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Factors influencing the use of insecticide-treated mosquito nets by pregnant women attending antenatal care at Buwambo Health Centre IV in Wakiso District. A cross-sectional study.

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Abstract.

Background.

Malaria remains a leading cause of morbidity and mortality among pregnant women, particularly in Sub-Saharan Africa. This study assessed Factors Influencing the Use of insecticide-treated mosquito Nets by Pregnant Women Attending Antenatal at Buwambo Health Centre IV in Wakiso District.

Methodology.

A descriptive cross-sectional study was conducted among 30 pregnant women attending antenatal care. Data were collected using structured questionnaires to assess individual, socio-economic, domestic, and environmental factors influencing the use of treated mosquito nets. Data were analyzed using descriptive statistics, including frequencies and percentages.

Results.

The majority of respondents (33.3%) were aged 20-25 years, 46.6% had primary education, and 50% were married. Only 33.3% reported sleeping under treated mosquito nets, while 40% practiced clearing bushes and stagnant water to prevent malaria. Cultural beliefs affected 33.3% of respondents' net use. Although 65% reported that nets were convenient, 60% did not prefer using ITNs. Socio-economic factors showed that 40% worked in the informal sector, 33.3% had medium income, and 46.7% lived 5-10 km from health facilities. Half (50%) reported ITNs were available, while access at workplaces was limited. Domestic factors revealed that household size (60%) and poor housing conditions (56.7%) discouraged ITN use, although 73.3% received social support. The home environment was unconducive for 53.3%, yet 60% perceived susceptibility to malaria. Discomfort and difficulty sleeping under nets affected 66.7% of respondents, and 80% indicated that place of residence influenced ITN use.

Conclusion.

The utilization of treated mosquito nets among pregnant women is influenced by a combination of individual, socio-economic, domestic, and environmental factors. Low preference, discomfort, and poor access significantly limit effective use.

Recommendations.

Health authorities should enhance community sensitization on the importance of ITN use, improve distribution and accessibility of treated nets, and address household and environmental barriers.

Keywords: *Insecticide-Treated Mosquito Nets (ITNs), Pregnant Women, Antenatal Care (ANC), Wakiso District, Buwambo Health Centre IV.*
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Background.

Malaria continues to be a major public health challenge in many parts of the world, especially in sub-Saharan Africa and Asia. Pregnant women are particularly vulnerable to malaria infection, which can result in adverse maternal and fetal outcomes. The use of insecticide-treated mosquito nets (ITNs) is an effective malaria prevention strategy, and is recommended by the World Health Organization (WHO) for pregnant women living in malaria-endemic areas (WHO, 2020).

The World Health Organization (WHO) recommends the use of insecticide-treated nets (ITNs) by pregnant women as part of its strategy to prevent malaria. According to the WHO, in 2020, an estimated 67% of pregnant women in sub-Saharan Africa had access to ITNs, and 39% reported sleeping under an ITN the previous night (WHO, 2021). A systematic review that included 22 studies conducted in 14 African and 8 Asian countries between 2006 and 2019. The

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results showed that the proportion of pregnant women who used insecticide-treated bed nets ranged from 13.8% to 96.3% across the studies. Koenker (2020) analyzed data from household surveys conducted in 20 sub-Saharan African countries between 2014 and 2018. The findings showed that the proportion of pregnant women who slept under a mosquito net increased from 49.7% in 2014 to 63.3% in 2018 (Koenker, 2020).

Several factors have been identified as barriers to the use of TMNs among pregnant women, including cost, access, and knowledge. A study conducted in Nigeria found that pregnant women were more likely to use TMNs if they perceived them to be affordable, accessible, and effective (Iliyasu et al., 2018). Another study conducted in Tanzania found that pregnant women who received education on the benefits of ITNs were more likely to use them (Mubyazi et al., 2018).

A study conducted in Uganda in 2021 found that the use of ITNs among pregnant women was associated with a reduced risk of malaria infection and low birth weight. However, the study also found that only 50% of pregnant women reported sleeping under an ITN the previous night (Bwire et al., 2021). This study assessed Factors Influencing the Use of insecticide-treated mosquito Nets by Pregnant Women Attending Antenatal at Buwambo Health Centre IV in Wakiso District

Methodology.

Study design.

It was a descriptive cross-sectional study employing a quantitative method of data collection.

Study Setting.

The study was conducted at Buwambo Health Center IV, which is a government-run health facility located in Wakiso District, Uganda. It is situated in Buwambo Parish, located in Kira municipality, which is about 20 Kilometers North of Kampala, the capital city of Uganda. The Health Center is one of the primary health care facilities in Wakiso district and provides a wide range of medical services to the local community.

Buwambo Health Center IV has several departments, including outpatient, inpatient, maternity, laboratory, and pharmacy. The outpatient department provides services such as general consultations, immunizations, antenatal care, and HIV testing and counseling. The inpatient department has a capacity of 50 beds and provides services such as general medical care, surgical services, and obstetric care. The maternity department offers antenatal care, delivery services, and postnatal care.

Buwambo Health Center IV also provides community health services, including health education, outreach programs, and disease surveillance. The Health Center works closely with the local community to promote health and prevent disease.

According to the Uganda Ministry of Health Annual Health Sector Performance Report for Financial Year 2019/2020, Buwambo Health Center IV has a total of 44 health workers. This included 3 Medical officers, 10 Enrolled nurses, 10 Enrolled midwives, 3 Clinical officers, 1 Public Health Nurse, and 17 support staff, including Laboratory technicians, Pharmacy personnel, and administrative staff. The staff members are dedicated to providing high-quality medical care to patients and are committed to improving the health outcomes of the local community.

