INOSR Scientific Research 12(3):27-36, 2025. **ISSN: 2705-1706**
©INOSR PUBLICATIONS **INOSRSR12300000**
International Network Organization for Scientific Research
https://doi.org/10.59298/INOSRSR/2025/1232736

Factors Contributing to Malaria Cases among Pregnant Mothers attending Antenatal Care at Ishaka Adventist Hospital, Bushenyi District, Uganda

Abura Geoffrey, Mubarak Alhassan and Acen Eunice

Faculty of Nursing Sciences Kampala International University Uganda

ABSTRACT

Malaria, a potentially fatal disease caused by the parasite Plasmodium Falciparum and transmitted to humans through the bites of infected female Anopheles mosquitos, remains a public health concern, particularly among vulnerable populations such as prime-gravid pregnant mothers and children under the age of five. To assess the factors contributing to malaria cases among pregnant mothers attending antenatal care at Ishaka Adventist Hospital, Bushenyi district, Uganda. A descriptive cross-sectional study employing quantitative methods of data collection on over 70 pregnant mothers attending ANC at Ishaka Adventist hospital who were sampled using a simple random sampling method. Data was collected using an interviewer administered semi-structure questionnaires. Data was analyzed using SPSS version 20.0 at p-value of <0.05 at 95% Confident Interval. Out of 70 pregnant mothers, 13(18.6%) had malaria, 57(81.4%) had no malaria, A number of factors were found to be significantly associated with the prevalence of malaria such as: participant's average monthly income (X^2=0.993, p-value=**0.000***), and health education talk regarding malaria (X^2=6.237, p-value=**0.013***). On conclusion, the study found out that malaria prevalent among pregnant mothers was at 18.6% which is slightly high and the following risk factors were significantly a contributing factor; low socioeconomic status, mother's place of residence, mother's education status, parity, health education talks regarding malaria, marital status, mosquito net usage, ANC attendance history.

Keywords: Contributing Factors, Malaria Cases, Pregnant Mothers, Antenatal Care

INTRODUCTION

Malaria, a potentially fatal disease caused by the parasite Plasmodium Falciparum and transmitted to humans through the bites of infected female Anopheles mosquitos, remains a public health concern, particularly among vulnerable populations such as prime-gravid pregnant mothers and children under the age of five [1]. According to 2015 global statistics, approximately 91 countries had ongoing malaria transmission. Despite increased efforts and dramatic reductions in malaria, a preventable and curable disease, in many places, this remains the case [2]. Malaria incidence among vulnerable populations fell by 21% between 2010 and 2015. During the same time period, malaria mortality rates among vulnerable populations fell by 29% globally across all age groups, and by 35% among children under the age of five. Despite these impressive statistics, the African region continues to bear the brunt of Malaria morbidity and mortality. Africa bears a disproportionately large proportion of the global malaria burden. In 2015, the region had 90% of the malaria cases and 92% of the malaria deaths [3].The clinical features of infection during pregnancy vary depending on the level of pre-existing immunity and thus the epidemiological setting. Maternal anaemia and low birthweight (LBW) as a result of prematurity and/or intrauterine growth restriction (IUGR) are the main adverse outcomes of placental infection in high-transmission areas, and they are more severe in first pregnancies and in younger mothers [4]. Gravidity has a less pronounced effect on these effects in low-transmission areas [5]. Furthermore, LBW babies are more likely to die during infancy. In Africa, maternal malaria may cause 100 000 to 300 000 infant deaths each year [6]. Pregnant mothers (especially prime-gravidas) are among the special interest groups whose increased risk of contracting malaria, the impact of malaria infection on their health and the pregnancy, and the impact on public health as a whole necessitated the formulation of the Millennium Development Goals (MDGs) of 1990-2015, followed by The Sustainable Development Goals (SDGs) of 2016- 2030. The fifth

Millennium Development Goal (MDG5) aimed to improve maternal health and reduce maternal mortality rates. This was to be accomplished in part by the targets established in MDG6, which aimed to combat HIV/AIDS, malaria, and other diseases. All of this was encapsulated in The Sustainable Development Goal number three (SDG3) in 2016, which aimed to ensure good health and well-being for all by 2030. Monitoring maternal illness, such as malaria prevalence, is a good indicator tool for the progress made in attempting to achieve the SDGs' set goals. As a result, the study's goal is to determine the prevalence and risk factors of malaria infection among pregnant mothers receiving antenatal care (ANC) at Ishaka Adventist hospital, Bushenyi District. To assess the factors contributing to malaria cases among pregnant mothers attending antenatal care at Ishaka Adventist Hospital, Bushenyi district, Uganda.

