

# Effect of a Nurse-Led Health Talk on Malaria Prevention Behaviors among Primigravida Women Attending University of Jos Health Centre, Plateau State

## Abstract

This study was carried out to determine the effect of a nurse-led health talk on malaria prevention behaviour on primigravida women. Studies have established the negative impact of malaria infection on women during pregnancy. The mortality rate associated with it has made all the stake holders to be uncomfortable with this situation. One of the sustainable development goals is the reduction of maternal death. It has been further established that malaria accounts for a large proportion of maternal death hence the need to halt its progress. Awareness and information on malaria can be affected through health talk. Nurses being one of the frontline health providers are expected to live up to expectations in this respect. The researchers had a felt need to know how this health talk would make impact on mothers who were having a debut pregnancy experience. This was a cross-sectional and quasi-experimental study using University of Jos Health Centre as the study setting. Fifty primigravida women agreed to participate in the study by filling the questionnaire before and after the health talk. All the necessary ethical principles were duly observed. The women were administered questionnaire before the health talk was given, and same was done during their second visit, after the delivery of the health talk. Questionnaire was analyzed using percentages and frequencies. The findings revealed that primigravida women benefitted greatly from the health talk as all of them commenced the use of insecticide treated bed-nets and intermittent preventive treatment as instructed and taught during the health talk.

**Keywords:** Effect; Nurse; Health-talk; Prevention; Malaria; Primigravida

## Research Article

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## Introduction

Malaria is an infection of red blood cells with single cell parasites plasmodium that cause fever, malaise, enlarged spleen, chills, headache, nausea and anemia. The disease is acute and chronic protozoan infection transmitted female anopheles mosquitoes to human [1]. Globally, an estimated 3.3 billion people are at risk of being infected with malaria and developing disease, and 1.2 billion are at high risk. It has been documented that 198 million cases occur globally in 2013 which led to 584,000 deaths [2]. Nigeria accounts for 25% of the malaria burden in sub-saharan Africa [3]. Malaria is a risk for 97% of Nigeria's population. The remaining 3% of the population live in the malaria free highlands. Malaria infection during pregnancy has been a major public health problem in endemic areas such as tropical and subtropical regions throughout the world [4].

The burden of malaria infection during pregnancy is caused chiefly by Plasmodium falciparum; the most common malaria species in Africa [5]. Primigravida accounted for a greater part of the 60% prevalence of malaria that affected mainly women in their first trimester of pregnancy, and the age range of the infected women is 30-39 years [6]. Pregnancy women are more attractive to mosquitoes and the malaria-parasite densities are

also higher in them [7]. Pregnancy increases the frequency and severity of most of infectious diseases and its effect on malaria is worse because of the physiological changes that take place during pregnancy leading to compromised cellular immune responses which, ordinarily, should offer protection against malaria. Malaria has adverse effect on pregnancy as these may include maternal anaemia, premature delivery, intra uterine growth retardation, and delivery of low birth-weight infants (<2.5kg), and all these are common in women in their first and second pregnancies [8]. Malaria in pregnancy can be prevented if necessary resources are deployed. The means of preventing malaria in pregnancy include: intermittent preventive treatment (IPT); insecticide treated bed-nets (ITN); and case management of malaria and anaemia [9]. Nurses remain the frontline health workers that provide ante natal services to the pregnant women, especially in the health clinics. Besides, they are always available to provide health services to their clients. Focused antenatal care is the target of the nurses working in this kind of clinical environment. Focused antenatal care entails four antenatal visits for normal pregnancies, and attention is placed on identification of pre-existing health conditions, early detection of complications arising during pregnancy, health promotion and disease prevention [10]. The malaria preventive activities fall within

health promotion and disease prevention. The health promotion activities are encouraged through sensitization provided to the pregnant mothers through health talks given during the antenatal clinics. The content of the health talk focuses on the preventive measures which pregnant women could utilize to prevent malaria during pregnancy. However, it is not clear how this health talk has been effective in terms of encouraging primigravida women toward embracing and utilizing malaria preventive measures at the University of Jos health centre. The choice of primigravida women was informed by the fact that they were naive being their first experience on pregnancy and its expectations.