Study population.

The study involved pregnant women attending antenatal care in Buwambo Health Center IV, Wakiso District.

Sample size determination.

The sample consisted of 30 respondents who were selected from pregnant women attending antenatal care in Buwambo Health Center IV, Wakiso District.

Sampling Procedure

The study sample size was selected using a simple random sampling method. A total of 60 papers were made, 30 written on "**yes"** and the other 30 on "**no", and** put in a container. The respondents who randomly picked "**yes"** participated in the study, and those who picked **"no"** did not participate in the study. This continued until a total of 30 respondents was obtained. This procedure was done daily from Monday to Thursday during the week of data collection.

Selection Criteria.

Inclusion Criteria.

All pregnant women attending antenatal care in Buwambo Health Centre IV were considered for the study.

Independent Variables

Individual factors: Age, Education, Marital status, Knowledge about malaria.

Socio–economic factors: Occupation, income, support from the husband, access to ITNs. Domestic factors: Nature of the house, housing condition, environment, prevalence of malaria.

Dependent Variables.

Use of insecticide-treated nets by pregnant women to prevent malaria.

Research Instruments

Data was collected using a semi–structured questionnaire with both closed and open-ended questions written in English systematically in sections according to the study objectives.

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Data Collection Procedure
The questionnaires were designed and pre–tested among a few respondents in Wakiso Health Center IV to check the flow of questions and minimize errors. The researcher explained to the respondent all about the study and got information from her. Gaps were identified and eliminated by repeating the procedure.

Data Management.
Data from each questionnaire was checked for completeness and accuracy before final analysis.

Data Analysis.
Data was analyzed using SPSS version 18, and results were presented in the form of frequency tables and figures. The researcher got the number of responses for each question, and percentages were calculated.

Ethical considerations.
The supervisor approved the research, and the researcher got a letter from the research committee of Lubaga Hospital Training School to conduct the research. Written informed consent was obtained from respondents before the data collection.

Results
Individual factors influencing the use of treated mosquito nets by pregnant women.

Table 1: Individual factors influencing use of treated mosquito nets, n = 30.

Variable	Frequency	Percentage (%)
Age of the respondent		
20 – 25 years	10	33.3
32 – 31 years	9	30
32 – 37 years	7	23.3
38 years and above	4	13.4
Education Level		
No formal Education	6	20
Primary level of Education	14	46.6
Secondary Level of Education	8	26.7
Tertiary Level of Education	2	6.7
Marital status		
Single	6	20
Married	15	50
Widowed	4	13.3
Separated	5	16.7
Total	**30**	**100**

The majority, 10(33.3%) of the respondents were 20 – 25 years of age, 9(30%) were 33 – 31 years of age, 7(23.3%) were 32 – 37years of age, and 4(13.4%) were 38 years of age and above.
The majority, 14(46.6%) of the respondents had a Primary level of Education, 8(26.7%) of the respondents had a secondary level of education, 6(20%) had no formal Education, and a Minority, 2(6.7%) had a tertiary level of Education. Many 15(50%) of the respondents were married, 6(20%) were single, 5(16.7%) had separated by the time of the study, and 4(13.3%) of the respondents were widowed at the time of the study.

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Table 2: How respondent prevents malaria, n = 30.

Variable	Frequency	Percentage (%)
How can respondents prevent malaria?		
By sleeping under a treated mosquito net	10	33.3
Using insecticide	5	16.7
Clearing away bushes and stagnant water in the home	12	40
I don't know how to prevent malaria	3	10
Total	**30**	**100**

Many 12(40%) of the respondents said malaria is prevented by clearing away bushes and stagnant water in the home, 10(33.3%) of the respondents said malaria is prevented by sleeping under a treated mosquito net, 5(16.7%) said malaria is prevented by using insecticide, a small number 3(10%) didn't know how to prevent malaria.

Table 3: Have cultural beliefs and practices affecting the use of treated mosquito nets, n = 30

Variable	Frequency	Percentage (%)
Have cultural beliefs and practices affecting the use of treated mosquito nets		
Yes	10	33.3
No	20	66.7
Total	**30**	**100**

The majority, 20(66.7%) of the respondents didn't have cultural beliefs and practices affecting the use of treated mosquito nets, and a minority, 10(33.7%) of the respondents had cultural beliefs and practices affecting the use of treated mosquito nets.

Table 4: Prefers using treated mosquito nets to prevent the spread of malaria, n = 30

Variable	Frequency	Percentage (%)
Respondent prefers using treated mosquito nets to prevent the spread of malaria		
I prefer to use treated mosquito nets.	12	40
No, I don't prefer to use treated mosquito nets.	18	60
Total	**30**	**100**

The majority, 18(60%) of the respondents, did not prefer to use treated mosquito nets to prevent malaria; a minority, 12(40%) of the respondents, preferred to use treated mosquito nets to prevent malaria.

