the model is predominantly individualistic and may not fully account for broader contextual influences such as socio-cultural norms, economic constraints, and collective decision-making processes (Glanz, Rimer, & Viswanath, 2015).

These factors are particularly important in many rural and low-resource settings where health behaviours are shaped by social relationships and cultural traditions. In this study, the Health Belief Model is therefore used alongside socio-cultural and economic perspectives to provide a more comprehensive understanding of CAM utilization among pregnant women attending antenatal care at Nagongera Health Centre IV.

2.3 EMPIRICAL LITERATURE REVIEW

This section reviews empirical studies on the utilization of complementary and alternative medicine (CAM) among pregnant women. The review focuses on the utilization of CAM and examines individual, socio-cultural, and economic factors associated with its utilization.

Evidence from global, regional, and African contexts is discussed to provide a comprehensive understanding of the determinants of CAM use and to identify gaps that justify the current study conducted at Nagongera Health Centre IV in Tororo District.

2.3.1 Utilization of CAM Among Pregnant Women

Studies show that the utilization of complementary and alternative medicine (CAM) among pregnant women varies across regions and is influenced by cultural norms, individual beliefs, and accessibility of healthcare services.

Globally, the use of CAM has increased significantly, with women representing a large proportion of users (Tam, Lo & Khalechelram, 2021). Herbal medicines are particularly common in African countries due to their accessibility, affordability, and perceived safety compared to conventional medicine (Adeniran et al., 2021). In many settings, CAM is used as a complement to biomedical care rather than a complete replacement (Yisma et al., 2022).

Utilization of CAM during pregnancy varies widely across regions. In Africa, studies from Nigeria report that approximately 73.7% of pregnant women use at least one form of CAM, including herbal medicine, spiritual healing, and prayer (Adeniran et al., 2021). Another study

reported an even higher prevalence of 90.3%, with commonly used practices including traditional medicine, herbal concoctions, consultations with traditional birth attendants, and spiritual healing (Nwachukwu et al., 2021).

In high-income countries, the utilization is generally lower but still substantial. In the United States, approximately 36% of pregnant women report using some form of CAM, including herbal supplements, massage therapy, chiropractic care, and yoga (Frawley et al., 2021). Similarly, studies in the United Kingdom indicate that around 60% of pregnant women use therapies such as massage, acupuncture, homeopathy, or herbal remedies (Bishop et al., 2020). Research conducted in Norway also reports frequent use of nutritional supplements, herbal remedies, homeopathy, and acupuncture among pregnant women (Tam et al., 2021).

Despite the widespread use of CAM globally and regionally, there is limited empirical evidence documenting the utilization of CAM among pregnant women in rural Uganda. Specifically, the extent to which pregnant women attending antenatal care at Nagongera Health Centre IV use CAM remains largely undocumented. This study, therefore, seeks to determine the utilization of CAM in this setting.

2.3.2 Individual Factors Influencing CAM Utilization

Utilization of complementary and alternative medicine (CAM) during pregnancy is influenced by several individual-level factors that shape women's health-seeking behaviour, perceptions of safety, and decision-making processes. Studies conducted in various low- and middle-income countries indicate that socio-demographic characteristics and personal beliefs significantly influence the likelihood that pregnant women will use CAM (Gyasi et al., 2021; Johnson et al., 2022).

Age is frequently reported as an important determinant of CAM use. Research suggests that older pregnant women are often more likely to utilize CAM compared to younger women, partly due to accumulated reproductive experience and stronger adherence to cultural traditions (James et al., 2020; Johnson et al., 2022). However, other studies indicate that younger women may also experiment with CAM, particularly in urban settings where exposure through social media and peer networks promotes awareness of alternative health practices (Boateng et al., 2021).

Education level has also been identified as a significant predictor of CAM utilization. Women with lower levels of formal education are often more likely to rely on herbal remedies due to limited access to health information and a stronger cultural attachment to indigenous medical practices (Omondi et al., 2019; Adane et al., 2020). Conversely, some studies in higher-income settings show that highly educated women may use certain forms of CAM, such as nutritional supplements or alternative therapies, as part of perceived natural health practices (Tiran, 2020).

Attitudes and perceptions toward CAM and conventional medicine also influence utilization. Positive attitudes toward traditional medicine and strong beliefs in its effectiveness have been associated with increased use of CAM during pregnancy (Gyasi et al., 2021). Women who perceive pharmaceutical medicines as potentially harmful during pregnancy may prefer herbal or “natural” alternatives (Johnson et al., 2022).

Perceived efficacy further influences CAM use. Many pregnant women believe that herbal remedies effectively manage symptoms such as nausea, vomiting, abdominal pain, and fatigue (Adane et al., 2020; Boateng et al., 2021). Women who have previously experienced relief from these remedies are therefore more likely to continue using them in subsequent pregnancies (Tiran, 2020).

Despite the evidence from other regions, there is limited research examining how these individual factors influence CAM utilization among pregnant women attending antenatal care at Nagongera Health Centre IV. This study, therefore, seeks to examine these determinants within the local context.

2.3.3 Socio-Cultural Factors Influencing CAM Utilization

Socio-cultural factors play an important role in shaping CAM utilization among pregnant women, particularly in sub-Saharan Africa where pregnancy is often viewed as both a biological and cultural experience.

Cultural beliefs and traditional practices are among the most frequently cited drivers of CAM use during pregnancy. In many African communities, pregnancy is perceived as a vulnerable state requiring both physical and spiritual protection. As a result, herbal medicines, protective rituals,

and spiritual healing practices are commonly used to safeguard maternal and fetal health (Gyasi et al., 2021).

Community norms also strongly influence maternal health behaviours. In communities where traditional medicine is widely accepted, pregnant women may feel socially obligated to follow these practices in order to conform to cultural expectations (Adane et al., 2020). These norms often reinforce trust in traditional healers and community elders as important sources of maternal health advice (Johnson et al., 2022).

Family influence is another critical determinant. Decisions regarding pregnancy care are frequently influenced by spouses, mothers-in-law, and older female relatives who may recommend herbal remedies based on cultural knowledge and prior experiences (James et al., 2020; Tiran, 2020). These interpersonal influences often shape women's attitudes toward both traditional and biomedical health practices.

Although socio-cultural influences on CAM utilization have been widely documented in other African contexts, limited evidence exists regarding how these factors shape CAM use among pregnant women in Tororo District. Understanding these local cultural dynamics is therefore important for informing maternal health interventions.

2.3.4 Economic Factors Influencing CAM Utilization

Economic factors also play a significant role in shaping the use of complementary and alternative medicine during pregnancy. In many low-resource settings, financial constraints influence the choice of healthcare options available to pregnant women.

Household income and employment status are important determinants of CAM use. Women from low-income households may rely on herbal remedies because they are perceived as more affordable and readily available than conventional medical treatments (WHO, 2019; Bhamra et al., 2021).

Transport costs also influence healthcare decisions. In rural settings where transportation to health facilities may be expensive, pregnant women may prefer locally available remedies or

consultations with traditional healers within their communities (World Health Organization [WHO], 2019; Aziato & Antwi, 2016).

The affordability of medicines further contributes to CAM utilization. When prescribed medications are expensive or unavailable, women may resort to herbal preparations or other traditional remedies as alternative treatment options (Tarekegn et al., 2019; Kassie et al., 2021).

However, some studies suggest that CAM use is not always driven solely by economic necessity. Certain traditional healers may charge substantial fees for specialized remedies, indicating that personal preference and cultural beliefs may also influence utilization (Hilal & Hilal, 2017).

Despite the recognized influence of economic factors, limited research has examined how financial conditions shape CAM use among pregnant women in rural Uganda. This study, therefore, seeks to examine the economic determinants of CAM utilization among pregnant women attending antenatal care at Nagongera Health Centre IV.

2.3.5 Summary of Empirical Literature and Research Gaps

The empirical literature demonstrates that CAM utilization among pregnant women is influenced by a combination of individual, socio-cultural, and economic factors. Individual characteristics such as age, education, attitudes, and perceived effectiveness of traditional remedies shape women's decisions regarding CAM use. Socio-cultural influences, including cultural beliefs, community norms, and family recommendations, further reinforce the continued use of traditional medicine during pregnancy. Economic factors such as household income, employment status, transport costs, and affordability of medicines may also influence the choice between biomedical and alternative healthcare options.

Despite the growing body of research on CAM utilization during pregnancy, several important gaps remain. Most existing studies have been conducted outside Uganda, and there is limited evidence on the utilization, types, and determinants of CAM among pregnant women in rural communities such as Nagongera. This study, therefore, seeks to address these gaps by examining the utilization of CAM and identifying individual, socio-cultural, and economic factors influencing its utilization among pregnant women attending antenatal care at Nagongera Health Centre IV in Tororo District.

CHAPTER 3: RESEARCH METHODOLOGY

3.0 Introduction

This chapter presents the research design and strategy, sampling technique, data collection tools and methods, method of data analysis, ethical considerations, and the limitations of the study.

3.1 Study design

This study employed a mixed-methods research design, specifically a convergent parallel mixed-methods design, in which quantitative and qualitative data were collected concurrently, analyzed separately, and integrated during interpretation to provide a comprehensive understanding of Complementary and Alternative Medicine (CAM) use among pregnant women. The quantitative component employed a facility-based analytical cross-sectional design to assess the utilization of CAM and its associated factors, while the qualitative component utilized in-depth interviews to explore participants' beliefs, perceptions, and experiences regarding CAM use during pregnancy.

The quantitative component of this convergent parallel mixed-methods study employed a facility-based analytical cross-sectional design to assess the utilization of Complementary and Alternative Medicine (CAM) and to examine its association with selected individual, socioeconomic, and health-related factors among pregnant women. Quantitative data were collected at a single point in time using a structured questionnaire administered to pregnant women attending antenatal care services at Nagongera Health Centre IV.

The quantitative component of the study was conducted using a cross-sectional study design. It was used to assess the utilization of Complementary and Alternative Medicine (CAM) and to identify statistical associations between CAM utilization and selected factors such as individual characteristics, socioeconomic status, and health-related variables.

Quantitative data were collected using a structured questionnaire administered to pregnant women attending antenatal care services at Nagongera Health Centre IV.

The qualitative component was used to explore in greater depth the reasons, beliefs, and perceptions that influence the use of Complementary and Alternative Medicine (CAM) during pregnancy. It also aimed to provide contextual understanding of socio-cultural factors and personal experiences that shape women's decisions to use CAM.

Qualitative data were collected through individual in-depth interviews with women who had used CAM and were considered knowledgeable about the subject. Participants were purposively selected for the qualitative interviews.

An interview guide was used to conduct the in-depth interviews. All interviews were conducted by the researcher in a private room at the health facility to ensure confidentiality and to encourage participants to freely share their experiences.

All interviews were audio-recorded using a mobile phone with participants' consent and later transcribed verbatim for analysis. There were no focus group discussions conducted in this study.

The integration of quantitative and qualitative findings was done at the interpretation stage to provide a more comprehensive understanding of CAM use among pregnant women attending antenatal care services at Nagongera Health Centre IV through in-depth interviews with selected participants.

The integration of both quantitative and qualitative findings allowed for a more comprehensive understanding of the patterns and determinants of CAM use among pregnant women attending antenatal care services at Nagongera Health Centre IV.

3.2 Area of study

The study was conducted at Nagongera Health Centre IV, located in West Budama North County in Tororo District in Eastern Uganda. The health facility is situated approximately 20 kilometres from Tororo Town along the Tororo–Busolwe main road, making it relatively accessible to surrounding communities.

Nagongera Health Centre IV is a government-owned public health facility that provides a wide range of healthcare services, including outpatient care, maternal and child health services, antenatal care (ANC), delivery services, immunization, and other reproductive health services. As a Health Centre IV, the facility functions as a referral centre for lower-level health units within the sub-county and serves a predominantly rural population drawn from Nagongera Sub-county and neighbouring communities.

The health centre receives a large number of pregnant women attending antenatal care services. This is partly because maternal and child health services are provided free of charge in public health facilities in Uganda. Consequently, the facility provides an appropriate setting for assessing the utilization of complementary and alternative medicine (CAM) and the factors influencing its utilization among pregnant women.

3.3 The study population

The target population for this study consisted of all pregnant women residing within the catchment area of Nagongera Health Centre IV in Tororo District. The study population specifically included pregnant women who attended antenatal care (ANC) services at Nagongera Health Centre IV during the study period.

These women were considered appropriate participants for the study because they actively access maternal health services and represent a population that may use complementary and alternative medicine (CAM) during pregnancy. Antenatal care clinics, therefore, provided an ideal setting for identifying pregnant women and assessing the utilization and determinants of CAM utilization.

3.4 Sampling Procedures

Sampling procedures were employed to ensure that the selected participants appropriately represented pregnant women attending antenatal care (ANC) services at Nagongera Health Centre IV.

The target population consisted of all pregnant women residing within the catchment area of Nagongera Health Centre IV. The study population included pregnant women who attended ANC services at the facility during the data collection period.

For the quantitative component, a consecutive sampling approach was used. All pregnant women who attended the antenatal care (ANC) clinic during the study period and met the inclusion criteria were approached consecutively and invited to participate in the study.

Before recruitment, the eligible participants were briefly oriented in a group about the study objectives, the concept of Complementary and Alternative Medicine (CAM), and what participation would involve to ensure that all participants received uniform information. After the briefing, written informed consent was obtained from each participant individually using consent forms before enrollment into the study.

To minimize selection bias, all eligible women were approached in the order of their arrival at the clinic, and no participant was selected based on researcher's preference.

Participants who provided written informed consent were then taken to a private room where individual interviews were conducted using a structured questionnaire. This ensured

confidentiality and reduced the likelihood of social desirability bias. The questionnaire was administered in a standardized manner to all participants.

This process continued until the required sample size was achieved. A total of 405 pregnant women participated in the quantitative survey, representing a response rate of 92% of the initially calculated sample size of 441 participants.

