
**KNOWLEDGE AND PERCEPTION REGARDING INTERMITTENT PREVENTIVE
TREATMENT MEASURES AGAINST MALARIA AMONG PREGNANT WOMEN
ATTENDING ANTENATAL CARE AT MBALE REGIONAL REFERRAL HOSPITAL**

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SUPERVISORS

**A DISSERTATION SUBMITTED TO BUSITEMA UNIVERSITY FACULTY OF
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DECLARATION

I Ssebwato George William, hereby declare that this research report title “**Knowledge and Perception Regarding Intermittent Preventive Treatment Against Malaria Among Pregnant Women Attending Antenatal Care at Mbale Regional Referral Hospital**” is my original work. It has never been submitted to any university or institution for any academic award.

Where other people’s work has been used, it has been properly acknowledged and referenced.

Signature



Date June 3, 2026

SUPERVISOR APPROVAL

This research report titled “**Knowledge and Perception Regarding Intermittent Preventive Treatment Measures Against Malaria Among Pregnant Women Attending Antenatal Care at Mbale Regional Referral Hospital**” has been produced by SSEBWATO GEORGE WILLIAM after following my guidance.

I have approved it for submission to the Busitema University and REC as part of the requirements for the award of a Bachelor’s Degree in Nursing Science.

Supervisor

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Signature

Date ...05/06/2026.....

DEDICATION

This research is dedicated to my beloved parents, whose unwavering love, sacrifices, prayers, and encouragement have been the foundation of my academic journey. I also dedicate this work to the loving memory of my late father, whose inspiration continues to guide me. Finally, I dedicate this study to everyone who has supported my dream of pursuing higher education and contributing to the health sector.

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TABLE OF CONTENT

Contents

DECLARATION	1
SUPERVISOR APPROVAL.....	2
DEDICATION	3
ACKNOWLEDGEMENTS.....	4
TABLE OF CONTENT	5
OPERATIONAL DEFINITION	8
ABBREVIATIONS AND ACRONYMS	9
ABSTRACT.....	10
CHAPTER ONE: INTRODUCTION	12
1.1BACKGROUND.....	12
1.2 PROBLEM STATEMENT.....	13
1.3 STUDY JUSTIFICATION AND SIGNIFICANCE	14
1.3.1 Justification	14
1.3.2 Significance of the study	14
1.4 RESEARCH OBJECTIVES	14
1.4.1 General Objective	14
1.4.2 Specific Objective	14
1.5 RESEARCH QUESTIONS.....	15
1.6 CONCEPTUAL FRAME WORK.....	16
1.6.1 Conceptual Narrative	17
CHAPTER TWO: LITERATURE REVIEW	18
2.0 Introduction	18
2.1 Knowledge of IPTp among Pregnant Women.....	18
2.2 Perception toward IPTp	19
2.3 Sociodemographic Factors Influencing Knowledge and Perception.....	20
2.4 Health System and Service Delivery Factors.....	21
2.5 Summary	22
2.6 Conclusion.....	22
CHAPTER THREE: METHODS AND MATERIALS.....	24

3.0 INTRODUCTION	24
3.1 STUDY DESIGN.....	24
3.2 STUDY AREA	24
3.3 STUDY POPULATION	24
3.4 ELIGIBILITY CRITERIA	25
3.4.1 Inclusion criteria.....	25
3.4.2 Exclusion criteria	25
3.5 STUDY VARIABLES	25
3.5.1 Dependent variable.....	25
3.5.2 Independent variables	25
3.6 SAMPLE SIZE.....	25
3.7 SAMPLING TECHNIQUE	26
3.8 DATA COLLECTION METHODS AND TOOLS.....	26
3.8.1 DATA COLLECTION PROCEDURE	27
3.9 DATA MANAGEMENT AND ANALYSIS	27
3.10 DATA QUALITY CONTROL AND ASSURANCE	28
3.11 DATA PRESENTATION.....	29
3.12 ETHICAL CONSIDERATIONS	29
3.13 STUDY LIMITATIONS.....	29
3.14 DISSEMINATION OF RESULTS.....	29
CHAPTER FOUR: RESULTS	30
4.1 Sociodemographic characteristics	30
4.2 Knowledge of pregnant women about IPTp- SP	2
4.3 Perception of pregnant women about IPTp-SP	3
4.4 Health system related factors.....	2
Association of knowledge of pregnant women about IPT SP with socio-demographic characteristics, their perception and health system related factors at Bivariate analysis level.....	2
Association of knowledge of pregnant women about IPT SP with socio-demographic characteristics, their perception and health system related factors at multivariate analysis level.	5
CHAPTER FIVE: DISCUSSION, CONCLUSION AND RECOMMENDATIONS.....	8
5.0 Introduction	8
5.1 Discussion of Findings	8

5.1.1 Socio-demographic and Obstetric Characteristics of the Respondents	8
5.1.2 Knowledge Regarding IPTp Measures Among Pregnant Women.....	9
5.1.3 Perception Regarding IPTp Measures Among Pregnant Women	10
5.1.4 Factors Influencing Knowledge and Perception Regarding IPTp Measures	11
5.2 Implications of the Study Findings	13
5.3 Relationship of Findings to the Conceptual Framework.....	13
5.4 Conclusion.....	14
The study found that although pregnant women attending antenatal care at Mbale	14
5.5 Recommendations	14
5.6 Strengths of the Study	16
5.7 Limitations of the Study	16
REFERENCES.....	18
APPENDICES	23
Appendix I: COSENT FORM	23
MINOR ASSENT FORM	27
APPENDIX III: QUESTIONNAIRE	28

OPERATIONAL DEFINITION

ANC: refers to the care pregnant women receive from the health professionals

DOT (Direct Observed Therapy): it involves the pregnant woman taking the medicine while the health worker is seeing.

IPTp: refers to intermittent Preventive Treatment against malaria in pregnancy.

Prevalence: it is the proportion of a population who have a specific characteristic in a given period.

Prevention: refers to the action of stopping something from happening.

SP: Sulfadoxine Pyrimethamine is a combination treatment used for prophylaxis against malaria in pregnant women.

ABBREVIATIONS AND ACRONYMS

ANC Antenatal Care

AOD Adjusted Odds Ratio

BUFHS-REC Busitema University Faculty of Health Sciences Research Ethics Committee

COR Crude Odds Ratio

DOT Directly Observed Therapy

IPT Intermittent Preventive treatment

ITNs Insecticide Treated Nets

MiP Malaria in Pregnancy

MRRH Mbale Regional Referral Hospital

SP Sulphadoxine Pyrimethamine

ToT Training of Trainers

WHO World Health Organization

ABSTRACT

Background

Malaria remains a major public health problem and is one of the leading causes of morbidity and mortality among pregnant women and their unborn babies in Uganda. Intermittent Preventive Treatment in pregnancy using Sulfadoxine-Pyrimethamine (IPTp-SP) is a key intervention recommended by the World Health Organization to prevent malaria-related complications such as maternal anemia, low birth weight, stillbirth, and neonatal mortality. Despite its proven effectiveness and availability, the uptake of IPTp-SP remains suboptimal in many settings. Knowledge and perception of pregnant women towards IPTp-SP play a significant role in influencing its utilization. This study assessed the knowledge and perception regarding IPTp-SP among pregnant women attending antenatal care at Mbale Regional Referral Hospital.

Objectives

To assess the level of knowledge and perception regarding IPTp-SP among pregnant women attending antenatal care at Mbale Regional Referral Hospital and to identify factors associated with knowledge and perception of IPTp-SP.

Methods

A descriptive cross-sectional study was conducted among 423 pregnant women attending antenatal care at Mbale Regional Referral Hospital. Participants were selected using consecutive sampling. Data were collected using a structured interviewer-administered questionnaire and entered into Stata/SE 15.1 for analysis. Descriptive statistics including frequencies, percentages, means, and standard deviations were used to summarize the data. Knowledge was categorized as good or poor based on a score of 70% and above. Those who scored 70% and above had good knowledge while those who scored below 70% had poor knowledge. Perception was assessed using a five-point Likert scale, and the overall perception was categorized based on the mean score. Chi-square tests and logistic regression analyses were performed to determine factors associated with knowledge and perception. Statistical significance was considered at $p < 0.05$.

Results

Among the 423 pregnant women interviewed, the majority demonstrated good knowledge regarding IPTp-SP. Most participants demonstrated poor knowledge about the correct timing, dosage, and administration of IPTp-SP despite being aware of its existence and benefits.

The overall mean perception score was 3.14, indicating a generally positive perception towards IPTp-SP. Most respondents agreed that IPTp-SP is important for preventing malaria during pregnancy and improving maternal and fetal health outcomes.

Education level, attitude of health workers, and clarity of explanations provided during antenatal care were the major factors independently associated with knowledge regarding IPTp-SP.

Conclusion

The study found that pregnant women attending antenatal care at Mbale Regional Referral Hospital generally had good knowledge and a positive perception towards IPTp-SP. However, knowledge gaps and misconceptions still existed among some women, which could affect optimal utilization of the intervention.

Recommendations

The Ministry of Health and health facilities should strengthen health education programs on IPTp-SP during antenatal care visits. Health workers should provide consistent information on the benefits, timing, and recommended doses of IPTp-SP. Community sensitization programs should also be enhanced to improve awareness and address misconceptions about malaria prevention during pregnancy. Further studies should explore barriers to the actual uptake and completion of recommended IPTp-SP doses among pregnant women.

Keywords: Intermittent preventive therapy in pregnancy, Sulfadoxine/pyrimethamine, Malaria in pregnancy

CHAPTER ONE: INTRODUCTION

1.1 BACKGROUND

Malaria is one of the leading causes of morbidity and mortality globally. It is caused by plasmodium parasites spread through bites of an infected female Anopheles mosquitoes. Almost half of the world's population is at a higher risk of malaria; however, the disease is both preventable and curable (WHO, 2025). In 2023, the World Health Organization identified 263 million malaria cases and over 597,000 deaths across 83 countries. About 95% of the cases and 96% of the deaths occurred in the African Region (Matanda et al., 2024; WHO, 2024).

Expectant mothers are highly vulnerable to malaria, with prevalence ranging from 13.1% to 50.0% and up to 80% in highly endemic regions. In 2018, malaria infected about 11 million pregnant mothers living in moderate and high malaria transmission sub-Saharan African countries like Uganda. It is also estimated that 10,000 maternal deaths and 100,000 newborn deaths occur each year worldwide due to malaria. Nearly half of these cases occur in Sub-Saharan Africa (Caleb Mangusho, 2023). According to the World Health Organisation, West Africa had the greatest prevalence (40.7%), closely followed by Central Africa (39.8%), while the prevalence in East and Southern Africa was 20% (Duguma et al., 2023).

In Uganda, malaria prevalence among pregnant women ranges from 8.9% to over 50% in high transmission settings. In 2019, malaria in pregnancy (MiP) caused 152 of the 3,528 maternal and newborn deaths in Uganda (Mutesi et al., 2024). Malaria in pregnancy poses significant risks to the mother, fetus, and neonate. These risks include maternal anemia, spontaneous abortion, stillbirth, prematurity and poor maternal health outcomes. However, the disease may sometimes not show symptoms due to acquired immunity among mothers living in high risk regions (Gontie et al., 2020).

Pregnant women are recommended to use Sulphadoxine-Pyrimethamine (SP-IPTp) as a preventive treatment in high transmission areas of Africa. The treatment begins in the second trimester and is given one month apart, with at least three doses received during the course of pregnancy. Studies have shown that receiving more than 3 doses reduce the risk of peripheral parasitemia by up to 56% and decreases submicroscopic infections (Agyeman et al., 2020; Orish et al., 2023; van Eijk et al., 2025).