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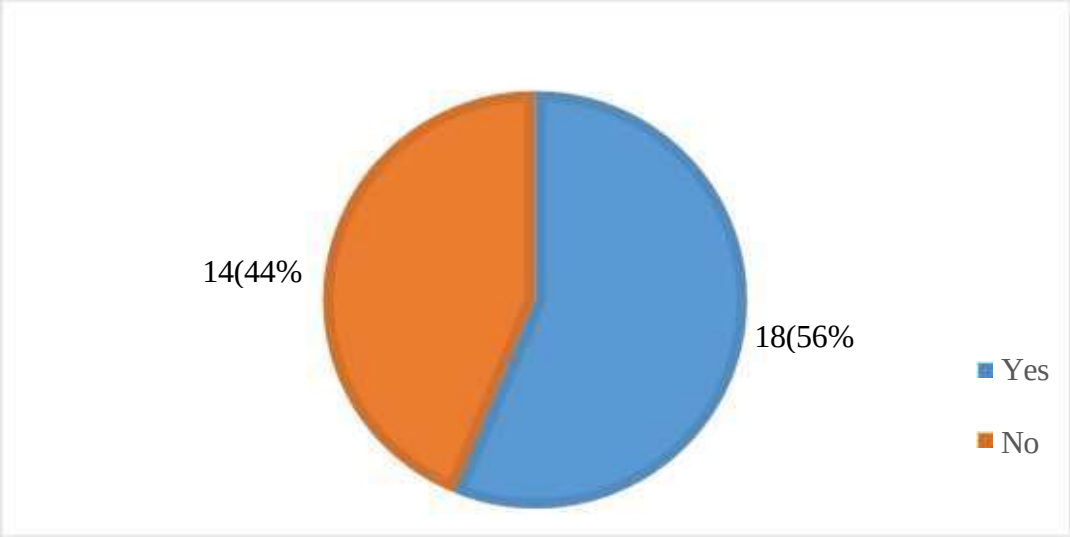
Figure 1: Mosquito nets are convenient for use in the prevention of malaria, n = 30.



18(65%) of the respondents said mosquito nets are convenient for use in the prevention of malaria, few 14(44%) said mosquito nets are not convenient for use in the prevention of malaria.

Socioeconomic factors influencing the use of treated mosquito nets by pregnant women.

Table 5: Occupation of the respondent, n = 30.

Variable	Frequency	Percentage (%)
Occupation of the respondent		
Not employed anywhere, Works in the informal sector, Works in the formal sector.	10	33.3
	12	40
	8	26.7
Total	**30**	**100**

Many 12(40%) of the respondents were working in the informal sector, 10(33.3%) of the respondents were not employed anywhere, and a small number, 8(26.7%), were working for the formal sector.

Table 6: Income of the respondent n = 30.

Variable	Frequency	Percentage (%)
Income of the respondent		
No income	8	26.7
Low income	7	23.3
Medium income	10	33.3
High income	5	16.7
Total	**30**	**100**

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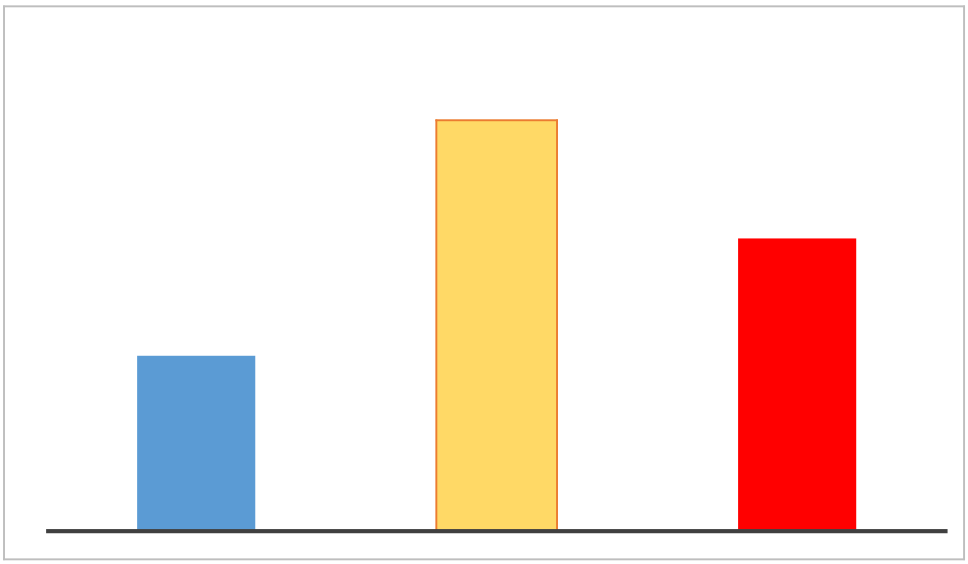
The majority, 10(33.3%) of the respondents had medium income, 7(23.3%) had low income, 8(26.7%) had no income, minority of 5(16.7%) of the respondents had a high level of income.

Figure 2: Distance to the health facility, n = 30.



The majority, 14(46.7%) of the respondents were residing 5 – 10 km away from the health facility, 10(33.3%) were staying more than 10 Km, and 6(20%) were residing less than 5 Km from the health facility.

Table 7: Availability and accessibility of mosquito nets, n = 30.

Variable	Frequency	Percentage (%)
Treated mosquito nets are available for you to use to prevent the spread of malaria.		
Yes	15	50
No	15	50
Respondents who work at night have access to bed nets at the workplace to prevent the spread of malaria	**n = 15**	
Yes	10	20
No	5	16.6
Total	**30**	**100**

Note: The number of respondents changed from 30 to 15 because not all respondents were working at night. Half 15(50%) of the respondents said treated mosquito nets are available to prevent the spread of malaria, 15(50%) of the respondents said treated mosquito nets are not available to prevent the spread of malaria. Most 10(20%) of the respondents said "yes" have access to treated mosquito nets to prevent the spread of malaria, 5(16.6%) said "no" do not have access to treated mosquito nets to prevent the spread of malaria.

Domestic factors affecting the use of treated mosquito nets among pregnant women.

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Table 8: Domestic factors affecting use of treated mosquito nets, n = 30.