For the qualitative component, purposive sampling was employed to select participants who could provide in-depth insights into beliefs, attitudes, and practices related to CAM use during pregnancy. Participants were selected based on characteristics such as age, parity, and socio-cultural background in order to ensure diversity of perspectives and richer contextual understanding of CAM utilization.

3.4.1 Sampling Design

The study employed a mixed sampling design consistent with the convergent parallel mixed-methods approach adopted in this research.

For the quantitative component, a consecutive sampling design was used. This approach allowed all eligible pregnant women attending antenatal care (ANC) services at Nagongera Health Centre IV during the data collection period to have an opportunity to participate in the study.

Consecutive sampling was considered appropriate for this facility-based study because it is practical to implement in clinical settings, minimizes selection bias, and allows the recruitment of participants in the order in which they present for care. This method also helps ensure that the sample reasonably represents pregnant women seeking ANC services at the facility.

For the qualitative component, purposive sampling was employed to select participants who could provide rich and in-depth information regarding beliefs, attitudes, and practices related to Complementary and Alternative Medicine (CAM) use during pregnancy. Participants were intentionally selected based on characteristics such as age, parity, and socio-cultural background to capture diverse perspectives and experiences.

Qualitative data were collected through individual in-depth interviews using a semi-structured interview guide. The interviews were conducted by the researcher in a private setting to ensure confidentiality and encourage open sharing of experiences.

The use of this mixed sampling design enabled the study to quantify the utilization of CAM and identify associated factors through the quantitative component, while simultaneously exploring the underlying cultural, social, and economic drivers of CAM use through qualitative inquiry.

This approach provided a more comprehensive understanding of CAM utilization among pregnant women attending antenatal care services at Nagongera Health Centre IV.

3.5 Inclusion and Exclusion Criteria

To strengthen the integrity of the sampling process, clear eligibility criteria were established to guide participant selection.

3.5.1 Inclusion Criteria

Participants were included in the study if they met the following criteria:

Pregnant women attending antenatal care (ANC) services at Nagongera Health Centre IV during the study period.

Pregnant women who were willing to provide informed consent to participate in the study.

3.5.2 Exclusion Criteria

Participants were excluded from the study if they met any of the following conditions:

Pregnant women who were severely ill at the time of data collection and, therefore, unable to participate in the interview process.

Pregnant women who were unable to communicate effectively, as they could not provide reliable responses to the study questions.

Clearly defined inclusion and exclusion criteria enhance the transparency and reproducibility of the research process, minimize ambiguity in participant selection, and help ensure the validity of the data collected (Kothari, 2019).

3.5.3 Study Limitations

This study was conducted in a health facility and therefore included only pregnant women who attended antenatal care (ANC) services at Nagongera Health Centre IV. As a result, pregnant women who do not attend ANC services, including those who rely exclusively on complementary and alternative medicine (CAM) or traditional birth attendants, were not

represented in the sample. This may have led to an underestimation of the true utilization of CAM within the wider community and may introduce a degree of selection bias (WHO, 2019).

Although a community-based sampling approach could provide a broader representation of pregnant women, such an approach would require significantly greater resources, time, and logistical support than were available for this study.

3.5.4 Sample Size

The quantitative sample size was determined to ensure sufficient precision in estimating the utilization of CAM and identifying associated factors among pregnant women attending ANC at Nagongera Health Centre IV. The calculation used Cochran's formula for estimating proportions:

The sample size for the quantitative component of the study was calculated using

Cochran's formula for estimating proportions in large populations (Cochran, 1977):

$$n_0 = \frac{Z^2 p(1 - p)}{d^2}$$

Where:

n_0 = initial sample size

Z = standard normal deviation corresponding to a 95% confidence level (1.96)

p = estimated proportion of pregnant women using Complementary and Alternative Medicine (CAM) (0.25)

d = margin of error (0.05)

Substituting the values into the formula:

$$n_0 = \frac{(1.96)^2 \times 0.25 \times (1 - 0.25)}{(0.05)^2}$$

$$n_0 = 288$$

Because the total population of pregnant women attending antenatal care at Nagongera Health Centre IV was approximately $N = 4000$, a finite population correction (FPC) was applied:

$$n = \frac{n_0}{1 + \frac{(n_0 - 1)}{N}}$$

$$n = \frac{288}{1 + \frac{287}{4000}} = 267$$

To account for potential clustering effects, a design effect of 1.5 was applied:

$$n = 267 \times 1.5 = 401$$

Finally, to accommodate possible non-response, a 10% adjustment was added:

$$n = 401 + (401 \times 0.10) = 441$$

Therefore, the final target sample size was 441 respondents. During data collection, 405 pregnant women completed the survey, resulting in a response rate of approximately 92%, which constituted the final study sample.

3.6 Data Collection Methods and Instruments.

3.6.1 Quantitative Data Collection Instrument

A structured questionnaire was used to collect quantitative data on the utilization of Complementary and Alternative Medicine (CAM) and associated factors among pregnant women attending antenatal care at Nagongera Health Centre IV. The questionnaire consisted mainly of closed-ended questions designed to capture measurable variables related to CAM utilization.

The questionnaire was organized into sections covering demographic characteristics, socio-economic factors, socio-cultural influences, and patterns of CAM use during pregnancy. These variables were selected based on the study objectives and informed by existing literature on determinants of CAM utilization among pregnant women.

To ensure comprehension, the questionnaire was translated into the local Japadhola (Adhola) language and administered verbally by the researcher. This approach was necessary because some participants had varying levels of literacy. The researcher read each question aloud and recorded the participants' responses accordingly.

Prior to the main data collection, the questionnaire was pre-tested among a small group of pregnant women in a nearby health facility to assess clarity, relevance, and cultural

appropriateness. Necessary adjustments were made based on the pre-test results to improve the reliability and clarity of the instrument.

While the quantitative questionnaire focused on individual, socio-cultural, and economic factors influencing CAM utilization, broader contextual experiences related to healthcare access and service delivery were explored through qualitative interviews. This approach allowed the study to capture both measurable determinants and contextual experiences, consistent with the convergent parallel mixed-methods research design.

3.6.2 Qualitative Data Collection Instrument

For the qualitative component of the study, semi-structured interview guides were used to explore participants' beliefs, attitudes, and experiences related to the use of Complementary and Alternative Medicine (CAM) during pregnancy. The interview guide contained open-ended questions designed to allow participants to freely express their views and describe their personal experiences regarding CAM utilization.

In-depth interviews were conducted individually in a private setting within the health facility to ensure confidentiality and to encourage open and honest discussion. Each interview allowed participants to elaborate on their perspectives regarding cultural beliefs, social influences, and economic considerations that may shape their decisions to use CAM during pregnancy.

With participants' consent, the interviews were audio-recorded using a mobile phone to ensure accurate capture of responses. The recordings were later transcribed verbatim to facilitate systematic qualitative analysis.

In addition to audio recordings, field notes were maintained during the interviews to document contextual observations, non-verbal cues, and reflections that could aid in interpreting participants' responses during data analysis.

3.6.3 Instrument Rationale

The use of both quantitative and qualitative data collection instruments enabled the study to triangulate findings and enhance the depth of understanding of Complementary and Alternative Medicine (CAM) utilization among pregnant women. The quantitative questionnaire provided

measurable data on the utilization of CAM use and its associations with selected socio-cultural and economic factors. In contrast, the qualitative interview guide allowed participants to describe their beliefs, perceptions, and lived experiences related to CAM use during pregnancy.

Combining these instruments allowed the study to capture both statistical patterns and contextual explanations of CAM utilization. The quantitative findings identified the extent of CAM use and associated determinants, while the qualitative data provided deeper insights into the cultural, social, and economic motivations underlying these behaviors.

This complementary use of methods strengthened the validity and credibility of the findings through methodological triangulation and ensured a more comprehensive understanding of the research problem, consistent with the convergent parallel mixed-methods research design.

3.6.4 Interview Guide and Validity

The interview guide was developed to explore the beliefs, attitudes, and experiences of pregnant women regarding the use of Complementary and Alternative Medicine (CAM) during pregnancy.

To ensure validity and relevance, the questions were carefully designed to align with the study objectives and research topic. The interview guide was reviewed by experts in maternal health and complementary and alternative medicine research to ensure content validity, confirming that the questions were relevant, clear, and culturally appropriate.

guide.

During data collection, probing techniques were used to encourage participants to elaborate on their responses, clarify meanings, and provide deeper insights into their experiences with CAM use during pregnancy. This approach helped to ensure the consistency and richness of information across participants.

By applying these measures, the interview guide ensured that the qualitative data collected were credible, relevant, and aligned with the study objectives, thereby providing a strong foundation for thematic analysis.

A pilot test was conducted with a small sample of pregnant women at a nearby health facility that was not included in the main study. The purpose of the pilot test was to assess clarity, sequencing, and comprehension of the questions. Based on the feedback obtained, minor adjustments were made to improve the wording and flow of the interview

3.6.5 Questionnaire Validity

The questionnaire was designed to collect standardized data on the utilization of Complementary and Alternative Medicine (CAM) and its associated factors among pregnant women. Ensuring the validity of the instrument was an important step to confirm that the questionnaire measured what it was intended to measure.

3.6.6 Face Validity

Face validity was assessed by a group of peers and colleagues who reviewed the questionnaire to determine whether the purpose and wording of each question were clear and understandable. Feedback from this review helped identify ambiguous items, and necessary revisions were made to improve clarity and comprehension.

3.6.7 Content Validity

Content validity was established through evaluation by subject matter experts in maternal health and complementary and alternative medicine research. These experts reviewed the questionnaire to ensure that all relevant domains related to CAM utilization were adequately covered.

In addition, the questionnaire was pre-tested among a small sample of pregnant women at a nearby health facility that was not included in the main study. The pre-test helped assess the comprehensibility, cultural appropriateness, and relevance of the questions. Minor adjustments were made based on the feedback obtained.

These steps ensured that the questionnaire was clear, culturally sensitive, and capable of accurately capturing the intended information, thereby providing a reliable basis for quantitative analysis.

3.7 Quantitative Data Management

Completed questionnaires were checked for completeness and consistency before data entry.

Data were coded according to a pre-defined coding scheme aligned with the questionnaire items.

Cleaned and coded data were entered into SPSS version 26 for analysis.

Data cleaning involved checking for missing values, outliers, and inconsistencies, which were corrected based on the original questionnaires.

Only fully completed questionnaires ($n = 405$) were included in the final analysis to ensure reliability.

3.7.1 Qualitative Data Management

All interviews were audio recorded with participants' consent and later transcribed verbatim to ensure accurate documentation of participants' responses. The transcripts were carefully reviewed and cross-checked against the field notes from the interviews to verify accuracy and capture contextual information, including nonverbal cues and observations.

Following transcription, the qualitative data were coded thematically. Initial codes were generated from the interview transcripts and organized in alignment with the study objectives and research questions. Similar codes were grouped together to form broader categories and themes.

The final themes were organized to reflect the cultural, social, and economic factors influencing Complementary and Alternative Medicine (CAM) use among pregnant women. This process facilitated the identification of patterns and meanings within the qualitative data, providing deeper insights into the contextual drivers of CAM utilization.

3.7.2 Data Security

Measures were taken to ensure the confidentiality and security of all research data throughout the study. All electronic data, including transcripts and data files, were stored on a password-protected computer accessible only to the research team.

Hard copies of questionnaires and signed consent forms were stored in a locked cabinet to prevent unauthorized access. In addition, all audio recordings and interview transcripts were anonymized by removing identifying information, ensuring that participants' identities remained confidential throughout the data management and analysis process.

3.8 Data Analysis

3.8.1 Quantitative Data Analysis

Quantitative data obtained from the structured questionnaires were first checked for completeness and consistency before entry. The data were then coded and entered into a statistical software package for analysis.

Descriptive statistics were used to summarize the characteristics of the study participants and the utilization of Complementary and Alternative Medicine (CAM) during pregnancy. Frequencies, percentages, and tables were generated to describe demographic characteristics, socio-cultural influences, economic factors, and patterns of CAM utilization among the respondents.

To identify factors associated with CAM utilization, bivariate analysis was initially conducted to examine the relationship between independent variables and CAM use.

Variables that showed significant associations at this level were further included in the multivariable logistic regression model to control for potential confounding factors.

The strength of associations was expressed using Adjusted Odds Ratios (AOR) with 95% Confidence Intervals (CI). Statistical significance was determined at a p-value of less than 0.05.

3.8.2 Qualitative Data Analysis

Qualitative data obtained from the in-depth interviews were analyzed using thematic analysis. Audio-recorded interviews were first transcribed verbatim, and the transcripts were carefully reviewed to ensure accuracy.

The transcripts were then read multiple times to gain familiarity with the data. Initial codes were generated based on recurring ideas and patterns in the participants' responses. These codes were subsequently grouped into broader categories, which were then organized into major themes

reflecting the cultural, social, and economic factors influencing CAM utilization among pregnant women.

Relevant quotations from participants were used to illustrate key themes and provide contextual explanations for the quantitative findings.

3.8.3 Integration of Quantitative and Qualitative Findings

Because the study employed a convergent parallel mixed-methods design, quantitative and qualitative findings were analyzed separately and later integrated during interpretation. The qualitative findings were used to provide deeper explanations and contextual understanding of the patterns identified in the quantitative results, thereby strengthening the overall interpretation of the study findings.

3.9 Ethical Considerations

Ethical principles were strictly observed throughout the study to ensure the rights, safety, and dignity of all participants.

3.9.1 Informed Consent

The purpose, objectives, and procedures of the study were clearly explained to all participants before data collection began. A consent form was prepared and read aloud to each participant to ensure full understanding, particularly for those with limited literacy levels. Participants were allowed to ask questions before deciding whether to participate in the study.

Written or verbal consent was obtained from each participant before participation. Participation was entirely voluntary, and participants were informed that they had the right to withdraw from the study at any time without any negative consequences.

