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FACTORS CONTRIBUTING TO THE PREVALENCE OF MALARIA AMONG CHILDREN UNDER FIVE YEARS OF AGE ATTENDING HEALTH CARE AT KATABI HEALTH CENTRE III, ENTEBBE MUNICIPALITY. A CROSS-SECTIONAL STUDY.

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Abstract.

Background.

Malaria is an urgent health priority; its treatment traps families in a cycle of illness, suffering, and poverty. This study aimed to assess the factors contributing to the prevalence of malaria among children under five years attending health care at Katabi Health Center III, Entebbe municipality.

Methodology.

A quantitative cross-sectional survey design was used, and semi-structured questionnaires were employed with statistical logistics to identify factors associated with the prevalence of malaria among children under five years.

Results

92(61.3%) were Females, 37.3% of the participants were 25-34 years, 71(47.3%) were married, and 40% (60/150) of children tested positive for malaria. Statistically, caregivers with low education level (x2=13.405, p=0.004), religion (x2=9.963, p=0.019), drainage system (x2=9.040,p=0.003), cleared bush around homes (x2=4.714,p=0.029), staying close/far from swamp (x2=9.886, p=0.002) and altitude (x2=13.504, p=0.0002) had statistical significance in association with malaria prevalence. But also, caregivers who didn't take their children to the health facility when sick (x2=10.155, p=0.017) and household factors like type of house (x2=11.866, p=0.003), preventive measures for mosquito bites (x2=10.155, p=0.017) and source of light used played a significant association with malaria prevalence in the under-fives.

Conclusion.

The Prevalence of malaria was high, and this was influenced by the level of education, religion, drainage system at home, bush around homes, and closeness to the swamp.

Recommendation.

The Ministry of Health should facilitate more studies in different areas on malaria prevalence, health education to caregivers, municipal administrators organizing meetings with plot owners, and government to reduce electricity generation costs in people's homes to increase lighting.

Keywords: *Malaria prevalence, Children under five, Katabi Health Centre III, Entebbe Municipality*.
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Background.

The World Health Organization (WHO) defines malaria as an acute febrile illness, a life-threatening disease caused by a bite of an infected female anopheles mosquito (WHO, 2016). Malaria is an ancient and continuously unmatched parasitic cause of human suffering throughout the world. Plasmodium species, an obligate intracellular protozoan using the mosquito as its vector, permeates the tropical and subtropical world. Historically, it has crushed societies, devastated militaries, and hampered economic growth. It continues to wreak havoc, targeting and killing the most vulnerable in our global society. (William. N et al., 2023)

Five Plasmodium parasite species cause malaria in humans, and two of these species, Plasmodium falciparum and Plasmodium vivax, pose the greatest threat. Plasmodium falciparum is the deadliest malaria parasite and the most prevalent malaria parasite in most countries outside of sub-Saharan Africa. The other malaria species that can infect humans are Plasmodium malaria, Plasmodium ovale, and Plasmodium knowlesi (malaria fact sheets, 2023)

Globally, malaria accounted for 249 million cases in 2022 compared to 244 million cases in 2021. The estimated number of malaria deaths stands at 608,000 in 2022

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compared to 610,000 in 2021. According to WHO, malaria prevalence depends on the possible environmental factors related to the parasite (i.e.) vector, the human, host, and the environment. The transmission is also observed more in places where the life span of the mosquito is longer, favoring the parasite to develop completely in a mosquito, increasing transmission and, therefore, high prevalence of malaria. The climatic conditions, such as rainfall patterns, temperature, and humidity, also affect the number and survival of mosquitoes, and in many places, transmission is always seasonal and high in rainy seasons and immediately after the rainy season (WHO, 2022).

The WHO African region continues to carry a disproportionately high share of the global malaria burden. In 2022, the ‘’world malaria report’ ’indicated that between 2000 to 2019, the deaths per year from the parasitic disease had declined from 897,000 to 568,000, with overall cases declining from 245 million to 232 million. Sub-Saharan Africa continues to carry a high portion of the global malaria burden. Concurrent with the COVID-19 pandemic, the region was home to about 94% of all malaria cases and 95% of deaths. Children under five years of age accounted for about 78% of all malaria deaths in the region. One child dies of malaria every two minutes (WHO, 2022). The East African region accounts for 89% of the malaria cases in Africa, and 11% of the cases occur in the Eastern region (WHO, 2023). The higher temperatures and nearly unchanged perception patterns lead to longer transmission seasons and an increase in highland malaria. (Kyalimpa et al, 2016).