METHODOLOGY

Study design and rationale

The study was descriptive cross sectional and utilizing quantitative method of data collection. The design helped the researcher to save time during data collection since the data were collected at the same time in point

Study setting and rationale

The research was carried out at Ishaka Adventist Hospital, specifically at ANC. The Ishaka Adventist Hospital, established in 1950, is a community hospital in Ishaka, Bushenyi District, Western Uganda. The hospital is a mission facility run by the Seventh-day Adventist church that serves the local population, the majority of whom are subsistence farmers. The hospital is located 77 kilometres west of Mbarara, the subregion's largest town. The hospital also has a nursing training school and a large nursing cohort on staff. The hospital is known for its expertise in maternity care and infectious diseases. The funding status is NGO/charity. It has a total of 110 bed numbers. The hospital serves a population of approximately 28000 people and is affiliated with the American Loma Linda University in Loma Linda, California. The hospital has both inpatient and outpatient services, and the outpatient department is open Monday through Friday. This facility was chosen basing on the HIMS report of 2023, January which showed an increased prevalence rate of 10% malaria cases among pregnant mothers attending ANC.

Study population

Study population included all pregnant mothers attending ANC at Ishaka Adventist hospital during the time of data collection.

Sample size determination

Sample size was calculated using the Kish Leslie method of 1965 for calculating sample size for cross sectional studies (Gill, 2010).

$$n = \frac{Z^2PQ}{(e)^2}$$

$$n = \frac{1.96^2 * 0.10 * 0.90}{(0.05)^2}$$

n=138

Where; n=Total number of participants required. z= the critical value (it is 1.96 at 0.05 level of significance), p= the known proportion of pregnant mothers with malaria. d= margin of error. Using 1.96 as the critical value at 5% level of significance, taking the proportion of pregnant mothers with malaria as 0.10 and 0.05 as margin of error; the required minimum sample size was 100 participants which was time conducive and convenient for the researcher. n=100 participants

Sampling procedure and techniques

The participants were sampled using a simple random sampling test where all participants had an equal chance of being selected. Here, a researcher wrote in a sheet of paper letter 1 or 2, rolled it and threw to be picked at random by the participants. Whoever, picked 1 were included for the study and whoever picked 2 were not included for the study, they were thanked and allowed to go home. This method was used until the required sample size was reached.

Inclusion criteria

All the pregnant mothers attending ANC at Ishaka Adventist Hospital during the time of data collection were included for the study.

Exclusion criteria

Pregnant mothers who did not consent for the study and those who were not feeling well during time of data collection were excluded

Dependent variables

Prevalence of malaria in pregnancy.

Independent variables

Sociodemographic and Risk factors: - age, sex, religion, educational background, marital status, employment status, gravidity, IPT use, ITN use and area of residence, gravidity, mosquitoes breeding site, ANC attendance history, gestational age, fansidar history, health education talk about malaria.

Data collection instruments

Data were collected using an interviewer-administered semi structured questionnaire to assess malaria during pregnancy and its contributing factors. The questionnaire was divided into sections that's; Risk and sociodemographic factors, and the prevalence of malaria among pregnant mothers' section. A pretest was done on five pregnant mothers from KIU-TH before data collection to ensure its correctness, relevancy and for the purpose of appropriateness of questionnaire. This helped the researcher to check for validity, accuracy and reliability of the data collection tool

Data collection procedure

After obtaining an introductory letter from the REC KIU-SONS, it was then presented to the in-charge of Ishaka Adventist Hospital who granted me the permission to proceed with data collection. Consent to participate in the study was obtained from the pregnant mother. Participants who consented to participate in the study were interviewed using the interviewer-administered questionnaire which was written in English but was well translated by the researcher to local language to favor those who didn't understand English. After completing, the participants were thanked for participating in the study and they were reassured that all the information provided would be kept confidential. The process of data collection was for two weeks.

