HUNGER, MOSQUITO NET OWNERSHIP AND PREVENTION OF MALARIA AMONG RURAL DWELLERS IN AYEGBAJU-EKITI, NIGERIA

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Abstract

Malaria remains a non-negligible cause of morbidity and mortality in Nigeria, despite the existence of effective prevention and control technologies. According to the World Health Organization, the use of mosquito nets can reduce malaria transmission up to 90%. In spite of the current efforts to provide free mosquito nets to vulnerable groups as part of the attainment of the Sustainable Development Goal, it is confirmed that net ownership does not always translate to use. Thus, this study examines hunger, mosquito net ownership, and prevention of malaria among rural dwellers in Ayegbaju-Ekiti, Nigeria. Data for the study were generated through the administration of 400 structured questionnaires to rural dwellers in Ayegbaju-Ekiti, and in-depth interviews (IDIs) involving 16 (8 men and women) participants. The study results revealed that the majority (56.5%) of the respondents did not own mosquito nets because their focus was channelled towards combating hunger and not on owning mosquito nets. Also, 72% of respondents strongly believed that mosquito nets are expensive and generate heat. Furthermore, malaria preventive strategies by rural dwellers were identified to be: wearing long clothing to cover your skin, promotion of insecticide-treated mosquito nets, closing the doors and windows at evening time, spraying the house with insecticide, and applying mosquito repellent cream. The study recommends that there should be comprehensive

educational campaigns in indigenous languages to improve knowledge and understanding of malaria transmission, and the importance of using mosquito nets.

Keywords: Bed net, insecticide, ownership, rural household, hunger

Introduction

Malaria is classified as a parasitic illness due to its causation by a parasite that relies on its hosts, namely people and mosquitoes, for survival and reproduction (Sato, 2021). According to the World Health Organization (WHO, 2020), the Plasmodium parasite causes malaria, an acute fever disease that human's contract through the bites of infected female Anopheles mosquitoes. An estimated 216 million cases of malaria were reported worldwide in 2021, leading to 655,000 fatalities. In that year, 86% of malaria deaths worldwide were in children under five, whereas 91% of the malaria burden was in Africa (Ndezure et al., 2024). Additionally, it was reported that every year in Africa, over 30 million pregnancies are at risk and around 300,000 children die away from malaria (Olowe et al., 2021). According to Dasgupta et al. (2022), malaria continues to be Nigeria's most significant health issue, contributing to 25% of newborn mortality, 30% of death for children under five, and 11% of mortality for mothers. At least 50% of the population had one malaria episode year between 2015 and 2020, while children under the age of five experienced two to four episodes (Aliyo et al., 2024).

One of the key metrics in the national malaria strategic plans for 2014–2020 is the usage of mosquito nets by vulnerable populations in highly endemic districts (Runge et al., 2020). A mosquito net is a physical barrier consisting of mesh cloth that is intended to keep mosquitoes away from people during their rest or sleep. In order to protect against mosquito-borne illnesses including dengue fever, malaria, the Zika virus, and others, mosquito nets are often used (Okumu, 2020). A mosquito net's main function is to provide a barrier of protection between the sleeper and the insects, obstructing their path and keeping the bites at bay. Generally, mosquito nets are composed of a fine mesh material with holes that are too tiny for mosquitoes to get through (Dieke, 2022). According to Okumu (2020), using a

mosquito net may cut the spread of malaria by up to 90%. Because the majority of malaria-transmitting mosquitoes in Africa prefer to eat inside, using mosquito nets to control malaria is quite efficient (Mponzi et al., 2021). Also, according to Adeoye (2015), studies over the years reveal that non-utilization of heath care services is higher in rural areas than in urban areas. Levels of education, caste, affordability (asset-holding) and culture were factors which determined the utilization pattern. The manufacturing of mosquito nets has improved as a result of the realisation of their usefulness against malaria. A total of 289 million mosquito nets were sent to sub-Saharan Africa between 2018 and 2023, which is sufficient to cover 76% of the 765 million people who are in danger (Lindsay, 2021).