Variable	Frequency	Percentage (%)
Household size favours the use of treated mosquito nets		
Yes	12	40
No	18	60
Housing conditions are good to favour the use of treated water mosquito nets		
Yes	13	43.3
No	17	56.7
There is social support to encourage you to use the treatment mosquito nets to prevent the spread of malaria,		
Yes	22	73.3
No	8	26.7
Total	**30**	**100**

The majority 18(60%) of the respondents said the house hold size is not favorable to use insecticide treated mosquito nets, minority 12(40%) of the respondents said the household Size is favorable to use insecticide-treated mosquito nets. 17(56.7%) of the respondents said "the housing conditions are not good to favour the use of treated mosquito nets". A small number 13(43.3%) of the respondents said "the housing conditions are good to favour the use of treated mosquito nets".

22(73.3%) of the respondents had social support encouraging them to use treated mosquito nets to prevent the spread of malaria, and 8(26.7%) of the respondents didn't have social support encouraging them to use treated mosquito nets to prevent the spread of malaria.

Table 9: The home environment and perceived susceptibility to malaria, n = 30.

Variable	Frequency	Percentage (%)
The home environment is conducive to the use of treated mosquito nets to prevent malaria in pregnancy.		
Yes	14	46.7
No	16	53.3
Perceived susceptibility to malaria in your home contribute to the use of treated mosquito nets to prevent malaria in pregnancy		
Yes	18	60
No	12	40
Total	**30**	**100**

16(53.3%) of the respondents said the home environment is not conducive to using treated mosquito nets to prevent malaria in pregnancy. A few 14(46.7%) of the respondents said the home environment is not conducive to using treated mosquito nets to prevent malaria in pregnancy.

The majority, 18(60%) of the respondents, said perceived susceptibility to malaria in their homes contributes to the use of treated mosquito nets to prevent malaria in pregnancy. Minority 12(40%) said that no perceived susceptibility to malaria in their homes doesn't contribute to the use of treated mosquito nets to prevent malaria in pregnancy.

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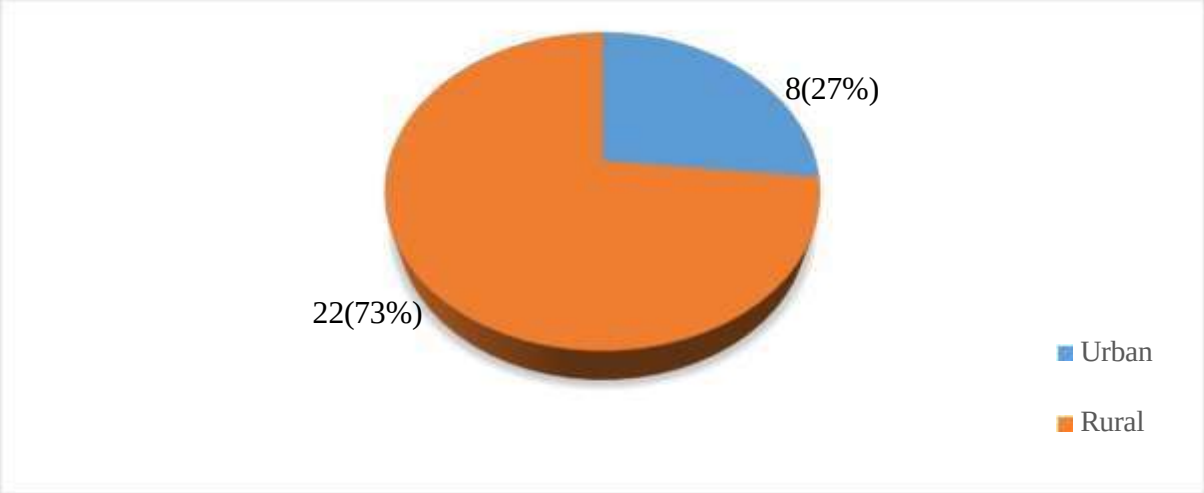
Table 10: Discomfort, inconvenience, and difficulty sleeping in the nets, n = 30.

Variable	Frequency	Percentage (%)
Discomfort, inconvenience, and difficulty sleeping in the nets affect the use of treated mosquito nets to prevent the spread of malaria in pregnancy.		
Yes	20	66.7
No	10	33.3
Total	**30**	**100**

Majority 20(66.7%) of the respondents said discomfort, inconvenience, and difficulty sleeping in the nets affects use of treated mosquito nets to prevent the spread of malaria in pregnancy, Minority 10(33.3%) of the respondents said no, "discomfort, inconvenience, and difficulty sleeping in the nets don't affects the use of treated mosquito nets to prevent the spread of malaria in pregnancy.

Figure 3: Place of residence of residence n = 30



Many 22(73%) of the respondents were residing in rural areas, 8(27%) of the respondents were residing in Urban areas.

Table 11: Place of residence affects the use of treated mosquito nets, n = 30.

Variable	Frequency	Percentage (%)
Place of residence affects the use of treated mosquito nets to prevent the spread of malaria.		
Yes	24	80
No	6	20
Total	**30**	**100**

Many 24(80%) of the respondents said the place of residence affects the use of treated mosquito nets to prevent the spread of malaria. A small number, 6(20%) of the respondents said the place of residence doesn't affect the use of treated mosquito nets to prevent the spread of malaria.

Discussion of results.

Individual factors influencing the use of treated mosquito nets by pregnant women

The majority, 10 (33.3%) of the respondents were 20 – 25 years of age. They were pregnant for the first time, and their use of mosquito nets was low compared to that of women

who were older. In agreement with this statement, Hill et al (2014), in a study conducted in Mali, found that teenage pregnancy was associated with lower use of treated mosquito nets during pregnancy. Minority 4(13.4%) of the respondents were 38 years of age and above, although there were not many elderly women who were pregnant, who were more likely to use treated mosquito nets compared to young pregnant mothers. Aluko et al. (2017), in a study done in Nigeria, had almost the same results.