Studies have also shown that there is poor knowledge and perception regarding IPTp among pregnant mothers. Similarly, (Ayiisi, 2017) noted that majority (68.2%) of the pregnant women did not have knowledge about the use of IPT, while only 31.8% had adequate knowledge. . Numerous methods have been introduced in Uganda to prevent malaria, including continuous supply of Intermittent Preventive Treatment with Sulfadoxine-Pyrimethamine (IPTp-SP) and the distribution of insecticide treated nets (ITNs) during antenatal care (ANC) visits, following the revised WHO IPTp-SP policy guidelines (Orish et al., 2023; WHO, 2024). The rate of ANC attendance for at least one visit in Uganda is 97.3%; however, it drops to 59.9% for at least four visits. This is below expectations under the new eight-contact ANC model in Uganda (Muhirwe, 2022). Given this context, it is essential to assess pregnant women's knowledge and perceptions of IPTp-SP at local health facilities such as Mbale Regional Referral Hospital (MRRH) to identify barriers and improve uptake of this critical preventive intervention.

1.2 PROBLEM STATEMENT

Malaria in pregnancy remains a critical public health concern in endemic regions such as Eastern Uganda, contributing significantly to maternal and neonatal morbidity and mortality (Wafula et al., 2021). Despite Ministry of Health efforts to integrate IPTp-SP into routine antenatal care services, coverage of the recommended minimum three doses increased from only 2.5% to 50% between 2017 and 2022, remaining well below the national target of 66% and hindering progress towards Sustainable Development Goal 3 targets of reducing maternal and neonatal mortality and ending malaria by 2030 (Orish et al., 2023; Orit et al., 2024). Evidence from Uganda and other sub-Saharan African settings suggests that this persistent gap between policy and practice is largely driven by limited knowledge, misconceptions about the safety and benefits of IPTp-SP, and negative perceptions that influence health-seeking behavior and adherence to preventive interventions among pregnant women (Namusoke et al., 2024). Addressing these factors is critical, as knowledge and perceptions are known determinants of uptake of preventive health interventions. However, no study has systematically assessed the level of knowledge and perceptions towards IPTp-SP and their determinants among pregnant women attending ANC at Mbale Regional Referral Hospital, leaving a critical evidence gap that limits the design and implementation of targeted, facility-level interventions to improve malaria prevention in pregnancy.

1.3 STUDY JUSTIFICATION AND SIGNIFICANCE

1.3.1 Justification

Malaria in pregnancy remains a significant public health challenge in Eastern Uganda, where uptake of the recommended minimum three doses of IPTp-SP continues to fall below national targets despite its availability through antenatal care services. This gap in coverage is largely attributed to limited knowledge among pregnant women. Assessing these factors was therefore essential to identify barriers to IPTp-SP use and inform targeted interventions aimed at reducing malaria-related maternal and neonatal complications.

1.3.2 Significance of the study

The findings of this study are of direct relevance to several key stakeholders involved in malaria prevention and antenatal care services. The Ministry of Health (MoH) can utilize the evidence to revise national health education content on IPTp-SP, addressing identified knowledge gaps and misconceptions at policy level. The National Malaria Control Programme (NMCP) can apply the results to strengthen IPTp coverage monitoring and develop more targeted communication strategies that translate recommended malaria prevention guidelines into practice. At the facility level, the Mbale Regional Referral Hospital ANC Clinic can improve provider counseling strategies by emphasizing the benefits, correct timing, and adherence to IPTp-SP doses, as well as developing more effective educational materials and health talks during ANC visits. Finally, the District Health Team can use this evidence to design targeted in-service training programs that equip health workers with the skills to deliver accurate and responsive health education, ultimately reducing barriers to IPTp-SP uptake among pregnant women

1.4 RESEARCH OBJECTIVES

1.4.1 General Objective

Assessment of the knowledge, perception, and factors influencing the knowledge and perception about Intermittent Preventive Treatment (IPTp) against malaria among pregnant women attending ANC at Mbale Regional Referral Hospital in Eastern Uganda was done.

1.4.2 Specific Objective

1. Assessment of knowledge regarding IPT measures among pregnant women visiting ANC at Mbale Regional Referral Hospital was done.

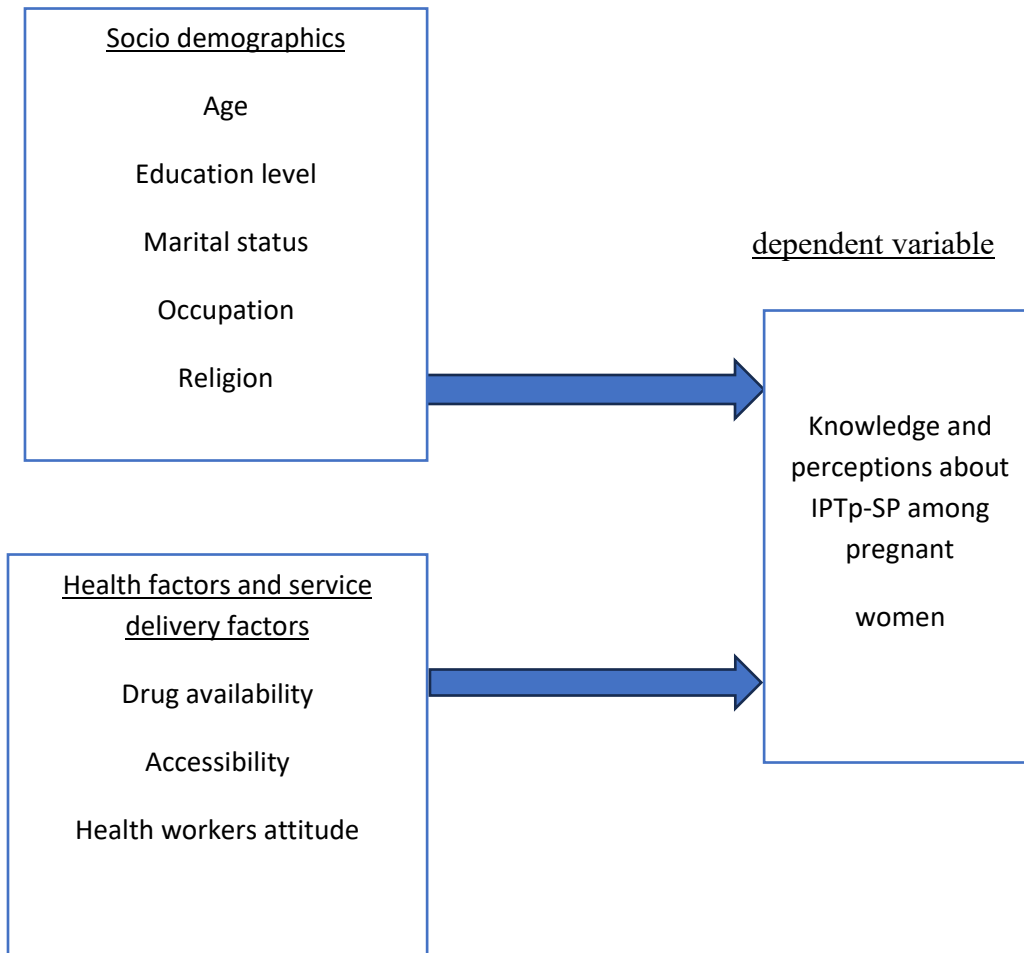
2. Assessment of perception regarding IPT measures among pregnant women visiting ANC at Mbale Regional Referral Hospital was done.
3. To identify factors influencing knowledge and perception regarding IPTp measures against malaria in pregnancy among pregnant women were explored.

1.5 RESEARCH QUESTIONS

1. What was the level of knowledge about IPT among pregnant mothers?
2. What was the perceptions of pregnant mothers toward IPT?
3. What factors influenced knowledge and perception regarding IPT against malaria among pregnant mothers?

1.6 CONCEPTUAL FRAME WORK

Independent variables



1.6.1 Conceptual Narrative

This study is guided by the Health Belief Model (HBM), which explains how individual characteristics and environmental factors influence health-related beliefs and perceptions. The HBM is fundamentally concerned with how people develop beliefs and perceptions about a health intervention. It proposes that individuals' actions and attitudes are influenced by: perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action and self-efficacy.

The model suggests that people's knowledge and perceptions about a health intervention are shaped by their personal characteristics, experiences, and interactions with the healthcare system.

In the context of this study, socio-demographic factors such as age, education level, marital status, occupation, and religion may influence pregnant women's exposure to health information and understanding of IPTp-SP. Similarly, health service delivery factors including drug availability, accessibility of services, and health workers' attitudes may affect the information and support women receive during antenatal care. These factors are expected to influence women's knowledge and perceptions regarding IPTp-SP among pregnant women.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

According to the World Health Organization (WHO, 2023) , malaria in pregnancy continues to be a major public health concern. It weakens the immunity of the pregnant woman, making her more vulnerable to malaria infection and increasing the risk of anemia, illness, severe disease, and death. Malaria during pregnancy is also associated with adverse pregnancy outcomes such as premature delivery, spontaneous abortion, stillbirth, and low birth weight, which is a major cause of child mortality. To reduce these risks, the World Health Organization recommends the use of intermittent preventive treatment in pregnancy (IPTp) with Sulfadoxine-Pyrimethamine (SP) among pregnant women living in malaria-endemic areas. Despite the implementation of this policy in many countries, several studies have reported low uptake and poor adherence to IPTp-SP among pregnant women, often linked to inadequate knowledge and negative perceptions about the intervention.

2.1 Knowledge of IPTp among Pregnant Women

Studies conducted in different parts of the world show varying levels of knowledge regarding IPTp among pregnant women. Although many pregnant women have heard about IPTp-SP, detailed understanding of its purpose and correct use is often limited.

Evidence from several African countries shows that awareness of IPTp-SP is relatively high but comprehensive knowledge remains inadequate. For example, a study conducted at Ho Teaching Hospital in Ghana among 303 nursing mothers reported that 87.5% had heard about IPTp-SP. However, only 52.1% had a basic understanding of the intervention, mainly knowing that it is given to prevent malaria during pregnancy, while 12.5% had never heard about it (Orish et al., 2023).

Similarly, studies in Nigeria and Ghana indicate that although a significant proportion of pregnant women are aware of IPTp-SP, many lack sufficient knowledge about its correct use. In Ghana, about 69.2% of respondents had heard about IPTp, while 30.8% had no knowledge about it. Although 65.8% knew that IPTp is meant to prevent malaria, only 37.5% could correctly identify Sulfadoxine-Pyrimethamine as the drug used for IPTp. Some respondents incorrectly mentioned other antimalarial drugs such as chloroquine, artesunate, and quinine (Frank Bediako Agyei et al., 2021).

Knowledge gaps related to the timing and dosage of IPTp-SP have also been reported. In Nigeria, most respondents did not know who should take IPTp-SP, and more than half were unaware of the recommended timing and number of doses during pregnancy (Peters & Naidoo, 2022). Similarly, in Uganda, mothers attending antenatal care reported inadequate information regarding the importance and scheduling of IPTp-SP doses (Namusoke et al., 2024).

Studies in other African countries report similar patterns. In Burundi, although many pregnant women had heard about IPTp-SP and knew that it is given during antenatal care to prevent malaria in mothers and babies, only 31.7% demonstrated good overall knowledge (Nkunzimana et al., 2018). Likewise, research has shown that pregnant women often have better knowledge about other malaria prevention strategies such as insecticide-treated nets and case management than about IPTp-SP specifically (Cardona-Arias, 2023).

However, some studies report relatively higher knowledge levels. For instance, research conducted in Zambia found that a large proportion of pregnant women were knowledgeable about IPTp services, including the name of the drug used, dosage, and the use of Fansidar during pregnancy, although some participants demonstrated only partial knowledge (Norris Chileshe Chishimbal, 2024).

Misconceptions about IPTp-SP have also been reported in several studies. Some pregnant women believe that Sulfadoxine-Pyrimethamine is used for treatment rather than prevention of malaria. For example, a study found that 84.5% of participants believed SP was used for malaria treatment while only 15.2% recognized it as a preventive drug (Chukwurah et al., 2016). In addition, concerns about drug toxicity during pregnancy have been reported, with some women believing that IPTp-SP may be harmful to their pregnancy (Balami et al., 2020).

Overall, the reviewed literature indicates that while many pregnant women have heard about IPTp-SP, detailed knowledge regarding its purpose, dosage, timing, and benefits remains limited.

2.2 Perception toward IPTp

Perception toward IPTp-SP plays an important role in determining whether pregnant women accept and use the intervention. Studies conducted in sub-Saharan Africa show that pregnant women generally recognize malaria as a serious health problem during pregnancy; however, their perceptions about the safety and effectiveness of IPTp-SP vary.