Nonetheless, Nigeria's use of mosquito nets falls short of international standards (UN, 2021). Despite the development of efficient technology, the burden of malaria and its prevention and management persist (Patel et al., 2023). Only 17% of Nigerian homes, according to Ujuju (2022), have a mosquito net. Eight percent of the parents possess at least one mosquito net, and three percent own many nets. However, the typical home in Nigeria has fewer than one mosquito net, indicating that a large majority of families are not adequately covered by ITN use. However, it has been shown that possession of a net does not necessarily equate to usage, since variables like low mosquito activity and high nighttime temperatures may cut use down to as little as 20% (Fyie et al., 2021).

However, the use of mosquito nets is still restricted in rural areas due to a number of factors, including their high cost and lack of availability, as well as the unease they cause and the women's concern over the potential effects of the chemicals they are carrying on their unborn children (Doe et al., 2024). It is unknown how many people in rural regions have access to and use mosquito nets as a preventative strategy, despite the fact that they have been shown to be successful in stopping the spread of malaria (Onwujekwe et al., 2020). The purpose of the research is to evaluate the accessibility of mosquito nets for people living in rural areas by looking at mosquito net availability, distribution, utilisation, knowledge, and obstacles. By carrying out this study, scientists want to collect information that will enable them to pinpoint areas where mosquito net accessibility is lacking and create

focused interventions that would enhance malaria preventive tactics in rural areas.

Ownership and Utilization of Mosquito Nets in Rural Nigeria

In Nigeria, malaria poses a serious threat to public health, especially in rural regions where long-lasting insecticidal nets (LLINs) and insecticide-treated nets (ITNs) are essential tools for preventing the spread of the disease. An overview of current research on mosquito net ownership and use in rural Nigeria is given in this review, with an emphasis on the obstacles and variables affecting this use.

Who Owns the Mosquito Nets?

Due in large part to mass distribution initiatives started by the Nigerian government and foreign donors like the Global Fund and the President's Malaria Initiative, the ownership of mosquito nets has grown in rural Nigeria (Adebayo et al., 2022). The most vulnerable groups, pregnant women and children under five, have been the focus of these efforts in particular. ITN ownership has increased significantly for rural families, with ownership rates ranging from 55% to 75% in certain areas, according to data from the Nigerian Demographic and Health Survey (NDHS) (Eze et al., 2023).

However, gaps in ownership continue despite attempts to broaden access, especially in isolated or difficult-to-reach places. Geographical location, socioeconomic background, and educational attainment all have a big impact on the chance of net ownership. Even in rural areas, families with greater socioeconomic position are more likely than poorer households to possess ITNs (Bello & Yusuf, 2021). Furthermore, net ownership declines in families who depend on sporadic government distribution initiatives (Okeke et al., 2023).

Utilization of Mosquito Nets

Although there has been an improvement in ownership, using mosquito nets is still difficult. Many ITNs are not used appropriately or consistently, even in homes where they are owned. According to recent research, approximately 60–70% of families in rural Nigeria who have access to ITNs report using them consistently, especially during the rainy season when malaria transmission is highest

(Abdullahi et al., 2023). There are many causes that lead to this disparity between ownership and utilisation:

Cultural customs and myths: In many rural areas, there exist myths about the efficacy of insect repellents (ITNs), and some people think that other environmental or spiritual factors—rather than mosquito bites—cause malaria (Ogunleye et al., 2022). Even when the nets are accessible, there is now less incentive to utilise them as a result.

Heat and Discomfort: Many people complain that sleeping under ITNs is uncomfortable, especially because of the heat trapped under the nets, which is made worse by Nigeria's hot and muggy weather (Omotayo & Aina, 2022). This is a major disincentive to frequent use, especially in areas where the year-round high temperatures prevail.

Prioritization of Vulnerable Groups: According to health interventions, pregnant women and children under five years old should utilise ITNs. This reduces the efficiency of malaria control in households overall by leaving additional family members vulnerable (Adebayo et al., 2022).