3.9.2 Respect and Dignity

The study was conducted in a manner that respected the privacy, cultural values, and personal dignity of all participants. Data collection sessions were scheduled at convenient times to accommodate participants' availability.

Permission was requested before audio-recording interviews, and participants were assured that the recordings would be used solely for research purposes. No participant was coerced into participating, and cultural and personal sensitivities were respected throughout the research process.

3.9.3 Confidentiality and Privacy

Participants' identities were kept strictly confidential, and personal identifiers were removed from all datasets to ensure anonymity. Audio recordings, interview transcripts, and completed questionnaires were stored securely in locked cabinets and password-protected computers, accessible only to the research team.

3.9.4 Academic Integrity

All sources of information, ideas, and data that were not the researcher's own were appropriately cited, ensuring adherence to principles of honesty, originality, and avoidance of plagiarism or fabrication.

These measures ensured that the study adhered to ethical research standards, minimized potential risks to participants, and maintained the credibility and integrity of the research process.

CHAPTER 4: RESULTS PRESENTATION

4.0 Introduction

This chapter presents the findings of the study on the utilization of complementary and alternative medicine (CAM) among pregnant mothers attending antenatal care at Nagongera Health Center IV, Tororo District. The results are organized according to the study objectives and are presented in two main sections: quantitative and qualitative findings. Quantitative data are summarized using descriptive and inferential statistics, while qualitative data are presented thematically to provide deeper insights into the factors influencing CAM use.

A total of 441 pregnant women were expected to participate in the quantitative survey. Of these, 405 completed the questionnaire and were included in the final analysis, resulting in a response rate of 91.8%. The remaining 36 participants did not provide the complete information required for analysis and were therefore not included in the final dataset. Despite this non-participation, the achieved sample size remained adequate for the study objectives.

4.1 Quantitative Results

4.1.1 Demographic factors of the respondents

Figure 1: Distribution of respondents' age

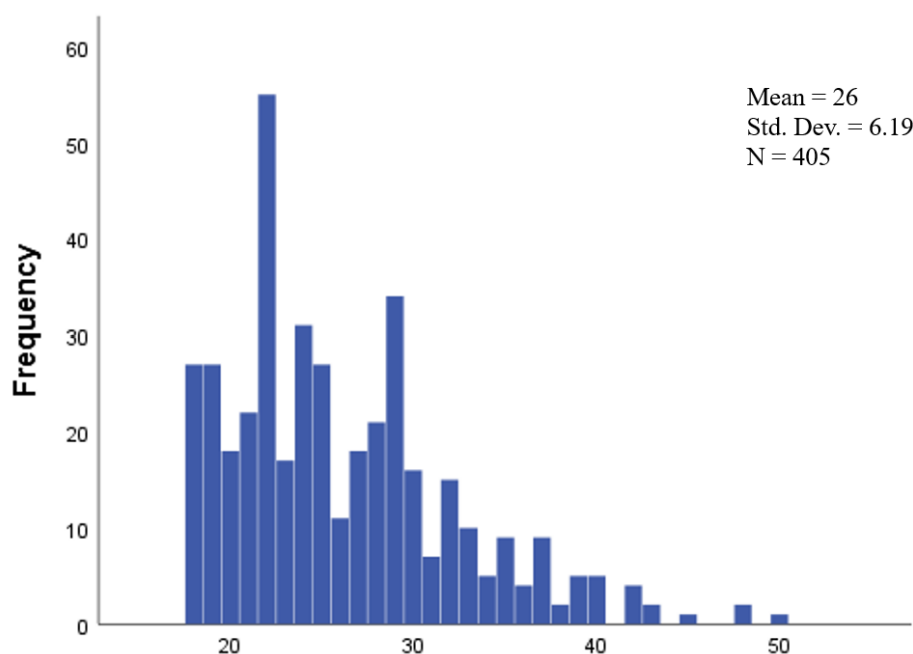


Figure 1 shows that the mean age of respondents was 26 years with a standard deviation of 6.19 years. Age was then categorized into groups 18 to 24, 25 to 34, 35 to 45 and the results presented in the table 1.

Table 1: Showing the distribution of respondents' demographic factor.

Variables (n = 405)	Frequency	Percent
Age group		
18 to 24	197	48.6
25 to 34	164	40.5
35 to 50	44	10.9
Education level		
Pre-secondary	289	71.4
Secondary	72	17.8
Post-Secondary	44	10.9
Marital status		
Single /separated/Widowed	98	24.2
Married	307	75.8
Occupation		
Businesswoman	91	22.5
Labourer/ Farmer/housewife	288	71.1
Salaried worker	26	6.4
Religion		
Anglican	70	17.3
Catholic	144	35.6
Muslim	44	10.9
Pentecostal	83	20.5
SDA	64	15.8

Table 1 shows that among the 405 respondents, the majority, 197 (48.6%), were aged 18–24 years. Most respondents, 289 (71.4%), had attained pre-secondary education, while 72 (17.8%) had secondary education and 44 (10.9%) had post-secondary education. The majority, 307 (75.8%), were married. Regarding occupation, most respondents, 288 (71.1%), were labourers,

farmers, or housewives. In terms of religion, Catholics constituted the largest group, 144 (35.6%), followed by Pentecostals, 83 (20.5%).

SPECIFIC OBJECTIVE 1: USE OF COMPLEMENTARY AND ALTERNATIVE MEDICINE (CAM) DURING PREGNANCY.

Figure 2: The utilization of CAM among pregnant women in Nagongera HC IV

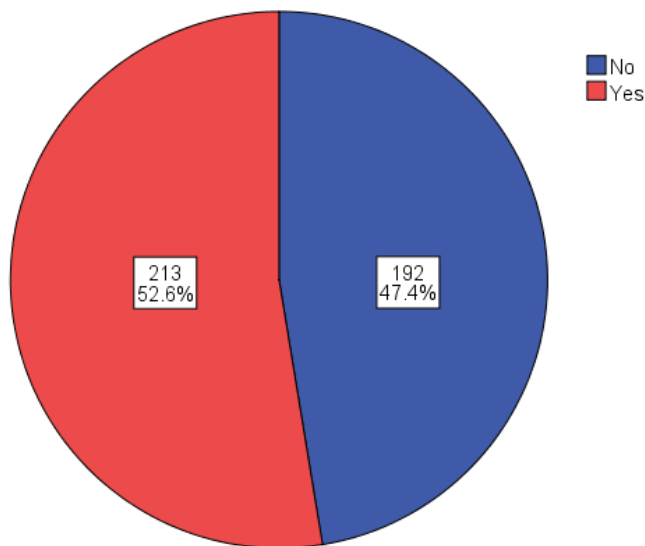


Figure 2 shows that out of the 405 respondents, 213 (52.6%) reported having used complementary and alternative medicine (CAM) during pregnancy, indicating that 52.6% of respondents utilized CAM during pregnancy.

SPECIFIC OBJECTIVE 2: INDIVIDUAL FACTORS ASSOCIATED WITH CAM USE

4.1.2 Bivariate analysis of individual factors associated with complementary and alternative medicine utilization among pregnant women in Nagongera HC IV

Table 2: The demographic factors associated with complementary and alternative medicine utilization among pregnant women in Nagongera HC IV

Variable (n= 405)	CAM utilization		Pearson Chi-square (X^2)	P-Value	Phi & Crammer's V
	No	Yes			

Age group					
18 to 34	173 (90.1%)	188 (88.3%)	0.354	0.552	0.030
35 to 50	19 (9.9%)	25 (11.7%)			
Education level					
Pre-secondary	139 (72.4%)	150 (70.4%)	0.194	0.911	0.022
Secondary	33 (17.2%)	39 (18.3%)			
Post-Secondary	20 (10.4%)	24 (11.3%)			
Marital status					
Single /separated	41 (21.4%)	57 (26.8%)	1.609	0.205	-0.063
/Widowed					
Married	151 (78.6%)	156 (73.2%)			
Occupation					
Businesswoman	47 (24.5%)	44 (20.7%)	2.408	0.492	0.077
Laborer/	135 (70.3%)	153 (71.9%)			
Farmer/housewife					
Salaried worker	10 (5.2%)	16 (7.5%)			
Religion					
Anglican	34 (17.7%)	36 (16.9%)	1.370	0.849	0.058
Catholic	68 (35.4%)	76 (35.7%)			
Muslim	24 (12.5%)	20 (9.4%)			
Pentecostal	38 (19.8%)	45 (21.1%)			
SDA	28 (14.6%)	36 (16.9%)			
*Significant at $p < 0.05$					

The association between socio-demographic factors and CAM utilization was assessed using Pearson's Chi-square test (Table 2). There was no statistically significant association between CAM utilization and age group ($\chi^2 = 0.354$, $p = 0.552$), education level ($\chi^2 = 0.194$, $p = 0.911$), marital status ($\chi^2 = 1.609$, $p = 0.205$), occupation ($\chi^2 = 2.408$, $p = 0.492$), or religion ($\chi^2 = 1.370$, $p = 0.849$).

Effect sizes (Phi and Cramér's V) were small across all variables, indicating weak relationships between socio-demographic characteristics and CAM utilization.

Table 3: The individual factors associated with complementary and alternative medicines utilization among pregnant women in Nagongera HC IV

Variable (n= 405)	CAM utilization		Pearson Chi-square (X^2)	P-Value	Phi & Crammer's V
	No	Yes			
Knowledge about CAM					
Not knowledgeable	7 (3.6%)	196 (92.0%)	315.448	0.000	-0.883
Knowledgeable	185 (96.4%)	17 (8.0%)			
Discussed CAM with the healthcare provider					
No	133 (69.3%)	141 (66.2%)	0.436	0.509	0.033
Yes	59 (30.7%)	72 (33.8%)			
Use of CAM by Family member or friend					
No	137 (71.4%)	33 (15.5%)	129.372	0.000	0.565
Yes	55 (28.6%)	180 (84.5%)			
Important of using CAM					
Not important	187 (97.4%)	46 (21.6%)	237.457	0.000	0.766
Important	5 (2.6%)	167 (78.4%)			
Confidence to make informed decisions about CAM					
Not confident	135 (70.3%)	104 (48.8%)	19.273	0.000	0.218
Confident	57 (29.7%)	109 (51.2%)			
*Significant at p < 0.05					

Table 3 shows that several individual factors were significantly associated with CAM utilization among pregnant mothers ($p < 0.05$). Having a family member or friend who uses CAM was strongly associated with CAM use ($\chi^2 = 129.372$, $p < 0.05$, $\Phi = 0.565$), with 180 (84.5%) of CAM users reporting to have a family member or friend who uses CAM. A higher proportion of CAM users were knowledgeable about CAM 196 (92.0%), with knowledge level showing a very strong association ($\chi^2 = 315.448$, $p < 0.05$, $\Phi = -0.883$). Perceived importance of using CAM was also strongly associated ($\chi^2 = 237.457$, $p < 0.05$, $\Phi = 0.766$), with most CAM users rating it as important 167 (78.4%). Confidence to make informed decisions about CAM use was significantly associated with utilization ($\chi^2 = 19.273$, $p < 0.05$, $\Phi = 0.218$), with higher CAM use among those who were confident 109 (51.2%).

Knowledge about CAM, family influence, perceived importance, and confidence in decision-making were significantly associated with CAM utilization ($p < 0.05$). Strong associations were observed for knowledge ($\Phi = -0.883$), perceived importance ($\Phi = 0.766$), and family influence ($\Phi = 0.565$), indicating that these factors play a major role in shaping CAM use.

4.1.3 Bivariate analysis of the socio-cultural factors that influence the use of CAM among pregnant women in Nagongera HC IV

Table 4: The social-cultural factors associated with complementary and alternative medicines utilization among pregnant women in Nagongera HC IV

Variable (n= 405)	CAM utilization		Pearson Chi-square (X^2)	P-Value	Phi & Crammer`s V
	No	Yes			
CAM is a part of cultural heritage					
No	186 (96.9%)	110 (51.6%)	105.028	0.000	0.509
Yes	6 (3.1%)	103 (48.4%)			
Ever been advised by a family member or friend to use CAM during pregnancy					
No	102 (53.1%)	13 (6.1%)	109.809	0.000	0.521
Yes	90 (46.9%)	200 (93.9%)			
CAM is more effective than conventional medicine for pregnancy-related symptoms					
No	191 (99.5%)	166 (77.9%)	44.866	0.000	0.333
Yes	1 (0.5%)	47 (22.1%)			
How often do you discuss CAM with your family or friends?					
Daily	0 (0.0%)	63 (29.6%)	242.549	0.000	0.774
Weekly	0 (0.0%)	40 (18.8%)			
Monthly	3 (1.6%)	63 (29.6%)			
Rarely	189 (98.4%)	47 (22.1%)			
*Significant at p < 0.05					

Table 4 indicates that several socio-cultural factors were significantly associated with CAM utilization ($p < 0.05$). Women who perceived CAM as part of their cultural heritage, received advice from family or friends, or frequently discussed CAM were significantly more likely to use CAM.

The strongest associations were observed for frequency of discussion about CAM ($\Phi = 0.774$) and advice from family or friends ($\Phi = 0.521$), indicating a strong influence of social networks on CAM utilization.