Some studies have reported positive perceptions toward IPTp-SP. For example, research in Ghana found that most participants believed that IPTp-SP was effective in preventing malaria during pregnancy and improving pregnancy outcomes such as fetal growth and reduction of intrauterine death (Orish et al., 2023). Similarly, other studies have shown that many pregnant women trust the guidance provided by healthcare providers and are willing to take IPTp-SP because of its perceived benefits (Aberese-Ako1 et al., 2025).

Despite these positive views, several perception-related barriers have been identified. Fear of side effects is one of the most commonly reported concerns among pregnant women. In Kenya, pregnant women reported experiencing or fearing side effects such as nausea, vomiting, dizziness, tiredness, and headaches after taking SP. These experiences negatively influenced their perception of the drug and sometimes resulted in poor adherence to the treatment regimen (Matanda et al., 2024).

In Uganda, qualitative studies have also highlighted concerns such as fear of side effects, pill burden, uncertainty about the purpose of the drug, and socio-cultural influences including partner or family support as factors affecting perception and acceptance of IPTp-SP (Namusoke et al., 2024).

Although some women report experiencing mild side effects, several studies indicate that many continue to take the medication because they believe in its protective benefits against malaria during pregnancy (Rassi et al., 2016).

These findings suggest that perceptions toward IPTp-SP are influenced by both personal experiences and information received from healthcare providers, family members, and the community.

2.3 Sociodemographic Factors Influencing Knowledge and Perception

Sociodemographic characteristics have been identified as important factors influencing pregnant women's knowledge and perception of IPTp-SP.

Studies conducted across sub-Saharan Africa have shown that factors such as age, level of education, parity, exposure to media, and socioeconomic status influence women's understanding

of malaria prevention during pregnancy (Darteh1 et al., 2021). For example, older women and those with higher levels of education are more likely to have better knowledge about IPTp-SP.

Educational status in particular has been strongly associated with knowledge of malaria prevention strategies. In Malawi, women with secondary or higher education were more likely to receive and understand IPTp-SP compared to women with only primary education or no formal education (Azizi, 2020).

Similarly, studies in Tanzania have reported that women who are younger, have no formal education, or live in rural areas are less likely to receive or understand IPTp-SP services (Masoi et al., 2022). Wealth status has also been identified as a determinant, with women from higher socioeconomic backgrounds being more likely to access and utilize malaria prevention interventions (Bajaria et al., 2019).

Other studies have shown that factors such as distance to health facilities, parity, and gestational age at the first antenatal care visit also influence pregnant women's exposure to information about IPTp-SP (Nkunzimana et al., 2020).

2.4 Health System and Service Delivery Factors

Health system and service delivery factors also play an important role in influencing knowledge and perception of IPTp-SP among pregnant women.

The availability of Sulfadoxine-Pyrimethamine in health facilities has been identified as an important determinant of IPTp-SP utilization. In sub-Saharan Africa, regions with higher IPTp-SP uptake often have better provider training and integration of IPTp services into antenatal care programs (Xu et al., 2024)

In Ghana, challenges related to poor health worker knowledge of IPTp policy guidelines have been reported. This problem has been linked to ineffective training strategies and lack of policy documents in health facilities, which ultimately affect the delivery of IPTp services during antenatal care (De-Gaulle et al., 2022).

Other health system challenges include drug stock-outs, inadequate supervision, and poor communication between healthcare providers and pregnant women. These factors can discourage

women from accepting IPTp-SP and may negatively influence their perception of the intervention (Kretchy et al., 2025).

Similarly, studies in Uganda have reported that frequent stock-outs of Sulfadoxine-Pyrimethamine at health facilities may contribute to low utilization and reduced confidence in the intervention (Wafula et al., 2021).

2.5 Summary

The reviewed literature indicates that pregnant women in many malaria-endemic countries are generally aware of IPTp-SP but often lack detailed knowledge regarding its correct use, timing, and benefits. Misconceptions about the drug, including fears about toxicity and confusion between treatment and prevention of malaria, are also common.

Perception toward IPTp-SP varies among pregnant women and is influenced by factors such as fear of side effects, trust in healthcare providers, and socio-cultural influences. Sociodemographic factors including age, education level, socioeconomic status, and access to health information further shape women's knowledge and attitudes toward malaria prevention during pregnancy.

Although several studies have examined knowledge and perception regarding IPTp-SP among pregnant women, there is still limited information on how pregnant women perceive the safety, effectiveness, and importance of IPTp-SP in different settings. In addition, many studies measure perception using only a few indicators and rarely explore broader social influences such as cultural beliefs and gender norms.

Furthermore, adolescent and first-time mothers aged 15–24 years are often underrepresented in research on IPTp-SP, despite being more likely to have limited health literacy and fewer antenatal care visits.

2.6 Conclusion

Previous studies have identified the existence of limited knowledge about the correct use and benefits of IPTp-SP among pregnant women. However, few studies have examined these issues in the context of Mbale Regional Referral Hospital, where malaria burden remains high.

In addition, few studies have assessed both knowledge and perception regarding IPTp-SP among the same population. Understanding these aspects is important because knowledge influences perception, and both may affect pregnant women's acceptance of malaria prevention interventions.

Therefore, this study aimed to assess knowledge and perception toward intermittent preventive treatment measures among mothers attending antenatal care services at Mbale Regional Referral Hospital.

CHAPTER THREE: METHODS AND MATERIALS

3.0 INTRODUCTION

This chapter aimed at describing the different methods and procedures that were employed to carry out the study. It mainly looked at the study design, study area, target population, sampling techniques, data collection methods, analysis procedures, and ethical considerations. The purpose of this chapter was to ensure that the study could be replicated and that the results obtained were valid and reliable.

3.1 STUDY DESIGN

A descriptive cross-sectional design was applied. This allowed for the collection of information about the knowledge and perception regarding intermittent preventive treatment measures among pregnant mothers visiting the antenatal care clinic at Mbale Regional Referral Hospital at a specific point in time. The study described the current level of awareness and perceptions that existed among the participants without manipulating any variables. However, it is acknowledged that the cross-sectional nature of this design limits causal interpretation, and therefore only associations between variables can be inferred rather than causal relationships.

3.2 STUDY AREA

The study was conducted at Mbale Regional Referral Hospital (MRRH), which is located in Mbale City, in the Eastern part of Uganda. It is a public hospital with a 450-bed capacity. The hospital serves over 4.6 million people from 16 neighboring districts and cities since it is a referral center. Some of the districts include Busia, Budaka, Tororo, Pallisa, Kapchorwa, Sironko, Bududa, Mbale, Manafwa, Bukwo, Kibuku, Bulambuli, Kween, Namisindwa, Butaleja, and Butebo.

It has five major departments which include genecology and obstetrics, surgery, pediatrics, medicine, and psychiatry. The study was conducted in the department of gynecology and obstetrics specifically at the ANC unit. Their ANC clinic serves a large number of pregnant women, on average 920 monthly. This made it the best setting for assessing knowledge and perceptions about IPT use among pregnant women attending ANC at the facility.

3.3 STUDY POPULATION

The study population was pregnant women visiting antenatal care clinics at Mbale Regional Referral Hospital during the study period.

3.4 ELIGIBILITY CRITERIA

3.4.1 Inclusion criteria

The study included all pregnant women in all trimesters visiting ANC at Mbale Regional Referral Hospital during the time of data collection. It also included those below 18 years of age after obtaining consent from their parents since they were emancipated minors, followed by their assent to participate in the study. Those who were mentally well at the time of data collection were also included. Previous IPTp did not influence the eligibility criteria.

3.4.2 Exclusion criteria

The study excluded all pregnant women who were too sick or ill to participate.

3.5 STUDY VARIABLES

3.5.1 Dependent variable

The uptake of intermittent preventive treatment against malaria among pregnant mothers.

3.5.2 Independent variables

Socio-demographic factors

Health system and service delivery factors

3.6 SAMPLE SIZE

The sample size was calculated using the Kish Leslie's formula (1965):

$$n = (z^2 p (1-p)) / d^2$$

Where:

$z = 1.96$ (for 95% confidence interval)

$p = 0.5$ (50% prevalence). This is based on the findings reported by (Orit et al., 2024), who found that 50% of pregnant women utilized IPTp-SP3+ in Uganda.

$d = 0.05$ (margin of error)

$$z^2 = (1.96)^2 = 3.8416$$

$$p(1-p) = 0.5 \times 0.5 = 0.25$$

$$d^2 = (0.05)^2 = 0.0025$$

$$n = 3.8416 \times (0.25 / 0.0025)$$

$$n = 384.16$$

Initial sample size = 384 participants

A 10% non-response rate was added:

$$n_{\text{final}} = n(1 + 0.10) = 384.16 \times 1.1 = 422.58$$

The initial calculated minimum was 384 (before adding the non-response rate), and that the final achieved sample of 423 comfortably exceeded this initial minimum, with the additional participants recruited to account for non-response and to strengthen statistical power.

3.7 SAMPLING TECHNIQUE

Participants were selected using the consecutive sampling technique. All pregnant women attending ANC at Mbale Regional Referral Hospital who met the inclusion criteria during the study period were recruited consecutively until the desired sample size was achieved. While consecutive sampling is practical and ensures all eligible participants have an equal opportunity to be included, it is acknowledged that this approach carries a potential limitation of time-of-clinic bias, as women attending at certain times of the day or specific days of the week may differ systematically from those attending at other times. To minimize this bias, data collection was conducted across multiple days and varying clinic times throughout the study period, thereby improving the representativeness of the sample.

3.8 DATA COLLECTION METHODS AND TOOLS

Data collection involved the use of a structured interviewer-administered questionnaire. It was designed by the researcher based on literature review and WHO guidelines on IPTp. The questionnaire was adapted from a Knowledge, Attitude and Practice (KAP) study on IPTp-SP among pregnant women (Mukala et al., 2024). The questionnaire consisted of four sections:

Section A: Socio-demographic information

Section B: Knowledge of mothers on IPTs

Section C: Perception and attitudes of pregnant women regarding IPT uptake

Section D: Health and service delivery factors

Before data collection, the questionnaire was pretested for clarity and reliability on 42 participants at another nearby health facility offering similar services within Mbale. It was estimated that each

interview took about 15–20 minutes. Based on the findings, no changes were made on the data collection tool.

3.8.1 DATA COLLECTION PROCEDURE

After obtaining ethical approval from the REC of Busitema University, permission was sought from the hospital administration and ANC in charge. Data were collected over a period of three weeks. The ANC in charge introduced the researcher to the pregnant women at the ANC clinic.

Pregnant mothers who met the inclusion criteria, including those below 18 years, were identified. After creating rapport, the purpose of the study was explained to participants in a group. Informed consent was obtained from all pregnant women before interviewing them. For those below 18 years, written informed consent was first obtained from parents, followed by assent from the minors. To ensure confidentiality, questionnaires were administered in a private area during ANC clinic hours.

3.9 DATA MANAGEMENT AND ANALYSIS

All completed questionnaires were checked daily for completeness and consistency before data entry. Data were coded, entered, and analyzed using Stata/SE 15.1.

Descriptive statistics (frequencies, percentages, and means) were used to summarize socio-demographic data, knowledge levels, and perceptions among pregnant women. Mothers' knowledge was assessed using structured questions. Each correct response was assigned one point, while incorrect or "don't know" responses were assigned zero. The total knowledge score for each participant was obtained by summing all responses.

Knowledge levels were categorized based on total scores. Those who scored 70% and above had good knowledge, while those who scored below 70% had poor knowledge.

Perception was assessed using a Likert scale where responses (strongly agree to strongly disagree) were assigned scores from 5 to 1 respectively. To obtain an overall measure of perception, a composite mean score was computed from all perception items for each respondent. The mean score was then used as an index for summarizing the level of perception among the study population. A cut off mean value of 3 was used to classify the perception levels. This value represents a neutral position on the 5-point Likert scale. Therefore, a mean score greater or equal

to 3 was considered to indicate positive perception, while a mean score below 3 was considered to indicate negative perception.

