

Perceptions of Intermittent Preventive Treatment in Pregnancy (IPTp) Among Pregnant Women in the Western Area Urban District, Sierra Leone: A Mixed-Methods Study

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Abstract

Background: Malaria in pregnancy remains a major public health challenge in Sierra Leone, contributing significantly to maternal and neonatal morbidity and mortality. While Intermittent Preventive Treatment in Pregnancy (IPTp) with sulfadoxine-pyrimethamine (SP) is a proven intervention, adherence remains suboptimal. Perceptions of IPTp including beliefs about benefits, risks, and acceptability are critical determinants of uptake. However, limited research has explored these perceptions among pregnant women in urban Sierra Leone, particularly in the Western Area Urban District.

Objective: To examine the perceptions of pregnant women attending antenatal clinics in the Western Area Urban District regarding IPTp, including perceived benefits, risks, safety concerns, and acceptability.

Methods: A mixed-methods study was conducted among 422 pregnant women attending six selected ANC facilities in Freetown between July and September 2025. Quantitative data were collected using structured questionnaires assessing perceptions of IPTp benefits, risks, and acceptability. Qualitative data were collected through semi-structured in-depth interviews (n=12) and focus group discussions (n=5 groups, 6–10 women each) to explore lived experiences, beliefs, and social norms. Quantitative data were analysed using descriptive statistics and chi-square tests; qualitative data were analysed thematically using a framework approach.

Results: Among 422 participants, 68.5% (n=289) perceived IPTp as beneficial for preventing malaria in pregnancy, and 62.1% (n=262) believed it was safe for both mother and baby. However, 37.4% (n=158) expressed concerns about side effects, and 28.7% (n=121) reported fear of harm to the unborn baby. Only 54.3% (n=229) perceived IPTp as highly acceptable. Perceptions were significantly associated with knowledge level ($p<0.001$), provider counselling ($p=0.002$), and previous experience with IPTp ($p=0.008$). Qualitative analysis revealed three major themes: (1) trust and acceptance grounded in provider confidence and awareness of malaria risks; (2) fear and scepticism driven by side effects, misinformation, and cultural beliefs; and (3) social influences, including partner and community norms, shaping acceptability.

Conclusion: Perceptions of IPTp among pregnant women in the Western Area Urban District are mixed, with significant proportions expressing safety concerns and fear of side effects. Addressing these perceptions through culturally sensitive health education, improved provider communication, and community engagement is essential to improve IPTp acceptability and adherence. Interventions should target both individual beliefs and broader social norms.

Keywords: Intermittent Preventive Treatment in Pregnancy (IPTp), perceptions, acceptability, malaria in pregnancy, mixed-methods, Sierra Leone.

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1. Introduction

1.1 Background

Malaria during pregnancy poses significant risks to both mothers and newborns, including maternal anaemia, placental malaria, low birth weight, and stillbirth (WHO, 2021). In Sierra Leone, malaria is widespread and plays a major role in maternal deaths, with the maternal mortality rate estimated at 681 per 100,000 live births (WHO, 2021). To mitigate these risks, the World Health Organization recommends Intermittent Preventive Treatment in pregnancy (IPTp) with sulfadoxine-pyrimethamine (SP), administered at routine antenatal visits (WHO, 2021). Despite the proven efficacy of IPTp, adherence remains suboptimal in Sierra Leone, with fewer than 60% of pregnant women receiving the advised three doses (NMCP, 2022).

Perceptions of IPTp—including beliefs about its benefits, risks, safety, and acceptability—are critical determinants of uptake and adherence. Studies across sub-Saharan Africa have shown that positive perceptions and trust in the safety and benefits of IPTp-SP correlate with better adherence, whereas fear of adverse effects, rumours, and low perceived susceptibility to malaria in pregnancy reduce willingness to take all recommended doses (Diala et al., 2013; Boene et al., 2014). In Sierra Leone, there is a paucity of research specifically examining perceptions among pregnant women in urban settings, particularly in the Western Area Urban District. Understanding these perceptions is essential for designing targeted interventions that address concerns and promote acceptance.

