



Public perceptions of radio messages on Malaria Preventive Measures among Rural Dwellers in Osun State

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Abstract

Malaria is a public health issue, and as such, there is a need for constant sensitisation of the populace by the media on the transmission, symptoms, health implications and treatment. Regardless, how the messages on malaria prevention are perceived could affect the adoption or otherwise of the measures. This paper examined public perception of radio messages on malaria measures among rural dwellers in Osun State. The study's objective is to examine how rural dwellers perceive the effectiveness of radio in educating them about malaria preventive measures and their attitude towards adopting the preventive measures. This study used a multiple-stage sampling technique to select 32 participants from Iwo and Ede South Local Government Areas. Findings showed that participants had a good perception of the radio to educate them about malaria preventive measures as they claimed exposure and adoption of the measures. Further findings revealed that participants were most familiar with using insecticide, treated mosquito nets, and anti-malaria drugs, while other measures received low responses. Based on the findings, the study concluded that the media needs to sensitise rural residents to the effectiveness of other measures to achieve the desired change in health behaviour. The study recommended that the radio be considered an effective communication channel for sensitising rural residents on public health issues.

Keywords: Public perception, Radio messages, Adoption, Malaria, Preventive measures, Rural Dwellers



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Introduction

The World Health Organisation commemorates World Malaria Day yearly to sensitise people on preventing malaria. The 2024 World Malaria Day had the theme "accelerating the fight against malaria for a more equitable world". Many (2023) reveals that the Government of Nigeria allocated N2.04 trillion towards malaria prevention and treatment, with 55% of the recurrent health budget dedicated to malaria treatment. During the commemoration of the 2023 World Malaria Day in Osun State, Dr Olufemi Ologe, the Programme Manager of the Osun State Malaria Elimination Control, highlights that Nigeria accounts for 31.3% of global malaria deaths and leads with approximately 27% of global cases (Ezediuno, 2023).

Furthermore, significant sums of money are spent annually in Osun State to develop malaria prevention messages, particularly on the radio (Ezediuno, 2023). According to Ezediuno (2023), these messages aim to provide people with accurate information about malaria disease and preventive measures and encourage them to adopt new health behaviours. According to Bamigbola (2023), the number of malaria cases in Osun has been around 1.4 million since 2014, with an anticipated 4.2 million cases prevented in the state between 2009 and 2023. According to Bamigbola (2023), the Permanent Secretary of the Federal Ministry of Health, Mr Olufunso Adebisi, met with Osun State Governor, Ademola Adeleke, in Osogbo in 2023 to discuss collaboration between the federal and state governments in the fight against malaria. Ezediuno (2023) also writes that Osun State Governor Ademola Adeleke has urged state people to work closely with the mosquito net distribution team in their respective communities to control malaria fever.

However, Ibidapo (2021), while researching the acceptance of malaria preventive messages in rural areas, discovered that some people are sceptical about the effectiveness of preventive measures, which may lead to alternative remedies; this, according to Ibidapo (2021), has resulted in the causes and transmission of malaria, particularly in rural areas. Ibidapo (2021) believes that the inability to get preventive measures such as insecticide-treated nets, pesticides, or anti-malaria medication after hearing a radio broadcast on malaria prevention has rendered the fight against malaria in rural regions ineffective.



On the other hand, Adeniran (2022), while studying the effectiveness of using radio to sensitise and validate knowledge of malaria disease in Ekiti, discovered that some individuals who know something about malaria disease and preventive measures undermine the efforts of many malaria preventive measures launched to wage war against malaria. Adeniran (2022) also discovered that some people used the treated insecticide bed nets to dry fish, while others used them as bath sponges.

The radio is a popular communication medium in Nigeria, with 65% of individuals, primarily rural dwellers, relying on it for health information (Ibidapo, 2021). Radio broadcasts have promoted malaria prevention measures, such as utilising insecticide-treated bed nets, medications, and insecticides to avoid mosquito bites or treat malaria infection (Ibidapo, 2021). Radio has been a popular medium for disseminating information on malaria prevention and improving public knowledge of key health behaviours. According to Talabi et al. (2022), the media provides critical information to the public during a health crisis such as the COVID-19 pandemic. Media efforts, particularly radio campaigns, impact people's health habits and views. Even though particular communication academics (Ibidapo2021), Talabi et al. (2022), and Adeniran (2022) have observed that radio has been and continues to be used to sensitise and educate rural residents about malaria prevention strategies, malaria cases remain frequent. As a result, there are worries regarding whether radio devotes enough time to topics surrounding malaria morbidity and mortality. There are also issues regarding whether essential aspects of malaria, such as transmission, prevention, symptoms, and treatment, are sufficiently covered in these communications. In light of this, it is necessary to explore the impact of radio messaging on malaria prevention awareness and adoption among rural inhabitants in Southwestern Nigeria. Thus, based on the above considerations, the following study aims to provide background for this study:

To examine how rural dwellers in Osun State perceive the effectiveness of radio messages in educating them about malaria preventive measures.