Chi-square tests were used to assess associations between categorical variables. Bivariate logistic regression analysis was performed to determine factors associated with knowledge and perceptions regarding IPTp-SP. Variables with a p-value less than 0.20 at bivariate analysis, together with variables considered important based on literature and the conceptual framework, were included in the multivariable logistic regression model.

Crude Odds Ratios (COR) and Adjusted Odds Ratios (AOR) with their corresponding 95% Confidence Intervals (95% CI) were reported. Statistical significance was considered at a p-value of less than 0.05. Results were presented using tables and narrative summaries.

3.10 DATA QUALITY CONTROL AND ASSURANCE

To ensure accuracy and reliability, the questionnaire was pretested on 42 participants at another nearby health facility to assess clarity, relevance, and consistency. Necessary modifications were made based on the pretest findings before the actual data collection.

Three nursing student research assistants were trained on proper interviewing techniques, ethical conduct, and questionnaire administration. The same questionnaire was used for all respondents to ensure uniformity in data collection. All completed questionnaires were checked daily by the principal investigator for completeness, accuracy, and consistency. Any incomplete or unclear responses were clarified with the respondent where possible.

Following data collection, the questionnaires were reviewed and coded before data entry. Data were entered into the database and subsequently subjected to random cross-checks against the original questionnaires to verify accuracy. Any discrepancies or inconsistencies identified during data entry were resolved by referring to the original questionnaire and making the necessary corrections. Data cleaning was then conducted to identify missing values, outliers, and inconsistencies before analysis.

3.11 DATA PRESENTATION

Data were presented using tables.

3.12 ETHICAL CONSIDERATIONS

Ethical approval was sought from the Research Ethics Committee of Busitema University under approval number BUFHS-2026-681, dated 14/04/2026 to 14/04/2027. Informed consent was obtained after explaining the purpose of the study to the mothers. Participants were informed that participation was voluntary and they were free to withdraw at any time without affecting confidentiality, privacy, or quality of care.

For participants under 18 years, written informed consent was obtained from parents before participation, followed by assent from the minors. Data from pregnant women were stored using password-protected computers.

3.13 STUDY LIMITATIONS

Possible limitations included recall bias and reluctance to disclose information due to fear or misconceptions. To minimize these, privacy during interviews was ensured and mothers were reassured of confidentiality.

3.14 DISSEMINATION OF RESULTS

The findings of the study were presented to Busitema University as part of the Bachelor's Degree requirements. Copies of the report will be shared with Mbale Regional Referral Hospital, the District Health Officer, and relevant stakeholders to improve maternal health services. The research findings will also be submitted for publication in a peer-reviewed journal.

CHAPTER FOUR: RESULTS

A total of 423 pregnant women participated in the study. The majority were aged 25–34 years (51.06%), had attained secondary education (50.83%), and were married (89.60%). More than half of the respondents resided in rural areas (56.50%), and most were parous (77.07%). Nearly half of the participants were in their second trimester of pregnancy (46.81%). In terms of occupation, business was the most common source of livelihood (36.88%), while Muslims constituted the largest religious group (39.95%) as shown in table: 1 below.

4.1 Sociodemographic characteristics

Table: 1 A summary of socio-demographic characteristics of participants

Variable	Frequency	Percentage
Education		
Primary /No formal education	134	31.68
Secondary	215	50.83
Tertiary	74	17.49
Age		
16-24	145	34.28
25-34	216	51.06
35-44	62	14.66
Marital status		
Single	39	9.22
Married	379	89.60
Divorced/ widowed	5	1.19
Occupation		
Teacher	28	6.62
Farmer	50	11.82
Business	156	36.88
Housewife	141	33.33
others (maid, school cook)	48	11.35

Variable	Frequency	Percentage
others (maid, school cook)	48	11.35
Religion		
Muslim	169	39.95
Born again	75	17.73
catholic	62	14.66
Anglican	108	25.53
Others like SDA,	9	2.13
Residence		
Urban (city)	184	43.50
Rural(village)	239	56.50
Trimester		
1	56	13.24
2	198	46.81
3	169	39.95
Parity of mothers		
Nulliparous	97	22.93
Parous	326	77.07