In Uganda, malaria is still a major public health problem associated with slow economic development and poverty and is the most frequently reported disease at both public and private health facilities in Uganda. Malaria transmission from 42% in 2009 to 9% in 2018. Despite this, in 2021, Uganda had the third-highest global burden of malaria cases (5.1%) and the seventh-highest level of deaths (3.2%). It also had the highest proportion of malaria cases in East and Southern Africa at 23% in 2021. Malaria accounts for 27.9% of deaths among children under the age of five (MOH- NMCP, 2014-2020). This study aimed to assess the factors contributing to the prevalence of malaria among children under five years attending health care at Katabi Health Center III, Entebbe municipality.

Methodology.

Study design and rationale.

The study was quantitative, using the cross-sectional survey design because it allowed data to be collected on the prevalence of malaria and the contributing factors simultaneously at a particular point in time. The design was selected because it provided a realistic analysis of the information collected. It was easy and time-saving. It was cross-sectional since the respondents had varied characteristics (e.g., education level, sex, marital status, and religion, among others.

Study setting and rationale.

The study was conducted in Katabi Health Center III, a government-owned health unit located in Katabi town council in Entebbe municipality in Wakiso district in the central region of Uganda. Katabi is a suburb in Division A sub-county and 36.7km (26 miles) driving distance from the capital Kampala via Entebbe expressway and 53 minutes drive via the same route. Katabi Health Centre III is situated 1.2km off the main road and near the villages of Bunono, Manyago, Virus, and Busambaga. It has an elevation of 1,160 meters above sea level, a latitude of 005'2"N, longitude of 32028'10"E. Health Center III has various health care sections, including the outpatient department, laboratory department, maternal and child health, medical and surgical services, as well as other services like HIV/AIDS counseling services, youth-friendly services, and epidemic isolation points, among others.

Study population

The 2020 population projection for Katabi was 154,300 people with a population density of 1,928km2 with annual population changes of 6.7% on an area of 80.02km2. The catchment area of the health center included the villages of Bunono, Lunnyo, Nakiwogo, Manyago, Baita ababiri, Mpala, Kawuku, Kajansi, Buwaya, Kigungu, and Kalangala islands. The study population included caregivers with children under five years who attended Katabi Health Center III. Those that met the inclusion criteria were considered.

Sample size determination

The sample size was determined by using the Kish and Leslie (1965) formula,

N= z2p(1-p)

D2

Where; **N**= Sample size

z 1.96 (Statistic for the level of confidence)

D= 0.05 (Absolute precision of desired results)

P = 10.94% (Estimate prevalence of malaria in children below 5 years in Entebbe municipality (Sebuguzi CM et al., 2020))

N= (1.962)0.1094(1-0.1094)

(0.052)

N=149.65, thus, N=150

Sampling procedure.

Respondents were selected using simple random sampling. The list of children under five and their caregivers who presented to the health center every day for 3 weeks was considered, where the names and outpatient numbers were written on small pieces of paper and folded, placed in a

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box, and shaken, then the participants were asked to pick a paper without replacement to find out participants of that day. Clinicians clerked them, and those with signs and symptoms of malaria were sent to the laboratory for testing using MRDT and microscopy. The caregivers of the children sent to the laboratory were requested to participate in the study willingly until the sample size of 150 participants was reached. The number of children who tested positive was used to determine the prevalence of malaria among children under 5 years at the facility.

Inclusion criteria

Caregivers with children under the age of five who sought treatment at the health unit.
Children with suspected signs and symptoms of malaria.
Children who came with a fever of 38.00C and above.
Children with a history of anti-malaria drugs in the past two weeks.
Children whose guardians consented to participate in the study.

Definitions of variables

These included the dependent and independent variables.

Dependent variable

The prevalence of malaria among children under five years attending health care in Katabi Health Center III was the dependent variable.