To investigate the malaria prevention measures embraced by rural dwellers.

To understand the attitude of rural dwellers in Osun State regarding the acceptance of malaria prevention measures.



Empirical Review

Precious et al. (2021) studied how people in rural and urban areas perceive the prevalence of malaria and the preventive measures. The study's objective is to examine the variables that affect mosquito nets in Nigeria, including the perceived seriousness of malaria and disparities between rural and urban areas in the association between socio-demographic parameters and the use of mosquito nets. The study accommodated 40,693 women between the ages of 15 and 49. The result showed that approximately 48% of the women slept inside a mosquito net the night before the study. Precious et al. (2021) assert that people who thought that malaria could result in death used treated mosquito nets more frequently in urban and rural areas.

Also, Talabi and Oko-Epelle (2024) examined the influence of radio messages on the awareness and adoption of malaria preventive measures among rural dwellers in southwest Nigeria. Their study investigates participants' frequency of exposure to radio messages on malaria preventive measures, message adoption, and attitudes towards adopting measures. The study used a multiple-stage sampling technique to select 48 participants from Aye North, Orile-Oshodi, Ofada, Owobaale/Kasumi, Isale Oba II, and Ilepa II. The study's findings revealed participants' exposure to messages on malaria preventive measures through radio broadcasts. However, exposure did not necessarily influence message adoption; people's positive attitude towards messages accepted the measures. The study concluded that there is a need for radio stations to engage people's participation daily in health-related issues to achieve the desired change in health behaviour.

Furthermore, Talabi et al. (2022) investigates the public perception of radio campaign messages in managing the COVID-19 pandemic in selected states in Nigeria. The study examines the public perception of the Nigeria Center for Disease Control's radio campaign messages in managing the COVID-19 pandemic in three selected states in the country's south-western part. The study adopted a survey research design with a questionnaire as a data collection instrument. The study chooses a sample size of 400 respondents through the multistage approach. Results showed that residents in selected states in South-Western Nigeria reported exposure to radio campaign messages on COVID-19 preventive measures and perceived that the messages influenced the awareness and adoption of COVID-19 preventive measures. The study recommended that behavioural change communication experts and public health officers at all levels leverage the reliability and spread of radio among the populace to

disseminate public health issues.

Oluwaseun et al. (2019) conducted a cross-sectional survey to examine the high rate of malaria transmission in Ibadan. The primary focus of the study was to evaluate the risk factors, parasite density, and high rate of malaria infection transmission in two communities in Ibadan. Regarding methodology, the study conducted a cross-sectional hospital-based study involving 300 participants. The questionnaire served as the data-gathering instrument. Oluwaseun et al. (2019) discovered that 165 300 participants tested positive for *Plasmodium falciparum*. Oluwaseun et al. (2019) conclude that malaria infection is endemic in the study area and influenced by rural-urban mobility. The author recommended implementing a multidimensional and integrated control strategy.

While investigating the challenges of face-to-face communication to create awareness about malaria transmission, management, control and prevention, Vincent et al. (2012) examine radio use to time the effectiveness of malaria campaigns for a segmented audience. The objective of Vincent et al. (2012) investigation is to examine how anti-malaria campaigns initiated at the federal and local levels of government could reach people through the radio. One thousand six hundred twenty-eight participants participated in the study from February to July 2011 in six rural government primary-level health care centres in Uganda's Bushenyi and Iganga districts. Findings showed that most households were exposed to radio malaria campaigns. Vincent et al. (2012) further recommended that campaign planners broadcast campaigns between 12:00 p.m. and 2:00 p.m. and 6:00 p.m. The authors claim that radio is an effective medium for communication because it reaches more people at home than any other form of mass media. It reinforces any lessons learned by families from medical professionals while also acting as a vehicle for disseminating new information.

Theoretical Framework- Hypodermic Needle theory and Health Belief Model.

According to Asogwa and Ojih (2013), the Hypodermic Needle theory asserts that the media has consistent, immediate, powerful, and direct effects on people who pay attention to their content. The theory assumes that a message from the media is received by every eye and ear, in the same way, changing thought and behaviour across the audience. Again, Asogwa and Ojih (2013) assert that the media is all-powerful and all-conquering to the public with preconceived notions of influential media. The hypodermic needle theory assumes that

media messages are injected into the audience's minds through the media, altering how they respond to the message. The assumption also states that media messages act as metaphorical bullets, striking every eye and creating immediate and direct effects that majorly affect cognition and behaviour. According to the theory, passive media consumers are helpless against media messages. The Hypodermic Needle theory is therefore relevant to this research as it examines the influence of the media on creating awareness about malaria preventive measures and influencing people's acceptance of the measures. Also, the theory's assumption considers media consumers as passive audiences. This study seeks to understand how media messages strive when public perception issues arise.