The majority, 14(46.6%) of the respondents had a primary level of Education. These women had low education, and it affected their sleep under an untreated mosquito net during pregnancy. Similarly, Taremwa (2019), in a study conducted in Eastern Uganda, noted that pregnant women who had lower education levels had lower knowledge about malaria prevention and were less likely to use mosquito nets. Minority 2(6.7%) of the respondents had a tertiary level of Education. These women were knowledgeable about the use of treated mosquito nets and were using them to prevent malaria in pregnancy. In line with this statement, Akinleye et al (2015), in a study conducted in Southwest Nigeria, found that higher education levels were associated with higher levels of knowledge and utilization of treated mosquito nets for preventing malaria in pregnancy. Many 15(50%) of the respondents were married. These women were supported by their husbands to sleep under treated mosquito nets to prevent malaria in pregnancy. The same report was made by Babolola (2016) in Liberia, noted that married pregnant women were more likely to use insecticide-treated bed nets, 5(16.7%) had separated by the time of the study, and 4(13.3%) of the respondents were widowed at the time of the study. These had no social support from the husband, and were not consistently using treated mosquito nets to prevent malaria in pregnancy. Contrary to this statement, Ng'ang'a et al. (2020) in a study conducted in Kenya, noted that pregnant women attending antenatal care clinics had social support, which played a significant role in encouraging pregnant women to use mosquito nets.

Many12(40%) of the respondents said, “They were preventing malaria by clearing away bushes and stagnant water in the home. These people were knowledgeable about malaria prevention, but it was hard for them to obtain mosquito nets. They decided to use other preventive measures against malaria. Similarly, Kibusi (2016), in a study conducted in Malawi, stated that some women reported difficulties in obtaining and using the nets properly, and they resorted to using other methods to prevent malaria in pregnancy. A small number, 10(33.3%) of respondents said malaria is prevented by sleeping under a treated mosquito net. This is related to the fact that health workers had educated them on how to prevent malaria in pregnancy. In line with the above statement, Sultana et al. (2021) in Bangladesh found that pregnant women who had higher knowledge about malaria and ITNs were more likely to use treated mosquito nets to prevent malaria in pregnancy. A small number, 3(10%), of the respondents didn’t know how to prevent malaria in pregnancy. These were primigravida who had not been health educated by health workers on the prevention of malaria and the use of treated mosquito nets. Contrary to this statement, Sultana et al. (2021) in a study conducted in Bangladesh noted that health workers had educated pregnant women on the prevention of malaria and were sleeping under treated mosquito nets to prevent malaria in pregnancy. The majority of 20(66.7%) of the respondents didn’t have cultural beliefs and practices affecting the use of treated mosquito nets. This promoted the use of treated mosquito nets to prevent malaria in pregnancy. In comparison with other studies, Adedokun et al. (2018), in a study conducted in Nigeria, noted that cultural beliefs and practices, such as preference for traditional medicine and belief in the ineffectiveness of insecticide-treated nets, were associated with lower use of treated mosquito nets among pregnant women. Minority 10(33.7%) of the respondents had cultural beliefs and practices affecting the use of treated mosquito nets. This hurts the use of treated mosquito nets to prevent malaria in pregnancy. The same report was made by Ngowi et al. (2021) in a study done in Tanzania.

The majority, 18(60%) of the respondents, did not prefer to use treated mosquito nets to prevent malaria. This was one of the reasons why these pregnant women were not using treated mosquito nets to prevent malaria in pregnancy. In agreement with this statement, Agusto (2017) noted that individual preferences for a particular type of intervention and convenience in accessing the intervention were important factors in the adoption and utilization of malaria prevention interventions. Minority 12(40%) of the respondents preferred to use treated mosquito nets to prevent malaria. They were comfortable sleeping in the treated mosquito nets. Contrary to these results, Jag et al. (2018) in a study done in Kenya found out that pregnant women were less likely to use mosquito nets due to discomfort and inconvenience, particularly during hot and humid weather conditions (Jag et al., 2018).

18(65%) of the respondents said mosquito nets are convenient for use in the prevention of malaria. This is one of the reasons they were using them during pregnancy. In line with this statement, Ndyomugyenyi et al. (2019), in a study done in Uganda, found that pregnant women were more likely to use treated mosquito nets that had been washed and dried, as they perceived these nets to be less toxic and more comfortable. A few 14(44%) said mosquito nets are not convenient for use in the prevention of malaria. This is related to the fact that during the hot season the house was hot at night and pregnant women never wanted to cover themselves Asante et al., (2020), agrees with this statement in a study conducted in Ghana, pregnant women were less likely to use mosquito nets due to discomfort and inconvenience, particularly during hot and humid weather conditions (Asante et al., 2020).

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Social and economic factors influencing the use of treated mosquito nets by pregnant women.

12(40%) of the respondents were working in the informal sector. It was difficult for them to use mosquito nets because some of them were not staying in their homes all the time. Similarly, Asante et al. (2020), in a study conducted in Ghana, noted that pregnant women who worked in fishing reported difficulty using mosquito nets consistently due to the need to be on the water early in the morning. 10(33.3%) of the respondents were not employed anywhere. They did not have the money to buy mosquito nets and were not using them. Contrary to this statement, Adebayo et al. (2020) in a study done in Nigeria found out that older pregnant women with higher income were more likely to use ITNs.