Obstacles to Utilisation and Ownership

In rural Nigeria, a number of obstacles prevent ITNs from being effectively owned and used. These include:

Poverty/Hunger: Even if a lot of nets are given out for free, some families still have trouble getting them because they live far from distribution locations or because they don't know when the programs are scheduled to take place. ITNs are too expensive for those who need to buy them, particularly in areas with inadequate subsidies (Ogunleye et al., 2022).

Distribution Challenges: One major obstacle to the widespread use of ITNs in rural places is the persistence of logistical challenges. It is challenging for health organisations to provide regular access to mosquito nets because to poor infrastructure, especially in remote and difficult-to-reach locations (Eze et al., 2023). Gaps in coverage are also

caused by recurring stock-outs and the dependence on mass distribution efforts.

Gender Dynamics: The distribution and use of ITNs may be impacted by gender roles and decision-making within homes. Men are often the main decision-makers in rural Nigerian communities when it comes to family resources, which might make it difficult for women to guarantee regular net usage for themselves or their kids (Bello & Yusuf, 2021).

Measures to Enhance Utilisation

Researchers have suggested a number of measures to promote ITN ownership and use in rural Nigeria in order to remove these barriers:

Community-Based Education and Sensitisation: Health professionals and local leaders have been involved in public health initiatives that have been effective in raising awareness about malaria and the value of utilising ITNs. These initiatives support behaviour modification and work to dispel cultural stereotypes (Abdullahi et al., 2023).

Better Distribution Mechanisms: One way to reduce the ownership gap is to make sure that ITNs are regularly distributed via campaigns as opposed to depending on sporadic mass distribution attempts. Better access would also be ensured by establishing distribution locations within nearby communities and enhancing the transport network (Eze et al., 2023).

Monitoring and Evaluation: For long-term malaria prevention, it is essential to regularly monitor the use of ITNs and conduct focused follow-ups with families to make sure the nets are being correctly maintained and replaced when torn (Okeke et al., 2023).

Theoretical Framework

The research employed the diffusion of innovations theory, proposed by Everett Rogers (1994), as a theoretical framework. The

theory describes how new ideas, goods, or technology spread and are embraced within a community or social group. It studies the process by which innovations are conveyed, adopted, and incorporated into the social fabric. The idea underlines the relevance of communication routes, social networks, and individual traits in the diffusion process. Going by the concept of diffusion of innovation theory, accessibility of mosquito nets among rural inhabitants would be better appreciated. This theory by Everett Rogers investigated how new ideas, technology, or inventions might be diffused and embraced inside a community or social group.

In the case of mosquito nets in rural regions, the diffusion of innovations theory argues that the accessibility of mosquito nets will rely on how efficiently they are accepted and spread throughout the community. According to this hypothesis, the acceptance of an invention is impacted by five main factors:

Relative advantage: The perceived advantages of mosquito nets over other mosquito control techniques will be a major factor in deciding how widely available they are. If rural residents are more likely to use mosquito nets if they believe they are very successful in preventing illnesses like malaria spread by mosquitoes.

Compatibility: The extent to which mosquito nets are compatible with the existing beliefs, values, and practices of rural dwellers will affect their accessibility. If the use of mosquito nets aligns with the cultural norms and practices of the community, it will be more readily adopted.

Complexity: The complexity involved in acquiring, using, and maintaining mosquito nets can impact their accessibility. If obtaining and using mosquito nets is perceived as straightforward and manageable, rural dwellers are more likely to adopt them.

Trial ability: The ability to try mosquito nets on a small scale before committing to their widespread use can influence accessibility. If rural dwellers have the opportunity to test mosquito nets and experience their benefits firsthand, their likelihood of adopting them can increase.

Observability: The degree to which the use of mosquito nets is visible to others within the community can affect their accessibility. If rural dwellers can observe their peers using mosquito nets and witness the positive outcomes, it can serve as social proof and encourage adoption.

Social networks: The influence of social networks and interpersonal communication is crucial in the diffusion of innovations. Influential individuals within the community, such as community leaders or respected members, endorse and promote the use of mosquito nets, which can have a significant impact on their accessibility.

