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Review Article

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Prevalence of Malaria Among Pregnant Women Attending Antenatal Clinic at St. David Hospital, Ikenegbu, Owerri (January 2013 – February 2016)

Corresponding author: Emezuem Juliet Marc
Department of Public Health Nursing Imo State College of Nursing and Health Sciences, Orlu

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Abstract
Malaria during pregnancy continues to pose a considerable public health burden in malaria-endemic areas, significantly impacting maternal and foetal morbidity and mortality. This research evaluated the prevalence of malaria among pregnant women visiting the antenatal clinic at St. David Hospital, Ikenegbu, Owerri, from January 2013 to February 2016. A retrospective descriptive study design utilised prenatal clinic records. During the research period, 3,036 pregnant women had antenatal care, and 335 of them were found to have malaria. This means that 11.0% of all pregnant women had the disease. Anaemia (47%), low birth weight (27%), and hypotension (13%) are some of the problems that have been linked to malaria. Preventive practice indicators showed that 30% of the women said they shared insecticide-treated nets (ITNs), but only 20% got the right amount of malaria-related health information during their prenatal visits. The findings emphasise the enduring impact of malaria during pregnancy and the necessity for enhanced preventative measures, elevated health education, and optimal use of insecticide-treated nets.

Keywords: Malaria, pregnancy, prevalence, antenatal care, Nigeria, ITNs.

INTRODUCTION

Plasmodium protozoan parasites cause malaria, which is a parasitic disease that can kill people. Infected female Anopheles mosquitoes bite people and spread the disease. Plasmodium falciparum is the most common and dangerous species in sub-Saharan Africa. It causes most of the severe cases of malaria and deaths [1]. The disease is still one of the worst public health problems in the world, with hundreds of millions of cases happening every year, especially in tropical and subtropical areas where the weather is good for mosquitoes to breed and spread parasites [2].

Malaria still causes a lot of illness and death around the world, even though people have been trying to control it for decades. The countries in sub-Saharan Africa bear the most of the burden. The region has the most malaria-related deaths in the world. This is mostly because of a combination of variables such as high transmission rates, a lack of healthcare services, poverty, bad housing, and environmental conditions that help mosquitoes breed. Malaria is a key reason why people go to the hospital as outpatients in places where it is common, like Nigeria. It is also a major cause of hospitalisation and death, especially among people who are already sick [3].

Pregnant women are a significantly high-risk demographic for malaria infection. Pregnancy causes a number of changes in the body and immune system, such as a decrease in cell-mediated immunity, changes in cytokine responses, and changes in hormones that together make the body more vulnerable to infections. The placenta also provides a unique environment for the sequestration of Plasmodium falciparum, which lets parasites build up and avoid being cleared by the immune system. This placental sequestration leads to heightened parasite density and deteriorated illness outcomes during pregnancy in contrast to non-pregnant women [4].

Malaria during pregnancy has serious and many-sided effects on the health of both the mother and the foetus. Maternal problems frequently encompass anaemia, resulting from the haemolysis of infected red blood cells, inhibited erythropoiesis, and nutritional deficits aggravated by infection. In severe situations, malaria can also cause hypoglycemia, pulmonary oedema, and even mortality in pregnant women. From a foetal standpoint, malaria is significantly correlated with intrauterine growth restriction, preterm delivery, spontaneous abortion, stillbirth, and low birth weight, the last being a critical predictor of newborn morbidity and mortality. These negative effects all add to the higher incidence of perinatal death in areas where malaria is common [5].

To deal with this problem, global and national health authorities have suggested and put into place a number of ways to stop it from happening. These include utilising insecticide-treated nets (ITNs) to keep people from getting bitten by mosquitoes that carry diseases, and intermittent preventive therapy in pregnancy (IPTp) with sulfadoxine-pyrimethamine, which clears up asymptomatic parasitaemia and protects the mother and baby during pregnancy. Other steps include cleaning up the surroundings, spraying indoors, arranging an appointment for antenatal care early, and regular health education to raise awareness and encourage people to follow preventive measures. However, even if these interventions are available, malaria is still a problem in many endemic areas. This is mostly because people don't use them properly, they don't get enough health education, they are worried about medication resistance, and they face social and economic barriers [6].

Malaria is still very common in Nigeria and is a serious public health problem, especially for pregnant women who go to prenatal clinics. Numerous studies have indicated irregular adoption of preventative strategies, including ITNs and IPTp, alongside deficiencies in understanding pertaining to malaria prevention during pregnancy. These issues lead to ongoing transmission and persistent negative pregnancy outcomes in several locations of the country [7].

In light of this context, the current study was undertaken to assess the prevalence of malaria among pregnant women attending the antenatal clinic at St. David Hospital, Ikenegbu, Owerri. The study also wanted to look at the difficulties that mothers and babies might have and the ways that women tried to avoid them. To make antenatal care services better, make malaria control measures stronger, and lower the number of malaria-related problems during pregnancy in the research area and places like it, we need to understand these patterns.

MATERIALS AND METHODS

Study Design

A retrospective descriptive study design was adopted.

Study Area

The study was conducted at St. David Hospital, Ikenegbu, Owerri, Imo State, Nigeria.

Study Population

The study population comprised all pregnant women who attended antenatal clinic at the hospital between January 2013 and February 2016.

Data Collection

Data were extracted from antenatal clinic records, including information on malaria diagnosis, age, trimester, complications, and preventive practices.

