

Knowledge, Attitude and Practices on Malaria Prevention and Control Among Pregnant Women Attending Antenatal Care at Hoima Regional Referral Hospital (HRRH) In Hoima District

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ABSTRACT

Although significant progress has been made in the fight against malaria in recent years, the disease still claims 655,000 lives annually and infects approximately 219 million people. Pregnant women are particularly vulnerable to malaria, which increases the risk of adverse health outcomes for both mothers and children. This study assessed the knowledge, attitudes, and practices related to malaria prevention and control among pregnant women attending antenatal care at Hoima Regional Referral Hospital in Hoima District. The study employed a descriptive design and involved 196 participants selected through purposive sampling. Data was collected using structured questionnaires. The findings revealed poor knowledge regarding the use of mosquito sprays to kill mosquitoes, although all mothers were aware that mosquito bites are associated with malaria transmission. Additionally, there was a negative attitude towards malaria prevention, with 52.9% of participants believing that preventing mosquito bites is difficult. The study also found low utilization of intermittent preventive treatment (IPT) prophylaxis (41.2%), limited use of mosquito repellents (17.6%), and inadequate practice of draining stagnant water among malaria-positive mothers. In conclusion, the study found a high malaria prevalence of 17.9% among pregnant women at Hoima Regional Referral Hospital. It is recommended that mass sensitization campaigns be conducted to educate pregnant women on malaria prevention and control. Additionally, there should be a continuous supply of mosquito nets and increased access to preventive measures such as IPT to reduce the burden of malaria among expectant mothers.

Keywords: Malaria, Pregnancy, Prevention, Antenatal Care, Hoima Hospital

INTRODUCTION

Malaria is caused by the bite of the female Anopheles mosquito, leading to the infection of red blood cells. It is one of the preventable causes of low birth weight that can be managed through timely intervention during pregnancy [1,2]. A report by the World Health Organization (WHO) in 2020 indicated that the global incidence rate of malaria declined from 71 to 57 cases per 1,000 people at risk between 2010 and 2019. Despite this progress, approximately 100,000 pregnant women experienced malaria-related complications [3]. In sub-Saharan Africa, pregnant women and newborns in malaria-endemic regions are particularly vulnerable [4,5]. Studies conducted in sub-Saharan countries show that malaria during pregnancy remains a significant public health concern in tropical and subtropical regions worldwide, despite global efforts to eliminate the disease [6]. Malaria poses considerable risks to the mother, fetus, and neonate, with an estimated 40% risk of complications [7,8]. A study by Monica et al., in Swaziland highlighted that the clinical manifestations of malaria during pregnancy depend on a woman's acquired immunity and the intensity of malaria transmission in her area [2]. In India, an estimated 2-3 million malaria cases are reported annually, resulting in 500-800 deaths. Approximately 95% of India's population is at risk of malaria [9]. Studies indicate that malaria is associated with adverse maternal and neonatal outcomes, including maternal anemia, preterm

labor, stillbirth, and low birth weight. India has implemented measures to enhance malaria prevention and treatment [10]. In Uganda, malaria accounts for 30-50% of outpatient consultations, 20% of inpatient admissions, and 9-14% of inpatient deaths. Over 90% of the country experiences high, stable, year-round malaria transmission, while the remaining areas have low, unstable transmission and are prone to epidemics [11]. Uganda ranks as the third-largest contributor to the global malaria burden, following the Democratic Republic of Congo (DRC) and Nigeria [12]. Malaria remains a significant health challenge in Uganda, where delayed or inadequate treatment can lead to severe complications, including death [12]. A study by Mbonye revealed that the prevalence of malaria during pregnancy ranges from 13.1% to 50%, with rates reaching as high as 60% in certain areas [13]. Although considerable progress has been made in reducing malaria, it continues to cause 655,000 deaths annually and infects up to 219 million people worldwide [14]. Pregnant women are particularly vulnerable to malaria, increasing the risk of poor health outcomes for both mother and child [15]. Uganda has the highest malaria incidence in the world, with a rate of 478 cases per 1,000 people annually. This places the country as the third-highest malaria burden in Africa and the sixth globally. Currently, 95% of Uganda's population is at high risk of malaria, with the remaining 5% vulnerable to epidemics [11]. Malaria in pregnancy accounts for over 30% of maternal morbidity and mortality in Uganda [16]. Despite ongoing efforts to reduce malaria-related deaths, the disease remains the leading cause of morbidity and mortality [17]. However, no published study has explored knowledge, attitudes, and practices regarding malaria prevention among pregnant women attending antenatal care (ANC) at Hoima Regional Referral Hospital. Understanding these factors is crucial in developing targeted solutions to reduce malaria prevalence among expectant mothers. The study aimed to assess knowledge, attitudes, and practices regarding malaria prevention and control among pregnant women attending antenatal care at Hoima Regional Referral Hospital (HRRH) in Hoima District.