4.1.3 Bivariate analysis of the economic factors that influence the use of CAM among pregnant women in Nagongera HC IV

Table 5: The Economic factors associated with the utilization of complementary and alternative medicines among pregnant women in Nagongera HC IV

Variable (n= 405)	CAM utilization		Pearson Chi-square (X^2)	P-Value	Phi & Crammer`s V
	No	Yes			
Ability to read and write with understanding in any language					
No	102 (53.1%)	97 (45.5%)	2.325	0.127	0.076
Yes	90 (46.9%)	116 (54.5%)			
Household member attends a private school or a school that a religious organization, NGO, or any other Non-governmental entity run					
No	94 (49.0%)	68 (31.9%)	12.207	0.000	0.174
Yes	98 (51.0%)	145 (68.1%)			
Household member received income from crop farming or livestock in the last 12 months					
None	83 (43.2%)	96 (45.1%)	0.641	0.726	0.040
Crop farming	81 (42.2%)	82 (38.5%)			
Livestock	28 (14.6%)	35 (16.4%)			
Type of floor material					
Uncemented	132 (68.8%)	148 (69.5%)	0.025	0.873	-0.008
Cemented	60 (31.3%)	65 (30.5%)			
Toilet facility used by household					
No facility	131 (68.2%)	122 (57.3%)	5.166	0.023	0.113
Pit latrine	61 (31.8%)	91 42.7%			
Number of functional phones owned by household members					
None	40 (20.8%)	43 (20.2%)	0.054	0.974	0.011
One	97 (50.5%)	110 (51.6%)			
Two or more	55 (28.6%)	60 (28.2%)			

Every member of the household has at least 1 pair of shoes in good condition					
No	69 (35.9%)	37 (17.4%)	18.015	0.000	0.211
Yes	123 (64.1%)	176 (82.6%)			
Average number of meals taken by the household members per day in the last seven days					
Two or fewer	98 (51.0%)	153 (71.8%)	18.519	0.000	-0.214
Three or more	94 (49.0%)	60 (28.2%)			
*Significant at p < 0.05					

Table 5 indicates Households with a member attending a private or NGO/religious-affiliated school showed a statistically significant association with CAM utilization ($\chi^2 = 12.207$, $p < 0.001$, $\Phi = 0.174$). A higher proportion of CAM users (68.1%) came from such households compared to non-users (51.0%), indicating a weak-to-moderate association between this proxy of socio-economic status and CAM use.

Toilet facility type was also significantly associated with CAM utilization ($\chi^2 = 5.166$, $p = 0.023$, $\Phi = 0.113$). Women from households with pit latrines had a higher proportion of CAM utilization compared to those with no facility, although the strength of association was weak.

Furthermore, the results indicated that the availability of at least one pair of shoes in good condition for every household member was strongly associated with CAM utilization ($\chi^2 = 18.015$, $p < 0.001$, $\Phi = 0.211$). A significantly higher proportion of CAM users (82.6%) reported adequate footwear compared to non-users (64.1%), demonstrating a weak-to-moderate association.

Similarly, the average number of meals consumed per day was significantly associated with CAM utilization ($\chi^2 = 18.519$, $p < 0.001$, $\Phi = 0.214$). Women from households consuming two or fewer meals per day were more likely to utilize CAM compared to those consuming three or more meals daily.

Several economic factors were significantly associated with CAM utilization. Household school type, toilet facility, footwear adequacy, and number of meals per day showed statistically significant associations ($p < 0.05$), although effect sizes were generally weak to moderate.

4.1.4 Multivariate analysis of individual factors associated with complementary and alternative medicines utilization among pregnant women in Nagongera HC IV

Table 6: Multivariate analysis of individual factors associated with complementary and alternative medicine utilization among pregnant women

CAM Utilization	AOR	P-value	[95% Conf. Interval]	
Level of Knowledge about CAM				
Not knowledgeable	1.00			
Knowledgeable	0.01	0.000	0.00	0.03
Use of CAM by a family member or friend				
No	1.00			
Yes	3.24	0.033	1.10	9.51
Importance of using CAM				
Not important	1.00			
Important	48.24	0.000	12.41	187.62
Confidence to make informed decisions about CAM				
Not confident	1.00			
Confident	0.39	0.161	0.10	1.46

Multivariate logistic regression analysis was conducted to identify independent predictors of CAM utilization.

Knowledge level and perceived importance of CAM remained statistically significant predictors ($p < 0.05$). Respondents who were knowledgeable about CAM had significantly lower odds of CAM utilization compared to those who were not knowledgeable (AOR = 0.01, 95% CI: 0.00–0.03, $p < 0.001$).

The perceived importance of CAM was a strong predictor of utilization. Women who considered CAM important were significantly more likely to use CAM (AOR = 48.24, 95% CI: 12.41–187.62, $p < 0.001$). However, the large odds ratio suggests a strong association but should be interpreted with caution due to possible model instability. This may reflect sparse data in some categories or potential model overfitting.

Use of CAM by family members or friends was also significantly associated with CAM utilization (AOR = 3.24, 95% CI: 1.10–9.51, $p = 0.033$).

Confidence in making decisions about CAM was not statistically significant ($p = 0.161$).

4.1.5 Multivariate analysis of the socio-cultural factors that influence the use of CAM among pregnant women in Nagongera HC IV

Table 7: Multivariate analysis of the socio-cultural factors that influence the use of CAM among pregnant women

CAM Utilization	AOR	P-Value	[95% Conf. Interval]	
CAM is a part of cultural heritage				
No	1			
Yes	8.43	0.000	2.86	24.79
Ever been advised by a family member or friend to use CAM during pregnancy				
No	1.00			
Yes	7.66	0.000	2.65	22.17
CAM is more effective than conventional medicine for pregnancy-related symptoms				
No	1.00			
Yes	24.40	0.003	2.88	206.76
How often do you discuss CAM with your family or friends				
Daily	1.00			
Weekly	1.00			
Monthly	45.50	0.000	12.53	165.25
Rarely	1			

Multivariate logistic regression analysis was conducted to identify socio-cultural factors independently associated with the utilization of complementary and alternative medicine (CAM) among pregnant women attending antenatal care at Nagongera Health Center IV.

Pregnant women who perceived CAM as part of their cultural heritage were significantly more likely to use CAM compared to those who did not share this belief (AOR = 8.43, 95% CI: 2.86–24.79, $p = 0.000$). This finding highlights the strong influence of cultural traditions on the utilization of CAM during pregnancy. Women who had ever been advised by family members or

friends to use CAM during pregnancy were 7.66 times more likely to utilize CAM compared to those who had not received such advice (AOR = 7.66, $p < 0.001$, 95% CI: 2.65–22.17).

Respondents who believed that CAM is more effective than conventional medicine for pregnancy-related symptoms were 24.4 times more likely to use CAM compared to those who did not share this belief (AOR = 24.40, $p = 0.003$, 95% CI: 2.88–206.76). Women who discussed CAM monthly with family or friends were 45.5 times more likely to use CAM compared to those who discussed it daily (AOR = 45.50, $p < 0.001$, 95% CI: 12.53–165.25).

Although several variables showed strong associations, some odds ratios were large with wide confidence intervals, suggesting potential instability in the regression model. These findings should therefore be interpreted with caution.

4.1.5 Multivariate analysis of the economic factors that influence the use of CAM among pregnant women in Nagongera HC IV

Table 8: Multivariate analysis of economic factors associated with complementary and alternative medicines utilization among pregnant women

Used_CAM	AOR	P-value	95% Conf. Interval	
Household member attends a private school or a school that a religious organization, NGO, or any other Non-governmental entity run				
No	1			
Yes	1.82	0.014	1.13	2.95
Toilet facility used by household				
No facility	1			
Pit latrine	1.61	0.038	1.03	2.52
Every member of the household has at least 1pair of shoes in good condition				
No	1			
Yes	2.50	0.001	1.47	4.26
Average number of meals taken by the household members per day in the last seven days				

Two or fewer	1			
Three or more	0.27	0.000	0.17	0.43

Multivariate logistic regression analysis was conducted to determine the independent economic predictors of complementary and alternative medicine (CAM) utilization among pregnant women attending Nagongera Health Center IV. After adjusting for other economic variables, household school type, toilet facility, household footwear adequacy, and number of meals per day remained statistically significant predictors of CAM utilization ($p < 0.05$).

Pregnant women from households where a member attended a private, religious, or NGO-run school were significantly more likely to utilize CAM compared to those from households without such school attendance (AOR = 1.82, 95% CI: 1.13–2.95, $p = 0.014$). This indicates that women from relatively better-resourced households had approximately 1.8 times higher odds of CAM use. Similarly, type of toilet facility was also significantly associated with CAM utilization. Women from households using pit latrines had 1.61 higher odds of CAM utilization compared to those with no toilet facility (AOR = 1.61, 95% CI: 1.03–2.52, $p = 0.038$).

Household welfare as measured by footwear adequacy was strongly associated with CAM utilization. Pregnant women from households where every member had at least one pair of shoes in good condition were 2.5 times more likely to use CAM compared to those from households without adequate footwear (AOR = 2.50, 95% CI: 1.47–4.26, $p = 0.001$). Conversely, average number of meals consumed per day showed a protective association. Women from households consuming three or more meals per day had significantly lower odds of CAM utilization compared to those consuming two or fewer meals (AOR = 0.27, 95% CI: 0.17–0.43, $p < 0.001$). This indicates that improved household food security was associated with a 73% reduction in the likelihood of CAM use.

These findings indicate that both higher and lower socio-economic indicators may influence CAM utilization, reflecting complex economic dynamics.

4.1.6 The common therapies of CAM used among pregnant women in Nagongera HC IV.

Table 9: Shows the commonly used CAM among the pregnant mothers

Common CAM used	Responses	
-----------------	-----------	--

	N	Percent	Percent of Cases
Herbal medicine	143	44.1%	67.1%
Traditional birth attendants (TBA)	84	25.9%	39.4%
Spiritual healing	23	7.1%	10.8%
Massage	74	22.8%	34.7%
Total	324	100.0%	152.1%

Table 9 shows that among pregnant mothers who reported CAM use, the most common practice was herbal medicine 143 (44.1%), followed by consultation with traditional birth attendants (TBA) 84 (25.9%) and massage 74 (22.8%). Spiritual healing was the least used form of CAM 23 (7.1%).

This indicates that CAM use involves perceived risks, particularly given the reliance on herbal and non-standardized therapies whose safety profiles during pregnancy may not be well established.

Table 10: Complementary and Alternative Medicine Utilization Among Pregnant Mothers in Nagongera Health Center IV

Variables (n = 213)	Frequency	Percent
How often do you use CAM		
Daily	97	45.5
Monthly	43	20.2
Weekly	50	23.5
Rarely	23	10.8
Amount spent on CAM per month		
No expenditure	54	25.4
Less than UGX 10,000	125	58.7
UGX 10,000 - UGX 20,000	27	12.7
Above UGX 20,000	7	3.3

Satisfaction with the CAM		
Very satisfied	8	3.8
Somewhat satisfied	6	2.8
Neutral	49	23.0
Somewhat dissatisfied	25	11.7
Very dissatisfied	125	58.7

Among CAM users, most reported using CAM daily 97, 45.5%), followed by weekly 50, 23.5%) and monthly 43, 20.2%), while 23 (10.8%) reported rare use. More than half spent less than UGX 10,000 per month on CAM 125 (58.7%), and more than half were very dissatisfied with its use 125 (58.7%).

4.2 QUALITATIVE RESULTS

The results presented are from the women (10), where 5 were pregnant for more than 30 weeks, and 5 who delivered and their babies were below 6 weeks. The data were analyzed using thematic analysis. Transcripts were coded, and codes were grouped into categories and broader themes aligned with the four specific study objectives.

S/N	MAIN THEME	SUB-THEME
1	Perceived Benefits of CAM	Relief from discomfort.
		Ease of labour and Delivery.
2	Uncertainty and Risks	Fear of harm.
		Mixed outcomes/unmet expectations.
3	Motivations for Use	Health benefits.
		Accessibility and affordability.
4	Barriers and risks	Fear and Secrecy.
		Preference for health facilities.
5	Family and Peer Influence	Family advice.
		Peer /community networks.
6	Cultural and health system dynamics	Cultural expectations.
		Health system divergences.
7		Herbal bathing, steaming, and drinking.

	Herbal Remedies, Manual, and Traditional practices	Massage techniques.
		Other traditional supports.

4.2.1 SPECIFIC OBJECTIVE 1: USE OF COMPLEMENTARY AND ALTERNATIVE MEDICINE (CAM) DURING PREGNANCY.

This objective looked at the experiences of pregnant women that used CAM during this current pregnancy such as the perceived benefits, uncertainty, and risks involved in using CAM.

Theme 1: Perceived Benefits of CAM

pectant mothers testified that CAM use such as herbal baths, steaming, and massage relieved discomfort, provided strength, and made labor easier. CAM provided supportive, hands-on care that women felt were lacking in formal health facilities.

Subtheme 1.1 Relief from discomfort.

Women reported that herbal baths, steaming, and massage reduced fatigue, abdominal heaviness, and morning sickness. These practices were interpreted as providing “strength” and bodily lightness.

“After the stomach massage, I really felt light”, The treatments reduced my morning sickness and gave me energy” (mother_10 and 09).

Therefore, CAM is perceived as symptom-relieving and restorative. Women associated physical comfort with effectiveness, reinforcing continued use.

Subtheme 1.2 Ease of labour and Delivery.

Participants believed certain herbs and potato vines “open the cervix” and relax muscles for easier childbirth;

“Potato vines relaxed my muscles and made delivery easier” (mother_09).

CAM is conceptualized as a preparatory mechanism for childbirth. It increases confidence and psychological readiness for labour, even when biomedical care is simultaneously sought.

Theme 2: Uncertainty and Risks

Despite positive accounts, women expressed fear and doubt about some practices. This indicates that CAM use involves perceived risks, and mothers often balance optimism with caution

Subtheme 2.1 Fear of harm.

Some of the expectant that used noted that some CAM practices caused worry and fear of foetal harm for example women mentioned rough massage which led to her baby to stop moving after treatment

“The shaking was so scary, you feel they are removing the baby. After the massage, my baby stopped moving the whole day.” (mother_09).

While CAM is trusted, it also generates anxiety when procedures appear uncontrolled or forceful. This reflects a tension between cultural trust and perceived biomedical risk.

Subtheme 2.2 Mixed outcomes/unmet expectations.

Participant highlighted that CAM did not guarantee expected outcomes. Some mothers who used CAM during pregnancy doubted about its effectiveness because it did not help them to avoid the Caesarean Section

“I ended up with C-section despite steaming herbs morning and evening for several months. (mother_09)”

CAM is used complementarily rather than exclusively. Biomedical care is prioritized for high-risk or first pregnancies.