A small number, 8(26.7%), were working in the formal sector. These people were knowledgeable about malaria prevention, and they were sleeping under treated mosquito nets. A similar report was made by Sultana et al. (2021) in Bangladesh, pregnant women who had higher knowledge about malaria and ITNs were more likely to use the nets. The majority, 14(46.7%) of the respondents were residing 5 – 10 km away from the health facility. They had easy access to health workers for health education and the supply of mosquito nets to prevent malaria in pregnancy. Krezanoski et al. (2020) agree with this statement in a study conducted in a health facility assessment in rural Malawi, which found that healthcare workers' access to supplies and commodities for integrated community case management was associated with higher use of treated mosquito nets among pregnant women. 10(33.3%) were staying more than 10 Km. They didn't initiate antenatal care early, to get health education on the use of mosquito nets to prevent malaria in pregnancy, and had a long distance to travel to the health facility. A similar report was made by Widmar and Nagel (2020) in a study conducted in rural Zambia, which found that the distance to the health facility was a significant barrier to the early initiation of antenatal care and the use of treated mosquito nets by pregnant women. Half 15(50%) of the respondents said treated mosquito nets are available to prevent the spread of malaria. This promoted the use of treated mosquito nets to prevent the spread of malaria in pregnancy. Njau et al. (2019) agree with this statement in a study conducted in Tanzania, where they found that the availability of treated mosquito nets was a significant factor in determining the use of mosquito nets. Pregnant women who had access to treated mosquito nets were more likely to use them compared to those who did not have access. 15(50%) of the respondents said treated mosquito nets are not available to prevent the spread of malaria. This was one of the barriers to the use of mosquito nets by pregnant women. Similarly, Asante et al. (2020), in a study conducted in Ghana, noted that pregnant women who did not have access to treated mosquito nets due to lack of availability or affordability reported difficulty obtaining them and were not sleeping in treated mosquito nets to prevent the spread of malaria.

Domestic factors affecting the use of treated mosquito nets among pregnant women.

The majority, 18(60%) of the respondents, said the household size is not favorable for the use of insecticide-treated mosquito nets. These true women who were coming from very small houses didn't have a way to fix a mosquito net and were not sleeping under a treated mosquito net. In comparison with other studies, Adedokun and Adekanmbi (2019) found that household size was negatively associated with the use of treated mosquito nets, meaning that women from larger households were less likely to use treated nets. Minority 12(40%) of the respondents said the household size is favorable for using insecticide-treated mosquito nets. This is a fact. Babolola (2016), in a study conducted in Liberia, agrees with the statement; he found out that household factors such as household size, ownership of a radio or television, and exposure to malaria prevention messages were associated with the use of insecticide-treated bed nets among pregnant women. 17(56.7%) of the respondents said "the housing conditions are not good to favour the use of treated mosquito nets". This negatively impacted the use of mosquito nets to prevent malaria in pregnancy. The same report was made by Mwakalinga et al. (2019) in a study conducted in Tanzania, which found that pregnant women who lived in houses with inadequate ventilation were less likely to use treated mosquito nets consistently compared to those who lived in well-ventilated houses. A small number 13(43.3%) of the respondents said "the housing conditions are good to favour the use of treated mosquito nets". This favored the use of treated mosquito nets. In line with this statement, Kilama et al. (2018) stated that efforts were made to address housing conditions in malaria-endemic areas to improve the effectiveness of malaria prevention interventions, like the use of treated mosquito nets.

22(73.3%) of the respondents had social support, encouraging them to use treated mosquito nets to prevent the spread of malaria. This promoted the use of treated mosquito nets to prevent malaria in pregnancy. In agreement with this statement, Ng'ang'a et al. (2020), in a study conducted in Kenya, noted that social support from family members, friends, and healthcare workers positively influences the use of treated mosquito nets among pregnant women. A small 8(26.7%) of the respondents didn't have social support encouraging them to use treated mosquito nets to prevent the spread of malaria. This hurts the prevention of malaria in pregnancy. Contrary to this statement, Aluko et al. (2020) in a study done in Nigeria noted that pregnant women who received social support from their partners, family members, and friends were more likely to use treated mosquito nets

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compared to those who did not receive social support. 16(53.3%) of the respondents said the home environment is not conducive to using treated mosquito nets to prevent malaria in pregnancy. This was a barrier to the use of treated mosquito nets. Comparing with other studies, Nkumama (2017) found that pregnant women who lived in areas with higher mosquito densities were more likely to use treated mosquito nets, while those living in areas with lower mosquito densities were less likely to use the nets. A few 14(46.7%) respondents said the home environment is not conducive to using treated mosquito nets to prevent malaria in pregnancy. This hurt the use of treated mosquito nets. Ndjinga et al. (2017) agree with this statement in a study conducted in Cameroon, noting that the effectiveness of treated mosquito nets in preventing malaria among pregnant women was influenced by temperature and humidity, which are common environmental conditions in malaria-endemic areas.

The majority, 18(60%) of the respondents, said perceived susceptibility to malaria in their homes contributes to the use of treated mosquito nets to prevent malaria in pregnancy. This contributed to the use of treated mosquito nets to prevent malaria in pregnancy. In agreement with this statement, Krezanoski et al. (2020), in a study conducted in Tanzania, found that pregnant women who perceived themselves to be at greater risk of malaria were more likely to use ITNs. Minority 12(40%) of the respondents said, “No perceived susceptibility to malaria in their homes doesn’t contribute to use of treated mosquito nets to prevent malaria in pregnancy. These people were not knowledgeable about the prevention of malaria. In agreement with this statement, Mohammed et al. (2020) in Ethiopia found that lack of knowledge about the benefits of ITNs, discomfort while sleeping under the nets, and lack of support from family members were perceived barriers to the use of ITNs among pregnant women.