METHODOLOGY

Study Design

A cross-sectional design was used in this study to collect information on knowledge, attitudes, and practices (KAP) regarding malaria prevention among pregnant women attending antenatal care (ANC) at Hoima Regional Referral Hospital in Uganda.

Study Area

The study was conducted at the ANC clinic of Hoima Regional Referral Hospital. The hospital is located in Hoima City, Western Uganda. It is approximately 110 kilometers (68 miles) by road, northwest of Mubende Regional Referral Hospital and about 198 kilometers (123 miles) by road, northwest of Mulago National Referral Hospital in Kampala, Uganda's capital city. The coordinates of Hoima Regional Referral Hospital are 01°25'41.0"N, 31°21'16.0"E (Latitude: 1.428051; Longitude: 31.354451). Hoima Hospital is a public hospital funded by the Uganda Ministry of Health, providing free general care. It is one of the thirteen Regional Referral Hospitals in Uganda and serves as one of the fifteen internship hospitals where graduates of Ugandan medical schools undergo a one-year internship under the supervision of qualified specialists and consultants. As of 2013, the hospital had a bed capacity of 280. Out of the 337 gazetted staff positions, only 251 were filled as of March 2011, leaving 85 vacant positions. Established in 1935, the facility initially functioned as a district hospital. In 1994, it was upgraded to Regional Referral status for the Bunyoro sub-region. It also serves patients from the nearby eastern Democratic Republic of the Congo. In 2019, the Ugandan Ministry of Health estimated the hospital's catchment population to be approximately 3 million.

Study Population

The research was conducted among pregnant women attending antenatal care at Hoima Regional Referral Hospital (HRRH).

Inclusion Criteria

Pregnant women who were present at Hoima Regional Referral Hospital for antenatal care during the study period and had consented to participate.

Those who were physically and mentally capable of providing informed consent.

Exclusion Criteria

Pregnant women requiring urgent medical attention were excluded from the study.

Those who were unable to provide informed consent, including sick mothers and those with children, were also excluded.

Sample Size Determination

The sample size was determined using the Kish-Leslie formula:

$$n = \frac{Z^2 pq}{d^2}$$

Where:

n = Desired sample size

Z = Standard deviation at the required degree of accuracy

P = Proportion of malaria in pregnancy (considering 15% in Hoima District)

q = 1 - P

d = Proportion of error the researcher is willing to accept

$n = \frac{1.96^2 \times 0.15 \times 0.85}{0.05^2}$

n = 196

Thus, the required sample size was 196 participants.

Sampling Procedures

Purposive sampling was used to select pregnant mothers, followed by a random sampling technique to select participants among those attending ANC.

Data Collection Methods

Data collection was conducted using a semi-structured questionnaire containing demographic information and questions on knowledge, attitudes, and practices regarding malaria prevention. The questionnaires were distributed to willing participants at Hoima Regional Referral Hospital ANC clinic.

Data Management

Data confidentiality was strictly maintained. Unauthorized personnel were not allowed access to the data, which was available only to the researcher and a trained research assistant. To ensure accuracy, the research assistant was trained and supervised in data management. Data collection was conducted during the daytime to enhance security and minimize errors.