4.2.2 SPECIFIC OBJECTIVE 2: INDIVIDUAL FACTORS ASSOCIATED WITH CAM USE

Theme 3 Motivations for Use

Some women turned to CAM use because it was seen as effective in easing labor, releasing pain, averting fatigue, and because it was affordable and nearby. These factors made CAM an attractive choice during pregnancy.

Subtheme 3.1 Health benefits.

Mothers sought CAM for positive physiological effects such as pain relief, shorter labor, and energy from herbs which empowered women to feel in control during pregnancy

*“I wanted to relax my muscles for easy pushing of the baby during delivery”
(mother_10).*

Perceived physiological benefits are primary motivators. CAM provides women with a sense of bodily control during pregnancy.

Subtheme 3.2 Accessibility and affordability. Some mothers claimed that they used CAM because it's at low-cost, convenient and you pay in tokens and traditional birth attendants don't ask a lot of money. In addition, the economic constraints make CAM attractive where the health facilities are in the long distance and where the available services are at high cost.

“Herbalists don't charge fixed amounts but accept tokens of appreciation” (mother_07).

Economic constraints and distance to health facilities increase reliance on CAM. It is financially flexible and geographically accessible.

Theme 4 Barriers and Risk

Some study participants worried about the bitterness of the of the local herbs and still trusted the health facilities for emergencies. This shows that CAM was not always satisfactory, especially for first gravidities and complications.

Sub-theme 4.1 Fear and Secrecy.

Most of the expectant mothers claimed that there is lack of transparency from the CAM providers /TBA which raises doubts due to excessive bitterness of their herbs and secretive recipes which smells bad.

“Some herbs are really bitter and smell bad and She cannot identify the herbs because the healer keeps them secret” (mother_02). So, mothers are cautious yet still trust unconventional services.

Sub-theme 4.2 Preference for health facility.

Mothers noted that health facilities are seen as safe especially in emergencies and prioritized for first pregnancies. This implies that pregnant women balance CAM with health facility use.

“Being my firstborn, I wanted to it in the hospital but I tried herbs as well. (mother_04)”

CAM is used complementarily rather than exclusively. Biomedical care is prioritized for high-risk or first pregnancies.

4.2.3 SPECIFIC OBJECTIVE 3: SOCIAL -CULTURAL FACTORS INFLUENCING CAM USE.

Theme 5: Family and Peer Influence

This theme highlights knowledge and encouragement to use CAM services that came from family members and close relatives, such as mothers, aunts, friends, peers, and immediate neighbours. This intergenerational and peer influence strongly shaped the decision-making around CAM use in pregnancy.

Sub-theme 5.1 Family advice.

Most of the participants reported that the knowledge to use CAM was passed through family and close relatives, and in this case, mothers, aunties, and sister-in-law were mentioned for promoting herbs. This implies that the family perpetuates CAM across generations.

“My auntie recommended massage and herbs, and my mother talked about potato vines that they help in softening the bones and make dilation fast during childbirth”(mother_09).

Therefore, family is considered central in guiding and passing knowledge concerning CAM uptake. CAM knowledge is transmitted across generations. Family members legitimize its use and normalize it within pregnancy care.

Sub-theme 5.2 Peer/ community networks.

Some mothers reported that their peers in the immediate environment reinforced them to use CAM during pregnancy, and these friends provided referrals on where services are located. One of the respondents noted;

*“A worker mate introduced to massage and steaming of herbs during pregnancy”
(mother_09).*

Peer networks function as referral systems, reinforcing social acceptance of CAM.

Theme 6: Cultural and health system dynamics

Endurance of discomfort is socially valued, reinforcing compliance with traditional practices.

Sub- theme 6.1 Cultural expectations

Mothers who used unconventional services noted that Complementary and Alternative Medicine is seen as cultural proof of resilience in a way that pregnancy was confirmed to endure the strong traditional procedures, such as harsh massage of the stomach to reposition their baby.

“You have to really be strong, not complain during the massage” (mother_06).

This indicates that social norms push mothers to comply, hence CAM reinforces cultural motherhood ideals.

Sub-theme 6:2 Health system divergences

Pregnant women viewed health workers as harsh, and TBAs as compassionate, and the time waiting in the queue to safe motherhood services is too much. Mothers claimed that midwives act rudely towards them without any respect.

“I cried during an antenatal visit due to being shouted at by midwives” (mother_10).

Perceived disrespect and long waiting times in formal health services push women toward TBAs who are perceived as compassionate and patient.

4.2.4 SPECIFIC OBJECTIVE 4: COMMON THERAPIES OF CAM USED

Theme 7: Herbal Remedies, Manual, and Traditional Practices

This theme points out that the common therapies used by pregnant women, such as herbal bathing, steaming, and bitter herbal drinks, were the most common alternative therapies, rooted in local plant knowledge and traditional practice. These were believed to relax muscles, quick dilation, and strengthen mothers. In addition, massage, potato vines/leaves, rituals, exercise, and prayer complemented herbal remedies. Thus, CAM is not only physical but also cultural and spiritual.

Sub-theme 7.1 Herbal bathing, steaming, and drinking.

Most of the participants reported that they used herbs to prepare their bodies for childbirth. These local herb mixtures were used in the form of steaming and sit above the basin and allow the steam to enter the cervix, do full body bathing of herbs and drink some.

“I bathed different herbs during this pregnancy to be strong and soften the bones so that during childbirth I don’t go for a C-section. (mother_10 and 03).”

This implies that the use of herbal remedies dominates CAM use in pregnancy care.

Sub-theme 7.2 Massage techniques.

Some participants reported that the massage eased the pregnancy-related discomforts and repositioned their babies. The producer included abdominal massage with soap and cooking oil.

“The traditional birth attendant massaged my stomach using soap, cooking oil, and water. (mother_05 and 09)”.

These procedures are trusted and accepted by pregnant women in the study area.

Sub-theme 7.3 Other traditional support.

According to the participant response, CAM also addresses spiritual and physical needs through exercise and prayers alongside herbs.

“I combined prayers with herbs for safe delivery (mother_08)”.

Therefore, CAM is both physical and spiritual care.

CHAPTER 5: DISCUSSION OF FINDINGS

5.0 Introduction

This chapter discusses the findings of the study on the utilization of complementary and alternative medicine (CAM) among pregnant women attending antenatal care at Nagongera Health Centre IV. The findings are interpreted in relation to the study objectives and existing literature. Both quantitative and qualitative results are integrated to provide a comprehensive understanding of CAM utilization in this setting.

5.2.1 Utilization of CAM

This study found that 52.6% of pregnant women attending antenatal care at Nagongera Health Centre IV reported using complementary and alternative medicine (CAM) during pregnancy, indicating that CAM utilization is relatively common in this setting.

This finding is consistent with studies conducted in similar low- and middle-income settings. For example, studies in sub-Saharan Africa have reported high levels of CAM use during pregnancy, often influenced by cultural beliefs, accessibility, and perceived effectiveness (Adeniran et al., 2021; Musa et al., 2020). Although the utilization observed in this study is slightly lower than some regional estimates, it still reflects widespread use of CAM within the population. The relatively high utilization may be attributed to strong cultural acceptance of traditional practices and the influence of family and community members. Qualitative findings support this, as participants described CAM as part of their routine health practices and cultural heritage. Many women reported using herbal remedies and seeking advice from elders, reinforcing the role of tradition in shaping health-seeking behaviour.

Herbal medicine was the most commonly used form of CAM, followed by spiritual therapies, nutritional supplements, and massage. The frequent use of herbal remedies reflects their accessibility and strong cultural acceptance within the community.

5.2.2 Individual Factors Influencing CAM Utilization

The study examined individual-level factors associated with the utilization of complementary and alternative medicine (CAM) among pregnant women. These included socio-demographic

characteristics, knowledge of CAM, perceived importance of CAM, and influence from family and friends.

The findings revealed that socio-demographic factors such as age, education level, marital status, occupation, and religion were not significantly associated with CAM utilization. This suggests that CAM use is widespread across different population groups and is not limited to a specific demographic category. This finding contrasts with some previous studies that have reported associations between education level or income and CAM utilization (Rutarembwa et al., 2015; Sserwanja et al., 2021). Similarly, systematic evidence suggests that demographic and socioeconomic characteristics often shape women's access to and use of reproductive and complementary health services, particularly in resource-constrained settings (Atuhaire et al., 2023). However, in this context, the widespread cultural acceptance and normalization of CAM practices may explain the relatively uniform use across different socio-demographic groups.

In contrast, perceived importance of CAM emerged as a strong predictor of utilization. Women who considered CAM important were significantly more likely to use it during pregnancy. This highlights the role of personal beliefs and perceptions in shaping health-seeking behaviour.

Similarly, knowledge of CAM was significantly associated with utilization, although this finding should be interpreted with caution due to potential model instability arising from small cell counts in the regression analysis. Nevertheless, the result suggests that awareness and understanding of CAM may influence its use.

The influence of family and friends was also significantly associated with CAM utilization, indicating that interpersonal relationships play an important role in decision-making during pregnancy. This reflects the interconnected nature of individual and social influences on health behaviour.

The qualitative findings strongly support these results. Participants reported that decisions to use CAM were often influenced by elders, peers, and prior personal experiences. These findings align with the Health Belief Model, which emphasizes the role of individual perceptions, beliefs, and perceived benefits in shaping health behaviours.

5.2.3 Socio-Cultural Factors Influencing CAM Utilization

Socio-cultural factors were found to have a significant influence on CAM utilization. In particular, perceiving CAM as part of cultural heritage and receiving advice from family or friends were strongly associated with its use.

These findings highlight the deep-rooted cultural context in which CAM is practiced. In many communities, traditional medicine is not viewed as an alternative but rather as a complementary and trusted form of care (Jimoh et al., 2025).

Qualitative findings further illustrate this, with participants describing CAM as a normal and expected part of pregnancy. Cultural beliefs and traditions were frequently cited as reasons for use, and discussions within social networks reinforced these practices.

These findings are consistent with the Social Ecological Model, which emphasizes the influence of interpersonal relationships and community norms on health behaviour (Eriksson et al., 2025).

5.2.4 Economic Factors Influencing CAM Utilization

The study found that certain economic indicators, such as household characteristics and basic living conditions, were associated with CAM utilization. However, these associations were generally weak to moderate.

This suggests that while economic factors may influence CAM use, they are not the primary drivers. Instead, CAM use appears to be shaped more strongly by cultural and social factors than by economic status alone.

In some cases, CAM may be perceived as a more accessible or affordable option, particularly in rural settings where access to formal healthcare services may be limited. These findings align with studies that highlight the role of financial constraints in shaping health-seeking behaviour in low-resource settings (Abiri et al., 2024).

Pregnant women from households where a member attended a private, religious, or NGO-run school were significantly more likely to utilize CAM than those from households without such school attendance suggesting that CAM utilization may not be exclusively driven by

socioeconomic disadvantage. Rather, it may reflect greater household resources, exposure to health information, and the ability to access multiple healthcare options.

Similar findings have been reported in studies showing that CAM users are often characterized by higher socioeconomic status, with CAM being used to complement rather than replace conventional healthcare (Adams et al., 2009; Ganasegeran et al., 2014). Since the variable measured household school attendance, interpreted as a proxy for household socioeconomic position. The finding therefore supports the concept of medical pluralism, whereby individuals with greater resources utilize both biomedical and complementary therapies concurrently to promote health and well-being during pregnancy (Sundararajan et al., 2020).

5.2.5 Integration of Quantitative and Qualitative Findings

The integration of quantitative and qualitative findings provides a more comprehensive understanding of CAM utilization. While quantitative results identified key predictors such as perceived importance and social influence, qualitative findings explained how and why these factors operate in real-life contexts.

Together, the findings demonstrate that CAM utilization is a multifaceted behaviour influenced by cultural beliefs, social networks, individual perceptions, and, to a lesser extent, economic factors.

5.2.6 Dissemination Plan

The findings of this study will be disseminated to key stakeholders to promote the utilization of the research findings and inform maternal health practice. A copy of the final dissertation will be submitted to the relevant academic institution in partial fulfillment of the requirements for the award of the degree. The findings will also be shared with the management of Nagongera Health Centre IV and the Tororo District Health Office through a presentation and submission of a summary report. In addition, the results will be presented at relevant scientific meetings and conferences where possible. Efforts will be made to prepare a manuscript for publication in a peer-reviewed journal to contribute to the existing body of knowledge on Complementary and Alternative Medicine utilization among pregnant women. The dissemination of findings will

ensure that the evidence generated from the study informs policy, practice, and future research in maternal health.

ACTIVITY	TARGET AUDIENCE	METHOD	TIME FRAME
Submission of dissertation	University	Printed and electronic copy	Upon completion
Presentation of findings	Nagongera HC IV	Oral presentation	After approval
Submission of summary report	Tororo District Health Office	Written report	After approval
Publication of findings	Researchers and health professionals	Peer-reviewed journal	Within 6–12 months
Conference presentation	Academic and health stakeholders	Scientific conference	When opportunities arise

CHAPTER 6: CONCLUSION & RECOMMENDATIONS

6.1 Conclusion

The study revealed that CAM utilization among pregnant women attending antenatal care at Nagongera Health Centre IV is high, with more than half of the respondents reporting use during pregnancy.

Socio-demographic factors were not significantly associated with CAM utilization, indicating that its use is widespread across different population groups. However, individual and socio-cultural factors, particularly perceived importance of CAM and influence from family and friends, were key determinants of utilization.

The study also found that herbal medicine is the most commonly used form of CAM, often used regularly throughout pregnancy. While CAM is widely accepted and perceived as beneficial, its use involves perceived risks, particularly due to the lack of standardized safety information.

Overall, CAM utilization in this setting is driven primarily by cultural beliefs and social influences rather than economic or demographic factors.