4.2 Knowledge of pregnant women about IPTp- SP

Figure 1.1

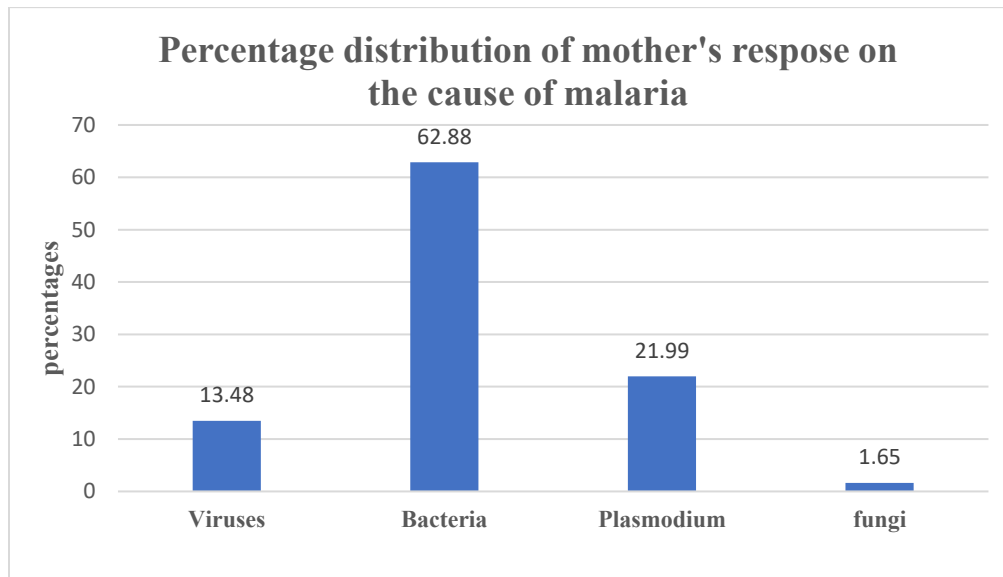


Figure 1.2

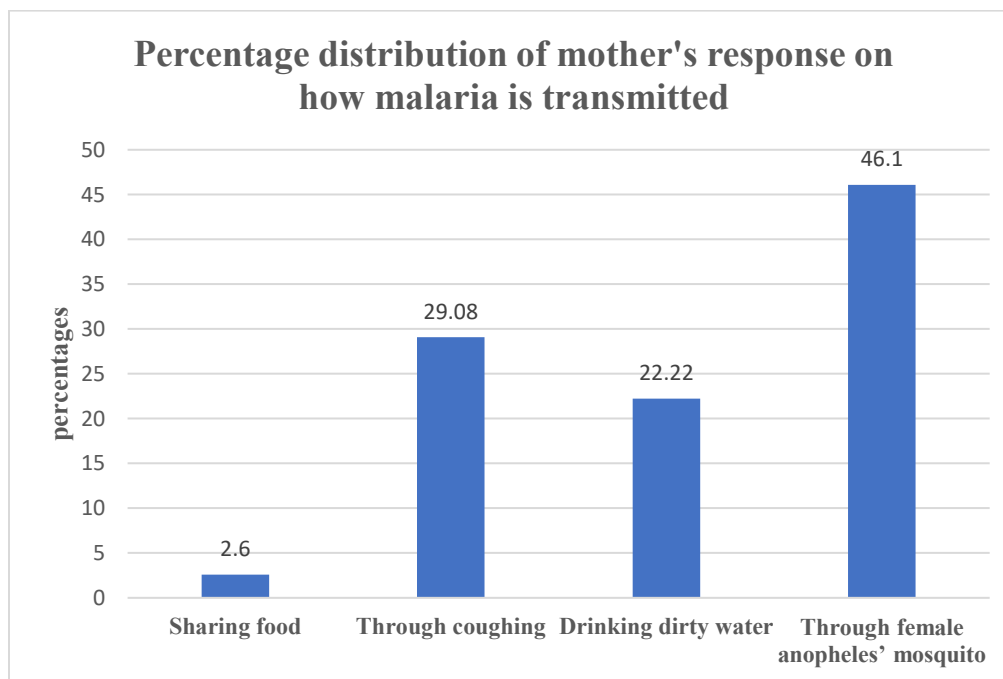


Figure 1.3

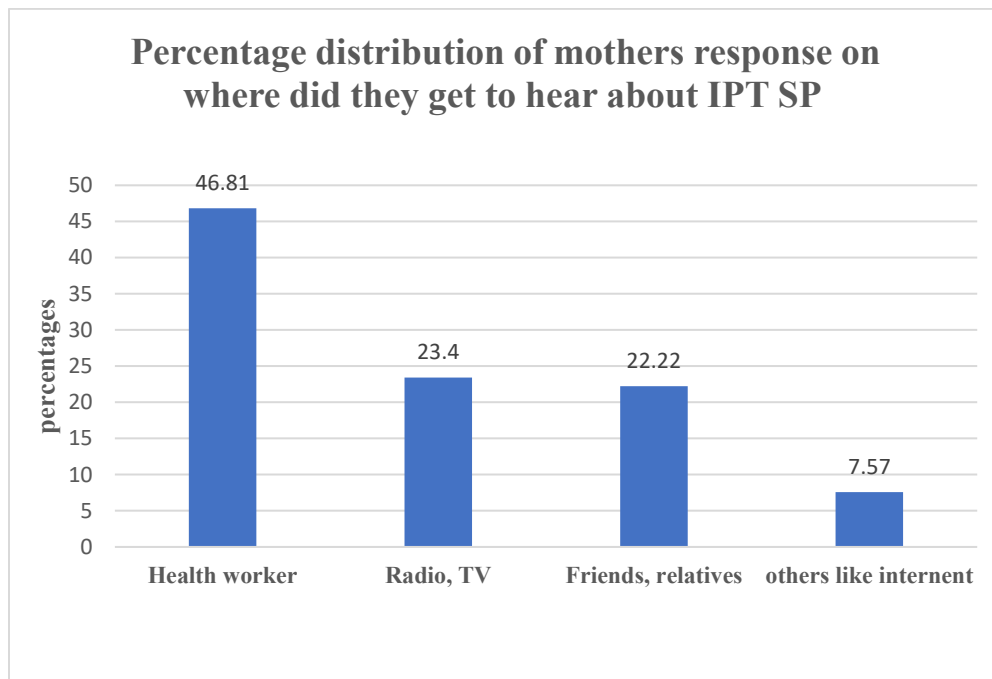


Figure 1.4

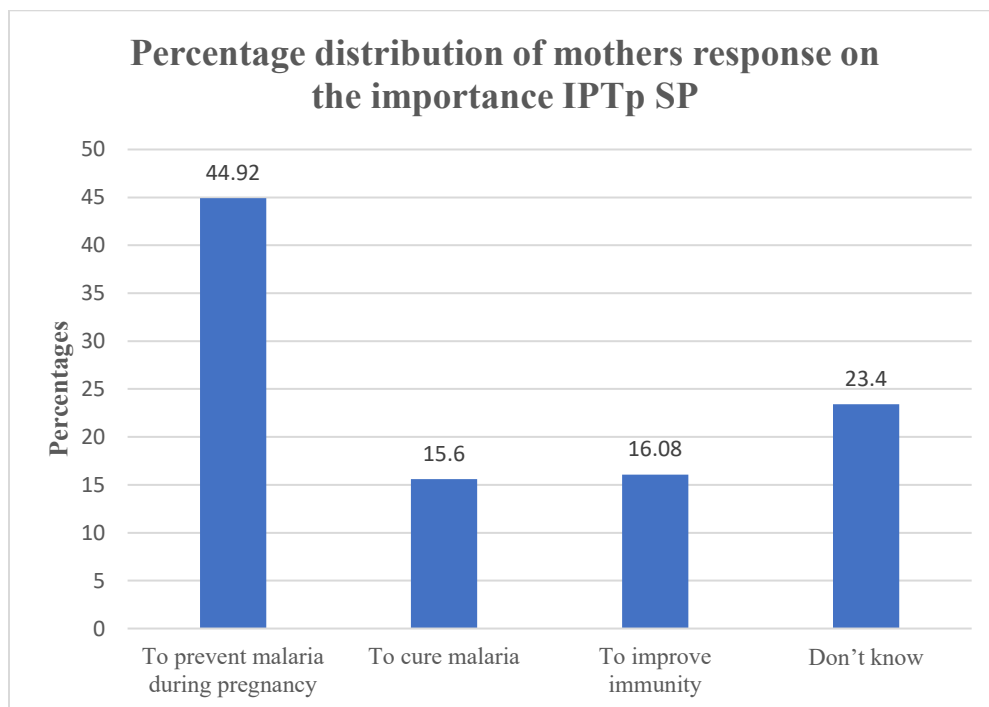


Figure 1.5

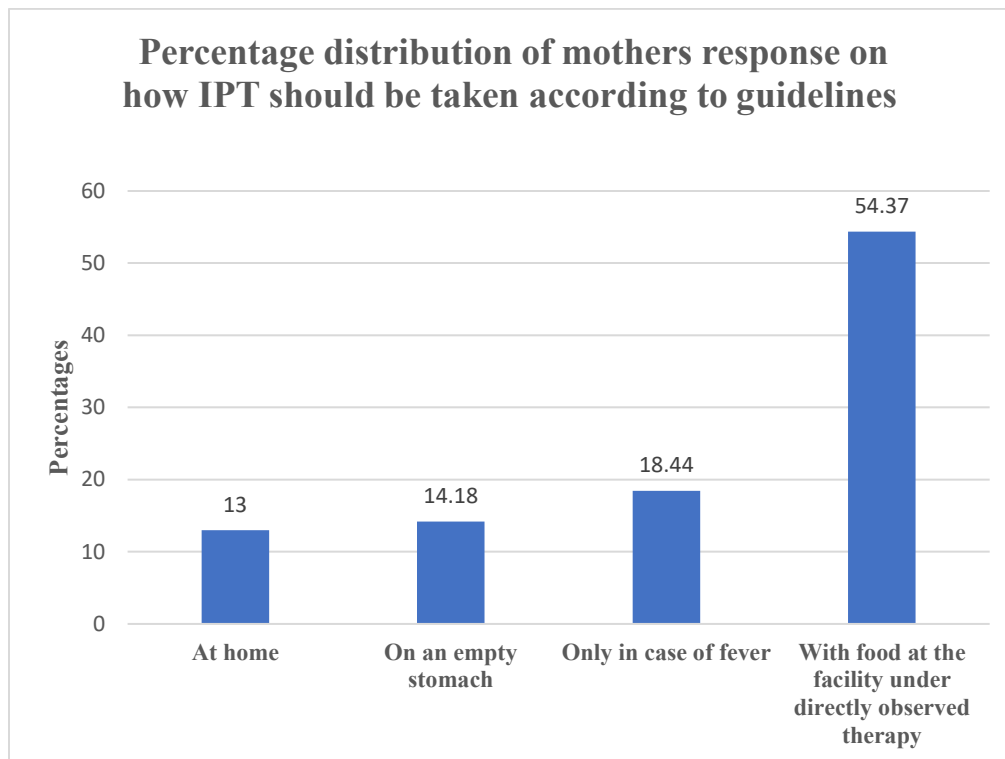


Figure 1.6

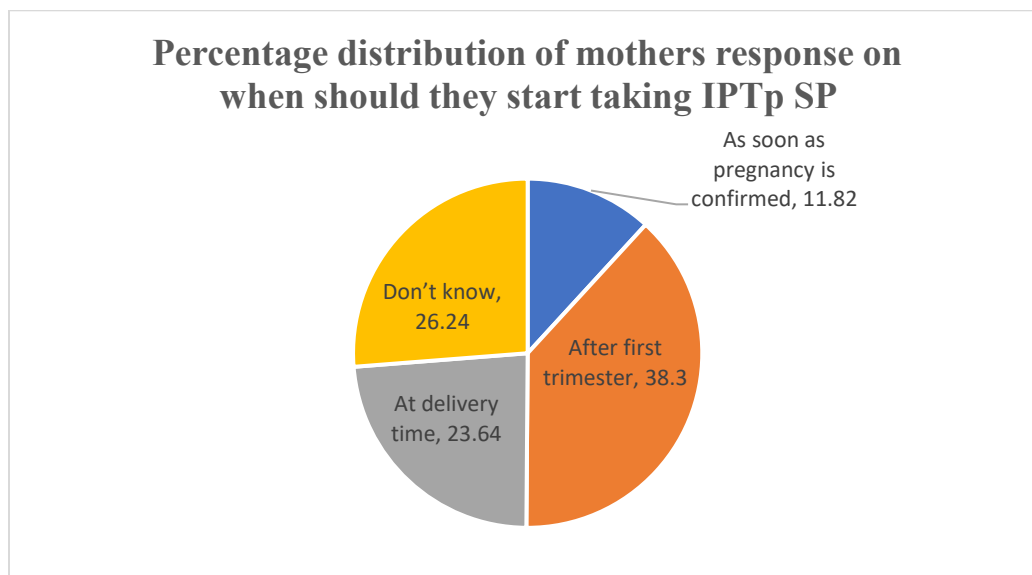


Table: 2 A summary of knowledge section

Have you ever heard about malaria in pregnancy		
Yes	247	58.39
No	176	41.61
Which medicine is used for IPT SP		
Quinine	0	0
Sulphadoxine	216	51.06
Paracetamol	72	17.02
Don't know	135	31.91
Do you know the use of IPT SP		
Yes	298	70.62
no	124	29.38
Cost of IPT SP		
It is very expensive	20	4.73
It's free of charge	341	80.61
Its only bought from pharmacies	56	13.24
It is paid through insurance only	6	1.42
Recommended doses of IPT SP		
2	20	4.73
1	9	2.13
At least 3	161	38.06
Don't know	233	55.08
Understanding directly observed therapy		
Yes	213	50.47

No	209	49.53
How many tablets of IPT SP taken		
1	17	4.02
2	81	19.15
3	314	74.23
5	11	2.6
How often should IPT be taken during pregnancy		
Once in pregnancy	12	2.84
Every month	232	54.85
When sick	95	22.46
Don't know	84	19.86
Do we have any schedule of IPT SP		
Yes	253	59.81
No	170	40.19
At what gestation age should IPT SP not be taken		
1 month	98	23.17
5 months	132	31.21
6 months	160	37.83
7 months	33	7.80
Knowledge levels among women about IPTp SP		
Good knowledge	163	38.53
Poor knowledge	260	61.47

Overall, 61.47% of the participants had poor knowledge regarding IPTp-SP as shown in table 2 above. Although most respondents reported knowing the use of IPTp-SP (70.62%), substantial misconceptions about malaria and IPTp-SP were identified.

Notably, the majority of participants incorrectly identified bacteria (62.88%) as the cause of malaria, while only 21.99% correctly identified Plasmodium parasites as shown in figure 1.1 above. Similarly, less than half (46.10%) correctly knew that malaria is transmitted through the bite of an infected female Anopheles mosquito indicated in figure 1.2.

Regarding IPTp-SP, slightly over half of the respondents (51.06%) correctly identified Sulfadoxine-Pyrimethamine as the recommended drug, while 54.37% knew that it should be administered under directly observed therapy at a health facility. However, knowledge gaps remained regarding the recommended timing and dosage of IPTp-SP, with more than half of the participants (55.08%) not knowing the recommended number of doses during pregnancy. Health workers were the main source of information on IPTp-SP (46.81%), and most respondents (80.61%) were aware that the medicine is provided free of charge at ANC clinics. All this is included in table 2 above.

4.3 Perception of pregnant women about IPTp-SP

Table: 3 A summary of perception section

Variable	Frequency	Percentages
IPT Prevents malaria effectively		
Strongly disagree	20	4.73
Disagree	75	17.73
Undecided	142	33.57
Agree	166	39.24
Strongly agree	20	4.73
Do you experience side effects after taking IPT SP		
Strongly disagree	69	16.31
Disagree	61	14.42
Undecided	48	11.35
Agree	104	24.59
Strongly agree	141	33.33
I fear taking IPT SP		
Strongly disagree	83	19.62
Disagree	72	17.02
Undecided	19	4.49
Agree	80	18.91
Strongly agree	169	39.95
Do Trust health workers advice about IPT SP		
Strongly disagree	11	2.61
Disagree	40	9.48
Undecided	109	25.83
Agree	214	50.71
Strongly agree	48	11.37

IPT SP should be taken only when one has malaria		
Strongly disagree	86	20.33
Disagree	89	21.04
Undecided	105	24.82
Agree	81	19.15
Strongly agree	62	14.66
Do you prefer taking all the recommended doses of IPTp SP		
Strongly disagree	33	7.80
Disagree	60	14.18
Undecided	68	16.08
Agree	165	39.01
Strongly agree	97	22.93
Safe for unborn baby and mother		
Strongly disagree	10	2.36
Disagree	34	8.04
Undecided	82	19.39
Agree	231	54.61
Strongly agree	66	15.60
My family friends support me in taking IPTp SP		
Strongly disagree	73	17.30
Disagree	64	15.17
Undecided	62	14.69
Agree	186	44.08
Strongly agree	37	8.77

IPT improves birth outcomes		
Strongly disagree	17	4.04
Disagree	36	8.55
Undecided	95	22.57
Agree	231	54.87
Strongly agree	42	9.98
Recommending another mother to take IPT		
Strongly disagree	19	4.49
Disagree	42	9.93
Undecided	72	17.02

Agree	253	59.81
Strongly agree	37	8.75
Safe for unborn baby		
Strongly disagree	9	2.13
Disagree	41	9.69
Undecided	138	32.62
Agree	216	51.06
Strongly agree	19	4.49
Perception		
Good perception	375	88.65
Poor perception	48	11.35

The table 3.1 below shows the mean perception score of pregnant women about IPTp SP

variable	observations	mean	Std deviation	min	max
Perception	423	3.414722	.3764965	2.181818	4.454545

The study found that participants had an overall positive perception toward IPTp-SP, demonstrated by a mean perception score of 3.41 on a 5-point Likert scale as shown by table 3.1 above. Overall, most participants (88.65%) had a positive perception towards IPTp-SP. The majority trusted health workers' advice, preferred taking all recommended doses, and believed that IPTp-SP is safe and improves birth outcomes. However, concerns about side effects and fear of taking IPTp-SP during pregnancy were commonly reported and may influence its uptake as shown in table 3 above.

4.4 Health system related factors

Table: 4 A summary about health system-related factors.

Variable	Freq	%
Attitude of health workers		
Negative	80	18.91
positive	343	81.09
Did you swallow IPT SP under DOT		
Yes	274	65.08
no	147	34.92
Prefer to IPT from a community health worker than health facility		
Yes	296	70.14
no	126	29.86
Availability of IPT at the hospital		
Yes	393	92.91
no	30	7.09
How easy is it for you to get IPT during ANC visits		
Ver easy	34	8.06
Easy	302	71.56
difficult	86	20.38
Do health workers remind you when to take the next dose		
Always	50	11.82
Sometimes	94	22.22
Rarely	117	27.66
never	162	38.30
Waiting time		

Very short	24	5.67
Short	43	10.17
Long	316	74.70
Very long	40	9.46
Does long waiting discourage you from receiving IPT SP		
Strongly disagree	2	0.47
disagree	87	20.57
agree	246	58.16
Strongly agree	88	20.80
Clarity of the explanation given by health workers		
Very clear	28	6.62
Clear	103	24.35
Not clear	135	31.91
No explanation	157	37.12
Do you feel comfortable asking health workers questions		
yes	327	77.86
No	93	22.14
Who gave you the medicine		
Nurse	333	78.72
midwife	66	15.60
Doctor	14	3.31
Others like husband, mother	10	2.36

The key health system–related factors showed that most pregnant women (81.09%) reported a positive attitude from health workers and the majority confirmed that IPTp-SP was available at the facility (92.91%). Most respondents also received the drug under directly observed therapy (65.08%). However, important gaps were identified in service delivery. A large proportion of women reported long waiting times, and many indicated that health education was inadequate, with some receiving unclear explanations (31.91%) or no explanation at all (37.12%) regarding IPTp-SP. In addition, less than half of the respondents reported that health workers reminded them about their next IPTp-SP dose as shown in table 4 above.