Data management and analysis

Each questionnaire was checked immediately after the interview for completeness by the researcher. At the end of data collection, the questionnaires were entered into SPSS software version 22.0. Data cleaning was done and data it was passworded to avoid the breach of confidentiality. Collected data was analyzed using SPSS version 20.0. Univariate analysis for frequencies and percentages was done, prevalence rate was calculated by dividing the number of malaria positive pregnant mothers by the total number of participants and then multiply by 100%. Results was presented in text, tables and figures. Bivariate analysis was done to determine the association between the dependent and the independent variables. Statistical significance factors were considered for the factors a P-value of less than 0.05.

Ethical Consideration

In the form of an introductory letter, the faculty of Nursing will provide ethical clearance. A copy of the introductory letter will be delivered to the administrator of the Ishaka Adventist Hospital in order to obtain permission to collect data. This permission helped to introduce the researcher to the ward in-charge who authorized the researcher to carry on with data collection. The researcher sought permission from the participants after introducing self before data collection processes. The participants were assured that all their credentials and information would be kept confidential and their participations were very importance.

RESULTS

Demographic factors of the study participants

Table 1: Showing Demographic factors of the study participants (N=70)

Variables	Frequency (N)	Percentage (%)
Age group in years		
<20	13	18.5
20-24	10	14.3
25-34	38	54.3
35 and above	9	12.9
Occupation of the participants		
Civil servant	12	17.1
A peasant farmer	29	41.4
Business	21	30.0
Housewife	8	11.4
Place of resident of the participants		
Urban	24	34.3

Rural	46	65.7
A verage monthly income of the participants		
Less than 100,000=	43	61.4
100,000= and above	27	38.6
Participant's level of education		
No formal education	11	15.7
Primary	33	47.1
Secondary	17	24.3
Tertiary	9	12.9
Marital status of the participants		
Single	10	14.3
Married	56	80.0
Cohabiting	4	5.7
Religious status of the participants		
Christian	57	81.4
Moslem	13	18.6

According to this table above, the findings revealed that majority 38(54.3%) of the participants were in the age group of 25-34 years as compare to only 9(12.9%) who were 35 years and above of which 29 (41.1%) were peasant farmers in comparison to only 8(11.4%) who were housewife. More than a half 46(65.7%) of the participants were residing in the rural area whereas only 24(34.3%) were residing within urban areas. This imply that majority 43(61.4%) of them had an average monthly income of less than 100,000= as compare to only 27(38.6%) who reported an average monthly income of more than 100,000=. 33(47.1%) of the participants had attained at least primary level of education whereas only 9(12.9%) had tertiary level of education. Most of the participants 56(80.0%) were married as compare to only 4(5.7%) were still cohabiting and about 57(81.4%) of the participants were Christians whereas only 13(18.6%) were Moslem.