6.2 Recommendations

6.2.1 To the Ministry of Health, Ministry of Health Uganda

The Ministry of Health should strengthen the implementation of the Traditional and Complementary Medicine Act to regulate the use of complementary and alternative medicine (CAM) in maternal healthcare. This can be achieved through the establishment of effective systems for licensing and registering traditional healers and herbal medicine vendors, as well as enforcing safety, quality, and standardization of herbal products commonly used during pregnancy.

6.2.2 To Health Care Providers

Health facilities should integrate education on CAM use into routine antenatal care services. Pregnant women should be encouraged to openly disclose their use of herbal remedies and other traditional therapies to healthcare providers. In addition, antenatal health education sessions

should include evidence-based information on the potential risks and benefits of CAM during pregnancy to support informed decision-making.

6.2.3 To the Community and Traditional Practitioners

Collaborative frameworks should be established between traditional birth attendants (TBAs) and biomedical healthcare providers to improve maternal health outcomes. These collaborations may include training workshops, structured dialogue meetings, and referral systems to enable TBAs to identify high-risk pregnancies and refer them promptly to health facilities.

Furthermore, community-based sensitization programs should be implemented to promote safe maternal health practices. These may include community dialogues, radio talk shows, and outreach campaigns targeting pregnant women, families, and traditional healers, with the aim of improving awareness of the safe use of CAM.

6.2.4 To Researchers

Future research should focus on evaluating the safety, efficacy, and dosage of commonly used herbal medicines during pregnancy. In addition, studies should adopt improved statistical approaches, including combining small sample categories where necessary, to enhance the stability and reliability of regression models.

6.3 Areas for Further Research

Future studies should investigate the safety, dosage, and pharmacological effects of commonly used herbal medicines during pregnancy.

Additional research should examine the perspectives and practices of traditional healers and traditional birth attendants who provide CAM services to pregnant women.

Further studies could also explore how biomedical healthcare providers manage and respond to CAM use among pregnant women, particularly in rural health facilities.

REFERENCES

- Abiri, O. T., Sheriff, M. S., Smalle, I. O., Bell, N. V. T., Kamara, I. F., Kamara, T. B., Cummings-John, C., Coker, J., Bah, A. J., Kanu, J. S., Luke, R., Kamara, L., Smith, J., & Samai, M. (2024). Complementary and alternative medicine use and its impact on quality of life among cancer patients in Freetown, Sierra Leone: Considerations for a resource-limited setting. *Discover Medicine*, 1(1), 150. <https://doi.org/10.1007/s44337-024-00153-0>
- Adams, J., Lui, C., Sibbritt, D., Broom, A., Wardle, J., Homer, C., & Beck, S. (2009). Women's Use of Complementary and Alternative Medicine During Pregnancy: A Critical Review of the Literature. *Birth*, 36(3), 237–245. <https://doi.org/10.1111/j.1523-536X.2009.00328.x>
- Adane, F., Seyoum, G., & Alamneh, Y. (2020). Utilization of herbal medicine during pregnancy and associated factors among women attending antenatal care in Ethiopia. *BMC Complementary Medicine and Therapies*, 20(1), 1–9.
- Adeniran, A., Adebayo, B., & Fakeye, T. O. (2021). Utilization of complementary and alternative medicine among pregnant women attending antenatal care in a Nigerian tertiary hospital. *African Journal of Reproductive Health*, 25(1), 89–98. <https://doi.org/10.29063/ajrh2021/v25i1.9>
- Atuhaire, P., Kiracho-Ekirapa, E., & Mutenyo, J. (2023). How equitable is utilization of maternal health services in Uganda? Implications for universal health coverage. *BMC Health Services Research*, 23, 800. <https://doi.org/10.1186/s12913-023-09749-1>
- Barcan, R. (2020). *Complementary and alternative medicine: Bodies, therapies, senses*. Routledge.
- Bhamra, S. K., Slater, A., & Howard, C. (2021). Complementary and alternative medicine use in pregnancy: A cross-sectional study of prevalence and predictors. *Complementary Therapies in Clinical Practice*, 42, 101288.

Bishop, F. L., Aizlewood, L., & Adams, A. E. (2020). When and why do pregnant women use complementary and alternative medicine? The use of reflexology during pregnancy. *BMC Complementary Medicine and Therapies*, 20(1), 126.

Boateng, M. A., Kwapong, G. D., & Agyei-Baffour, P. (2021). Prevalence and determinants of herbal medicine use among pregnant women: A systematic review. *BMC Pregnancy and Childbirth*, 21(1), 1–12

Chebii, W. K., Muthee, J. K., & Kiemo, K. (2020). The governance of traditional medicine and herbal remedies in selected local markets of Western Kenya. *Journal of Ethnobiology and Ethnomedicine*, 16(1), 1–24.

Chow, S., Shao, J., & Wang, H. (2020). *Sample size calculations in clinical research* (4th ed.). CRC Press.

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Sage Publications.

Eriksson, M., Sundberg, L. R., Santosa, A., Lindgren, H., Ng, N., & Lindvall, K. (2025). Health behavioural change – the influence of social-ecological factors and health identity. *International Journal of Qualitative Studies on Health and Well-Being*, 20(1), 2458309.
<https://doi.org/10.1080/17482631.2025.2458309>

Frawley, J., Adams, J., & Sibbritt, D. (2021b). Prevalence and determinants of complementary and alternative medicine use during pregnancy: Results from a nationally representative sample of Australian pregnant women. *Australian and New Zealand Journal of Obstetrics and Gynaecology*, 61(4), 566–573. <https://doi.org/10.1111/ajo.13345>

Frawley, J., Adams, J., Steel, A., Broom, A., Gallois, C., & Sibbritt, D. (2015). Women’s use and self-prescription of herbal medicine during pregnancy: An examination of 1,835 pregnant women. *Women’s Health Issues*, 25(4), 396–402.

Frawley, J., Steel, A., Galligan, R., & Adams, J. (2021a). The use of complementary and alternative medicine by pregnant women in Australia. *BMC Complementary Medicine and Therapies*, 21(1), 136.

Ganasegeran, K., Rajendran, A. K., & Al-Dubai, S. A. R. (2014). Psycho-Socioeconomic Factors Affecting Complementary and Alternative Medicine Use among Selected Rural Communities in Malaysia: A Cross-Sectional Study. *PLoS ONE*, 9(11), e112124.
<https://doi.org/10.1371/journal.pone.0112124>

Golden, S. D., & Earp, J. A. L. (2012). Social ecological approaches to individuals and their contexts: Twenty years of health education and behavior health promotion interventions. *Health Education & Behavior*, 39(3), 364–372.

Gyasi, R. M., Asante, F., & Abass, K. (2021). Cultural beliefs and health-seeking behaviour: Predictors of traditional medicine utilization in Africa. *PLOS ONE*, 16(6), e0251236.

Hall, H. G., McKenna, L. G., & Griffiths, D. L. (2021). Complementary and alternative medicine for fertility: A qualitative study of women's experiences. *BMC Pregnancy and Childbirth*, 21(1), 137.

Hernandez, S. M., Anderson, S., & Farinholt, K. M. (2020). Exploring the use of complementary and alternative medicine in pregnancy. *Journal of Midwifery & Women's Health*, 65(1), 82–90.

Jimoh, A. O., Hudu, S. A., Aliyu, U. M., Adamu, A. A., Bello, N., Tahir, A., & Abubakar, N. (2025). Exploring the use of complementary and alternative medicine among cancer patients in Africa: A systematic review. *Scientific African*, 29, e02852.
<https://doi.org/10.1016/j.sciaf.2025.e02852>

Johnson, R., Wardle, J., & Adams, J. (2022). Complementary medicine use during pregnancy and associated maternal characteristics. *Journal of Alternative and Complementary Medicine*, 28(3), 215–223.

- Kennedy, D. A., Lupattelli, A., Koren, G., & Nordeng, H. (2013). Herbal medicine use in pregnancy: Results of a multinational study. *BMC Complementary and Alternative Medicine*, 13(1), 355.
- Khadivzadeh, T., & Ghabel, M. (2020). Herbal medicine use among pregnant women in Mashhad, Iran: A cross-sectional study. *Journal of Obstetrics and Gynaecology*, 40(6), 781–786.
- Kothari, C. R. (2019). *Research methodology: Methods and techniques* (4th ed.). New Age International.
- Levy, P. S., & Lemeshow, S. (2020). *Sampling: Theory and methods* (Revised ed.). Wiley.
- Lohr, S. L. (2021). *Sampling: Design and analysis* (3rd ed.). CRC Press.
- Mabuza, L. H., & Ngcobo, M. (2021). Utilization of complementary and alternative medicine among pregnant women attending antenatal care in Mpumalanga Province, South Africa. *African Journal of Primary Health Care & Family Medicine*, 13(1), e1–e7.
- Musa, A. A., Senkungu, J. K., & Nakaggwa, F. K. (2020). Utilization of traditional and complementary medicine among pregnant women attending antenatal care in Uganda: A cross-sectional study. *BMC Complementary Medicine and Therapies*, 20(1), 334. <http://dx.doi.org/10.1186/s12907-020-01567-7>
- Mutea, L. M., & Mwangi, J. W. (2021). Use of complementary and alternative medicine among pregnant women attending antenatal clinic at Pumwani Maternity Hospital, Nairobi, Kenya. *Journal of Pregnancy*, 2021, Article ID 6661567.
- Ng, E. D., Mohd Yusuff, A. S., & Ng, C. G. (2021). Prevalence and factors associated with complementary and alternative medicine use among pregnant women in Malaysia: A cross-sectional study. *BMC Complementary Medicine and Therapies*, 21(1), 107.
- Nwachukwu, D. C., & Ebeigbe, P. N. (2020). Prevalence and pattern of complementary and alternative medicine use among pregnant women attending antenatal clinics in Southern Nigeria. *Journal of Obstetrics and Gynaecology*, 40(5), 674–679.

Rutaremwya, G., Wandera, S. O., Jhamba, T., Akiror, E., & Kiconco, A. (2015). Determinants of maternal health services utilization in Uganda. *BMC Health Services Research*, 15, 271. <https://doi.org/10.1186/s12913-015-0943-8>

Sialubanje, C., Massar, K., Hamer, D. H., & Ruiter, R. A. C. (2021). Understanding the role of traditional birth attendants in maternal health service utilization. *BMC Pregnancy and Childbirth*, 21(1), 1–10.

Sserwanja, Q., Mukunya, D., Musaba, M. W., Kawuki, J., & Kitutu, F. E. (2021). Factors associated with health facility utilization during childbirth among women in Uganda. *BMC Health Services Research*, 21, 1160. <https://doi.org/10.1186/s12913-021-07179-5>

Steel, A., Adams, J., Sibbritt, D., & Broom, A. (2021). Use of complementary and alternative medicine during pregnancy and the postnatal period: A population-based cohort study in South A
Steel, A., Adams, J., Sibbritt, D., Broom, A., Frawley, J., & Gallois, C. (2014). The influence of complementary and alternative medicine use in pregnancy on labour pain management choices: Results from a nationally representative sample of 1,835 women. *Journal of Alternative and Complementary Medicine*, 20(2), 87–97.

Sundararajan, R., Mwanga-Amumpaire, J., King, R., & Ware, N. C. (2020). Conceptual model for pluralistic healthcare behaviour: Results from a qualitative study in southwestern Uganda. *BMJ Open*, 10(4), e033410. <https://doi.org/10.136/bmjopen-2019-033410>

136/bmjopen-2019-033410

Tam, W. W., Lo, K. K., & Khalechelvam, P. (2021). Use of traditional and complementary medicine in pregnancy and childbirth in South-East Asia: A systematic review and meta-analysis. *BMC Complementary Medicine and Therapies*, 21(1), 97.

Tiran, D. (2020). The use of herbs by pregnant and childbearing women: A risk–benefit assessment. *Women and Birth*, 33(3), 193–200.

World Health Organization. (2019). *Global report on traditional and complementary medicine 2019*. <https://www.who.int/publications-detail-redirect/9789241515436>

Yisma, E., Dessalegn, B., & Astatkie, A. (2022). Utilization of traditional and complementary medicine among pregnant women in Ethiopia: A systematic review and meta-analysis. *BMC Pregnancy and Childbirth*, 22(1), 51.

APPENDIX I: CONSENT FORM

UGANDA CHRISTIAN UNIVERSITY FACULTY OF PUBLIC HEALTH, NURSING AND MIDWIFERY

CONSENT INFORMATION FORM

Researcher

NAME: Nyamwenge Tereza

TEL: +256781930595/ +256703163301

EMAIL: perez.nyamwenge@gmail.com

THE TITLE OF THE PROPOSED STUDY

Utilization of complementary and alternative medicine and associated factors among pregnant mothers in Nagongera sub-county.

THE BACKGROUND

Women experience physiological changes during pregnancy and breastfeeding, leading to symptoms that may merit attention/treatment. So, they turn to complementary and alternative medicine (CAMs) to manage these conditions instead of medical therapies. (Kim & Kim, 2020).

The world's population (80%) uses some form of traditional, complementary, and integrative medicine (T&CM), usually alongside biomedicine. (Hoenders et al., 2024). Various studies have been conducted on the use of CAM by category, but little is known about the health complications to patients. This study aims to understand why expectant mothers in Nagongera subcounty still use CAM during pregnancy.

THE PURPOSE OF THE STUDY.

This is academic research, and it will focus on understanding why women use CAM during pregnancy and also the CAM remedies that are used by the women in Nagongera sub-county. The study will involve face-to-face interviews with the various mothers who attend antenatal in Nagongera Health Center IV.

PROCEDURES

The participants for this research will be identified on ANC days. Interview questions will be asked of the mothers who receive ANC services in Nagongera Health Center IV after explaining to them the purpose of the research and seeking their consent. The researcher will interact with the participants face-to-face while explaining the content of the designed questionnaires.

BENEFITS OF THE STUDY

This is majorly academic-based research that will help give more insights into the utilization of CAM. This research will provide more knowledge to other researchers on CAM-related topics and also help the Ministry of Health understand why pregnant mothers in Nagongera have continuously used CAM even without the ministry's health approval.