### Objectives

- i. To determine the awareness of primigravida women on malaria in pregnancy.
- ii. To determine their knowledge of the cause of malaria.
- iii. To determine their malaria prevention behaviors before health talk.
- iv. To determine their malaria prevention behaviors after health talk.

### Materials and Methods

This was a cross-sectional, descriptive and quasi-experimental study aimed at determining the effect of health talk on malaria prevention behaviors of the primigravida women attending University of Jos Health Centre. The University of Jos Health Centre, essentially, provides services to the members of the University of Jos community. In addition to this population, the services are extended to the member of the community to which is proximally located. Health Centre antenatal services are included as part of what they provide to the beneficiaries. The sample for the study was drawn from among the primigravida women who were attending the clinic for the first time. Fifty participants who met the inclusion criteria were part of the study. The inclusion criteria were: women who were pregnant for the first time; were attending the clinic for the first time; and who had not visited any antenatal clinic elsewhere before. The base line information on their malaria knowledge and preventive behaviors was obtained before being exposed to health talk using a questionnaire that has preventive measures as prescribed by the World Health Organization; and the socio-demographic component. The health talk consisted of malaria preventive measures during pregnancy, and how the primigravida women can fully exploit those measures. Posters and other Information, Education and Communication materials on how malaria can be prevented were displayed for participants' use by the nurses. Their compliance to malaria preventive behaviors were measured during the second ante natal visit using questionnaire. Permission to use the women for research study was obtained from the Health Centre's gatekeepers, and the participants consent was obtained after the purpose and benefits were fully explained to them. The study did not include any invasive treatment or application. There was an agreement between the researchers and participants regarding the next antenatal visit.

### Results

The findings of the study were presented in tables. Five tables were generated for this purpose. Table 1 reveals data on socio-demographic characteristics of the respondents. Age distribution shows that only two (4%) respondents fell within 11-15 years age category, 13 (26%) respondents were in 21-25years, 20 (40%) respondents were within 26-30 years, while 10 (20%) and 5 (10%) respondents fell within 31-35 years and 36 years and above respectively. For occupational profile, 2 (4%) were farmers; 15 (30%) were students; 2 (4%) were artisans; 25 (50%) were civil servants while 6 (12%) respondents were traders. Educational distribution shows that 8 (16%) respondents had primary education; 18 (36%) had secondary education; while 22 (44%) tertiary education. Two (4%) had no formal education. Marital profiling shows that 47 (94%) respondents were married; 1 (2%) was divorced; and 2 (4%) were separated. Religious status shows that majority, 35 (70%) are Christians; Muslims are 13 (26%) while respondents from other religions are 2 (4%). Table 2 reveals that all, 50 (100%) are aware of malaria as an infection.

**Table 1:** Socio-demographic profile of the participants.

Variable	Frequency	Percentage
<b>Age (years)</b>		
15-Nov	0	0
16-20	2	4
21-25	13	26
31-35	10	20
36 and above	5	10
<b>Total</b>	<b>50</b>	<b>100</b>
<b>Occupation</b>		
Farming	2	4
Schooling	15	30
Artisan	2	4
Civil servant	25	50
Trading	6	12
<b>Total</b>	<b>50</b>	<b>100</b>
<b>Education</b>		
Primary	8	16
Secondary	18	36
Tertiary	22	44
No education	2	4
<b>Total</b>	<b>50</b>	<b>100</b>
<b>Marital status</b>		
Married	47	94
Single	0	0
Divorce	1	2

Separated	2	4
<b>Total</b>	<b>50</b>	<b>100</b>
<b>Religion</b>		
Christianity	35	70
Islam	13	26
Others	2	4
<b>Total</b>	<b>50</b>	<b>100</b>

Table 2: Respondents awareness of malaria.

Awareness	Frequency	Percentage
Yes	50	100
Total	50	100

Table 3 shows the knowledge of the cause of malaria. Forty five (90%) of the respondents accurately demonstrated the knowledge of the cause while 5 (10%) attributed the cause of malaria to dirty environment.