Prevalence of malaria among pregnant mothers

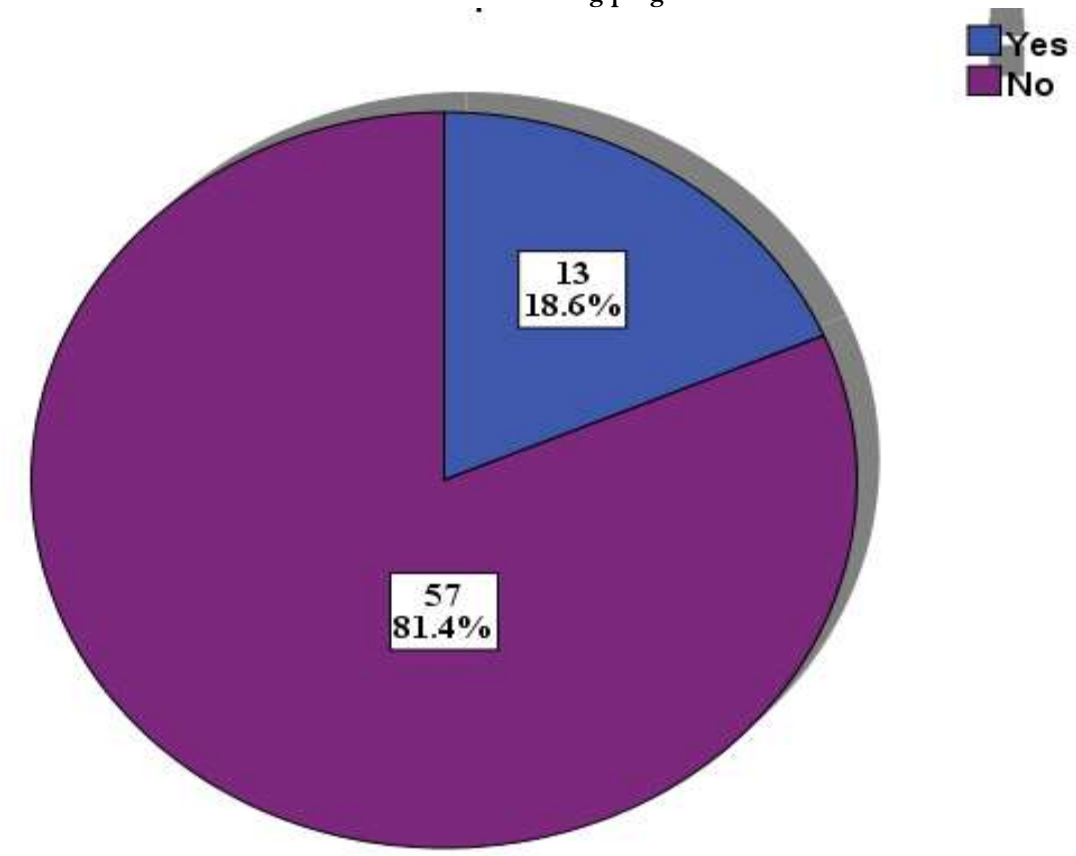

Figure 1: Showing Prevalence of malaria among pregnant mothers

From the figure 1 above, the findings indicated that the prevalence was at 13(18.6%) among pregnant mothers whereas 57(81.4%) tested negative for malaria parasites.

Risk factors of the participants towards malaria infection

Table 2: Showing risk factors of the participants towards malaria infection(N=70)

Variables	Frequency (N)	Percentage (%)
Participant's number of pregnancies		
First pregnant	21	30.0
2-4	41	58.6
>4	8	11.4
Always sleep under a mosquito net		
Yes	44	62.9
No	26	37.1
Have mosquitoes breeding place		
Yes	62	88.6
No	8	11.4
First ANC visit		

No	61	87.1
Yes	9	12.9
Timing of this current visit		
First visit	9	12.9
Second Visit	49	70.0
Third visit	3	4.2
Missing values	9	12.9
Gestation age at first ANC visit		
First trimester	20	32.8
Second trimester	35	50.0
Third trimester	6	8.6
Missing values	9	12.9
Health education on malaria		
Yes	59	84.3
No	11	15.7
Fansidar given		
Yes	29	41.4
No	41	58.6

Findings from the figure above showed that, majority 41(58.6%) of the participants reported the current pregnancy to be with 2nd to 4th pregnancy while only 8(11.4%) reported the current pregnancy to be above 4th pregnancy. Out of which only 26(37.1%) did not have and sleep under a mosquito net while majority 44 (62.9%) did sleep under a mosquito net. More than three-quarters 62(88.6%) reported to have mosquito breeding place surrounding their homes where only 8(11.4 %) had no breeding place surrounding their homes. Majority 61(87.1%) of the participants had attended ANC previously whereas only 9(12.9%) was their first ANC visit. Out of those participants who had attended ANC previously, majority 49(70.0%) reported that was their second ANC visits whereas only 3(4.2%) was already on their third ANC visits. However, majority a half (50.0%) of the participants attended their first ANC visits in their second trimester as compare to only 6(8.6%) who attended their first ANC in their third trimester. From those participants who attended ANC, majority 59(84.3%) had ever attended to health education talk at the clinic whereas 11(15.7%) had never attended any health education talk. Majority 41(58.6%) had never taken fansidar while only 29(41.4%) had ever taken fansidar.