Independent variables

Caregiver factors included the age of the caregiver, health-seeking behaviors, knowledge about the disease, education level, marital status, occupation, attitude, and practice. Environmental factors included drainage system, busy surroundings, garbage heaps, climate, and altitude. Household factors included the number of household members, type of house, socio-economic status, sleeping patterns, place of residence, and use of ITNs.

Research instruments

A structured questionnaire was used to collect data on social demographic data, caregivers' factors, environmental factors, and household factors. This was administered to eligible participants who were the parents or guardians of children under the age of five years who were interviewed. The tool comprised both open and closed-ended questions in the English language.

Data collection procedures

The questionnaires with closed and open-ended questions were used to collect quantitative data. The researcher explained to them the aim of the research, and those willing to participate had to consent. then clerked by the clinician who requested for blood smear for malaria microscopy or MRDT tests in the laboratory to screen the positives and negatives. Caregivers for the children were subjected to the test and then interviewed by the research assistants using the questionnaire that was provided. This was done daily, taking a sample frame of 08 participants for 3 weeks until the sample size of 150 respondents was interviewed. The procedure was carried out as they waited for the test results of their children from the laboratory. The questions were interpreted by the research assistants in the local language (Luganda) for those who could not read. The positive test results were used to determine the prevalence of malaria in children under the age of 5 years attending Katabi Health Center III. The prevalence was the number of children who tested positive over the total number of children engaged.

Data Management

The data that was generated was checked for completeness. The researcher administered questionnaires to the respondents, which were checked for completeness afterward and then were managed using Microsoft Word and Microsoft Excel. The data was analyzed, and the questionnaires were kept securely for future reference, which only authorized persons could access to ensure confidentiality.

Data analysis

After collecting data, it was edited, coded, classified, analyzed, and computed, and then presented in the form of tables, figures, charts, and graphs.

Results

Description of the sample.

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Table 1: Socio-demographic characteristics of 150 caregivers of children under the age of five years attending Katabi Health Center III, Entebbe Municipality.

Variable	Category	Frequency (150)	Percentage (%)
Gender	Female	92	61.3
	Male	58	38.7
Age	15-24	30	20.0
	25-34	56	37.3
	35-44	45	30.0
	≥45	19	12.7
Marital status	Married	71	47.3
	Separated/divorced	23	15.3
	Single	36	24.0
	Others	20	13.3
Level of education	No formal education	22	14.7
	Primary	49	32.7
	Secondary	55	36.6
	Tertiary	24	16.0
Religion	Moslem	18	12.0
	Catholic	93	62.0
	Anglican	30	20.0
	Others	09	06.0
Occupation	Civil servant	08	05.3
	Business man/woman	51	34.0
	Student	46	30.7
	Farmer	33	22.0
	Others	12	08.0

Table 1 shows that the Majority of the respondents were females 92, 61.3%), most were between ages 25 and 34 years, and married 71, 47.3%). Many had attained secondary education 55(36.6%) and within the catholic religion 93(62.0%) but most were businessmen/women 51(34.0%).

Figure 1: The Prevalence of malaria among 150 children under five years attending health care at Katabi health centre III as per laboratory results.