Table 5

Association of knowledge of pregnant women about IPT SP with socio-demographic characteristics, their perception and health system related factors at Bivariate analysis level

Variable	Category	Good knowledge n	Poor knowledge n	COR	95% Confidence interval	P value
Education level	Primary/no formal education	35	99	3.29411	1.810908- 5.99213	0.001
	Secondary	88	127	1.69786	.99746- 2.89004	
	Tertiary	40	34	1		
Age groups	16-24	42	103			= 0.014
	25-34	94	122	.5292295	.337973- .8287167	
	35-44	27	35	.5285868	.2851811- .9797427	
Residence	Urban	83	101			= 0.015
	rural	80	159	1.633292	1.099662- 2.425875	
Trimester	1	18	38			= 0.031
	2	67	131	.9261587	.4916022- 1.744845	
	3	78	91	.5526316	.2922281- 1.04508	
Occupation	Teacher	10	18			= 0.007
	Farmer	17	33	.5334499	.4090182- 2.843429	
	Business	66	90	.3230314	.3284525- 1.747349	
	Housewife	42	99	.5700056	.5579624- 3.07342	
	others	28	20	.1949176	.151529- 1.039209	
Attitude of the health workers	Positive attitude	150	193	1		=<0.001
	Negative attitude	13	67	4.00558	2.130895- 7.529546	
Prefer to receive IPT SP medicine from a community health worker than the health facility	Yes	112	50			= 0.721
	No	184	76			

Do health workers remind you when to take the next dose	Always	34	16			=< 0.001
	Sometimes	40	54	2.86875	1.394579- 5.901224	
	Rarely	38	79	4.417763	2.17397- 8.977415	
	Never	51	111	4.625	2.342061- 9.13325	
Does long waiting discourage you from receiving IPT SP	Strongly agree	31	57			= 0.129
	Agree	88	158	.9764753	.5868422- 1.624805	
	Disagree	43	44	.5565075	.303411- 1.02073	
	Strongly disagree	1	1	.5438596	.0328708- 8.998354	
Clarity of the explanations given by health workers to mothers Are the IPT medicines available whenever you come	Very clear	26	2			=< 0.001
	Clear	63	40	8.25395	1.856858- 36.68978	
	Not clear	41	94	29.80481	6.755842- 131.4902	
	No explanation	33	124	48.84838	11.02477- 216.4367	
	Yes	160	233			= 0.001
	No	3=	27	6.180246	1.843575- 20.71814	
Parity of mothers	Nulliparous	34	63			= 0.422
	Parous	129	197	.8241664	.5138295- 1.321937	
Religion	Muslim	62	107			= 0.852
	Born again	31	44	.8224299	.4716842- 1.433991	
	Catholic	27	35	.751125	.4157378- 1.357078	
	Anglican	40	68	.9850467	.5972288- 1.624699	
	Others	3	6	1.158879	.2799013- 4.798117	
Do you get support from family and friends	Strongly disagree	21	52			=< 0.001
	Disagree	16	48	1.211538	.5668486- 2.589449	
	Undecided	14	48	.5523066	.6335705- 3.025961	
	Agree	91	95	.4215976	.2354332- .7549682	
	Strongly agree	21	16	.3076923	.1349075- .701774	

Trusting health workers advice	Strongly disagree	4	7			= 0.001
	Disagree	8	32	2.285714	.5348926- 9.767362	
	Undecided	30	79	1.504762	.4107558- 5.512541	
	Agree	103	111	.6158114	.1751326- 2.165352	
	Strongly agree	18	30	.952381	.2443483- 3.712035	
Perception	God perception	156	219	.2396811	.1047817- .548254	=< 0.001
	Poor perception	7	41			

At bivariate analysis, several variables were found to be associated with knowledge of IPTp-SP among pregnant women at a significance level of $p < 0.20$ and were therefore considered for inclusion in the multivariate logistic regression model. These variables included socio-demographic factors such as education level, age group, residence, trimester, and occupation. In addition, health system-related and perception variables such as attitude of health workers, reminders from health workers, clarity of explanations, availability of IPTp-SP drugs, support from family and friends, trust in health workers' advice, perception towards IPTp-SP, and long waiting time were also considered for further analysis. However, variables such as preference for receiving IPTp-SP from community health workers ($p = 0.721$), parity ($p = 0.422$), and religion ($p = 0.852$) were not included in the multivariate model because they did not meet the inclusion criteria of $p < 0.20$ at bivariate level as shown in table 5 above.

Table 6

Association of knowledge of pregnant women about IPT SP with socio-demographic characteristics, their perception and health system related factors at multivariate analysis level.

Variable	category	COR	95% confidence interval	P value	AOR	95% confidence interval	P value
Level of education	Primary/ No formal education	3.294117	1.810901-5.99214	0.001	3.738609	1.4988-9.32563	0.002
	Secondary	1.69786	.997469- 2.89005		1.817129	.785426-4.20403	
	Tertiary	1			1		
Age groups	16-24			0.014			0.212
	25-34	.5292295	.337973-.8287167		.6763579	.376421-1.215288	
	35-44	.5285868	.2851811-.9797427		.5947757	.2714461-1.303235	
Residence	Urban			0.015			0.071
	rural	1.633292	1.099662-2.425875		1.552306	.9362751-2.573659	
Occupation	Teacher			0.007			0.946
	Farmer	.5334499	.4090182-2.843429		.4638499	.118086-1.82203	
	Business	.3230314	.3284525-1.747349		.4027782	.1197382-1.354875.	
	Housewife	.5700056	.5579624-3.07342		.6797335	.1881716-2.264339	
	others	.1949176	.151529-1.039209		.6527514	.1941739-2.387715	
Trimester	1			0.031			0.057
	2	.9261587	.4916022-1.744845		.7716805	.3539739-1.682302	
	3	.5526316	.2922281-1.04508		.4445419	.1996496-.9898216	
Attitude of the health workers	Positive attitude	1		<0.001			0.005
	Negative attitude	4.00558	2.130895-7.529546		2.634632	1.260007-5.508928	
	Always			<0.001			0.299

Do health workers remind you when to take the next dose	Sometimes	2.86875	1.394579-5.901224		2.549238	1.011844-6.422547	
	Rarely	4.417763	2.17397-8.977415		3.74168	1.497686-9.347868	
	Never	4.625	2.342061-9.13325		2.394226	.9696979-5.91145	
Does long waiting discourage you from receiving IPT SP	Strongly agree			0.129			0.577
	Agree	.9764753	.5868422-1.624805		1.020929	.5440646-1.915759	
	Disagree	.5565075	.303411- 1.02073		.9738969	.4387972-2.161534	
	Strongly disagree	.5438596	.0328708-8.998354		2.308582	0780592-68.27574	
Clarity of the explanations given by health workers to mothers	Very clear			=< 0.001			=<0.001
	Clear	8.25395	1.856858-36.68978		4.075174	.8295298-20.01983	
	Not clear	29.80481	6.755842-131.4902		13.56259	2.812367-65.40534	
	No explanation	48.84838	11.02477-216.4367		16.86905	3.476451-81.85502	
Are the IPT medicines available whenever you come	Yes			0.001			0.087
	No	6.180246	1.843575-20.71814		2.912816	.726587-11.67719	
Trusting health workers advice	Strongly disagree			0.001			0.117
	Disagree	2.285714	.5348926-9.767362		3.705025	.6503057-21.10886	
	Undecided	1.504762	.4107558-5.512541		2.132857	.4416558-10.30006	
	Agree	.6158114	.1751326-2.165352		.865591	.1918467-3.905451	
	Strongly agree	.952381	.2443483-3.712035		2.159583	.4028879-11.57593	
Perception of women about IPTp SP	Good perception	.2396811	.1047817-.548254	< 0.001	1.492901	.8907826-2.502017	0.056
	Poor perception						

At multivariate logistic regression analysis, only a few variables remained independently associated with knowledge of IPTp-SP among pregnant women after adjusting for potential confounders. Education level was a significant predictor of knowledge, where women with

primary or no education were more likely to have poor knowledge compared to those with tertiary education (AOR = 3.74, 95% CI: 1.50–9.33, $p = 0.002$). Similarly, those with secondary education also showed lower odds of good knowledge compared to tertiary level education. The attitude of health workers was also significantly associated with knowledge. Women who reported negative attitudes from health workers were more likely to have poor knowledge compared to those who experienced positive attitudes (AOR = 2.63, 95% CI: 1.26–5.51, $p = 0.005$). In addition, clarity of explanations provided by health workers was the strongest predictor of knowledge. Women who reported unclear explanations had significantly higher odds of poor knowledge (AOR = 13.56, 95% CI: 2.81–65.41, $p < 0.001$), while those who reported receiving no explanation had even greater odds of poor knowledge (AOR = 16.87, 95% CI: 3.48–81.86, $p < 0.001$). Other factors that were significant at bivariate analysis, such as age, residence, occupation, trimester, availability of drugs, reminder systems, perception, and trust in health workers, were not statistically significant at multivariate level ($p > 0.05$), indicating that they were not independent predictors of knowledge after adjustment for confounding.

CHAPTER FIVE: DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter discusses the findings of the study on knowledge and perception regarding intermittent preventive treatment in pregnancy (IPTp) among pregnant women attending antenatal care at Mbale Regional Referral Hospital. The findings are discussed according to the study objectives and compared with findings from previous studies reviewed in Chapter Two. The chapter also presents conclusions, implications, recommendations, strengths, limitations, and areas for further research.

5.1 Discussion of Findings

5.1.1 Socio-demographic and Obstetric Characteristics of the Respondents

The study involved 423 pregnant women attending antenatal care services at Mbale Regional Referral Hospital, yielding a response rate of 100%. The mean age of participants was 27.4 years ($SD \pm 5.98$), with ages ranging from 16 to 41 years. More than half of the respondents (51.06%) were aged 25–34 years, followed by those aged 16–24 years (34.28%), while only 14.66% were aged 35–44 years. This finding indicates that the majority of women attending ANC services were within the prime reproductive age group, which is consistent with findings reported by (Darteh1 et al., 2021). who noted that women aged 25–34 years constitute the largest proportion of ANC attendees in many sub-Saharan African countries. Nearly half of the respondents were in their second trimester (46.81%), followed by the third trimester (39.95%) and only a small proportion in the first trimester (13.24%). This indicates delayed initiation of antenatal care among many pregnant women, which may be influenced by socio-cultural beliefs and practices such as fear of early pregnancy disclosure and traditional norms discouraging early ANC attendance. Such delays limit early exposure to essential maternal health services, including IPTp-SP. This finding is consistent with literature showing that late first ANC attendance reduces timely access to IPTp-SP and related health education (Nkunzimana & Babale, 2020). Most participants (77.07%) were parous, which is consistent with findings reported by (Nkunzimana et al., 2018) indicating that they had previous pregnancy experience and were therefore more likely to have been exposed to maternal health education, including information on IPTp-SP, during earlier ANC visits. Their prior contact with health services may have contributed to the generally good knowledge and

positive perceptions regarding malaria prevention in pregnancy observed in this study. Additionally, secondary education may have enhanced their ability to understand and apply health information received during ANC visits. The finding that most participants resided in rural areas is also supported by (Masoi et al., 2022), which reports that rural residence is associated with reduced access to health information and maternal health services.

5.1.2 Knowledge Regarding IPTp Measures Among Pregnant Women

The study found that the majority of participants (61.47%) had poor knowledge regarding IPTp-SP, while only 38.53% demonstrated good knowledge. Although more than half of the respondents had heard about malaria in pregnancy (58.39%) and knew the purpose of IPTp-SP (70.62%), important knowledge gaps existed regarding the correct timing of initiation, recommended doses, and the gestational age at which IPTp-SP should be administered.

For example, only 38.30% correctly identified that IPTp-SP should be started after the first trimester, while 55.08% did not know the recommended number of doses. Similarly, only 38.06% correctly identified that at least three doses are recommended during pregnancy. In addition, misconceptions were evident in basic malaria knowledge, as the majority of respondents incorrectly identified bacteria as the cause of malaria (62.88%), reflecting persistent gaps in foundational malaria knowledge that may influence understanding of preventive interventions such as IPTp-SP.