The majority, 20(66.7%) of the respondents said discomfort, inconvenience, and difficulty sleeping in the nets affect the use of treated mosquito nets to prevent the spread of malaria in pregnancy. This is true, and it's one of the reasons why pregnant women were not sleeping under treated mosquito nets. A similar report was made by Ngufor (2016) in a study conducted in Nigeria, where he noted that pregnant women were uncomfortable sleeping in a treated mosquito net during the hot season. Minority 10(33.3%) of the respondents were not uncomfortable or inconvenienced by sleeping in a treated mosquito net to prevent malaria in pregnancy. Contrary to this statement, Obol et al. (2018), in a study conducted in Ghana, noted that pregnant women who reported difficulty sleeping due to the use of mosquito nets were less likely to use them consistently.

22(73%) of the respondents were residing in rural areas. They were living far away from the health facility, could not access mosquito nets easily, and were not consistent in using them. The same report was made by Tarimo et al. (2018) in a study conducted in rural Tanzania, which found that women living in rural areas were less likely to use treated mosquito nets compared to those living in urban areas. 8(27%) of the respondents were residing in urban areas. These women had easy access to treated mosquito nets and were using them to prevent malaria in pregnancy. Nwankwo et al. (2016), in a study conducted in Nigeria, agree with this statement. He reported that women living in urban areas were more likely to use treated mosquito nets compared to those living in rural areas.

Conclusion.

The study explored the individual and socio-economic factors influencing the use of treated mosquito nets by pregnant women. The majority of the respondents were young, primigravida, and were not using mosquito nets, as compared to the elderly pregnant women. Respondents prevent malaria by clearing away bushes and stagnant water in the home and sleeping under treated mosquito nets. The majority of the respondents did not have cultural beliefs and practices affecting the use of treated mosquito nets. Respondents did not prefer to use treated mosquito nets to prevent malaria due to individual preferences and convenience in accessing the intervention. Many respondents said mosquito nets are convenient for use in the prevention of malaria, while some said they were not convenient, particularly during hot and humid weather conditions. Occupation and lack of employment affected the use of mosquito nets, as some respondents found it difficult to use mosquito nets consistently due to their work schedules or the inability to buy them due to financial constraints.

Recommendations.

The Ministry of Health should increase awareness of the importance of using treated mosquito nets by pregnant women, especially among young and primigravida women. This can be done through community health workers, mass media, and social media.

Platforms. Secondarily. The Ministry of Health should address the convenience issues related to the use of mosquito nets during hot and humid weather conditions. This can be done by providing alternative mosquito prevention strategies, such as the use of mosquito repellents or installing mosquito screens on windows and doors.

The health workers should work on improving the accessibility of mosquito nets to pregnant women, particularly those who are unemployed and those who have work schedules that make it difficult to use mosquito nets consistently. This can be done by making mosquito nets more affordable or providing them for free. Although the study found that cultural beliefs and practices did not significantly affect the use of mosquito nets, the health workers need to address any cultural beliefs that may hinder

the use of mosquito nets.
Lastly, Buwambo Health staff should engage with employers to encourage them to create a conducive environment for pregnant women to use mosquito nets. Employers can be encouraged to provide mosquito nets at the workplace or allow pregnant women to take time off work to attend antenatal care appointments.

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List of abbreviations
ITNs: Insecticide-Treated Nets
PMI: Presidential Malaria Initiative
LLINs: Long lasting Insecticide Nets
ANC: Antenatal care
GoU: Government of Uganda
WHO: World Health Organization
MOH: Ministry of Health
SPSS Social Package for Social Scientists
TMNs Treated Mosquito Nets

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There is no conflict of interest.

Availability of data.
Data used in this study are available upon request from the corresponding author.

The author's contribution.
AN designed the study, conducted data collection, cleaned and analyzed data, drafted the manuscript, and NK supervised all stages of the study from conceptualization of the topic to manuscript writing and submission.

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References.
1. Bwire, G., Malimbo, M., Achan, J., & Orach, C. G. (2021). Use of insecticide-treated nets and associated factors among pregnant women in Uganda. *Malaria Journal*, *20*(1), 1–9. https://doi.org/10.1186/s12936-021-03656-4
2. Iliyasu, Z., Kabir, M., Abubakar, I. S., Babashani, M., & Zubair, Z. A. (2018). Compliance with the use of insecticide-treated nets among pregnant women in Nigeria. *Journal of Public Health and Epidemiology*, *10*(6), 191–198.
3. Koenker, H. (2020). Trends in insecticide-treated net use among pregnant women in sub-Saharan Africa, 2014–2018. *Malaria Journal*, *19*(1), 1–10. https://doi.org/10.1186/s12936-020-03188-5
4. Mubyazi, G. M., Bloch, P., Kamugisha, M. L., Kitua, A. Y., & Ijumba, J. (2018). Interventions to improve access and use of insecticide-treated nets among pregnant women in Tanzania. *BMC Public Health*, *18*(1), 1–11. https://doi.org/10.1186/s12889-018-5429-3
5. Uganda Ministry of Health. (2020). Annual health sector performance report: Financial year 2019/2020. Ministry of Health, Kampala, Uganda.
6. World Health Organization. (2020). WHO guidelines for malaria. World Health Organization.
7. World Health Organization. (2021). World Malaria Report 2021. World Health Organization.
8. World Health Organization. (2021). Malaria in pregnant women. World Health Organization.
9. Adebayo, A. M., Akinyemi, O. O., & Cadmus, E. O. (2020). Household wealth and use of insecticide-treated nets among pregnant women in Nigeria. Malaria Journal, 19(1), 1–9.
10. Adedokun, S. T., & Adekanmbi, V. T. (2019). Household and community factors associated with insecticide-treated net use among pregnant women in Nigeria. BMC Public Health, 19(1), 1–11.
11. Adedokun, S. T., Yaya, S., & Uthman, O. A. (2018). Individual and contextual correlates of mosquito net use among pregnant women in Nigeria. Malaria Journal, 17(1), 1–12.
12. Agusto, F. B. (2017). Factors influencing the adoption of malaria prevention strategies among pregnant women. International Journal of Public Health Research, 5(2), 45–53.
13. Akinleye, S. O., Ajayi, I. O., & Jegede, A. S. (2015). Knowledge and utilization of insecticide-treated nets among pregnant women in Southwest Nigeria. African Journal of Reproductive Health, 19(2), 34–45.
14. Aluko, O. O., Oluwasegun, A., & Olaleye, O.