CONFIDENTIALITY OF PRIVACY

The research will be conducted within the hospital and only among the mothers who attend ANC at the hospital. The questionnaires will be filled out individually but not in groups, and personal information will not be asked.

The information received will be kept by a password-protected device only accessible to the local research team. The identities of the participants will not be disclosed.

QUESTIONS ABOUT THE PARTICIPANT'S RIGHTS TO PARTICIPATE.

In case any participants have questions as to why they can participate, they can reach out to the Uganda Christian University's accredited research ethics committee (contact name Title. s).

ETHICAL APPROVAL.

This research has been approved by an accredited 'Research Ethics Committee (REC) at Uganda Christian University.

STATEMENT OF CONSENT

..... has explained to me the reason I can participate in this research: it will not affect my reputation in any way and will not affect the services we receive. I understand that by signing this form, my rights will not be taken away. I can also withdraw from this activity at any time, especially when I sense any discomfort.

Name.....

Signature/thumbprint of participant

Date

Name.....

Signature of the interviewer/person obtaining informed consent.....

Date.....

APPENDIX II: QUESTIONNAIRE

I am Nyamwenge Tereza, a student at Uganda Christian University pursuing a Master of Public Health Leadership. I am conducting a study to understand the utilization of complementary and alternative medicine (CAM) and associated factors among pregnant mothers in the Nagongera sub-county. I would like to know why pregnant mothers opt for CAM and some of the CAM remedies that pregnant mothers who receive ANC services in the Nagongera sub-county use.

You are kindly encouraged to answer the question truthfully.

Please write in the space provided.

NYAMWENG TEREZA

MPHL

Semi-structured questionnaire

Utilization of complementary and alternative medicines (CAM) use and the associated factors among pregnant mothers in the Nagongera sub-county, Tororo District.

Section 1: Demographic Information

No.	Question	Response	Skip
1.	What is your age		
2.	What is your level of education?	1. Primary 2. Secondary 3. Tertiary 4. Other (please specify	
3.	What is your marital status?	1. Married 2. Single 3. Divorced 4. Widowed	
4.	What is your occupation?	1. Salaried worker 2. Businesswoman	

		3. Labourer/ Farmer/housewife 4. Others (Specify)	
5.	<i>What is your religion?</i>	1. Catholic 2. Anglican 3. Muslim 4. Pentecostal 5. SDA 6. Any other	
6.	What is your estimated gestational age?	in weeks	
7.	LNMP (before pregnancy)	Date.....	

Section 2: Complementary and Alternative Medicine (CAM) Use

No.	Question	Response	Skip
1.	Have you ever used Complementary and Alternative Medicine (CAM) during your current pregnancy? If yes, what type of CAM have you used? (Select all that apply)	1. Yes 2. No 1. Herbal medicine 2. Traditional birth attendants 3. Spiritual healing 4. Acupuncture 5. Massage 6. Other (please specify)	
2.	How often do you use CAM during your pregnancy? Select one	1. Daily 2. Weekly	

		3. Monthly 4. d) Rarely	
3.	What is the main reason for using CAM during your pregnancy? (Select one)	1) To manage pregnancy-related symptoms 2) To prevent pregnancy-related complications 3) To promote overall health and well-being 4) Other (please specify)	
4.	How much do you spend on CAM per month?	1. Less than UGX 10,000 2. UGX 10,000 - UGX 20,000 3. UGX 20,000 - UGX 50,000 4. More than UGX 50,000	
5.	How satisfied are you with the CAM you have used during your pregnancy?	1) Very satisfied 2) Somewhat satisfied 3) Neutral 4) Somewhat dissatisfied 5) Very dissatisfied	

Section 3: Individual Factors Associated with CAM Use

No.	Question	Response	Skip
1.	How would you rate your knowledge about CAM?	1. Very knowledgeable 2. Somewhat knowledgeable 3. Not very knowledgeable 4. Not at all knowledgeable	

2.	Have you ever discussed CAM with your healthcare provider?	1. Yes 2. No	
3.	Do you have a family member or friend who uses CAM?	1. Yes 2. No	
4.	How important is it for you to use CAM during your pregnancy? (Scale: 1-5)	1. Not important at all. 2. Somewhat important. 3. Neutral. 4. Important 5. Very important	
5.	How confident are you in your ability to make informed decisions about CAM use during your pregnancy? (Scale: 1-5)	1. Not confident at all 2. Somewhat unconfident 3. Neutral 4. Somewhat confident 5. Very confident	

Section 4: Social-Cultural Factors Influencing CAM Use

No.	Question	Response	Skip
1.	Do you believe that CAM is a part of your cultural heritage?	1. Yes 2. No	
2.	Have you ever been advised by a family member or friend to use CAM during pregnancy?	1. Yes 2. No	
3.	Do you think that CAM is more effective than conventional medicine for pregnancy-related symptoms?	1. Yes 2. No	

4.	How important is it for you to use CAM that your family or friends recommend? (Scale: 1-5)	1. Not important at all. 2. Somewhat important. 3. Neutral. 4. important 5. Very important	
5.	How often do you discuss CAM with your family or friends?	1. Daily 2. b) Weekly 3. Monthly 4. Rarely	

Section 5: Common Therapies of CAM Used

No.	Question	Response	Skip
1.	Which of the following CAM therapies have you used during your pregnancy? (Select all that apply)	1. Herbal medicine 2. Traditional birth attendants 3. Spiritual healing 4. Acupuncture 5. Massage 6. Other (please specify)	
2.	How often do you use each of the following CAM therapies?		
2a.	Herbal medicines	1. Rarely 2. Occasionally 3. Sometimes 4. Often 5. Daily	
2b.	Traditional birth attendants	1. Rarely 2. Occasionally 3. Sometimes 4. Often 5. Daily	
2c.	Spiritual healing	1. Rarely 2. Occasionally 3. Sometimes 4. Often 5. Daily	

2e.	Acupuncture	1. Rarely 2. Occasionally 3. Sometimes 4. Often 5. Daily	
2f.	Massage	1. Rarely 2. Occasionally 3. Sometimes 4. Often 5. Daily	
3.	What is the main reason you use each of the following CAM therapies? (Select one for each)		
3a.	Herbal medicine	1. To manage pregnancy-related symptoms 2. To prevent pregnancy-related complications 3. -To promote overall health and well-being 4. Other (please specify)	
3b	Traditional birth attendants	1. To manage pregnancy-related symptoms 2. To prevent pregnancy-related complications 3. To promote overall health and well-being 4. Other (please specify)	
3c	Spiritual healing	1. To manage pregnancy-related symptoms	

		2. To prevent pregnancy-related complications 3. To promote overall health and well-being 4. Other (please specify)	
3.e	Acupuncture	1. To manage pregnancy-related symptoms 2. To prevent pregnancy-related complications 3. To promote overall health and well-being 4. Other (please specify)	
3f	Massage	1. To manage pregnancy-related symptoms 2. To prevent pregnancy-related complications 3. To promote overall health and well-being 4. Other (please specify)	
4	How effective do you think each of the following CAM therapies is for managing pregnancy-related symptoms? (Scale: 1-5, where 1 is "not effective at all" and 5 is "very effective")		
	Herbal medicine	1. Not effective at all 2. Somewhat effective 3. Neutral 4. Effective 5. Very effective	
	Traditional birth attendants	1. Not effective at all 2. Somewhat effective 3. Neutral	

		4. Effective 5. Very effective	
	Spiritual healing	1. Not effective at all 2. Somewhat effective 3. Neutral 4. Effective 5. Very effective	
	Acupuncture	1. Not effective at all 2. Somewhat effective 3. Neutral 4. Effective 5. Very effective	
	Massage	1. Not effective at all 2. Somewhat effective 3. Neutral 4. Effective 5. Very effective	
5.	Have you experienced any side effects or adverse reactions from using each of the following CAM therapies? (Select one for each)		
	Herbal medicine	1. Yes 2. No	
	Traditional birth attendants	1. Yes 2. No	
	Spiritual healing	1. Yes 2. No	
	Acupuncture	1. Yes 2. No	

	Massage	1. Yes 2. No	
6.	How much do you spend on each of the following CAM therapies per month? (Scale: 1-5, where 1 is "less than UGX 10,000" and 5 is "more than UGX 50,000")		
	Herbal medicine		
	Traditional birth attendants		
	Spiritual healing		
	Acupuncture		
	Massage		

Social status (poverty scorecard)

No.	Question	Response	Skip
1.	Are you able to read and write with understanding in any language?	1 = Yes 2 = No	
2.	Do any household members attend a private school or a school that a religious organization, NGO, or any other non-governmental entity run?	1 = Yes 2 = No	
3.	During the last 12 months, did any household member receive income from crop farming or livestock?	1 = Crop farming, but not livestock 2 = Neither crop farming nor livestock 3 = Livestock (regardless of crop farming)	

4.	What type of material is mainly used for the construction of the floor?	1 = Earth, rammed earth, wood or other 2 = Cement screed, concrete, tiles, brick or stone.	
5.	What type of toilet facility does the household mainly use?	1 = No facility/busy/polythene bags/bucket, etc, pit latrine (without a cover and without a slab) or other 2 = Pit latrine (with a cover and/or with a slab), Ecosan (compost toilet), VIP latrine, or flush toilet.	
6.	How many functional phones do members of the household own at present?	1 = None 2 = One 3 = Two or more	
7.	Does every member of the household have at least one pair of shoes in good condition?	1 = No 2 = Yes	
8.	What was the average number of meals taken by the household members per day in the last seven days	1 = Two or fewer 2 = Three or more	

APPENDIX III: INTERVIEW GUIDE

Section 1: CAM Use During Pregnancy

1. Can you tell me about your experiences with Complementary and Alternative Medicine (CAM) during your pregnancy?
2. What motivated you to use CAM during your pregnancy?
3. How did you learn about CAM, and what sources of information did you use? **Probe***from friends, relatives or elders, advertisements and media houses.*

Section 2: Individual Factors Associated with CAM Use

1. How would you describe your knowledge about CAM, and how did you acquire this knowledge?
2. Have you ever discussed CAM with your healthcare provider? If so, what was their response?
3. Do you have a family member or friend who uses CAM? If so, how has their experience influenced your decision to use CAM?

Section 3: Social-Cultural Factors Influencing CAM Use

1. How does your cultural background influence your decision to use CAM during pregnancy?
2. Have you ever been advised by a family member or friend to use CAM during pregnancy? If so, what was their advice?
3. Do you think that CAM is more effective than conventional medicine for pregnancy-related symptoms? Why or why not?

Section 4: Common Therapies of CAM Used

1. Can you describe the different types of CAM therapies you have used during your pregnancy?
2. How did you choose which CAM therapy to use, and what factors influenced your decision?
3. Have you experienced any benefits or challenges from using CAM during your pregnancy? **Probe***for side effects.*

Thank you for your time and participation

DHOPADHOLA VERSION

Penji maripo kodi ngata I'pecho

**Oro nger megi kodi yen megi man ma botho kwo nger megi ma botho kwo medo Kwong
oro yen madwaliro kodi gikipingi mamakere gine idier mon mayach ma gombila
Nagongera, distwikit ma Tororo.**

Adech Marapena: Wach mamako kwo pa nyatoro

Namba	penji	Radwok	kali
8.	ija oro adii?		
9.	Isoma kew kune?	5. Purayire 6. Siniya 7. kos 8. kaman man (Nyuthi kama ler)	
10.	Chal ma nywom/ nywomirok perin ochungu nedi?	5. inywomere 6. Fodi initye kendin 7. Wipokere 8. Nyawotin Otho	
11.	Itimo tich ma chal nedi?	5. Jamisara madwe 6. Jamitani 7. Jatichi m'aichulu kis ndelo/ Jafur/dhako m'nywomere makilimi misara 8. Tichi man man (Kethi ilero)	
12.	ija dini meni?	7. Jakatulika 8. Jamungeresa 9. Jamusiram 10. Jamulokole	

		11. Ja SDA 12. Din man	
13.	K'ichowo gamo iyin, chowo hongo ango t'nywol?	Sabiti.....	
14.	Ineno malo machowe ker'ango?	Ndelo dwe.....	

