



Prevalence and Risk Factors of Malaria Infection among Pregnant Women in Miri Community, Bauchi State, Nigeria

Mukhtar Adamu Muhammad¹, Aisha Muhammad Muhammad², Fatima Muhammad Kabir³, Maryam Mohammed Yerima⁴, Asogwa Cullet Ifeyinwa⁴

^{1,2,3,4,5} Biological Sciences Department, Abubakar Tafawa Balewa University, Bauchi State, Nigeria

Address: Mukhtar Adamu Muhammad; P.M.B 0248, Bauchi State, Nigeria

Email: Mukhtaradamumuhammad@gmail.com; +2348038996097

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ABSTRACT

Background: Malaria remains a significant public health concern, particularly among pregnant women. This study investigated the prevalence of malaria infection and its associated risk factors among pregnant women attending antenatal care services in Miri Community, Bauchi State. Methods: A cross-sectional study was conducted among 1500 pregnant women from January to December 2023. Results: The study revealed a higher occurrence of malaria infection in July (70%), with severe parasitaemia (13.3%) predominantly affecting women in their first trimester. Women aged 25-35 years had the highest infection rate (35%). Conclusion: The study highlights the need for laboratory confirmation of malaria diagnosis in pregnancy and intensified distribution of insecticide-treated nets. Keywords: Pregnant women, Malaria infection, Miri Community.

1. INTRODUCTION

1.1 Background:

Malaria, caused by the Plasmodium parasite, is a significant public health concern in tropical and subtropical regions (1). Despite global efforts, malaria has resurged in areas where it was previously eradicated (2 - 5). In Africa, malaria in pregnancy programs face challenges, and Nigeria has implemented interventions to prevent and control malaria (6 - 9). However, there is a need for updated information on the prevalence and risk factors of malaria infection among pregnant women in specific regions (10-12). In Nigeria, malaria accounts for 60% of outpatient visits and contributes to maternal anemia, low birth weight, stillbirths, and abortions (13).

1.2 Research Gap:

Despite the existing body of knowledge on malaria in pregnancy, there is a need for updated information on the prevalence and risk factors of malaria infection among pregnant women in specific regions, particularly in Nigeria. The current study aims to bridge this gap by investigating the prevalence and risk factors of malaria infection among pregnant women in Miri Community, Bauchi State, Nigeria.

1.3 Literature Review:

Malaria in pregnancy remains a significant public health concern, particularly in sub-Saharan Africa (14). Several risk factors have been identified, including age, parity, and lack of insecticide-treated net use (17, 18). In Nigeria, malaria is a major cause of morbidity and mortality among pregnant women (19).

2. METHODS

2.1 Study Area and Population:

A cross-sectional study was conducted in Miri Community, Bauchi Local Government, Bauchi State, Nigeria, from January to December 2023.

2.2 Research Design:

A cross-sectional study was conducted in Miri Community, Bauchi Local Government, Bauchi State, Nigeria, from January to December 2023.

2.3 Data Collection:

Data were collected using a combination of closed and open-ended questionnaires.

2.4 Sample Size:

The sample size was determined using Yamane's formula, and 1500 participants were selected.

2.5 Data Analysis:

The collected data were analyzed using simple statistics. The data are presented in clear tables using frequency and percentage distributions, designed for easy comprehension and quick understanding.

3. RESULTS

Table 1: Miri Primary Health Care Center Record Book for Pregnant Women Attending Antenatal Care Service. It Contains the Record of ANC from January to December 2023.

S/N	Months	2023
1	January	76
2	February	60
3	March	50
4	April	72
5	May	63
6	June	56
7	July	63
8	August	42
9	September	40
10	October	45
11	November	52
12	December	64
	Total	683

Table 1 presents the attendance records of pregnant women at the Primary Health Care Center in Miri, Bauchi Local Government Area, Bauchi State. A notable trend emerges, with January recording the highest turnout of expectant mothers seeking antenatal care services at the facility.

Table 2: Prevalence of malaria among pregnant women in the study area

S/N	Month	2023	Percentage%
1	January	16	6.3%
2	February	13	5.1%
3	March	26	10.2%
4	April	9	3.5%
5	May	31	12.1%
6	June	12	4.7%

7	July	34	13.3%
8	August	16	6.3%
9	September	30	11.7%
10	October	30	11.7%
11	November	20	7.8%
12	December	19	7.4%
Total		256	100 (%)

Table 2 reveals that July 2023 recorded the highest incidence of malaria among pregnant women attending antenatal care services at Miri Primary Health Care Center. The surge in malaria cases during this month can be attributed to a combination of factors, including: Climatic fluctuations, characterized by the rainy season, expanded mosquito breeding sites due to stagnant water accumulation, overgrown vegetation providing shelter for mosquitoes, missed antenatal care appointments due to inclement weather, socioeconomic constraints impacting the nutritional well-being of expectant mothers.

Table 3: Age Group of Pregnant Women with Malaria in the Month of July 2023 in Primary Health Care Center Miri.

S/N	Age group	No. of pregnant women Infected with malaria	Prevalence (%)
1	15-25	55	(27.5%)
2	25-35	70	(35%)
3	35-45	50	(25%)
4	45 above	25	(12.5%)
Total		200	(100%)

Table 3 reveals that pregnant women aged 25-35 years were disproportionately affected by malaria while attending ANC services at Miri PHCC in July 2023, accounting for 70 out of 200 cases.

4. DISCUSSIONS

The prevalence of malaria among pregnant women attending ANC services at Miri PHCC (20, 21). Was alarmingly high in July 2023. Factors contributing to this trend included poor sanitation, low income, limited education, early marriage, climatic conditions, negligence, and inadequate nutrition (22). The study found that women aged 25-35 years were most susceptible to malaria. Climatic changes during June and July exacerbated the situation. Malaria poses significant risks to pregnant women, increasing mortality rates due to complications like abortion, intrauterine fetal death, anemia, and severe illness (23, 24). However, this study highlighted the need for preventive measures like LLITN, prophylaxis, and environmental sanitation.

5. CONCLUSION

The study concludes that pregnant women aged 25-35 years are most vulnerable to malaria. Effective prevention strategies include: using LLITN, preventing stagnant water, clearing bushy surroundings, maintaining environmental sanitation, taking prophylaxis anti-malaria during pregnancy, attending ANC visits regularly. Recommendations: pregnant women should utilize LLITN to protect themselves and their families, households should use mineral oil to eliminate mosquito larvae, environmental cleanliness and stagnant water avoidance are crucial, prophylaxis and anti-malaria drug use should be encouraged, public education on early detection and treatment is essential, the government should ensure availability of preventive and corrective commodities for malaria.

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