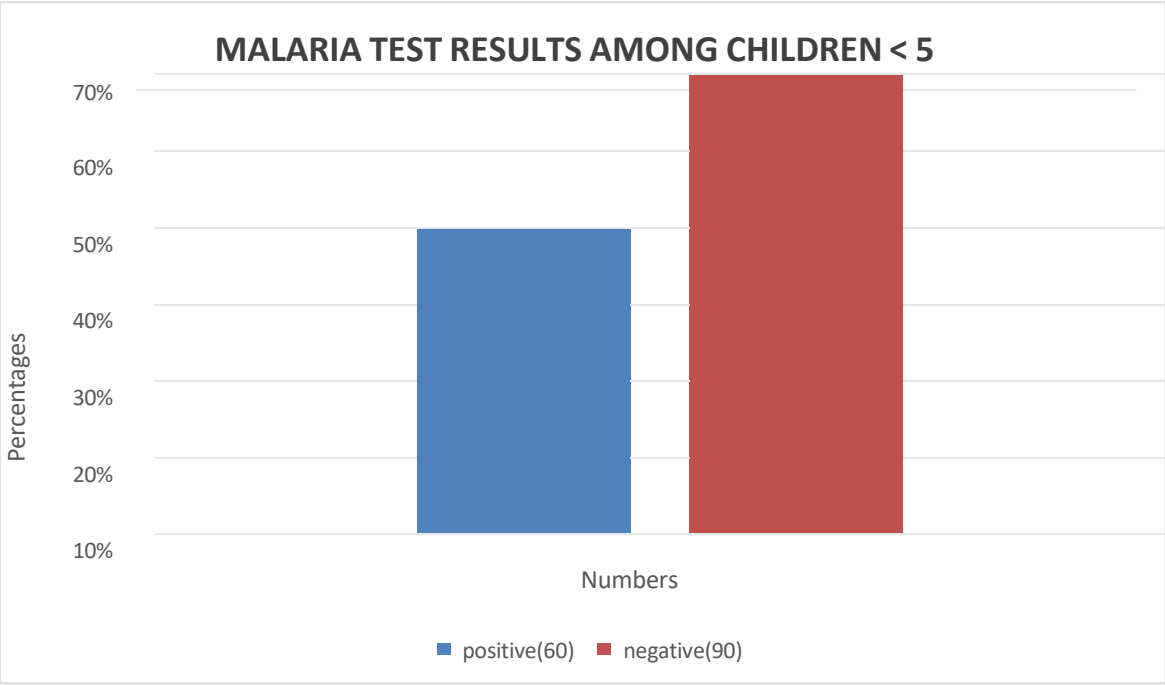

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Figure 1: A total of 150 children under 5 years who attended Katabi Health Center III coming from different locations of Entebbe town council were subjected to malaria diagnostic tests using mRDT as well as microscopy. 60(40%) tested positive and 90(60%) tested negative as shown in figure 1 above. Therefore, the prevalence of malaria was 60(40%).

Table 2: Association between the Socio-demographic data and the prevalence of malaria among children under five years attending Katabi Health Center III, Entebbe Municipality.

Variable	Category	Prevalence of malaria		Total	Chi-square (x^2)	P-value
		Positive (%)	Negative (%)			
Gender	Female	42(45.7)	50(54.3)	92	3.167	0.075
	Male	18(31.1)	40(68.9)	58		
Age	15-24	10(33.3)	20(66.7)	30	5.357	0.147
	25-34	29(51.8)	27(48.2)	56		
	35-44	14(31.1)	31(68.9)	45		
	≥45	07(36.8)	12(63.2))	19		
Marital status	Married	30(42.3)	41(57.7)	71	3.071	0.381
	Divorced	12(52.2)	11(47.8)	23		
	Single	12(33.3)	24(66.7)	36		
	Others	06(30.0)	14(70.0)	20		
Level 0f education	None	13(59.1)	09(40.9)	22	13.405	**0.004**
	Primary	26(53.1)	23(46.9)	49		
	Secondary	13(23.6)	42(76.4)	55		
	Tertiary	08(33.3)	16(66.7)	24		
Religion	Moslem	09(50.0)	09(50.0)	18	9.963	**0.019**
	Catholic	29(31.2)	64(68.8)	93		
	Anglican	14(46.7)	16(53.3)	30		
	Others	08(88.8)	01(11.2)	09		
Occupation	Civil servant	04(50.0)	04(50.0)	08	6.953	0.138
	Business man/woman	27(52.9)	24(47.1)	51		
	Student	14(30.4)	32(69.6)	46		
	Farmer	10(30.3)	23(69.7)	33		
	Others	05(41.7)	07(58.3)	12		

Table 2 shows that Caregiver demographic factors, education level (x^2=13.405, p=0.004), and religion (x^2=9.963, p=0.019) showed a significant relationship with the prevalence of malaria among children under five years. However, other factors were not significantly associated with malaria prevalence, as shown in table 2 above.

Table 3: Environmental factors contributing to the prevalence of malaria among 150 children under five years attending health care at Katabi health centre III, Entebbe municipality.