These findings are consistent with studies conducted in Burundi, where only 31.7% of pregnant women demonstrated good knowledge regarding IPTp-SP (Nkunzimana et al., 2018). The findings also agree with (Peters & Naidoo, 2022), from Abuja Nigeria who reported that many pregnant women lacked knowledge regarding the timing and dosage of IPTp-SP. Similarly, (Namusoke et al., 2024) reported inadequate knowledge among Ugandan mothers regarding the importance and scheduling of IPTp-SP doses.

The low level of knowledge observed in this study may be attributed to inadequate health education during antenatal care visits. This explanation is supported by the finding that more than one-third (37.12%) of participants reported receiving no explanation regarding IPTp-SP from health workers, while another 31.91% described the explanations as unclear.

However, the findings differ from those reported by (Orish et al., 2023) in Ghana, where awareness of IPTp-SP was relatively high and more than half of participants demonstrated basic knowledge of the intervention. The difference may be due to variations in health education strategies, health worker training, and accessibility of health information across study settings. In some settings, more structured health education sessions and stronger implementation of malaria prevention guidelines may contribute to better knowledge outcomes compared to facilities where health education is limited or inconsistently delivered.

Within the East African context, variations in knowledge levels may also reflect differences in health system performance, including availability of health workers, patient load at antenatal clinics, and the extent to which IPTp-SP messages are reinforced during routine ANC visits. In settings where health workers are overburdened or where stockouts and system constraints limit ANC service delivery time, health education may be rushed or omitted, leading to inadequate comprehension among pregnant women.

In the present study, the low level of knowledge may partly be explained by gaps in health education delivery, as a significant proportion of participants reported receiving no explanation (37.12%) or unclear explanations (31.91%) regarding IPTp-SP from health workers. This finding supports the observed association between clarity of health worker communication and knowledge levels, highlighting the central role of effective counselling during ANC visits.

5.1.3 Perception Regarding IPTp Measures Among Pregnant Women

The study found that participants generally had a positive perception toward IPTp-SP, with an overall mean perception score of 3.41 out of 5. Furthermore, 88.65% of respondents demonstrated good perception, while only 11.35% had poor perception. This indicates that most pregnant women in the study area generally hold favorable views regarding IPTp-SP use during pregnancy.

Most respondents agreed that IPTp-SP prevents malaria during pregnancy, improves birth outcomes, and is safe for both the mother and unborn baby. More than half of the respondents indicated willingness to recommend IPTp-SP to other pregnant women, suggesting strong acceptance and potential for community-level endorsement of the intervention.

These findings are consistent with studies conducted in Ghana by (Orish et al., 2023), which reported that most pregnant women believed IPTp-SP was effective in preventing malaria and

improving pregnancy outcomes. The findings are also supported by (Aberese-Ako1 et al., 2025), who reported high levels of trust in healthcare providers and positive attitudes toward IPTp-SP among pregnant women, reinforcing the role of health worker influence in shaping favorable perceptions. Despite the generally positive perception, a considerable proportion of participants expressed concerns regarding side effects. More than half agreed or strongly agreed that they experienced side effects after taking IPTp-SP, while many also reported fears of taking the medication.

These findings are consistent with those reported by (Matanda et al., 2024) in Kenya, where fear of side effects such as nausea, vomiting, dizziness, and headaches negatively influenced perception and adherence to IPTp-SP. Similar concerns were reported by (Namusoke et al., 2024) in Uganda, where uncertainty regarding drug safety and fear of side effects affected acceptance of IPTp-SP.

The coexistence of positive perceptions and fear of side effects suggests that pregnant women recognize the benefits of IPTp-SP but still require additional reassurance and counselling regarding expected side effects and drug safety. This may result in hesitation or incomplete adherence to the recommended doses, despite acknowledging the importance of the intervention.

5.1.4 Factors Influencing Knowledge and Perception Regarding IPTp Measures

At bivariate analysis, several factors were significantly associated with knowledge of IPTp-SP, including education level, age, residence, occupation, trimester, attitude of health workers, reminder systems, clarity of explanations, medicine availability, family support, trust in health workers, and perception.

However, after controlling for confounding factors through multivariate logistic regression, only education level, attitude of health workers, and clarity of explanations remained statistically significant.

Education Level

Women with primary or no education were 3.74 times more likely to have poor knowledge of IPTp SP compared to those with tertiary education (AOR = 3.74, 95% CI: 1.50–9.33, $p = 0.002$). Similarly, those with secondary education also showed lower odds of good knowledge compared to tertiary level education. This finding suggests that higher educational attainment enhances women's ability to understand health information provided during antenatal care and to

comprehend the importance of malaria prevention interventions during pregnancy. This findings supports previous studies by (Azizi, 2020) and (Darteh1 et al., 2021), who found that educational attainment positively influences knowledge of malaria prevention strategies. Within the study's conceptual framework, education acts as an important determinant of knowledge, which subsequently influences perceptions and uptake of IPTp-SP.

Attitude of Health Workers

The attitude of health workers remained a significant predictor of knowledge after adjustment (AOR = 2.63, 95% CI: 1.26–5.51, $p = 0.005$). Women who reported negative attitudes from health workers were 2.63 times more likely to have poor knowledge regarding IPTp-SP compared to those who reported positive interactions with health workers.

This finding highlights the important role healthcare workers play in promoting maternal health education. Positive interactions may encourage pregnant women to ask questions, seek clarification, and actively engage during health education sessions. Similar observations were reported by (De-Gaulle et al., 2022) in Ghana, who found that provider-related challenges affect the effectiveness of IPTp-SP implementation.

Clarity of Explanations Given by Health Workers

Clarity of explanations provided by health workers was the strongest predictor of knowledge in this study. Compared to women who received very clear explanations, those who reported receiving unclear explanations were 13.56 times more likely to have poor knowledge (AOR = 13.56, 95% CI: 2.81–65.41, $p < 0.001$). Likewise, women who reported receiving no explanation at all were 16.87 times more likely to have poor knowledge (AOR = 16.87, 95% CI: 3.48–81.86, $p < 0.001$). These findings emphasize the importance of effective communication during antenatal care. These findings strongly support previous studies by (Kretchy et al., 2025) from Tanzania, (Namusoke et al., 2024), and (De-Gaulle et al., 2022), which emphasized the importance of effective communication between healthcare providers and pregnant women. The large adjusted odds ratios indicate that communication during antenatal care is a critical determinant of knowledge regarding IPTp-SP.

Perception

At bivariate analysis, perception was significantly associated with knowledge (COR = 0.24, 95% CI: 0.10–0.55, $p < 0.001$). However, this association lost statistical significance after adjustment for other variables (AOR = 1.49, 95% CI: 0.89–2.50, $p = 0.056$).

This suggests that the apparent relationship between perception and knowledge may have been influenced by other factors such as education level and health worker communication.

5.2 Implications of the Study Findings

The findings indicate that improving knowledge about IPTp-SP requires strengthening health education during antenatal care services.

The strong association between health worker communication and maternal knowledge suggests that healthcare providers should receive regular training on IPTp-SP counselling and communication skills. Although perception did not remain an independent predictor in the final model, the findings indicate that knowledge and perception are closely related and may influence one another.

Improving the quality and clarity of health education may increase understanding of IPTp-SP schedules, dosage requirements, and benefits, thereby promote adherence and ultimately reduce malaria-related complications during pregnancy.

The findings also emphasize the need for continuous public health education through community outreach programs and mass media to supplement facility-based education.

5.3 Relationship of Findings to the Conceptual Framework

The findings support the conceptual framework, showing that socio-demographic factors (especially education) and health service factors (such as clear communication from health workers) influence knowledge and perceptions of IPTp-SP. Better knowledge was associated with more favorable perceptions and may improve IPTp-SP uptake, highlighting the importance of strengthening health education during ANC.

5.4 Conclusion

The study found that although pregnant women attending antenatal care at Mbale Regional Referral Hospital generally had positive perceptions toward IPTp-SP, knowledge regarding the intervention was inadequate.

Most participants demonstrated poor knowledge about the correct timing, dosage, and administration of IPTp-SP despite being aware of its existence and benefits.

Education level, attitude of health workers, and clarity of explanations provided during antenatal care were the major factors independently associated with knowledge regarding IPTp-SP.

These findings suggest that strengthening communication and health education during antenatal care services is essential for improving maternal knowledge and enhancing the effectiveness of malaria prevention strategies during pregnancy.

5.5 Recommendations

1. Ministry of Health / National Malaria Control Programme (MoH/NMCP)

1. Revise and standardise IPTp-SP guidelines to explicitly specify what health education content must be delivered at each ANC contact, including malaria transmission, the purpose of IPTp-SP, timing of doses, correct dosage, and safety in pregnancy — so that all facilities implement a uniform minimum standard.
2. Develop simplified, illustrated IEC materials in local languages (including Lugisu and other languages spoken in the Mbale region) and distribute them to all ANC clinics, to be displayed as posters and provided as take-home brochures for pregnant women.
3. Establish a reliable IPTp-SP supply chain by strengthening procurement and logistics systems to ensure uninterrupted availability of SP medicines in all health facilities offering ANC services.
4. Strengthen supervision and monitoring systems by including IPTp-SP health education delivery as an indicator in routine ANC supervision checklists and national malaria programme reviews.

2. Mbale Regional Referral Hospital / Facility Management

1. Mandate structured health education sessions at every ANC visit by incorporating IPTp-SP counselling into the standard ANC protocol, and ensure session attendance is documented in patient registers.
2. Display IEC materials prominently in all ANC waiting areas and consultation rooms, including posters covering malaria in pregnancy, IPTp-SP dosing schedules, and common side effect management.
3. Schedule regular in-service training for all ANC staff — at least twice a year — focused on improving communication and counselling skills, with specific attention to explaining IPTp-SP purpose, timing, dosage, and addressing patient fears.

3. ANC Providers / Healthcare Workers

1. Explain malaria transmission and its risks in pregnancy during every ANC contact, using simple language and visual aids to ensure pregnant women understand why IPTp-SP is recommended.
2. Clearly communicate the timing and dosage of IPTp-SP at each visit specifying that the first dose is given from 13 weeks of gestation, subsequent doses at least one month apart, and that each dose must be taken under direct observation in the clinic.
3. Proactively address misconceptions and side-effect fears by routinely asking women about concerns, correcting false beliefs with accurate information, and reassuring them of the safety of SP during pregnancy.
4. Create space for questions by explicitly inviting pregnant women to ask about IPTp-SP during every consultation, thereby encouraging informed participation in their own care.

4. Community Actors (Village Health Teams, Local Leaders, Community Health Workers)

1. VHTs should conduct community sensitization sessions in villages and community gatherings to educate pregnant women and their families about malaria in pregnancy and the benefits of IPTp-SP, using MoH-approved messages in local languages.

2. Local leaders (LCs, religious leaders) should actively promote ANC attendance by publicly endorsing early and regular ANC visits as the avenue through which IPTp-SP is received, thereby reducing social and cultural barriers to uptake.
3. VHTs should follow up with pregnant women in their catchment areas who miss scheduled ANC visits, remind them of upcoming appointments, and address community-level misconceptions about IPTp-SP side effects.

5. Recommendations for Future Researchers

1. Conduct qualitative studies using focus group discussions and in-depth interviews with pregnant women, male partners, and community leaders in Mbale to explore the specific beliefs, cultural norms, and misconceptions that discourage IPTp-SP uptake.
2. Evaluate the effectiveness of health education interventions by designing and testing structured ANC counselling protocols or community-based IEC campaigns, measuring changes in IPTp-SP knowledge scores and uptake rates before and after implementation.
3. Investigate determinants of actual IPTp-SP adherence including health system, socioeconomic, and individual-level factors through prospective cohort studies that track women across all ANC contacts and document dose receipt at each visit.

5.6 Strengths of the Study

This study assessed knowledge and perceptions regarding intermittent preventive treatment of malaria in pregnancy (IPTp-SP) among pregnant women attending antenatal care at Mbale Regional Referral Hospital. The study focused on an important public health issue and generated evidence that may inform interventions aimed at improving IPTp-SP uptake among pregnant women. The use of a structured questionnaire ensured uniform data collection from all participants, enhancing the reliability of the findings. In addition, data were collected directly from pregnant women attending ANC services, providing firsthand information on their knowledge and perceptions regarding IPTp-SP.