The association between maternal risk factors and the prevalence of malaria

Table 3: Showing the association between maternal risk factors and the prevalence of malaria

Variables	Malaria prevalence		df	X^2 (p-value)
	Yes N(%)	**No N(%)**		
Participant's age group				
<20	3(23.1)	10(76.9)		
20-24	3(30.0)	7(70.0)	3	1.564(0.668)
25-34	6(15.8)	32(84.20		
35 and above	1(11.1)	8(88.9)		
Participant's occupation				
Housewife	0(0.0)	12(100.0)	3	4.493(0.186)
Civil servant	8(27.6)	21(72.4)		
A peasant farmer	4(19.0)	17(81.0)		
Business	1(12.5)	7(87.5)		
Participant's place of residence				
Urban	3(12.5)	21(87.5)	1	0.890(0.345)
Rural	10(21.7)	36(78.3)		
Participant's average monthly income				
Less than 100,000=	8(18.6)	35(81.4%)	1	0.993**(0.000*)**
100,000= and above	5(18.5)	22(81.5)		
Participant's level of education				
No formal education	1(9.1)	10(90.9)	3	3.685(0.371)
Primary	8(24.2)	25(75.8)		
Secondary	4(23.5)	13(76.5)		
Tertiary	0(0.0)	9(100.0)		
Marital status of the participants				
Single	0(0.0)	10(100.0)		
Married	12(21.4)	44(78.6)	2	2.692(0.260)
Cohabiting	1(25.0)	3(75.0)		
Religious status of the participants				
Christian	11(19.3)	46(80.7)		
Moslem	2(16.7)	10(83.3)	2	2.692(0.260)
Parity				
First pregnant	2(9.5)	19(90.5)	2	1.665(0.435)
2-4	9(22.0)	32(78.0)		
>4	2(25.0)	6(75.0)		
Always sleep under a mosquito net				

Yes	7(15.9)	37(84.1)	1	0.555(0.456)
No	6(23.1)	20(76.9)		
Have mosquito breeding place around home				
Yes	11(17.7)	51(82.3)	1	0.247(0.619)
No	2(25.0)	6(75.0)		
First ANC visit				
Yes	1(11.1)	8(88.9)	1	0380(0.538)
No	12(19.7)	49(80.3)		
Gestation age at first ANC visit				
First trimester	6(30.0)	14(70.0)	1	1.340(0.512)
Second trimester	6(17.1)	29(82.9)		
Third trimester	1(16.7)	5(83.3)		
Timing of this current visit				
First visit	2(22.2)	7(77.8)		
Second visit	10(20.4)	39(79.6)	2	0.789(0.674)
Third visit	0(0.0)	3(100.0)		
Health education on malaria				
Yes	8(13.6)	51(86.4)	1	6.237**(0.013*)**
No	5(45.5)	6(54.5)		
Fansidar given				
Yes	7(24.1)	22(75.9)	1	1.015(0.314)
No	6(14.6)	35(85.4)		

***Significant variable, X2= Chi square value, p-value**

Bivariate analysis was performed to generate Chi square. The confidence interval was set at 95% and a P-value of <0.05 were considered to be statistically significant as shown in Table 3 above.

A number of factors were found to be significantly associated with the prevalence of malaria such as: participant's average monthly income (X^2=0.993, p-value=**0.000***), and health education talk regarding malaria (X^2=6.237, p-value=**0.013***). Other variables were not statistically significantly associated with significantly associated with the prevalence of malaria. Despite that, according to this findings it was indicated that malaria prevalence was high among pregnant mothers who were; within age category of 25-34 years at 15.8%, civil servant at 27.6%, rural dwellers at 21.7%, an average monthly income of <100,000= at 18.6%, attained primary level of education at 24.2%, married at 21.4%, mothers who had 2-4 pregnancies at 22.0%, those whose homes are surrounded by a mosquito breeding place, mother who were in their first trimester at 30.0% and those who never attended health education talk at 45.5% and those who were ever given fansidar at 24.1%.

DISCUSSION

Findings from figure 1 showed that 18.6% of the pregnant mothers had malaria their current pregnancy whereas 81.4% did test malaria positive during this current pregnancy which was slightly lower than the findings from

microscopy findings on a study among pregnant mothers enrolled in ANC in Papua New Guinea which revealed a prevalence of 34.4% [7]. However, this finding was far below to those of a community survey conducted in a semi-urban community in North-western Nigeria, where 106 (41.6%) of 255 pregnant mothers were infected with malaria parasites [8] and another in a tertiary hospital in North-central Nigeria, where 38.8% of pregnant mothers were infected with malaria parasites [9]. In another recent study in Mulago Hospital among pregnant mothers it was discovered that the prevalence of malaria was at 14% [10], and around 10% of malaria cases pregnant mothers were diagnosed during their ANC services which is slightly lower than my findings. This could be due to a number of factors which includes maternal age, delayed ANC attendance, nut sleeping under a treated mosquito net, having mosquito breeding place surrounding our place of resident, failure to take fansidar as a malaria prophylaxis and low education level of the mother.