(2017). Age-related differences in malaria prevention practices among pregnant women in Nigeria. Journal of Infection and Public Health, 10(6), 769–774.
15. Aluko, O. O., Adebayo, A. E., & Adebisi, Y. A. (2020). Social support and utilization of insecticide-treated nets among pregnant women in Nigeria. BMC Pregnancy and Childbirth, 20(1), 1–8.
16. Asante, K. P., Owusu-Agyei, S., & Dosoo, D. (2020). Barriers to insecticide-treated net use among pregnant women in Ghana. Malaria Research and Treatment, 2020, 1–9.
17. Babalola, S. (2016). Determinants of insecticide-treated net use among pregnant women in Liberia. Journal of Health Communication, 21(8), 831–840.
18. Hill, J., Hoyt, J., & van Eijk, A. M. (2014). Factors affecting the use of insecticide-treated nets among pregnant women in Mali. Tropical Medicine & International Health, 19(4), 477–489.
19. Jag, K., Ouma, P. O., & Githinji, S. (2018). Thermal discomfort and mosquito net use among pregnant women in Kenya. Parasites & Vectors, 11(1), 1–9.
20. Kibusi, S. M. (2016). Challenges in the utilization of insecticide-treated nets during pregnancy in Malawi. Malaria Journal, 15(1), 1–7.
21. Kilama, W. L., Kessy, F. L., & Mmbando, B. (2018). Housing improvements and malaria prevention strategies in endemic areas. Tropical Medicine & Health, 46(1), 1–10.
22. Krezanoski, P. J., Comfort, A. B., & Hamer, D. H. (2020). Health system access and malaria prevention among pregnant women in sub-Saharan Africa. Health Policy and Planning, 35(7), 814–823.
23. Mohammed, A., Gari, T., & Lindtjørn, B. (2020). Barriers to insecticide-treated net use among pregnant women in Ethiopia. BMC Public Health, 20(1), 1–10.
24. Mwakalinga, V. M., Mmbando, B. P., & Mandike, R. (2019). Housing structure and consistent use of insecticide-treated nets among pregnant women in Tanzania. Malaria Journal, 18(1), 1–9.
25. Ndjinga, J. K., Ndo, C., & Awono-Ambene, P. (2017). Environmental determinants of mosquito net effectiveness among pregnant women in Cameroon. Parasites & Vectors, 10(1), 1–8.
26. Ndyomugyenyi, R., Tukesiga, E., & Katamanywa, J. (2019). Perceived comfort and use of insecticide-treated nets among pregnant women in Uganda. African Health Sciences, 19(2), 1835–1843.
27. Ng'ang'a, P. N., Jayasinghe, D., & Kimani, V. (2020). Social support and malaria prevention practices among pregnant women in Kenya. BMC Pregnancy and Childbirth, 20(1), 1–9.
28. Ngowi, R., Mmbaga, E. J., & Mboera, L. E. G. (2021). Cultural beliefs influencing the use of insecticide-treated nets among pregnant women in Tanzania. Malaria Journal, 20(1), 1–8.
29. Ngufor, C. (2016). Thermal discomfort and mosquito net use during pregnancy in Nigeria. Journal of Tropical Medicine, 2016, 1–6.
30. Nkumama, I. N. (2017). Environmental risk perception and use of insecticide-treated nets among pregnant women. International Journal of Environmental Health Research, 27(4), 289–300.
31. Nwankwo, B. O., Okafor, I. P., & Obi, S. N. (2016). Urban–rural differences in insecticide-treated net use among pregnant women in Nigeria. Nigerian Journal of Clinical Practice, 19(4), 525–530.
32. Obol, J., Olotu, A., & Bejon, P. (2018). Perceived discomfort and adherence to insecticide-treated net use among pregnant women in Ghana. Malaria Journal, 17(1), 1–8.
33. Sultana, M., Sheikh, N., & Mahumud, R. A. (2021). Knowledge and utilization of insecticide-treated nets among pregnant women in Bangladesh. BMC Public Health, 21(1), 1–11.
34. Tarimo, D. S., Lushino, P., & Kweka, E. J. (2018). Rural–urban disparities in insecticide-treated net utilization among pregnant women in Tanzania. Malaria Journal, 17(1), 1–9.
35. Taremwa, I. M. (2019). Knowledge and practices on malaria prevention among pregnant women in Eastern Uganda. African Journal of Health Sciences, 32(2), 112–120.
36. Widmar, T. L., & Nagel, C. L. (2020). Distance to health facilities and antenatal service utilization in rural Zambia. BMC Health Services Research, 20(1), 1–10.

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