Research Instruments

A self-administered questionnaire was used for data collection due to its cost-effectiveness, time efficiency, ease of administration, and effectiveness in obtaining information from respondents. The questionnaire consisted of four sections:

1. Demographic data
2. Knowledge assessment questions
3. Attitude assessment questions
4. Practice assessment questions related to malaria prevention.

Data Analysis

Data analysis was performed using Microsoft Excel 2019 and SPSS version 25.0. Microsoft Excel was used for data cleaning, editing, sorting, and coding. The cleaned data was then imported into the Statistical Package for Social Sciences (SPSS) version 25.0 for analysis. Descriptive statistics (i.e., frequencies, percentages, means, and standard deviations) were calculated. T-tests and two-way ANOVA tests were conducted to determine significant relationships between knowledge and attitude scores and socio-demographic factors. All statistical tests were considered significant at a 95% confidence interval, with a p-value of less than 0.05.

Ethical Considerations

Participants were informed about the study's procedures and purpose, and confidentiality of information was ensured. Informed consent was obtained from each participant before collecting information on their knowledge, attitudes, and practices regarding malaria prevention. To protect participant privacy, personal identities were anonymized.

RESULTS

Table 1: Knowledge on malaria prevention and control among pregnant women attending ANC

	Freq.	percent	Freq.	Percent	95% CI	< 0.05sg
Mosquito bite lead to malaria						
True	17	100	161	100	Ref	
False	0	0	0	0	0.82(0.42-5.74)	0.057
INT prevents malaria						
True	15	88.2	147	91.3	Ref	
False	02	11.8	14	8.7	0.37(0.22-9.21)	0.182
Open mosquito spray prevents malaria						
True	08	47.1	99	61.5	Ref	
False	09	52.9	62	38.5	0.98(0.15-2.55)	0.004
Mosquito repellent prevents malaria						
True	07	41.2	85	52.8	Ref	
False	10	58.8	76	47.2	0.45(0.25-8.03)	0.001
IPT prevents malaria						
True	14	82.4	136	84.5	Ref	
False	03	17.6	25	17.6	0.51(0.22-3.61)	0.126

Sg* significance; less than 0.05.

From table above showing association between knowledge on malaria prevention and control among pregnant women attending ANC, all the participants, 17(100%) of those who tested positive and 161(100%) of the participants who tested negative, said that mosquito leads to malaria but this was not significantly associated with occurrence of prevention and control of malaria at odds ratio of 0.82(0.42-5.74) and p- value of 0.057. From the study, participants were also asked if insecticide treated net, prevents malaria in which majority 15(88.2%) of those who had tested positive said that it was true ITN prevents malaria while 14(8.7%) of those who tested negative said thought ITN did not prevent malaria the study showed that ITN preventing malaria was not significantly associated with malaria control and prevention at odds ratio of 0.37(0.22-9.21) and p-value of 0.182. From the study, participants were also asked if open spray prevents malaria in which 8(47.1%) of those who had tested positive said that open mosquito sprays prevents malaria while 62(38.5%) of those who had tested negative said that open mosquito sprays did not prevent malaria the study showed that knowledge on open mosquito spray as a way of preventing malaria was significantly associated with its control and prevention at odds ratio of 0.98(0.15-2.55%) and p value of 0.004. From the study also participants were assessed for knowledge on if mosquito repellent prevents malaria in which 10(58.8%) of those who had tested positive said that it was not true that mosquito repellent prevents malaria while 85(52.8%) of the participants who had tested negative said agreed that mosquito repellent could prevent malaria the study showed participants knowledge that mosquito repellent preventing malaria was significantly associated with its control and prevention at odds ratio of 0.45(0.25-8.03) and p-value of 0.001. From the study also participants were asked if IPT prevents malaria in which majority 14(82.4%) of those who tested positive said that IPT prevented malaria while 25(17.6) of those who tested negative said that IPT did not prevent malaria the study showed that IPT preventing malaria was significantly associated with its prevention and control at odds ratio of 0.51(0.32-3.61) and P-value of 0.126