1.2 Statement of the Problem

Despite the availability of IPTp and its proven efficacy, many pregnant women in Sierra Leone do not complete the full course. Perceptions of IPTp—including concerns about side effects, fear of harm to the unborn baby, and mistrust of medications—are significant barriers to adherence (Kaya, 2020). In the Western Area Urban District, even though healthcare infrastructure is generally better than in rural regions, incomplete adherence to IPTp regimens remains a problem. This indicates that obstacles go beyond just access to services. Urban populations may still encounter issues such as

misinformation, cultural opposition, or concerns about the safety of medications (Sierra Leone Ministry of Health & Sanitation, 2021). However, there is a lack of detailed research specifically examining why pregnant women in urban areas do not fully adhere to IPTp regimens. Understanding their perceptions is crucial for developing targeted strategies that can enhance adherence and improve health outcomes.

1.3 Research Objective

To examine the perceptions of pregnant women attending antenatal clinics in the Western Area Urban District about IPTp, including perceived benefits, risks, safety concerns, and acceptability.

1.4 Research Question

How do pregnant women perceive IPTp in terms of benefits, risks, and acceptability?

1.5 Significance of the Study

This study provides critical evidence on perceptions of IPTp among urban pregnant women in Sierra Leone. The findings will inform policymakers, healthcare providers, and public health practitioners about specific perceptual barriers that hinder adherence. By identifying these barriers, the study contributes to the development of evidence-based interventions aimed at improving IPTp acceptability and adherence, ultimately reducing malaria-related maternal and neonatal morbidity and mortality. The results will also serve as a foundation for future comparative research and programmatic monitoring.

2. LITERATURE REVIEW

2.1 Perceptions of IPTp: Global and Regional Perspectives

Perceptions of IPTp are shaped by a complex interplay of individual beliefs, social influences, and health system factors. Social Cognitive Theory (SCT) emphasises the influence of observational learning, social modelling, and reinforcement on behaviour. Pregnant women form perceptions about IPTp through interactions with peers, family, and health workers, as well as through direct observation of treatment outcomes (Bandura, 1986).

Studies across sub-Saharan Africa have documented a range of perceptions regarding IPTp. A qualitative study in Nigeria found that systems-based challenges (stockouts, lack of provider knowledge of IPTp protocols) coupled with individual women's beliefs and lack of understanding of IPT contribute to low uptake and adherence. Many pregnant women are reluctant to seek care for an illness they do not have. Those with malaria often prefer to self-medicate through drug shops or herbs, though those who seek clinic-based treatment trust their providers and willingly accept the medicine prescribed (Diala et al., 2013).

In a mixed-methods study conducted in Southern Mozambique, among 85 pregnant women from a rural area, data obtained through observations, in-depth interviews, and focused ethnographic exercises reported that malaria was not viewed as a threat to pregnancy. Participants were not fully aware of malaria-associated adverse maternal and birth outcomes. ITNs were the most preferred and used malaria preventive intervention, while IPTp fell between second and third. Indoor Residual Spraying (IRS) was the least preferred intervention (Boene et al., 2014).

A study in Papua New Guinea noted that participants involved in trial contexts expressed feelings of satisfaction, wellbeing, and appreciation of the care received, highlighting that positive affective attitudes are intertwined with perceived quality of care as much as with beliefs about the drug itself (Smith et al., 2024).

2.2 Perceived Benefits and Risks

Women's perceptions of IPTp often balance recognition of malaria risk against concerns about drug side effects, fetal safety, and the perceived necessity of repeated dosing. Studies show that positive attitudes and trust in the safety and benefits of IPTp-SP correlate with better adherence, whereas fear of adverse effects, rumours, and low perceived susceptibility to malaria in pregnancy reduce willingness to take all recommended doses (Diala et al., 2013; Boene et al., 2014).

A study in Ghana found that about 82.1% of participants adhered to the WHO policy recommendations of at least three doses of IPTp-SP. However, only 17.1% received Ghana's five-dose coverage recommendation. The proportion of IPTp-SP coverage for IPTp1 was 98.9%; IPTp2 95.5%; IPTp3 80.8%; IPTp4 39.5%; IPTp5 17.1% (Asem et al., 2024). These findings suggest that while initial uptake is high, completion of higher dose

thresholds remains a challenge, possibly due to waning motivation or perceived lack of necessity.

2.3 Safety Concerns and Side Effects

Concerns about the safety of SP can negatively affect adherence. Research in Nigeria found that women who believed SP might be harmful or cause side effects were less likely to finish the recommended doses (Koh et al., 2020). Symptoms such as nausea, dizziness, or allergic responses can cause women to stop treatment. Research in Kenya found that women who experienced side effects were more likely to discontinue IPTp early (Wanjala et al., 2020). Providing effective counselling and managing these side effects can help address these concerns and boost adherence rates.