These factors interact with each other, and the rate at which rural dwellers adopt and access mosquito nets will depend on their combined influence. Understanding these sociological dynamics can help policymakers, NGOs, and other stakeholders design effective strategies to enhance the accessibility of mosquito nets in rural areas.

Research Methodology

The study was conducted in the rural community of Ayegbaju Ekiti, Ekiti-State. Nigeria. The study population includes individuals who reside in the rural areas of Ayegbaju Ekiti, aged 18 years and above. Sample size of 400 was calculated using Yaro Yamane's (1967) formula from Ayegbaju's available estimated population size of 18,619 (NPC, 2006). A multi-stage sampling method was used to select a representative sample of rural households in Ayegbaju Ekiti. Ayegbaju was stratified into 4 strata, in which 25 households were purposefully selected, adding up to 100 households. In each of the selected households, 4 persons who were 18 years and older were selected using purposive sampling techniques, which make up the sample size of 400 respondents. Questionnaires were administered to 400 respondents, residents of Ayegbaju Ekiti, with the assistance of 2 research assistants who are fluent in the Ekiti dialect and know the territory of the Ayegbaju community. For qualitative data, 16 sessions of in-depth interviews (IDI) were conducted. In each of the 4 stratified parts of Ayegbaju, 4 persons (2 men and 2 women for even distribution) basically married were purposefully selected, which make up 16 sessions of IDI. The researcher believed that married people would be able to provide adequate information on the use of mosquito nets for their families/households because it is applicable to each of them (Brooks, 2017). Statistical package for social sciences (SPSS) was used to analyse quantitative data, while qualitative data were taped and content analysed.

Table 1: Socio-Demographic Characteristics of Respondents

Age Bracket	**Frequency**	**Percentage**
< 20 – 30 Years	68	17.0
31 – 40 Years	136	34.0
41 – 50 Years	72	17.5
51 years and above	126	31.5
Sex		
Male	192	48
Female	208	52
Religion		
Christianity	297	74.25
Muslim	34	8.5
Traditional worshiper	69	17.25
Marital Status		
Single	134	33.5
Married	266	66.5
Occupation		
Civil Servant	16	4.0
Trader	118	29.5
Farmer	228	57.0
Unemployed/Students	38	9.5
Ethnicity		
Yoruba	372	93.0
Igbo	20	5.0
Hausa/Fulani	08	2.0
Level of Education		
No Formal Education	128	32.0
Primary Education	146	36.5
Secondary Education	94	23.5
Tertiary	32	8.0

(Source: Field Survey, 2024)

Table 1 above revealed the findings of the socio-demographic characteristics of the respondents. In respect to age, the majority (34.0%) were between 31-40 years old, followed by the percentage of respondents age 50 and above with 31.0%. This can be related to the fact that the research is being carried out in the village and the majority are mature people, which is a plus to the study and gives assurance of

accurate and adequate information. 52.0% of the respondents were female were male are 48%. 74.3% of the respondents were of the Christian religion, followed by 17.3% that were of the traditional religion. This is due to the fact that Ekiti is dominated by Christianity. The majority (66.5%) of the respondents were married, which made them give adequate information on the subject of mosquito net usage for their family/household. 57.0% of the respondents were farmers, followed by 29.5% who are traders/artisans. This is related to the fact that the study has been carried out in the rural area. Ayegbaju is a rural part of Ekiti State, which is a Yoruba land that is the reason for the majority (93%) to be a Yoruba. 36.5% and 23.5% of the respondents had primary and secondary school education, respectively. This shows that the majority of respondents have at least basic education that can help them communicate in clear terms.