Attitude on malaria prevention and control among pregnant women

Table three showing association between attitude, malaria prevention and control among pregnant mothers
Attitude on malaria prevention and Tested positive Tested negative Odds ratio P-value control (17) (161)

Table 2: Attitude on malaria prevention and control among pregnant women

	Freq	percent	Freq	Percent	95% CI	< 0.05sg
Malaria can be prevented non pharmacologically						
True	07	41.2	85	52.8	Ref	
False	10	58.8	76	47.2	0.47(0.31-3.69)	0.009
Mosquito bites can be prevented						
True	08	47.1	91	56.5	Ref	
False	09	52.9	70	43.5	0.52(0.28-6.15)	0.005
ITNS are strictly for malaria prevention						
True	14	82.4	154	95.7	Ref	
False	03	17.6	07	4.3	0.74(0.39-8.74)	0.125
Closing early prevents malaria						
True	11	64.7	143	88.8	Ref	
False	06	35.3	18	11.2	0.13(0.14-2.56)	0.062

Sg* significance; less than 0.05

From table 2 above showing association between attitude , malaria prevention and control in which 7(41.2%) of the participants who tested positive said that it was true malaria can be prevented non pharmacologically while 76(47.2%) said that malaria cannot be prevented pharmacologically the study showed that mothers attitude that malaria being prevented can be prevented pharmacologically was significantly associated with its prevention and control at odds ratio of 0.47(0.31-3.69) and p-value of 0.009. From the study participants were also asked for their attitude on whether mosquito bites could be prevented in which 8(47.1%) of those who tested positive said that it was true they can be prevented while 70(43.5 %) said that mosquito bites could not be prevented the study showed that preventing mosquito bites was significantly associated with its control and prevention at odds ratio of 0.52(0.28-6.15) and p-value 0.005. From the study participants were also asked if ITNS are strictly for malaria prevention or can be used for other purposes, in which majority 14(82.4%) of the participants who had tested positive said that it was true ITNS are only to be for malaria prevention , the study showed that participants attitude on whether

ITNS are strictly to be used for malaria prevention, ,was not significantly associated with malaria prevention and control at odds ratio of 0.74(0.39-8.74) and p-value of 0.125. From the study also participants were asked if closing windows early prevents malaria in which majority 11(64.7%) of malaria positive participants said that it was true while 18(11.1%) of the malaria negative participants said it was false, the study showed that however closing early was not significantly associated with malaria prevention and control at odds ratio of 0.13(0.14-2.56) and p-value of 0.062.

Practices on malaria control among pregnant women
Table 3 showing between practices and malaria prevention and control among pregnant women

Practices on malaria prevention and control	Tested positive (17)		Tested negative (161)		Odds ratio	p-value
	Freq.	percent	Freq.	percent	95% CI	< 0.05sg
Sleeps in mosquito nets						
Yes	15	88.2	141	87.6	Ref	
No	02	11.8	20	12.4	0.87(0.06-9.01)	0.256
Took IPT prophylaxis						
Yes	07	41.2	124	77.0	Ref	
No	10	58.8	37	23.0	0.75(0.50-6.75)	0.015
Use mosquito repellent						
Yes	03	17.6	53	32.9	Ref	
No	14	82.4	108	67.1	0.62(0.01-1.06)	0.323
Drains stagnant water						
Yes	06	35.3	44	27.3	Ref	
No	11	76.7	117	72.7	0.34(0.19-5.49)	0.165