Variable	Prevalence of malaria		Total	Chi-square (x^2)	P- value
	Positive (%)	Negative (%)			
Do you have a good drainage system at home? Yes	19(27.1)	51(72.9)	70	9.040	**0.003**
No	41(51.3)	39(48.7)	80		
Do you drain stagnant water around your home? Yes	22(23.7)	71(76.3)	93	27.240	1.797
No	38(66.7)	19(33.3)	57		
Is there a bush around home?	28(46.7)	32(53.3)	60	1.852	0.174

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Yes					
No	32(35.6)	58(64.4)	90		
Do you often clear bush around home? Yes	33(33.7)	65(66.3)	98	4.714	**0.029**
No	27(51.9)	25(48.1)	52		
Do you have garbage heaps around your home? Yes	50(53.2)	44(46.8)	94	18.256	1.931
No	10(17.9)	46(82.1)	56		
Where is your place of residence? Near swamp	28(58.3)	20(41.7)	48	9.886	**0.002**
Not close to swamp	32(31.4)	70(68.6)	102		
What is the altitude at home? Low	39(55.7)	31(44.3)	70	13.504	**0.0002**
High	21(26.2)	59(73.8)	80		

Table 3: shows the prevalence of malaria among children below five years was dependent on whether there was good drainage system around home (x2=9.040, p=0.003), often cleared bush around their homes (x2=4.714, p=0.029), place of residence if near swamp or not (x2=9.886, p=0.002) as well as the altitude at home whether low or high (x2=13.504, p=0.0002) as indicated in the table above. Caregiver factors contributing to malaria prevalence among 150 children under five years attending Katabi Health Centre III.

Table 4: Shows Caregiver factors contributing to the prevalence of malaria among 150 children under five years attending health care at Katabi health center III, Entebbe Municipality.

Variable	**Prevalence of malaria**		**Total**	**Chi-square (x^2)**	**P-value**
	Positive (%)	**Negative (%)**			
Have you ever heard of malaria? Yes	46(37.7)	76(62.3)	122	1.434	0.231
No	14(50.0)	14(50.0)	28		
Do you know how malaria is spread? Yes	34(35.8)	61(64.2)	95	1.914	0.167
No	26(47.3)	29(52.7)	55		
Do you take your child to the health facility if sick? Yes	19(27.1)	51(72.9)	70	9,040	**0.003**
No	41(51.3)	39(48.7)	80		
How does malaria present? High temperature	37(44.1)	47(55.9)	84	1.597	0.660
Loss of appetite	12(37.5)	20(62.5)	32		
General body weakness	06(30.0)	14(70.0)	20		
Others	05(35.7)	09(64.3)	14		
How do you prevent mosquito bites? Sleeping under bed nets	21(35.0)	39(65.0)	60	10.155	**0.017**
Wearing long sleeved clothes	09(60.0)	06(40.0)	15		
Spraying with insecticides	22(53.7)	19(46.3)	41		
Others	08(23.5)	26(76.5)	34		
When do mosquitoes bite?	11(30.6)	25(69.4)	36	3.845	0.146

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Day					
Night	40(40.4)	59(59.6)	99		
Others	09(60.0)	06(40.0)	15		
How soon do you seek malaria treatment? 1day	06(33.3)	12(66.7)	18	1.566	0.667
2-3 days	10(41.7)	14(58.3)	24		
4-6 days	38(43.2)	50(56.8)	88		
7 days	06(30.0)	14(70.0)	20		
Was your child given an anti-malarial drug? yes	40(75.5)	13(24.5)	53	42.968	5.563
no	20(20.6)	77(79.4)	97		

Table 4: Caregivers taking their children to the health facility if sick (x2=9.040, p=0.003) and how to prevent mosquito bites (x2=10.155, p=0.017) were factors significantly associated with the prevalence of malaria among children under five years. Other factors were not significantly associated with malaria prevalence.

Table 5: Shows the household factors contributing to the prevalence of malaria among 150 children attending health care at Katabi Health Center III, Entebbe municipality