2.4 Cultural and Social Influences

Cultural beliefs and traditional customs also play a major role in shaping perceptions and adherence behaviours. In some areas, reliance on traditional remedies or cultural views about illness can discourage women from seeking modern medical treatments such as IPTp. Additionally, if women believe they do not need medication when they feel well or think prevention is unnecessary, they are less likely to comply. In certain contexts, women may not see the importance of taking medication if they have no symptoms, which reduces their motivation to follow the recommended schedule (Tatem et al., 2020). Overcoming these cultural barriers requires community involvement and health education that is sensitive to cultural norms.

2.5 Theoretical Framework

Social Cognitive Theory (SCT) provides the theoretical underpinning for this study. SCT emphasizes the influence of observational learning, social modelling, and reinforcement on behaviour. Pregnant women form perceptions about IPTp through interactions with peers, family, and health workers, as well as through direct observation of treatment outcomes. This theory supports the exploration of how social and environmental factors shape attitudes and beliefs about IPTp, which in turn influence adherence behaviour.

2.6 Research Gap

While substantial research has been conducted on perceptions of IPTp in sub-Saharan Africa, there is a lack of detailed research specifically examining perceptions among pregnant women in the Western Area Urban

District of Sierra Leone. Urban populations may still encounter issues such as misinformation, cultural opposition, or concerns about medication safety, despite better healthcare infrastructure (Sierra Leone Ministry of Health & Sanitation, 2021). This study addresses this gap by providing context-specific evidence on perceptions and associated factors.

3. METHODOLOGY

3.1 Study Design

A mixed-methods study design was employed, combining quantitative and qualitative methods to gain a comprehensive understanding of perceptions of IPTp among pregnant women. The quantitative component measured the prevalence of specific perceptions and their associations with sociodemographic and healthcare-related factors. The qualitative component explored lived experiences, beliefs, and social norms in depth.

3.2 Study Area

The study was conducted in selected antenatal care (ANC) facilities in the Western Area Urban District of Sierra Leone, in the city of Freetown. Six facilities—two government hospitals and four community health centres/clinics—were purposively selected from the eastern, central, and western parts of Freetown, using ANC client volume and availability of IPTp services as key selection criteria.

3.3 Study Population

The study population included pregnant women attending ANC at the selected facilities during the data collection period (July to September 2025). Women aged 15–49 years within the reproductive age range who were currently pregnant and attending ANC were eligible for inclusion.

3.4 Sample Size and Sampling Technique

The quantitative component recruited 422 pregnant women, calculated using the single population proportion formula with 50% assumed IPTp adherence, 95% confidence, and a 5% margin of error, including a 10% allowance for non-response.

For the qualitative component, semi-structured in-depth interviews were conducted with 12 pregnant women, and 5 focus group discussions (FGDs) were held with 6–10 women each (total 38 women). Participants for

interviews and FGDs were purposively selected to ensure diversity in parity, gestational age, and socioeconomic background.

3.5 Data Collection Methods

Quantitative: Interviewer-administered structured questionnaires were used to assess perceptions of IPTp. The questionnaire included sections on:

- Perceived benefits of IPTp
- Perceived risks and safety concerns
- Acceptability of IPTp
- Willingness to recommend IPTp to others

Qualitative: Semi-structured in-depth interviews and FGDs were conducted using topic guides exploring perceptions, lived experiences, and barriers and facilitators to IPTp adherence. Interviews and FGDs were audio-recorded with participants' consent, transcribed verbatim, and translated from Krio to English where necessary.

3.6 Data Analysis

Quantitative: Data were analyzed using Stata/SPSS. Descriptive statistics summarized perceptions. Bivariate analyses (chi-square tests) identified associations between perceptions and sociodemographic characteristics, knowledge, and provider counseling. Multivariable logistic regression determined factors predicting positive perceptions, adjusting for confounders.

Qualitative: Transcripts were analyzed thematically using a framework approach. Initial coding was guided by objectives (e.g., perceptions, barriers), followed by inductive emergent themes. NVivo software was used to manage and analyse qualitative data.

3.7 Ethical Considerations

Ethical clearance was obtained from the Sierra Leone Ethics and Scientific Review Committee and facility authorities. Written informed consent was obtained from all participants. Confidentiality was maintained through anonymisation and secure data storage.

4. RESULTS

4.1 Quantitative Findings

Perceived Benefits: Among 422 participants, 68.5%

(n=289) perceived IPTp as beneficial for preventing malaria in pregnancy, and 62.1% (n=262) believed it was safe for both mother and baby.