Sg* significance; less than 0.05

From table three showing association between on malaria control and prevention in which participants were assessed for how many were sleeping in mosquito nets in which majority 15(88.2%) of those who tested positive said that they slept in mosquito nets while 20(12.4%) of those who tested negative said that they were not sleeping in mosquito nets the study showed that sleeping in mosquito net was however not significantly associated with malaria prevention control and prevention at odds ratio of 0.87(0.06-9.01) and p-value of 0.256 From the study also participants were asked if they took IPT prophylaxis in which majority 10(58.8%) of the participants who tested positive said that they never took IPN prophylaxis as well as 37(23.0%) of those who tested negative the study showed that taking IPT was significantly associated with malaria prevention and control at odds ratio of 0.75(0.50-6.75%) and p-value of 0.015 From the study participants were asked if they used mosquito repellent in which 3(17.6%) of those who tested positive said that they used mosquito repellent while 108(67.1%) of those who tested negative said that they did not use mosquito repellent the study showed that use of mosquito repellent was not significantly associated with malaria prevention and control at odds ratio of 0.62(0.01-1.06%) and p-value of 0.323 From the study also participants were assessed for draining stagnant water from their surrounding in which 6(35.3%) of the participants who tested positive said that they drained stagnant water while 117(72.7%) of the participants who tested negative said that they did not drain stagnant water the study showed that draining stagnant water was however not significantly associated with malaria prevention and control at odds ratio of 0.34(0.19-5.49) and p-value of 0.165.

DISCUSSION

Knowledge on malaria prevention and control among pregnant mothers

From the study showing association between knowledge on malaria prevention and control among pregnant women attending ANC, all the participants, 17(100%) of those who tested positive and 161(100%) of the participants who tested negative, knew that mosquito leads to malaria but this was not significantly associated with occurrence of prevention and control of malaria at odds ratio of 0.82(0.42-5.74) and p-value of 0.057, when compared with other studies, Monica et al., [2] had also showed that 99.7% of respondents in Swaziland correctly associated malaria with mosquito bites and 90% reported that they would seek treatment within 24 hours of seeing the first symptoms of malaria. Indoor residual spraying (IRS) was reported at 87.2% while bed net ownership was reported at 38.8%. Despite the high level of knowledge about malaria within the surveyed communities, there was little information

coming to people via their preferred source of information—traditional community district meetings [2]. From the study participants were also asked if insecticide treated net, prevents malaria in which majority 15(88.2%) of those who had tested positive said that it was true ITN prevents malaria while 14(8.7%) of those who tested negative said thought ITN did not prevent malaria the study showed that IN preventing malaria was not significantly associated with malaria control and prevention at odds ratio of 0.37(0.22-9.21) and p-value of 0.182, this could be due to lack of information regarding, malaria prevention programs, when compared with other studies, A study by Mbonye et al., [13] had also stated that the majority of women, 628 (78.5 %) slept under an ITN a night before the survey; while less than a half, 159 (48.8 %) accessed two doses of SP. Few, 53 (16.3 %) received at least three doses of SP as recommended by the current policy. From the study also participants were asked if open spray prevents malaria in which 8(47.1%) of those who had tested positive said that open mosquito sprays prevents malaria while 62(38.5%) of those who had tested negative said that open mosquito sprays did not prevent malaria the study showed that knowledge on open mosquito spray as a way of preventing malaria was significantly associated with its control and prevention at odds ratio of 0.98(0.152-5.55%) and p-value of 0.004, when compared with other studies, Hill et al., [18] had showed that Most of the people/ pregnant mothers had misconception about indoor residual spraying and use of insecticide sprayer, that can lead into congenital abnormalities as well as respiratory problem hence few are practicing use of indoor spray From the study also participants were assessed for knowledge on if mosquito repellent prevents malaria in which 10(58.8%) of those who had tested positive said that it was not true that mosquito repellent prevents malaria while 85(52.8%) of the participants who had tested negative said agreed that mosquito repellent could prevent malaria the study showed participants knowledge that mosquito repellent preventing malaria was significantly associated with its control and prevention at odds ratio of 0.45(0.25-8.03) and p-value of 0.001, this could be because majority of the people don't, when compared with other studies, Studies by Humphrey et al, in Tanzania [19], Use of mosquito coil /repellent, had a protective ratio of 0.6%, the study also showed that, Despite of allergic reaction like asthma reported among pregnant women, about 37.8% were aware of the mosquito repellent method and was more preferred. From the study also participants were asked if IPT prevents malaria in which majority 14(82.4%) of those who tested positive said that IPT prevented malaria while 25(17.6) of those who tested negative said that IPT did not prevent malaria the study showed that IPT preventing malaria was significantly associated with its prevention and control at odds ratio of 0.51(0.32-3.61) and p-value of 0.126, the study shows that mothers had good knowledge that IPT, prevents malaria but still suffered from it, this is different from a report by Ministry of health, in 2021 which showed that In Uganda, most of the pregnant mothers are using; long lasting insecticide treated mosquito nets to reduce on the mosquito bites, intermittent preventive treatment (IPT) during gestation period, indoor residual spraying (IRS) and early diagnosis and effective treatment of malaria cases[20]