Table 2: Ownership of Mosquito Net among Residents

Do you have mosquito net	**Frequency**	**Percentage%**
Yes	156	39.0
No	226	56.5
Undecided	18	4.5
Where did you obtain you mosquito net from		
Received it for free from a health campaign	64	41.0
Purchased it from a local market or shop	53	34.0
Received it as a gift	39	25.0

(Source: Field Survey, 2024)

Table 2 revealed whether the respondents have a mosquito net or not. From the findings, the majority (56.5%) of the respondents indicated not having a mosquito net. Even though quiet a number (39.0%) did have. This shows that there is still more to do in ensuring that every family has at least one mosquito net. Out of 156 (39.0%) respondents that indicated they have mosquito nets, it is still a concern that 34.5% and 25.2% that own mosquito nets purchased it, and others received it as a gift. In line with the findings in one of the IDI sessions, a respondent said:

> Even if I like to use mosquito net when they did not share the thing reach me, will I use the money that I will use to buy food for my family to buy mosquito net? I know God will not forgive me if I do that. (Ayegbaju resident, Female, 48year old)

This implies that though effort has been made in campaign and distribution of mosquito net in the study area, there is still need to improve access and usage of this malaria prevention tool among this surveyed population.

Table 3 Distribution of Respondents on How is Malaria being Transmitted

Statements	SA	A	U	D	SD
Through Mosquito bite	42.5%	27.5%	19.0%	8.5%	2.5%
Through much stress	48.5%	31.5%	4.0%	12.5%	3.5%
Through dirty environment	46.5%	31.5%	5.5%	9.0%	7.5%
Through food and water	39.5%	38.5%	9.5%	10.0%	2.5%
When many people sleep in a room	20.5%	23.5%	6.0%	30.0%	20.0%
The parasite for malaria is in the blood	45.5%	28.5%	12.0%	10.0%	8.0%
All of the above	30.0%	25.5%	8.0%	24.5%	12.0%

(Source: Field Survey, 2024)

Table 3 above shows the level of knowledge of means of malaria transmission in the study area; the highest percentage, 48.5%, strongly agreed that malaria is gotten through stress, followed by those that strongly agreed that it is the dirt environment and parasites in the blood that cause malaria. The study's findings revealed poor knowledge of malaria transmission, which may affect the response to mosquito net use. In agreement with the findings in Table 3, in one of the IDI sessions, a respondent said:

> Iba (meaning malaria in Yoruba language) is not a new thing. If anybody work too much and for long time under the hot sun, he will have Iba (malaria). If he take dogoyaro leave with mango leave boil the them together with water drink and sleep very well, he will be okay (Rural dweller, Male, 56years old).

Table 4. Do you Consider the use of Mosquito Nets an Effective Way to Prevent Malaria?

Options	**Frequency**	**Percentage%**
Yes	169	42.0
No	164	41.0
Not Sure	67	17.0
Total	**400**	**100**

(Source: Field Survey, 2024)

Based on the results of the findings in Table 4, only 42% of respondents believed that the use of mosquito nets is an effective way to prevent malaria. The percentage (41%) of those that said no that the use of mosquito nets cannot prevent malaria and those that are not sure (17%) are more than half of the total percentage of the respondents. The findings show that the majority of the respondents did not believe in the use of mosquito nets to prevent malaria. One of the respondents during IDIs session said:

> With or without mosquito net, since the beginning of the earth people has been falling sick and been healed of Iba (Malaria). so, what is special and new in this introduction of mosquito net
> (Female, 62 years, Ayegbaju Ekiti).

Table 5. Distribution of Respondents by Attitude towards the Use of Mosquito Net?

Options	**Frequency**	**Percentage%**
I like Using Mosquito Net	228	57.0
I don't like using mosquito net	172	43.0
I can use mosquito net if it available	246	61.5
I can never use mosquito net	154	38.5

(Source: Field Survey,2024).

Table 5 revealed that 57% of the respondents like to use mosquito nets, and the majority (61%) of the respondents will like to use mosquito nets if they have any in their procession. This implies that if there is adequate free distribution of mosquito nets in the rural areas, it will improve the percentage of utilisation of the nets. On the other hand, it is worrisome to see up to 43% that did not like to use mosquito nets and 38.5% that vowed never to use mosquito nets.