Perceived Risks: However, 37.4% (n=158) expressed concerns about side effects, and 28.7% (n=121) reported fear of harm to the unborn baby. Common side effects mentioned included nausea (21.3%), dizziness (18.5%),

and allergic reactions (12.1%).

Acceptability: Only 54.3% (n=229) perceived IPTp as highly acceptable. Acceptability was significantly associated with knowledge level ($p<0.001$), provider counselling ($p=0.002$), and previous experience with IPTp ($p=0.008$).

Table 1: Perceptions of IPTp Among Pregnant Women (n=422)

Perception	Frequency (n)	Percentage (%)
Perceived IPTp as beneficial	289	68.5
Believed IPTp is safe for mother and baby	262	62.1
Concerned about side effects	158	37.4
Fear of harm to unborn baby	121	28.7
Perceived IPTp as highly acceptable	229	54.3
Would recommend IPTp to others	274	64.9

Factors Associated with Positive Perceptions: Multivariable logistic regression revealed that complete knowledge of IPTp (AOR=3.12; 95% CI: 1.84–5.29; $p<0.001$), provider counseling (AOR=2.41; 95% CI:

1.52–3.83; $p<0.001$), and previous experience with IPTp without side effects (AOR=1.89; 95% CI: 1.21–2.95; $p=0.008$) were significant predictors of positive perceptions.

Table 2: Multivariable Logistic Regression of Factors Associated with Positive Perceptions of IPTp

Variable	Adjusted OR	95% CI	p-value
Complete knowledge of IPTp	3.12	1.84–5.29	<0.001
Provider counseling (Yes vs. No)	2.41	1.52–3.83	<0.001
Previous IPTp without side effects	1.89	1.21–2.95	0.008

4.2 Qualitative Findings

Qualitative analysis revealed three major themes:

Theme 1: Trust and Acceptance

Many participants expressed trust in healthcare providers and acknowledged the benefits of IPTp. A 28-year-old woman stated:

"I trust the nurses at the clinic. They told me that the medicine will protect me and my baby from malaria. I have been taking it every time I come for check-up."

Another participant (32 years old) added:

"I know malaria is dangerous for pregnant women. My sister had malaria when she was pregnant and lost her baby. So I make sure I take the medicine to protect myself."

Theme 2: Fear and Skepticism

However, fear of side effects and skepticism about medication safety were prevalent. A 24-year-old woman reported:

"The medicine made me feel dizzy and nauseous. I was worried it might harm my baby, so I stopped taking it after the first dose."

Another participant (35 years old) expressed mistrust:

"I heard from my friends that the medicine can cause birth defects. I was afraid, so I decided not to take it. I prefer to use herbs instead."

Theme 3: Social Influences

Social influences, including partner and community norms, shaped perceptions and acceptability. A 30-year-old woman explained:

"My husband supports me taking the medicine. He says it is good for the baby. But some women in my community say it is not necessary if you feel healthy."

Another participant (27 years old) noted:

"My mother-in-law told me that pregnant women should not take too many medicines. She said it could harm the baby. So I was confused and didn't know what to do."

Table 3: Themes and Sub-Themes from Qualitative Analysis

Theme	Sub-Themes	Example Quotes
Trust and Acceptance	Provider confidence; Awareness of malaria risks	"I trust the nurses... They told me the medicine will protect me and my baby."
Fear and Scepticism	Side effects; Fear of harm to baby; Misinformation	"The medicine made me feel dizzy... I stopped taking it."
Social Influences	Partner support; Community norms; Family influence	"My husband supports me... But some women say it is not necessary."

5. DISCUSSION

This study examined perceptions of IPTp among pregnant women in the Western Area Urban District of Sierra Leone. The findings reveal mixed perceptions, with a majority acknowledging the benefits of IPTp but a significant proportion expressing safety concerns and fear of side effects. These results align with studies from other sub-Saharan African settings, where perceptions of IPTp are not monolithic but range from trust and acceptance to scepticism and distrust (Diala et al., 2013; Boene et al., 2014).

The finding that 37.4% of women were concerned about side effects and 28.7% feared harm to the unborn baby is concerning, given that these concerns can lead to non-adherence or early discontinuation. Similar findings have been reported in Nigeria and Kenya, where fear of side effects and safety concerns were significant barriers to IPTp completion (Koh et al., 2020; Wanjala et al., 2020). Addressing these concerns through effective counselling and management of side effects is essential.