Variable	Prevalence of malaria		Total	Chi-square (x^2)	P-value
	Positive (%)	Negative (%)			
What is the type of your home? permanent	24(28.2)	61(71.8)	85	11.866	**0.003**
Semi-permanent	30(53.6)	26(46.4)	56		
others	06(66.7)	03(33.3)	09		
How many people are living in your household? ≤ 6people	41(37.9)	67(62.1)	108	0.667	0.414
> 6people	19(45.2)	23(54.8)	42		
Do you sleep under bed nets? Yes	27(37.5)	45(62.5)	72	1.361	0.548
No	33	45(57.7)	78		
Did you receive free bed nets from the government? Yes	25(34.8)	43(65.2)	66	1.303	0.254
No	37(44.1)	47(55.9)	78		
Did you just buy bed nets for the family bed nets? Yes	22(43.1)	29(56.9)	51	0.317	0.573
no	38(38.4)	61(61.6)	99		
What is the main source of light used? electricity	21(25.0)	63(75.0)	84	18.016	**0.0001**
Paraffin lamp	20(57.1)	15(42.9)	35		
Others	19(61.3)	12(38.7)	31		
At what time do children below 5 years go to bed? 6-7pm	09(23.1)	30(76,9)	39	6.314	**0.041**

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8-9pm	35(45.5)	42(54.5)	77		
10pm-above	16(47.1)	18(52.9)	34		

Table 5: The prevalence of malaria among children under five years varied significantly with the type of house (x2=11.866, p=0.003), the main source of light used in the house (x2=18.016, p=0.0001) and the time children below 5years went to bed (x2= 6.314, p=0.041) as shown above

Discussion of results.

Environmental factors contribute to the prevalence of malaria among children under five years.

Having a bad drainage system (51.3%), not clearing bush around homes (51.9%), and place of residence being near a swamp (58.3%) with altitude being low (55.7%) were environmental factors that played a significant association with malaria prevalence among children under five years. This is attributed to most of the caregivers renting homes with a poor drainage system and the failure to clear the bush around simply because the plots that have the bush do not belong to these people yet the owners don't emphasize clearing the bush in these plots. Entebbe being close to water bodies and swamps and at a low altitude plays out more favorable breeding sites for mosquitoes. These findings concur with the study conducted in Ethiopia which reported that children who lived around stagnant water at a lower altitude with a bushy environment were 2.01 times more likely to have malaria infection than those who lived beyond 2km away from stagnant waters at a higher altitude with no bush around them (Abdishu M et al, 2022). Additionally, the findings of this study were in line with those conducted in Artisanal mining communities in Ghana which reported that residing close to stagnant water/swampy areas of low altitude from an Artisanal mining site was statistically significantly associated with the prevalence of malaria (Dao.F. et al, 2021).

Caregiver factors contribute to the prevalence of malaria among children under five years.

The current study results showed that caregivers who had less knowledge on how to prevent mosquito bites had reduced odds of preventing their children from malaria infection as compared with those who knew about prevention of mosquito bites especially sleeping under bed nets and spraying with insecticides. This means that for those with less knowledge, their children are less likely to sleep under bed nets and other measures will less likely be undertaken thus increasing chances of getting malaria infection. Most caregivers did not find it imperative to take their children to the health facility when sick (51.3%) with the view that they lacked the money to buy drugs because even when they took them to the health center they would be required to buy as in the facility is always out of stock of drugs. These findings are in line with the results of other studies that have documented that the perceived response efficacy (people's beliefs about the effectiveness of malaria preventive measures) influences the consistent use of measures. For example, Asingizwe et al indicated that the perceived response efficacy of the use of bed nets, IRS, and visiting health units when sick remains important reasons because they positively influence the intention for consistent use in malaria prevention (Asingizwe et al, 2019).

Household factors contributing to malaria prevalence among children under five years.

In this study, malaria prevalence in the under-fives varied significantly over the main sources of light used in the households and the type of houses stayed in as presented earlier in the results. This probably was due to the failure of the caregivers to utilize the preventive measures available with a misconception that mosquitoes don't bite when there is light and they do bite in the dark. This is contrary to the study done in Uganda where children in households without electricity and with semi-permanent houses were more than 1.5times more likely to have malaria than those children in households with electricity (OR 1.756, 95%, Cl 1.072-2.877) (Danielle et al, 2016). Caregivers should be encouraged to use preventive measures despite the type of house and source of light used in their households and should ensure that children sleep under bed nets regardless of the availability of the light source in the household.

Conclusion

The study found that malaria infection was highly prevalent among children under five years at Katabi Health Center III in Entebbe municipality at 40%. The caregiver's education level, religion, ability to clear bush around homes, living near swamps at a low altitude, seeking health care when the child is sick, knowing how to prevent mosquito bites, the type of house as well as the source of light used had statistically significant relationships with malaria prevalence.