According to this study it was revealed that pregnant mothers who were within the age group of 25-34 years (15.8%) had high malaria prevalent than the counterpart, this could be due to delayed seeking of ANC due to their busy scheduled. This study is in line with a study done on malaria prevalence in North-western Nigeria where mother's age was found to have a negative correlation with that is the prevalence decreased with age [8]. Where they found out that a woman aged 30 years had four times the chance of having malaria parasitaemia (81.3%) as those aged >31 years (18.8%). And is also contradict by a study done by [9] in central-north where maternal young age was a contributing factor for malaria case.

Still in this study, malaria prevalence was high among mothers who had attained low level of education at 24.2% than their counterpart, as well as those who do reside in rural areas at 21.7 % and those who earned an average monthly income of less than 100,000=. This could be due to inadequacy of knowledge regarding malaria preventive measures, delayed ANC attendance which could be due to transport cost since majority do resides in the rural settings and earns low income. This study is in line with a study done in Nigeria, in the Central-North where low level of education was linked to high malaria prevalence among pregnant mothers [9].

This study is also supported by a study done in Sanaga-Maritime, Cameroon where lower monthly income was found to be important in increasing malaria prevalence among pregnant mothers and level of education both had a significant impact on IPTp-SP utilization (p,0.0001 and p=0.018, respectively).

Other factors such as; mothers who were civil servants, married and are not prime gravidae had high malaria prevalent at 27.6%, 21.4% and 22.0% respectively. These could be due to busy scheduled at work and too much engagement with home duty which made them delayed in seeking ANC, however, those who were not prime gravidae tend not to focus too much on ANC especially those who did get any complication during previous pregnancy. These findings are not in line with the findings of [11] in their study where they found out that lower parity, lower gravidity was associated with an increased prevalence of malaria among pregnant mothers at Mulago Hospital in Kampala, Uganda [11]. It also disagreed with a study done by [12] which showed that the prevalence of malaria was highest in primi-gravidas and decreased with increasing parity [12].

This study also found out that mothers who sleep under a mosquito net, those who stayed nearly a mosquito breeding place and those who were fansidar were more likely to suffer from malaria than their counterpart. This could be due to limited knowledge regarding malaria prevention, poor monitoring of those mothers especially when swallowing fansidar, and poor knowledge towards using a mosquito net. These findings however, contradict the findings from a study done by [13] among the the pastoral communities of Benna Tsemay, Southern Ethiopia where they found out that the use of fansidar and a mosquito net improved pregnancy outcome, particularly in primiparous women. [13]. However, no supportive studies were found out regarding the health education talk about malaria, First ANC visits and gestation age at first ANC visits though they were a contributing factor according to this study and this study also found out that health education talk about malaria and mother's average monthly income were significance factors towards malaria prevalence.

CONCLUSION

The study found out that malaria prevalent among pregnant mothers was at 18.6% which is slightly high and the following risk factors were significantly a contributing factor; low socioeconomic status, mother's place of residence, mother's education status, parity, health education talks regarding malaria, marital status, mosquito net usage, and ANC attendance history.

Limitation of the study

The researchers faced financial constraint in-terms of transport, printing cost, stationery among others. This was solved by reducing on the data collection duration, accommodating self within the health facility and soliciting fund from my family

REFERENCES

1. World Health Organization. World malaria report 2022. World Health Organization; 2022 Dec 8.
2. Baafi J, Hurford A. Modeling the Impact of Seasonality on Mosquito Population Dynamics: Insights for Vector Control Strategies. Bulletin of Mathematical Biology. 2025 Feb;87(2):33.
3. WHO, World Health Organization.https://doi.org/10.1071/EC12504, Geneva, 2017.