Adechi Mararyo: Nger megi ma botho kwo medo Kwong oro yen madwaliro

Namba.	Penji	Radwoki	kali
6.	Ichowo ye oro nger man ma botho kwo perin k'iyach medo iwi minwango I odiyath/dwaliro? Ka eyi, nger mene? (yer m'ioro)	3. Eyi 4. Be 7. Yeni nyapadhalo 8. Jucholi mon machalo 9. Jubothi ji I chunyi 10. Piso pa juchaina 11. Twenyo chokin 12. Mani (Kethi Ilero)	
7.	Kisi ka hongo ango okadho m'ioro iye nger man ma botho kwo k'iyach? (Yeri achiel)	5. Kisindelo 6. Kisi sabiti 7. Kisi dwe 8. Di cheil di chiel	
8.	Atonga perin madwong won obedo ango ma oro nger megi ma botho kwo medo iwi konyi ma odiyathi k'iyach? (yeri a chiel)	5) Ma yalo rayuthi matwo ma bino gi nywol 6) Ma gengo dinyo a bino gi nywol 7) Ma miyo del owinji maber ka'yachi 8) Megi man (kethi I lero)	

9.	I oro pesa adi kisi dwe I nger megì ma botho kwo medo Iwi kony ma odiyath?	5. Kirom gana apar (10,000) ma Uganda 6. 10,000 - UGX 20,000 7. 20,000 - UGX 50,000 8. Madit loyo UGX 50,000	
9.	Iwinjo m'ogonyere marom nedi k'ioro nger megì ma botho Kwo medo I wi konyi madwaliro tek tek k'iyach?	6) M'ogonyere swa 7) Gikenyo kenyo 8) M'oripo 9) Marach gikenyo kenyo 10) Marach aracha swa	

Adechi maradek: Gikipiny mamiyo nyatoro oro nger megì ma botho kwo medo Kwong oro yen madwaliro

No.	Question	Response	Skip
2.	Rieko ma'nitye gine in nger mengi ma both kwo loyo Kwong yeni madwaliro romo nedi?	6. Initye gi rieko kweth swa 7. Rieko adiechi ye 8. Angoye gi rieko kweth 9. Angoye gi rieko moro jie	
6.	Ityeko ye kiliesa Kwong nger mengi ma botho kwo loyo Kwong yeni a madwaliro kodi nyata konyin a nger makwo?	1. Eyi 2. Be	

7.	Initye ye kodi japecho kosa mere perin moro ma oro nger mengi ma both kwo loyo Kwong yeni madwaliro?	1. Eyi 2. Be	
8.	Bero ango m'inwango ioro nger meggi ma botho kwo medo Kwong oro yen madwaliro k'iyach? (1-5)	1. Ongoye kony moro jie 2. Dikony ameno ameno 3. oripo 4. Dikony 5. Dikony tek tek	
9.	Miseni ango minigine itimo diero chako oro nger meggi ma botho kwo medo Kwong oro yen madwaliro k'iyach?	1. Misene ongoye de be 2. Pamisene Ongoye 3. M'oripo 4. Misene nitye ameno ameno 5. Misene nitye tek tek	

Adechi Maragwen: Gikipinyi mamakere kodi tim gi kula manyanono nono ioro nger meggi ma botho kwo medo Kwong oro yen madwaliro

Namba.	penji	Radwok	kali
6.	Iyeyo ni oro nger meggi ma botho kwo medo Kwong oro yen madwaliro obedo gima makere kodi timi gi kula manono perin?	3. ey 4. Be	
7.	Mere perin kosa japecho otieko ye miyin rieko ni I or nger meggi ma	3. Ey 4. Be	

	botho kwo medo Kwong oro yen madwaliro k'iyach?		
8.	Iparo ni oro nger megi ma botho kwo medo Kwong oro yen madwaliro tiyo rin maber loyo yen m'imiyo odiyath mabotho ranyuth matwo madhako mayach nyalo bedo gine?	3. Ey 4. Be	
9.	Bero ango m'inwango i oro nger megi ma botho kwo medo Kwong oro yen madwaliro ma jopecho kosa merin perin jowacho rin ni i ori?	1. Ongoye kony moro jie 2. Dikony ameno ameno 3. oripo 4. Dikony 5. Dikony tek tek	
5.	Didii mawibedo gi jopecho kosa merin to winyamo Kwong nger megi ma botho kwo medo Kwong oro yen madwaliro?	1. Kisindelo 2. Kisi sabiti 3. Kisi dwe 4. Di cheil di chiel	

Adech marabich: Nger m'opoker'opokere m'ioro mamiyo both luwo Kwong nger megi ma botho kwo medo Kwong oro yen madwaliro

Namba.	penji	Radwok
4.	Mene Kwong ger mamiyo both luwo Kwong nger megì ma botho kwo medo Kwong oro yen madwalìro m'ityeko oro munyo iyachi? (yeri mityeko oro jie)	1. Yeni nyapadhalo 2. Jucholi mon machalo 3. Jubothi ji I chunyi 4. Piso pa juchaina 5. Twenyo chokin 6. Mani (kethi ilero)
5.	Didii m'ìoro kisi nger me mamiyi both luwo Kwong nger megì ma botho kwo medo Kwong oro yen madwalìro?	
2a.	Yeni nyapadhalo	1. Dichiel dichiel 2. Dichiel dichiel k'amito 3. ruman 4. kis hongo 5. Kis ndelo
2b.	Jucholi mon machalo	1. Dichiel dichiel 2. Dichiel dichiel k'amito 3. ruman 4. kis hongo 5. Kis ndelo
2c.	Jubothi ji, I Chunyi	1. Dichiel dichiel 2. Dichiel dichiel k'amito

		3. ruman 4. kis hongo 5.Kis ndelo
2d.	Piso pa juchaina	1. Dichiel dichiel 2. Dichiel dichiel k'amito 3. ruman 4. kis hongo 5.Kis ndelo
2e.	Twenyo chokin	1. Dichiel dichiel 2. Dichiel dichiel k'amito 3. ruman 4. kis hongo 5.Kis ndelo
6.	Atonga perin madwong ma oro kis achiel achiel Kwong nger megì ma botho kwo medo Kwong oro yen madwalìro me obedo ango?	
3a.	Yeni nyapadhalo	5. Ma lwenyi gi ranyuth marecho ma wok Kwong dhako mayach. 6. Ma gwoko dinyo ma dhako mayach romo gine. 7. Ma medo miyo kwo gi bee obedi ma'ogonyere. 8. Mani (kethi ilero)
3b	Jucholi mon machalo	1. Ma lwenyi gi ranyuth marecho ma wok Kwong dhako mayach.

		2. Ma gwoko dinyo ma dhako mayach romo gine. 3. Ma medo miyo kwo gi bee obedi ma'ogonyere. 4. Mani (kethi ilero)
3c	Jubothi ji, I Chunyi	1. Ma lwenyi gi ranyuth marecho ma wok Kwong dhako mayach. 2. Ma gwoko dinyo ma dhako mayach romo gine. 3. Ma medo miyo kwo gi bee obedi ma'ogonyere. 4. Mani (kethi ilero)
3d	Piso pa juchaina	1. Ma lwenyi gi ranyuth marecho ma wok Kwong dhako mayach. 2. Ma gwoko dinyo ma dhako mayach romo gine. 3. Ma medo miyo kwo gi bee obedi ma'ogonyere. 4. Mani (kethi ilero)
3e	Twenyo chokin	1. Ma lwenyi gi ranyuth marecho ma wok Kwong dhako mayach. 2. Ma gwoko dinyo ma dhako mayach romo gine. 3. Ma medo miyo kwo gi bee obedi ma'ogonyere. 4. Mani (kethi ilero)
4	Iparo ni inger mene mu'odocho ma'nyalo oro iye kis nger megì me ma botho kwo medo Kwong oro yen madwalìro m'ìoro ma lwenyi gi ranyuth marecho ma wok Kwong dhako mayach? (rapim 1-5, kama 1 kitiy kada atiya aka abich tiyo ma'odocho	

4a	Yeni nyapadhalo	a. Ongoye kony moro jie b. Dikony ameno ameno c. oripo d. Dikony e. Dikony tek tek
4b	Jucholi mon machalo	1. Ongoye kony moro jie 2. Dikony ameno ameno 3. oripo 4. Dikony 5. Dikony tek tek
4c	Jubothi ji, I Chunyi	1. Ongoye kony moro jie 2. Dikony ameno ameno 3. oripo 4. Dikony 5. Dikony tek tek
4d	Piso pa juchaina	1. Ongoye kony moro jie 2. Dikony ameno ameno 3. oripo 4. Dikony 5. Dikony tek tek
4e	Twenyo chokin	1. Ongoye kony moro jie 2. Dikony ameno ameno 3. oripo 4. Dikony 5. Dikony tek tek
5.	Itieko ye nwango rayuth marecho kosa kwogin winyo marach tek tek k'ioro kis nger megi me ma botho kwo medo Kwong oro yen madwaliro? (yeri radwok achiel)	

5a	Yeni nyapadhalo	3. Ey 4. Be
5b	Jucholi mon machalo	3. Ey 4. Be
5c	Jubothi ji, I Chunyi	3. Ey 4. Be
5d	Piso pa juchaina	3. Ey 4. Be
5e	Twenyo chokin	3. Ey 4. Be
6.	Ioro pesa adi I kis dwe I kis nger megi me ma botho kwo medo Kwong oro yen madwaliro? (Rupim 1-5, kama achiel obedo chen ma 10,000 aka 5 obedo makalo 50,000.	
6a	Yeni nyapadhalo	
6b	Jucholi mon machalo	
6c	Jubothi ji, I Chunyi	
6d	Piso pa juchaina	
6e	Twenyo chokin	
Namba	penji	Radwok

9.	Inyalo ndiko gi kisoma dhodhok maro jye?	1 = Ey 2 = Be
10.	Nitye nyatoro moro I pecho perin ma soma I somero padhano kosa ma kitipa ma kilisia, kitipa ma ki magafument kosa kitipa man riemo riemo?	1 = Ey 2 = Be
11.	Idier dwe 12 yuchien, nitye nyatoro moro pecho perin m'olimo ye dome moro wok I furo chiemo kosa i jamino?	1 = furo chiemo to kiweno jamino. 2 = kuwok I chiemo odoko k'ijamino 3 = jamino (medo iwi fur)
12.	Ot m.inindo iye ofuy g'ango?	1 = Lowo, Laro, mbawo kosa giman 2 = simit, kokoto, tayil, matafal kosa ge.
13.	Ipecho perin kit choron mene ma wioro?	1 = choron ongoye/joradech gipoi jo-oro/wer wer/ baket, giman man, choron akunya (maki-um dhoke kosa makofuyi) kosa man 2 = choron akunya (m'iumo dhoke koda kosa m'ofuy maber), choron akoda (compost toilet), choron akunya manigi payipo mawodho luya marach, choron maoro pi.
14.	Pecho perin nitye simin adi matiyo?	1 = ongoye kada achiel 2 = Achiel 3 = Aryo gi kalo

15.	Kis nyatoro ma pecho perin nitye ye gi ngato kada achiel marukere?	1 = Be 2 = Ey
16.	Indelo abiryo m-okadho wichiemo didii kisi ndelo?	1 = diryo kosa manok 2 = didek kadho malo

Kangasa: iripo loko penji me jie idhopadhola

Thutho ma penji makonyo jatim dwar

Adech marapena: Oro nger meggi ma botho kwo medo Kwong oro yen madwaliro ka nyatoro nyach

1. awach reye gima mako Kwong ngeyo perin I oro nger meggi ma botho kwo medo Kwong oro yen madwaliro k'iyach
2. Ango m-oywayo chunyin chako oro nger meggi ma botho kwo medo Kwong oro yen madwaliro munyo iyach?
- 3 Nyata ofonjin oro nger meggi ma botho kwo medo Kwong oro yen madwaliro aka nger kangwango mikwenda anga m'oro? Wakibongi merin, wode, jom-otegino, kilanga kodi wach mawok ikoyo.

Adech Maryo: Gimanyatoro won nyalo wacho mamakere kodi oro nger meggi ma botho kwo medo Kwong oro yen madwaliro

1. Inyalo tito nedi m'odocho ngeyo perin Kwong nger meggi ma botho kwo medo Kwong oro yen madwaliro, aka inwango nedi kit ngeyo no?
2. Inger mene m'idiero iye kit nger meggi man ma botho kwo medo Kwong oro yen madwaliro m'ioro no aka ginango m'omiyin itimo diero no?
3. Initye kodi japecho kosa mere perin maoro nger meggi ma botho kwo medo Kwong oro yen madwaliro? Ka ey, inger mene ma ngeyo pajo omiyin itimo diero bende machako oro?

Adech maradek: Tim gikula manay nono nono mamiyo nyatoro oro nger meggi ma botho kwo medo Kwong oro yen madwaliro

1. inger mene ma tim manono perin miyn itimo diero machako oro nger megì ma botho kwo medo Kwong oro yen madwalìro k'iyach?

2. Nitye nyatoro moro ipecho perin kosa mere m'otyeko miyin rieko maoro nger megì ma botho kwo medo Kwong oro yen madwalìro k'iyachi?

3. iparo ni nger megì ma botho kwo medo Kwong oro yen madwalìro tiyo m'odocho loyo yen majumulerwa jumiyo mabotho ranyuth marecho mabino gi nywol? irango kosa irango be?

Adech Marangwen: Nger m'opoker'opokere m'ioro mamiyo both luwo Kwong nger megì ma botho kwo medo Kwong oro yen madwalìro

1. inyalo ye tito m'odocho nger m'opoker'opokere m'itiekò ye oro malimo both luwo Kwong nger megì ma botho kwo medo Kwong oro yen madwalìro munyo iyach?

2. idero nedi nger m'opoker'opokere m'ioro malimo both medo Kwong oro yen madwalìro aka gikipinyi ango m'omiyo itimo diero no?

3. Itiekò ye romo gi bero moro kosa peko munyo I oro megì ma botho kwo medo Kwong oro yen madwalìro munyo iyach? Luwi Kwong rayuth marecho

Walwa gi miyo thwolo perin kodi yeyo miyo radwok mapenji.



UGANDA CHRISTIAN UNIVERSITY

A Centre of Excellence in the Heart of Africa.

Office of the Vice Chancellor
Research Ethics Committee UG-026



24th April, 2025

NYAMWENGE TEREZA
Uganda Christian University
+256 781 930595
Email: perez.nyamwenge@gmail.com

UG-REC-026 APPROVAL NOTICE

To: Nyamwenge Tereza, Principal Investigator

Re: UCU-REC Application titled: *Utilization of Complementary And Alternative Medicine And Associated Factors Among Pregnant Mothers In Nagongera Sub County.*

Application Number: UCUREC-2025-827

Version: 4.1

Type: ☐ INITIAL REVIEW
☐ Protocol Amendment
☐ Letter of Amendment (LOA)
☐ Continuing Review
☐ Material Transfer Agreement
☐ Other, Specify:



I am pleased to inform you that the UG-REC-026; UCUREC approved the above referenced application.

Approval of the research is for the period from 24th April, 2025, to 24th April, 2026
This research is considered minimal risk category.

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

1. All co-investigators must be kept informed of the status of the research.
2. Changes, amendments, and additions to the protocol or the consent form must be submitted to the REC for re-review and approval prior to the activation of the changes. The REC application number assigned to the research should be cited in any correspondence.
3. Reports of unanticipated problems involving risks to participants or other must be submitted to the REC. New information that becomes available which could change the risk: benefit ratio must be submitted promptly for REC review.

1 of 2

Research and Ethics