Sample Size

A total of 3,036 antenatal attendees were reviewed, among whom 335 cases of malaria were identified.

Data Analysis

Data were analyzed using descriptive statistics, including frequencies and percentages, and presented in tables.

RESULTS

Prevalence of Malaria

Out of 3,036 antenatal attendees, 335 were diagnosed with malaria, giving an overall prevalence of **11.0%**.

Yearly Distribution of Malaria Cases

Year	ANC Attendance	Malaria Cases
2013	720	78
2014	780	89
2015	860	101
2016 (Jan–Feb)	676	67

Age Distribution of Malaria Cases

Age Group (years)	Percentage (%)
15–19	15.5
20–24	26.3
25–29	30.4
30–34	18.8
35–39	9.0

The highest proportion of malaria cases occurred among women aged 25–29 years.

Trimester Distribution of Malaria Cases

Trimester	Percentage (%)
First trimester	20.3
Second trimester	42.4
Third trimester	37.3

Malaria was most prevalent during the second trimester.

Complications Associated with Malaria

Complication	Percentage (%)
Anaemia	47
Low birth weight	27
Hypotension	13

Anaemia was the most frequently reported complication.

Preventive Practices

Indicator	Percentage (%)
ITN sharing	30
Adequate health education	20

Preventive practices were suboptimal among the study population.

DISCUSSION

This study found that 11.0% of pregnant women who went to the antenatal clinic at St. David Hospital in Owerri had malaria. This shows that malaria is still a serious public health problem in the area where the study was done. This frequency may seem mild compared to rural areas with high rates of the disease, but it still shows that the disease is still spreading in the community and that attempts to reduce malaria are still not working well for vulnerable groups like pregnant women. This finding aligns with studies from various regions in Nigeria, which have similarly reported moderate yet persistent malaria prevalence among antenatal attendees. This indicates that malaria in pregnancy continues to be endemic despite several years of intervention programs, including intermittent preventive treatment in pregnancy (IPTp) and insecticide-treated net (ITN) distribution [8]. The similarity in findings highlights that national malaria control methods, although effective, have not completely eradicated transmission within high-risk populations.

The increased incidence noted in women aged 25–29 years may be attributed to demographic and behavioural variables. This age group is usually at the height of their reproductive years, which means that more women are getting pregnant and going to antenatal clinics. Because of this, they are screened more often and are more likely to be diagnosed than older age groups, who may have lower pregnancy rates. Furthermore, women in this age group may be more susceptible to environmental risk factors due to domestic and occupational activities that enhance mosquito exposure. This pattern aligns with findings from other research in Nigeria that indicate a higher prevalence of malaria among women in their mid-

reproductive years, suggesting that exposure and pregnancy-related immune changes interact to affect infection rates [9].

The prevalence of malaria cases in the second trimester aligns with the current research. Pregnancy is linked to gradual immune changes that can make it easier for infections to spread, especially in the middle of the pregnancy when these changes are most noticeable. The second trimester may also coincide with diminished adherence to preventive measures, since certain women may not yet fully comply with IPTp regimens or may postpone the constant utilisation of insecticide-treated nets. Earlier research has similarly indicated heightened vulnerability during this timeframe, underscoring that gestational age is a significant factor influencing malaria risk in pregnancy [10].

This study found that anaemia was the most common complication of malaria, which is highly supported by known biological evidence. Malaria infection leads to anaemia by various mechanisms, including the destruction of both infected and uninfected red blood cells, the suppression of erythropoiesis in the bone marrow, and heightened metabolic demands during the infection. In pregnant women, these effects are exacerbated by the physiological anaemia of pregnancy, hence elevating the likelihood of moderate to severe anaemia. This disease is especially worrisome since it can induce exhaustion, less oxygen to reach the mother's tissues, and a higher chance of postpartum bleeding and death if it gets bad enough [11].

Low birth weight was another important finding that showed how malaria harmed foetal development. Placental malaria disrupts the flow of oxygen and vital nutrients from mother to foetus, leading to intrauterine growth limitation. Also, having infections that happen again or are really bad when pregnant can cause preterm labour, which can also lead to low birth weight. This conclusion aligns with global research that recognises malaria as a principal preventable cause of low birth weight in endemic areas, resulting in enduring implications for neonatal survival and child development [12].

The survey also showed that the respondents weren't doing enough to avoid malaria, which was especially clear in the low levels of health education about the disease and the wrong way they were using insecticide-treated nets. Sharing ITNs and using them inconsistently both make them less effective at protecting people and make them more likely to get bitten by mosquitoes during peak transmission times. Insufficient health education may also lead to a lack of knowledge of IPTp regimens, false beliefs about the risk of malaria, and a lack of following preventive advice. These behavioural and knowledge deficiencies are significant factors contributing to the ongoing transmission of malaria throughout pregnancy and indicate deficiencies in antenatal health promotion strategies [13].

The results show that malaria is not very common in the research area, but it is nevertheless a common and preventable cause of illness among pregnant women and their babies. To deal with this problem, we need to improve antenatal health education, make sure that people can always get and use insecticide-treated nets correctly, and make sure that people follow IPTp protocols. To lower infection rates and improve pregnancy outcomes in areas where malaria is common, it is also important to raise awareness in the community and get healthcare providers more involved [14].

Conclusion

Malaria during pregnancy continues to be common among pregnant women who go to St. David Hospital in Owerri, which has serious effects on the health of both the mother and the baby. The ongoing presence of malaria underscores the necessity for stronger preventive measures and improved prenatal care services.

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