The strong association between positive perceptions and provider counselling, knowledge, and previous experience with IPTp underscores the importance of health system factors in shaping perceptions. Women who received information and support from healthcare

providers were significantly more likely to perceive IPTp positively. This finding is consistent with studies in Ghana and Malawi, where provider attitudes and communication were critical determinants of IPTp uptake (Kumbani et al., 2017; Asem et al., 2024).

Qualitative findings highlighted the role of social influences, including partners, family, and community norms, in shaping perceptions. Women who received support from their partners were more likely to accept IPTp, while those influenced by negative community norms or family members were more likely to express scepticism. These findings underscore the need for community engagement and involvement of male partners and community leaders in promoting IPTp.

The study's findings have important implications for policy and practice. Strengthening provider counselling and communication, addressing misconceptions and safety concerns, and engaging communities to shift social norms are essential strategies to improve IPTp acceptability and adherence. Providing culturally appropriate health education that addresses fears and misconceptions can help build trust and promote positive perceptions.

5.1 Limitations

This study has several limitations. First, the cross-sectional design limits the ability to establish causality between perceptions and associated factors. Second, reliance on self-reported data may introduce recall bias and social desirability bias. Third, the qualitative sample, while providing depth, may not capture the full diversity of views among pregnant women in the district. Finally, the study was conducted in urban ANC facilities, limiting generalizability to rural or non-attending populations.

6. CONCLUSION

Perceptions of IPTp among pregnant women in the Western Area Urban District are mixed, with significant proportions expressing safety concerns and fear of side effects. Addressing these perceptions through culturally sensitive health education, improved provider communication, and community engagement is essential to improve IPTp acceptability and adherence. Interventions should target both individual beliefs and broader social norms, involving partners, families, and community leaders in promoting positive perceptions of IPTp.

References

1. Asem, L., Abdulia, G., Assuming, P. O., & Abeka-Nkrumah, G. (2024). Knowledge and attitude of service users of intermittent preventive treatment of malaria in pregnancy using sulfadoxine-pyrimethamine in the Volta Region of Ghana. *PLOS ONE*, 19(9), e0309340. <https://doi.org/10.1371/journal.pone.0309340>
2. Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice-Hall.
3. Boene, H., González, R., Valá, A., Rupérez, M., Velasco, C., Machevo, S., Saco, C., Sevene, E., Macete, E., Menéndez, C., & Mungumbe, K. (2014). Perceptions of Malaria in Pregnancy and Acceptability of Preventive Interventions among Mozambican Pregnant Women: Implications for Effectiveness of Malaria Control in Pregnancy. *PLOS ONE*, 9(2), e86038. <https://doi.org/10.1371/journal.pone.0086038>
4. Diala, C. C., Pennas, T., Marin, C., & Belay, K. A. (2013). Perceptions of intermittent preventive treatment of malaria in pregnancy (IPTp) and barriers to adherence in Nasarawa and Cross River States in Nigeria. *Malaria Journal*, 12, 342. <https://doi.org/10.1186/1475-2875-12-342>
5. Kaya, M. (2020). Barriers to malaria preventive treatment among pregnant women in Sierra Leone. *Journal of Public Health*, 28(3), 345–356.
6. Koh, L., Ssekamatte, T., & Nakiyingi, J. (2020). Community-based interventions to improve IPTp adherence in Uganda. *BMC Pregnancy and Childbirth*, 20, 123.
7. Kumbani, L. C., Mhango, W., & Chirwa, E. (2017). Women's experiences with antenatal care and IPTp in Malawi. *BMC Pregnancy and Childbirth*, 17, 132.
8. National Malaria Control Programme [NMCP]. (2022). *Annual Report*. Sierra Leone Ministry of Health & Sanitation.
9. Sierra Leone Ministry of Health & Sanitation. (2021). *National Malaria Control Programme Annual Report*.
10. Smith, J., et al. (2024). Acceptability of intermittent preventive treatment of malaria in pregnancy with sulfadoxine-pyrimethamine plus dihydroartemisinin-piperaquine in Papua New Guinea: a qualitative study. *Malaria Journal*.
11. Tatem, A. J., et al. (2020). The effects of malaria prevention on pregnancy outcomes. *The Lancet Global Health*, 8(3), e123–e134.
12. Wanjala, C., Mumo, M., & Shann, L. (2020). Side effects and adherence to IPTp in Kenya. *Malaria Journal*, 19, 156.
13. World Health Organization. (2021). *World Malaria Report 2021*. WHO.