4. M. B. Greenwood, K. Bojang, C. M. Whitty and G. T. Targett, "Malaria," Lancet, 2014.
5. A. Rashidi and M. Roullet, "Malaria during pregnancy with parasite sequestration in the villous chamber," Blood, 2013.
6. T. P. Eisele, D. A. Larsen, P. A. Anglewicz, J. Keating, J. Yukich, A. Bennett and R. W. Steketee, "Malaria prevention in pregnancy, birthweight, and neonatal mortality: A meta-analysis of 32 national cross-sectional datasets in Africa," The Lancet Infectious Diseases, 2012.
7. D. I. Stanisic, K. A. Moore, F. Baiwog, A. Ura, C. Clapham and C. L. King, "Risk factors for malaria and adverse birth outcomes in a prospective cohort of pregnant women residentin a high malaria transmission area of Papua New Guinea," https://doi.org/10.1093/trstmh/trv019, pp. 1-12, 2015.
8. S. Fana, M. Danladi, A. Bonza, S. Anka and A. U. Imam, "Prevalence and risk factors associated with malaria infection among pregnant women in a semi-urban community of north-western Nigeria," Infectious Diseases of Poverty, 2015.
9. G. I. Ogbu, C. O. Aimakhu, S. A. Anzaku, S. Ngwan and D. A. Ogbu, "Prevalence of malaria parasitaemia among asymptomatic women at booking visit in a tertiary hospital, North- central Nigeria," https://doi.org/10.7243/2054-0841-3-1, pp. 1-7, 2015.
10. C. R. McDonald, V. Tran and K. C. Kain, "Complement activation in placental malaria.," Frontiers in Microbiology, 6(DEC)., 2015.
11. F. Namusoke, N. Rasti, N. Kironde, M. Wahlgren and F. Mirembe, "Malaria Burden in Pregnancy at Mulago National Referral Hospital in Kampala," 2018.
12. L. M. Cot, A. Abel, D. Roisin, P. Yada and J. e. Carnavale, "Risk Factors of Malaria Infection During Pregnancy in Burkina Faso: Suggestion of a Genetic Influence," The American Society of Tropical Medicine and Hygiene, p. 358–364., 2017.
13. [13] G. W. Debo and D. H. Kassa, "Prevalence of malaria and associated factors in Benna Tsemay district of pastoralist community, Southern Ethiopia," Tropical Diseases, Travel Medicine and Vaccines, pp. 1-9, 2020.
14. E. Ansong, S. K. Arhin, Y. Cai, X. Xu and X. Wu, "Menstrual characteristics, disorders and associated risk factors among female international students in Zhejiang Province China: a cross-sectional survey," vol. 19, no. 35, 2019.
15. WHO, World Health Organization, 2015.
16. F. K. Parekh, J. N. Hernandez, D. J. Krogstad, W. M. Casapia and O. H. Branch, "Prevalence and Risk of Plasmodium falciparum and P. vivax Malaria among Pregnant Women Living in the Hypoendemic Communities of the Peruvian Amazon," p. 451–457, 2011.
17. M. Sohail, S. Shakeel, S. Kumari, A. Bharti, F. Zahid, S. Anwar and M. Raziuddin, "Prevalence of Malaria Infection and Risk Factors Associated with Anaemia among Pregnant Women in Semiurban Community of Hazaribag , Jharkhand , India," Retrieved from http://dx.doi.org/10.1155/2015/740512, 2015.
18. A. A. Gabbad, A. I. Ahmed and M. A. Elawad, "Malaria in Pregnant Women Attending Antenatal Clinic at Ed-Duweim Hospital, Sudan," p. 573–580., 2014.
19. R. F. Mutagonda, A. A. Kamuhabwa, O. M. Minzi, S. N. Massawe, B. A. Maganda and E. Aklillu, "Malaria prevalence, severity and treatment outcome in relation to day 7 lumefantrine plasma concentration in pregnant women," Malaria Journal, pp. 1-10, 2016.
20. S. C. Tay, E. Agboli, H. H. Abruquah and W. Walana, "Malaria and Anaemia in Pregnant and Non-Pregnant Women of Child-Bearing Age at the University Hospital, Kumasi, Ghana," p. 193–200, 2018.
21. P. A. Campos, B. Valente, R. B. Campos, L. Gonçalves and V. E. Rosário, "Plasmodium falciparum infection in pregnant women attending antenatal care in Luanda, Angola," p. 369–374., 2017.

CITE AS: Kamanzi Abura Geoffrey, Mubarak Alhassan and Acen Eunice. (2025). Factors Contributing to Malaria Cases among Pregnant Mothers attending Antenatal Care at Ishaka Adventist Hospital, Bushenyi District, Uganda. INOSR Scientific Research 12(3):27-36.
https://doi.org/10.59298/INOSRSR/2025/1232736