Attitude on malaria prevention and control among pregnant mothers

From the study showing association between attitude, malaria prevention and control in which 7(41.2%) of the participants who tested positive said that it was true malaria could be prevented non pharmacologically while 76(47.2%) said that malaria can be prevented with drug use the study showed that mothers attitude that malaria being prevented can be prevented pharmacologically was significantly associated with its prevention and control at odds ratio of 0.47(0.31-3.69) and p-value of 0.009, this could be as a result of numerous media sensitizations made in abide to sensitize mothers on malaria prevention, when compared with other studies, A study report by Ogba et al., [21] in Nigeria, had however showed that 68% of the pregnant women in rural areas still used herbs in prevention and treatment of malaria though 41-80% of the pregnant women had information about more than one malaria prevention and control measures like prophylaxis, use of nets and early diagnosis and treatment [21] In Uganda survey showed that traditional medicine is widely used in the prevention, diagnosis and treatment of febrile convulsions, wounds, and many other conditions among pregnant mothers [22]. From the study participants were also asked for their attitude on whether mosquito bites could be prevented in which 8(47.1%) of those who tested positive and 91(56.5%) for those who were negative, said that it was true they can be prevented, the study showed that mothers attitude that mosquito bites is preventable, was significantly associated with its control and prevention at odds ratio of 0.52(0.28-6.15) and p-value 0.005, this is good for pregnant mothers since they can easily ensure prophylactic measures against malaria, when compared with other studies, Uganda Ministry of health [20] had also noted that, In Uganda, most of the pregnant mothers are using; long lasting insecticide treated mosquito nets to reduce on the mosquito bites, intermittent preventive treatment (IPT) during gestation period, indoor residual spraying (IRS) and early diagnosis and effective treatment of malaria patients were also asked if ITNS are strictly for malaria prevention or can be used for other purposes, in which majority 14(82.4%) of the participants who had tested positive said that it was true ITNS are only to be for malaria prevention, the study showed that participants attitude on whether ITNS are strictly to be used for malaria prevention, was not significantly associated with malaria prevention and control at odds ratio of 0.74(0.39-8.74) and p-value of 0.125,

this could be because some people use, the mosquito nets for poultry rearing and fish farming due to lack of awareness for their importance, when compared with studies, results are different from studies by Mbonye et al., [13] who had stated that the majority of women, 628 (78.5 %) slept under an ITN a night before the survey; while less than a half, 159 (48.8 %) accessed two doses of SP. Few, 53 (16.3 %) received at least three doses of SP as recommended by the current policy.

From the study also participants were asked if closing windows early prevents malaria in which majority 11(64.7%) of malaria positive participants said that it was true while 18(11.1%) of the malaria negative participants said it was false, the study showed that however closing early was not significantly associated with malaria prevention and control at odds ratio of 0.13(0.14-2.56) and p-value of 0.062, this study shows that some mothers still leave their windows open in evening hours which could be a port entry for mosquitoes, when compared with other studies. Chukwurah et al [23] had documented that malaria preventive strategies in Nigeria were also similar to those practiced in Uganda and in other malaria-endemic countries, where, in addition to the use of insecticide sprays, doors and windows are screened, or smoked oil being poured on stagnant water to control mosquitoes.