Table 6: Distribution of Respondents on the Prevention of Malaria

Options	SA	A	U	D	SD
Wear long clothing to cover your skin.	72%	11.5%	0.0%	8.5%	8.0%
promotion of insecticide-treated mosquito nets	24%	31%	6.0%	23.0%	16.0%
Closing the doors and windows at evening time	64.5%	22.0%	4.0%	4.0%	6.0%
Spraying the house with insecticide	49.5%	13.0%	3.5%	14.0%	20 %
Applying mosquito repellent cream	20.5%	17.5%	2.0%	34.0%	26.0%
Using broom to kill the mosquito	63.5%	16.5%	1.0%	10.0%	9.5%
Putting on the fan in my room when there is light	32.5%	24.0%	2.0%	20.0%	21.0%

(Source: Field Survey, 2024).

From table 6 above, the percentage of those that majority strongly agreed (72%) that wearing of long clothing to cover their skin is best for the prevention of malaria, followed by 65% who accented to closing the doors and windows at evening time, followed closely by, 64% who strongly agreed that using broom to kill the mosquito, followed by 50% that strongly agreed to spraying the house with insecticide. Moreso, 33% strongly agreed to putting on the fan in my room when there is light. 24% subscribed to promotion of insecticide-treated mosquito nets. However, 26% strongly disagreed to the application of mosquito

repellent cream. It could be deduced from the above that rural dwellers prefer home sourced prevention mechanism to prevent malaria which are usually ineffective compared to other sustainable prevention mechanism which entails financial commitment which is presumed that the rural dwellers might not be able to afford because of poverty.

Table 7: Barriers and Challenges Faced by Rural Dwellers in Accessing Mosquito Nets in Ayegbaju Ekiti

Statements	SA	A	U	SD	D
Lack of availability of mosquito nets in local markets/shops	68.5%	29.5.%	0.5%	0.5%	1.0%
It is too expensive	59.0%	37.5%	2.5%	0.5%	0.5%
Poor distribution channels for delivering mosquito nets to rural areas	55.5%	29.5%	5.5%	7.5%	1.0%
Lack of awareness/knowledge about the importance of using mosquito nets	52.0%	38.0%	6.5%	1.5%	2.0%
Cultural/traditional beliefs that discourage use of mosquito nets	43.0%	32.5%	16.0%	5.5%	3.0%
Difficulty in accessing mosquito net distribution points	53.5%	35.0%	-	5.5%	6.0%

(Source: Field Survey, 2024)

Table 7. is on the main barriers and challenges faced by rural dwellers in accessing mosquito nets in Ayegbaju Ekiti. The findings revealed that the majority of respondents (68.5%) strongly agreed that the hunger in the land has made it herculean for rural dwellers to access and utilize mosquito nets as many are struggling to survive. This is corroborated by the research conducted by Adeoye et al, (2018) which found out that it has long been accepted that those that are at the lower down step of the socio-economic class in any society are far worse than those in higher socioeconomic class in the same society on a range measure as life expectancy, mental health, and health outcome in general. that the lack of availability of mosquito nets in local markets/shops was a major barrier to accessing them. A substantial 59% of respondents strongly agreed that mosquito nets are too

expensive for rural areas. Also, 55% of respondents strongly agreed that poor distribution channels for delivering mosquito nets to rural areas were a significant challenge. More than half (52%) of respondents strongly agreed that lack of awareness/knowledge about the importance of using mosquito nets was a barrier. While 43% strongly agreed and 32.5% agreed that cultural/traditional beliefs discouraged use of mosquito nets. Over 53% strongly agreed, and 35% agreed that accessing mosquito net distribution points was difficult. In one of the IDI sessions, an interviewee said:

> It is really difficult for us here in the village to get mosquito nets. The markets and shops in our local area just don't seem to sell mosquito net, they prefer to sell food material that people would buy easily (Female, 45years)

Another interviewee said:

> "Buying of mosquito net, no be priority for now oooo na to escape hunger be the koko"