Table 3: Respondents' knowledge of the cause of malaria.

Knowledge of Malaria Cause	Frequency	Percentage
Female anopheles mosquitoes	45	90
Dirty environment	5	10
Supernatural	0	0
Total	50	100

Table 4 reveals data on gestational age at the first antenatal visit. Thirty five (70%) had their first antenatal visit within 4-12 weeks while 15 (26%) respondents had theirs within 13-24 weeks.

Table 4: Gestational age at first ante natal visit.

Gestational age (weeks)	Frequency	Percentage
4-12	35	70
13-24	15	30
25-36	0	0
Total	50	100

Table 5 shows that all (100%) the respondents were not practicing Intermittent Prophylactic Treatment before they were exposed to health talk. Nineteen (38%) claimed they were using insecticide treated bed-nets while 25 (50%) respondents indicated that they had received treatment for malaria before coming to the health centre for antenatal care.

Table 6 indicates data on the malaria preventive behaviors of the respondents after health talk had been given. All (100%) respondents indicated their full compliance to the use of intermittent preventive treatment. All (100%) respondents revealed that they had been using their insecticide treated bed-

nets according to the way they were taught in the clinic. In respect of treatment of malaria and anaemia, only five (10%) reported coming for malaria treatment before the scheduled second visit.

Table 5: Malaria prevention behaviors before health talk.

Preventive behaviour	Frequency	Percentage
IPT	0	0
ITN	19	38
Rx of malaria and anaemia	25	50

Table 6: Malaria preventive behaviour post health talk.

Preventive behaviour	Frequency	Percentage
IPT	50	100
ITN	50	100
Rx of malaria and anaemia	5	10

## Discussion

The study reveals that all (100%) respondents and 90% of the respondents demonstrated an awareness of malaria, and the knowledge of the cause of malaria respectively. These findings are consistent with the outcome of a study on community perception of malaria and its influence on health-seeking behaviour in rural area by Laar et al. [11] where majority of the respondents showed their awareness about malaria and linked it to mosquito bites. The findings also align with that of Akaba et al. [12] which indicated an increase in the knowledge of malaria among the study respondents. The gestational age at first antenatal visit showed that majority (70%) of the respondents had their first antenatal visit in the first trimester. This aligns with the position of Lincetto et al. [13] that the first antenatal visit should be as early as possible in pregnancy preferably in the first trimester of the pregnancy. The data on the malaria prevention behaviors before health talk reflected that a sizeable number (38%) of the respondents were familiar with the use of insecticide treated bed-nets. This is an indication that they had some knowledge about how malaria could be prevented, although, the preventive behaviors may have not been well articulated. This finding is consistent with Pell et al. [14]. where it was indicated that ITNs were generally recognized as important for malaria prevention among people while low level of awareness was responsible for low intake of IPT. The non-use of ITNs by some pregnant women may arise from their lack of awareness, and prohibitive cost. Iriemenam et al. [15] asserted that the high market rate may market rate of ITNs may make the knowledge of the benefit it less prominent. The post health talk malaria preventive behaviour showed that all (100%) respondents complied with the use of insecticide treated bed-nets and intermittent preventive treatment during their second visit. Chukwurah et al. [16] submitted that those who have the knowledge of IPT are more likely to take at least one dose. This finding is similar to that of that indicated an increase in the use of IPT among pregnant women in the treatment group compared to that of control group after a community-directed intervention.

The positive change in the behaviour of the pregnant women in respect of using malaria preventive measures is indicative of the success of the health talk given to primigravida women by nurses in the University Health Centre. This finding is justified by Iriemenam et al. [15]. Who advanced that malaria control could be influenced by targeted malaria educational information to women [17].

### Conclusion

The study findings showed that there was positive change in the malaria prevention behaviour of the primigravida women. The study was a small scale one, however, it has been able to establish the fact that a nurse-led health talk provided to primigravida women had some good impact on their malaria prevention behaviors.

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