Practices on malaria control among pregnant women

From the study showing association between on malaria control and prevention, participants were assessed for how many were sleeping in mosquito nets in which majority 15(88.2%), 141,(87.6%) malaria positive and negative respectively, said that they were sleeping in mosquito nets the study showed that sleeping in mosquito net was however not significantly associated with malaria prevention control and prevention at odds ratio of 0.87(0.06-9.01) and p-value of 0.256, this could be due to periodic distribution of mosquito nets to mothers which has increased percentage of mosquito net access among pregnant mothers, when compared with other studies. In Uganda, maternal child health has improved the use of insecticide treated bed nets among mothers making it to be the most cost-effective way to prevent malaria transmission. These bed nets can reduce malaria by as much as 90% in areas of high coverage rates. From the study also participants were asked if they took IPT prophylaxis in which majority 10(58.8%) of the participants who tested positive said that they never took IPN prophylaxis as well as 37(23.0%) of those who tested negative the study showed that taking IPT was significantly associated with malaria prevention and control at odds ratio of 0.75(0.50-6.75%) and p-value of 0.015, this could be due to lack of access to drugs or just mothers inactiveness to access them during ANC visits, when compared with other studies, when compared with other studies, it shows a correlation with studies by Mbonye et al, [13] who had showed that, In Uganda, approximately 1.5% have good attitude toward anti-malarial prophylaxis although, Most of the population does not respond well with practice, that taking drugs before illness appear predispose one to liver problem; hence they tend to avoid the prophylactic treatment [19-22]. From the study participants were asked if they used mosquito repellent in which 3(17.6%) of those who tested positive said that they used mosquito repellent while 108(67.1%) of those who tested negative said that they did not use mosquito repellent the study showed that use of mosquito repellent was not significantly associated with malaria prevention and control at odds ratio of 0.62(0.01-1.06%) and p-value of 0.323, the study shows a few of the participants are able to access the mosquito repellents, when compared with other Studies by [23-29] had also showed that use of mosquito coil /repellent, had a protective ratio of 0.6%, the study also showed that, despite of allergic reaction like asthma reported among pregnant women, about 37.8% were aware of the mosquito repellent method and was more preferred from the study also participants were assessed for draining stagnant water from their surrounding in which 6(35.3%) of the participants who tested positive said that they drained stagnant water while 117(72.7%) of the participants who tested negative said that they did not drain stagnant water the study showed that draining stagnant water was however not significantly associated with malaria prevention and control at odds ratio of 0.34(0.19-5.49) and p-value of 0.165, the study shows know practice of not draining away stagnant water which could be a bleeding area for mosquitoes, when compared with other studies, Abuya et al, [24] had also showed that, Cleaning of positive mosquitoes breeding and resting place helped to prevent malaria in 48% of residents and about 4% of pregnant mother that report for each ANC visit are aware of cleaning of positive mosquitoes breeding and resting place in order to prevent malaria spread.

CONCLUSION

There was a high malaria prevalence of 35(17.9%) among pregnant mothers in Hoima regional referral hospital. There was poor knowledge of mothers regarding use of mosquito spray to kill mosquitoes although all the mothers knew that it's the mosquito bites that are associated with malaria. Equally there was poor attitude of mothers' regards prevention of mosquito bites, since 52.9% believed that it's hard to prevent mosquito bites. Low utilization of IPT prophylaxis, (41.2%), low use of mosquito repellants (17.6%) and poor practice of draining away stagnant water among malaria positive mothers was observed.

RECOMMENDATION

Mass sensitization should be done regarding prevention and control of malaria among pregnant mothers. Ensure continued supply of mosquito nets to pregnant mothers and increase on the supply. The study also recommends that health worker should health educate people on the advantages of sleeping under mosquito nets to promote intermittent preventive and treatment

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