5.7 Limitations of the Study

This study was conducted at a single health facility and included only pregnant women attending antenatal care at Mbale Regional Referral Hospital. As a result, the findings may not be

generalizable to all pregnant women in Mbale District or Uganda, particularly those who do not attend ANC services. This facility-based sampling may have overrepresented women who are more engaged with healthcare services and who may have better knowledge and more positive perceptions of IPTp-SP than the general population.

The study relied on self-reported information, which may have been affected by social desirability bias. Participants may have provided responses they believed were expected by health workers or researchers, potentially leading to an overestimation of positive perceptions and knowledge regarding IPTp-SP.

The cross-sectional design collected data at a single point in time, making it difficult to establish causal relationships between knowledge, perceptions, and IPTp-SP uptake. Consequently, the study can identify associations but cannot determine whether knowledge or perceptions directly influence IPTp-SP utilization.

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APPENDICES

Appendix I: COSENT FORM

BUSITEMA UNIVERSITY FACULTY OF HEALTH SCIENCES

PROTOCOL TITLE

Assessing Knowledge and Perceptions Regarding Intermittent Preventive Treatment (IPT) Measures Among Pregnant Women Attending Antenatal Care at Mbale Regional Referral Hospital in Eastern Uganda

PURPOSE

You are being invited to participate in a research study. The purpose of this research is to assess the level of knowledge and perceptions regarding Intermittent Preventive Treatment (IPT) measures among pregnant women attending antenatal care services.

PRINCIPAL INVESTIGATOR

Ssebwato George William a student from Busitema University – Faculty of Health Sciences. This study is being conducted as part of an academic research project at Busitema University and is not sponsored by any commercial organization. This research study is a single-site academic research study. The investigator is responsible for collecting, analysing, and reporting the study findings under supervision from academic mentors at Busitema University.

POPULATION

Participants in this research study will be pregnant women attending antenatal care clinics at Mbale Regional Referral Hospital. Participants are identified at antenatal clinics during routine visits. Approximately 423 pregnant women will participate in this study. You are being asked to participate because you meet the eligibility criteria for this research.

PERIOD

The research study will be conducted between October 2025 and June 2026. This period includes data collection, analysis, and reporting. Your personal participation will only take about 10–15 minutes to complete the questionnaire during your antenatal visit. You will not be required to return for additional study visits.

PROCEDURES

If you agree to participate in this research study, you will be asked to complete an interviewer administered questionnaire.

The questionnaire will contain simple questions and will take approximately 10–15 minutes to complete. The questions are not invasive and will not require any medical procedures. No drugs, medical treatments, or experimental procedures will be involved in this study. The questionnaire will only be administered once.

RISKS

This research study presents minimal risk to participants which can include emotional and psychological discomfort. Some participants may feel uncomfortable answering certain questions about their knowledge or experiences. You are free to skip any question you do not wish to answer. There are no known physical risks associated with this study. If you feel uncomfortable at any time, you may stop participating immediately.

BENEFITS

There will be no financial incentives but the information obtained from the study may help improve the care of pregnant women. You may not receive direct medical or financial benefits from participating in this study. However, participation may help increase your awareness about malaria prevention and Intermittent Preventive Treatment. The findings may help improve malaria prevention programs and antenatal care services.

COSTS

There are no financial costs associated with participating in this study. You will not be required to pay for any procedures.

Compensation

There is no monetary compensation for participating in this study. Participation will only require a short amount of time and will not significantly interfere with your normal antenatal care services.

PARTICIPANT'S RIGHTS

Voluntariness

Participation in this research study is completely voluntary. You are free to accept or decline participation. Your decision will not affect the care or services you receive at the health facility.

Alternatives

You do not have to participate in this study. If you choose not to participate, you will continue receiving normal antenatal care services without any penalty or loss of benefits.

Withdrawal

You may withdraw from the study at any time without giving a reason. There will be no penalties or negative consequences if you decide to withdraw. If new information becomes available that may affect your willingness to participate, the researcher will inform you.

Privacy

Your privacy will be respected throughout the research process. Questionnaires will be completed in a private setting to ensure confidentiality.

Confidentiality

All information collected will be kept strictly confidential. No names will be recorded on questionnaires. Data will be assigned identification numbers and stored in password-protected electronic files. Physical documents will be stored in locked cabinets where only the researcher and authorized academic supervisors will have access to the data. The results of this study may be published or presented, but no personal information will be disclosed.

CONTACTS

If you have questions about this study, please contact the researcher through telephone number 0708400487.

For concerns about participant rights or ethical issues contact Busitema University Faculty of Health Sciences REC Chairperson Dr. Katuramu Richard through telephone number 0701154444.

Statement of consent

I have read this consent form and was given enough time to consider the decision to participate in this study. I understand that participation in this research study is voluntary. I give voluntarily my permission to participate in this research study.

Name of Participant: _____

Participant's Signature/Thumbprint: _____ Date _____

Name of Investigator: Ssebwato George William

Signature of Investigator: _____ Date _____

MINOR ASSENT FORM

PROTOCOL TITLE

Assessing Knowledge and Perceptions Regarding Intermittent Preventive Treatment (IPT) Measures Among Pregnant Women Attending Antenatal Care at Mbale Regional Referral Hospital in Eastern Uganda

What is this study about?

We are asking you to take part in a study about malaria prevention during pregnancy.

What will happen?

You will be asked some questions about what you know and think about malaria prevention in pregnant women.

Voluntariness

Participation in this research study is completely voluntary. You are free to accept or decline participation. Your decision will not affect the care or services you receive at the health facility.

Withdrawal

You may withdraw from the study at any time without giving a reason. There will be no penalties or negative consequences if you decide to withdraw.

. No names will be recorded on questionnaires.

Agreement

I have understood the study. I agree to take part.

Name/thumbprint.....Date.....

Researcher signature.....Date.....

APPENDIX III: QUESTIONNAIRE

Assessing Knowledge and Perceptions regarding intermittent preventive treatment against malaria among pregnant women attending ANC at Mbale Regional Referral Hospital

Section A: Sociodemographic Information

Please circle the most correct option

1. Age (in years)
2. Marital status:
1 Single 2 Married 3 Divorced 4 Widowed
3. Educational level:
1 No formal education 2 Primary 3 Secondary 4 Tertiary
4. Occupation
1 teacher 2 farmer 3 business lady 4 house wife
5. Religion: ...
1 Muslim 2 born again 3 catholic 4 Anglican
6. Parity (number of times you have given birth)
7. Gestational age (in weeks)
8. Trimester:
1 First 2 Second 3 Third
9. Number of antenatal clinic (ANC) visits so far.....
10. Residence:
1 Urban 2 Rural

Section B: Knowledge about IPTp-SP

(circle the correct option; multiple responses may apply)

1. What causes malaria?
1 Viruses 2 Bacteria 3 Plasmodium Parasites 4 Fungi

2. How is malaria transmitted?

1 sharing food 2 through coughing 3 Drinking dirty water 4 Through female anopheles' mosquito

3. Have you ever heard about malaria in pregnancy?

1 Yes 2 No

4. Have you ever heard about IPTp-SP (Intermittent Preventive Treatment in pregnancy)?

1 Yes 2 No

5. What medicine is used for IPTp at ANC?

1 Quinine 2 Sulfadoxine Pyrimethamine 3 Paracetamol 4 Don't know

6. If yes, from where did you hear about it?

1 Health worker 2 Radio/TV 3 Friends/Relatives 4 Others

7. Do you know what IPTp-SP is used for?

1 Yes 2 No

8. What is the importance of taking IPTp-SP during pregnancy?

1 To prevent malaria during pregnancy

2 To cure malaria

3 To improve immunity

4 Don't know

9. How should IPTp -SP be taken according to guidelines?

1 At home

2 On an empty stomach

3 Only in case of fever

4 With food at the facility under Directly Observed Therapy

10. Which of the following is TRUE about SP cost at ANC clinics?

- 1 It is very expensive
 - 2 It is free of charge
 - 3 It is only bought from pharmacies
 - 4 It is paid through insurance only
11. When should a pregnant woman start taking IPTp-SP?
- 1 As soon as pregnancy is confirmed
 - 2 After first trimester (around 13 weeks)
 - 3 At delivery time
 - 4 Don't know
12. At what gestational age should IPTp NOT be taken?
- 1 1-month 2 5 months 3 6 months 4 7 months
13. Do we have any schedule of intake of IPTp-SP?
- 1 Yes 2 No
14. How often should IPTp-SP be taken during pregnancy?
- 1 Once in pregnancy
 - 2 every Month
 - 3 when sick
 - 4 Don't know
15. What are the recommended doses of IPTp a pregnant woman should get during her pregnancy?
- 1 2 2 1 3 at least 3 4 Don't know
16. Do you understand the meaning of Directly Observed Therapy (DOT)?
- 1 Yes 2 No
17. Who should administer IPTp-SP?
- 1 Health worker during ANC
 - 2 The pregnant woman herself at home
 - 3 Traditional birth attendant
 - 4 Don't know

18. What are the possible benefits of taking IPTp-SP? (Select all that apply)
- 1 Prevents malaria infection
 - 2 Protects unborn baby
 - 3 Prevents anemia
 - 4 Don't know
19. Is IPTp-SP being safe for use during pregnancy?
- 1 Yes 2 No
20. Have you ever taken IPTp-SP in this or any previous pregnancy?
- 1 Yes 2 No
21. Which of the following is TRUE about SP cost at ANC clinics?
- 1 It is very expensive
 - 2 It is free of charge
 - 3 It is only bought from pharmacies
 - 4 It is paid through insurance only
22. How many tablets of SP form one IPTp dose?
- 1 1 2 2 C 5 3 6

Section C: Perception about IPTp-SP

Please indicate your level of agreement with each statement.

(1 = Strongly Disagree, 2 = Disagree, 3 = Undecided, 4 = Agree, 5 = Strongly Agree)

IPTp-SP is important for the health of the mother and baby.

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

4. Does taking IPTp-SP during pregnancy prevents malaria effectively.

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

5. Does IPTp SP has serious side effects.

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

6. I fear taking IPTp-SP during pregnancy.

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

7. Can you trust health workers advice about IPTp -SP?

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

8. IPTp -SP should be taken only when one has malaria.

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

9. Do you prefer taking all the recommended doses of IPTp -SP

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

10. Do you believe that IPTp-SP is safe for both mother and baby.

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

11. My family friends support me in taking IPTp-SP.

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

12. Do you believe IPTp -SP improves birth outcomes?

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

13. I would recommend IPTp -SP to other pregnant women.

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

14. Do you believe IPTp -SP is safer for unborn baby?

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

Section D: Health and service delivery factors

1. Are the IPTp medicines always available when you visit the clinic?

1 Yes 2 No

2. How easy is it for you to get IPT during ANC visits?

1 Very easy 2 Easy 3 Difficult 4 Very difficult

3. Did the health worker explain to you the importance of IPTp in pregnancy

1 Yes 2 No

4. How would you rate the clarity of the explanation given by health workers about IPT?

1 Very clear 2 Clear 3 Not Clear 4 No explanation given

5. Would you prefer to receive IPTp medicine from a community health worker rather than the health facility?

1 Yes 2 No

6. Do health workers remind you when it is time to take the next IPT dose?

1 Always 2 Sometimes 3 Rarely 4 Never

7. Who gave you the IPTp-SP?

A Nurse B Midwife C Doctor Others (specify): _____

8. Did you take the drug under direct observation (DOT) at the clinic?

1 Yes 2 No 3 Can't remember

9. How would you describe the waiting time at the ANC clinic?

1 Very short 2 Short 3 Long 4 Very long

10. Does long waiting time discourage you from receiving IPT?

1 Strongly agree 2 Agree 3 Disagree 4 Strongly disagree

11. How would you rate the attitude of health workers when providing IPT?

1 Very good 2 Good 3 Poor 4 Very poor

12. Do you feel comfortable asking health workers questions about IPT?

1 Yes 2 No

THANK YOU SO MUCH FOR YOUR PARTICIPATION INTO THIS STUDY