Discussion of Findings

The findings of the study on mosquito net utilisation and accessibility among rural dwellers in Ayegbaju Ekiti revealed that more than half (56.5%) of the respondents reported not having a mosquito net, and only 41% of those claimed to have gotten it free during the health campaign, while more than half of those that had the mosquito net bought it with and others got it through as a gift from friends and family. This may be responsible for low utilisation of mosquitoes among many rural dwellers, as many will not want to use their money to purchase mosquito nets. During the IDI session, a respondent said: *I can never use my money to buy any net, when I've not seen enough money to feed my children (Woman, 47years old).* Also, this finding may be responsible for the submission made by NDHS (2021) that only 17% of households in Nigeria own a mosquito net. The parentage that owns at least one mosquito net was 8%, while 3% own more than one mosquito net. Furthermore, the findings reveal that rural dwellers in the study area have very little knowledge of malaria transmission. 48.5% and 31.5% of the respondents strongly agreed and agreed that malaria is gotten through stress, 46.5% and 45.5

strongly agreed and agreed that the cause of malaria is the parasite in the blood, while others 30% and 25% agreed to many causes of malaria. Believe about the cause(s) of malaria will definitely affect the acceptance of prevention and treatment for malaria. The percentage of these that say no (41%) mosquito net is not effective, and those that are not sure (17%) are more than half of the respondents. The reasons for this are not far-fetched; it has a link with the belief about the causes of malaria. Though quite a few a few (43%) said they don't like using mosquito nets, the majority (61.5%) said they will love to use them if they are available. This implies that if there is free distribution of mosquito nets among rural dwellers, it will enhance their usage and reduce malaria transmission. Findings on the prevention of malaria revealed that majority strongly agreed (72%) that wearing of long clothing to cover their skin is best for the prevention of malaria, followed by 65% who accented to closing the doors and windows at evening time, followed closely by, 64% who strongly agreed that using broom to kill the mosquito, followed by 50% that strongly agreed to spraying the house with insecticide.

Moreso, 33% strongly agreed to putting on the fan in my room when there is light. 24% subscribed to promotion of insecticide-treated mosquito nets. However, 26% strongly disagreed to the application of mosquito repellent cream. This result supports the argument made in Ile-Ife by Erhun et al. (2005) that rural dwellers were unwilling to utilize insecticide treated bed nets. Perhaps the initial purchase cost. Lastly, regarding the main barriers and challenges faced by rural dwellers in accessing mosquito nets in Ayegbaju Ekiti, the findings revealed that the main barriers appear to be hunger in the land, been too expensive, poor distribution channels, and lack of awareness on the need for mosquito nets. The results are consistent with research conducted in Malawi by Ashton et al. (2024), which found that a significant obstacle to ownership and usage, particularly in rural regions, was the absence of mosquito nets in neighbourhood stores and marketplaces. In their evaluation of net distribution initiatives across sub-Saharan Africa, Koenker et al. (2023) found that one recurrent obstacle to reaching rural communities was insufficient supply and delivery networks.

Conclusion and Recommendations

The findings from the study revealed that a lot of rural dwellers did not own mosquito nets. Knowledge about causes of malaria and the importance of mosquito nets is very low. In addition, attitude towards mosquito net utilisation among rural dwellers in the study area is very poor, and there are a lot of stereotypes rooted in cultural belief about mosquito net. The main barriers and challenges faced by rural dwellers in accessing mosquito nets were identified to be lack of availability of mosquito nets, high cost, poor distribution channels, and lack of awareness on the need for mosquito nets.

Based on the findings, it is recommended that there should be comprehensive educational campaigns in indigenous languages to improve knowledge and understanding of malaria transmission, as well as the importance of using mosquito nets. Leverage various communication channels, including community outreach, media, and school-based programs, to reach a wider audience. The establishment of robust monitoring and evaluation systems to track mosquito net coverage, utilization, and effectiveness in reducing malaria incidence. Governments, NGOs, and other stakeholders should strengthen the supply chain and distribution channels to ensure consistent availability of mosquito nets, especially in rural areas. Government and non-governmental organizations should look into breaking the stronghold of hunger and poverty, especially in rural areas, by addressing the astronomical inflation and combating insecurity so as to increase food productivity.

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