Recommendation

Since the study was done in one area, MOH should facilitate more studies to be carried out in different areas and regions of the country to reduce the high prevalence of malaria in the country.

Efforts should be put into these caregivers by the health workers and village health teams (VHTs) to know and understand more about malaria and the nitty-gritty that contributes to the high prevalence of malaria.

The municipal administrators should find ways to address the issue of plots that are covered with thick bushes and yet

they are near people's residences. They should encourage the plot owners to either develop their plots or always keep them free from the bush and also create a good surveillance system on residential houses that have poor drainage systems and encourage the owners of such buildings to put in place measures to ensure good drainage.

The government should at least reduce the cost of electricity generation into people's houses as well as find means of reducing the unit costs of electricity to make it easily affordable as this source of light will help reduce malaria as it played out as a significant factor contributing to malaria prevalence in the under-fives.

Acknowledgment.

It has not been an easy task to come out with this report, numerous consultations from colleagues, and constructive guidance from my supervisors amidst challenges.

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List of abbreviations.

CDC : Centers for Disease control and prevention.
COVID-19: Corona Virus Disease-2019.
HIV/AIDS: Human Immune Virus/Acquired Immunodeficiency Syndrome.
HMIS : Health Management Information System.
IRS : Indoor Residual Spraying.
ITNs : insecticide-treated Treated Nets.
Km : Kilometer.
LCs : Local Councils.
LLINS: Long-Lasting Insecticide Nets.
MIS : Malaria Indicator Survey.
MOH : Ministry of Health.
MRDT : Malaria Rapid Diagnostic Test.
NMCP : National Malaria Control Program.
NMCS : National Malaria Control Strategy.
OPD : Outpatient Department.
PCR : Polymerase Chain Reaction.
VHTs : Village Health Teams.
UNICEF: United Nations International Children's Emergency Fund.
WHO : World Health Organization.

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The authors declare no conflict of interest.

Availability of data.

Data used in this study is available upon request from the corresponding author.

Authors contribution

KCA designed the study, conducted data collection, cleaned and analyzed data, and drafted the manuscript, HM supervised all stages of the study from conceptualization of the topic to manuscript writing and submission, and HN & JFN supported in study conceptualization general supervision and mentorship.

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References.

1. Abdishu.M, Gobena.T, Darrena.M, Abdi. H, Birhanu A.J.P.H, Medicine &Therapeutics (2022). Determinants of Malaria Morbidity Among school-aged children living in East Haraghe Zone, Oromia, Ethiopia: A Community-Based Case- Control study.13,183. https://doi.org/10.2147/PHMT.S347621
2. Asingizwe.D, Poortvliet. P, M-Koenraadt, C.J.Van Vliet, J.Ingabire, et al,(2019): Role of individual perceptions in the consistent use of malaria preventive measure: mixed methods evidence from rural Rwanda. Malaria journal,18(1),1-19. https://doi.org/10.1186/s12936-019-2904-x
3. Danielle Roberts and Glenda Mathews, (2020): malaria prevalence and risk factors among children under the age of five years in Uganda.
4. Dao. F, Djonor S.K, Ayin C.T-M, Adu G.A, Sarto. B, Nortey, p……vectors. (2021). The burden of malaria in children under five and caregivers' health-seeking behavior for malaria-

related symptoms in artisanal mining communities in Ghana. 14(1), 1- 11. https://doi.org/10.1186/s13071-021-04919-8

5. Kish and Leslie, (1965); Sampling organizations and groups of unequal sizes, American Sociological Review 20,564-572. (https://www150.statcan.gc.ca). https://doi.org/10.2307/2091346
6. Malaria fact sheets, 2023, extracted from www.who.int/newsroom/factsheets/detail/malria).
7. Malaria facts, (2022): Impact of severe malaria in the African region.
8. WHO, (2016): Severe falciparum malaria, communicable disease cluster transmission, tropical medicine and hygiene 94.
9. WHO, (2023): Regional office for Africa; malaria strategy. WHO; (2021): malaria endemicity and the geographical traits.
10. William N Bennett, Micheal Stuart Bronze, (2023): Malaria : practice essentials, background, etiology, from http;//www.edicine.medscape.com/article/221134 -overview.

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