Furthermore, in the observation of Orji (2020), the health belief model is a psychological framework intended to define and predict healthy behaviour. According to the Health Belief Model, the most effective behaviour change messages successfully address perceived advantages, barriers, self-efficacy, and dangers (Becker, 2004; Akpoghiran, 2015). The main assumptions of this theory state that the target audience must be provided with a reward/incentive to alter their behaviour; the target audience must believe that continuing the current behaviour poses a risk; an audience that the health messages are intended for must believe that changing their behaviour will have benefits and that those benefits will exceed barriers and lastly, the target audience must be confident enough to change their behaviour (Orji, 2020). This theory is related to this research because it can help predict people's perception of malaria preventive measures and changes in health behaviour among rural residents in Osun State. One of the model's tenets suggests using an effective medium to spread health issues; thus, Oladimeji et al. (2019) assert that in rural settlements, access to radio messages goes a long way in enlightening rural dwellers to cultivate positive habits by regularly checking themselves, thus making this theory relevant to this study. Similarly, this model will assist the researchers in investigating the factors that lead to the adoption of certain health behaviours, such as using treated mosquito nets or insecticides to prevent mosquito bites resulting in malaria transmission.

Methodology

This study adopted a multiple-stage sampling technique. The study adopted this technique because multi-stage sampling enabled the researcher to divide a group of populations into clusters. The sampling begins with obtaining a list of all the local government areas in Osun state: Osogbo, Isokan, Iwo, Ibokun, OdoOtin, Ola Oluwa, Olorunda,

Oriade, Orolu, Aiyedaade, Aiyedire, Atakunmosa-west, Atakunmosa-east, Boluwaduro, Ife-central, Ejigbo, Egbedore, Boripe, Ede-north, Ede-south, Ife-east, Ife-north, Ife-south, Ifedayo, Ifelodun, Irewole, Ilesa-east, Ilesa-west, Ila and Irepodun. Thus, purposive sampling was employed to choose a local government with a radio station or a strong radio transmitting signal to rule out the possibility of some residents not being exposed to these messages due to issues with transmitter waves. For this purpose, the study purposively selected Iwo and Ede South Local Government Areas study areas. In the next step, electoral wards from each selected local government area were chosen using a simple random sampling technique (lottery method). Oribhabor and Anyanwu (2019) claim that this sampling technique gives every member of the population an equal chance of being chosen for the study. For the study, the sampled electoral wards are Isale Oba IIAlajue I. In the last stage, a convenient sampling technique was adopted in this study to collect data from conveniently available respondents who were exposed to radio messages on malaria preventive measures in each of the selected electoral wards. According to Greener and Martelli (2018), the convenient sampling technique allows the researcher to collect data quickly where respondents are readily available. The rationale is that testing the entire electoral wards may be practically impossible; therefore, the researcher choose respondents based on proximity to examine respondents' behaviour and awareness of the topic under investigation. Thus, the Focus Group Guide was used for data gathering. The rationale behind adopting the Focus Group Guide is to help determine the respondents' opinions, beliefs, attitudes, and ideas in line with the study objectives. The Focus Group Discussion had four sessions, each with eight participants, and thirty-two participants participated. Furthermore, fourteen (14) females and eighteen (18) males participated in the discussions, and each session and participant were given codes for easy recognition and analysis. Also, data from the Focus Group Discussions is presented thematically following the research objectives.

Presentation of Results

Malaria Preventive Measure(s) Adopted by Participants

Part of the objective of this study is to examine the malaria preventive measures adopted by respondents due to their exposure to malaria preventive messages on the radio. From the discussions, we discovered that the most adopted measures were mosquito nets, insecticides, and anti-malaria drugs. Only some participants agreed to clear bushes around their homes and avoid stagnant water. We also observed during the discussions that some participants did not see the



need to adopt any of the measures as they considered these measures ineffective for preventing malaria. Another observation was the participant's tendency to always use anti-malaria drugs with deliberate effort not to consider other measures. Thus, as mentioned earlier, these measures contribute to reducing malaria's prevalence, as opined by Adeniran (2022). Although these measures cannot guarantee malaria eradication in Nigeria because of the topography, they can also contribute by reducing cases to the barest minimum. Hence, it is expected that radio stations, particularly in Osun State, continue to sensitise the residents to the dangers of ignoring these measures. Similarly, the deliberate refusal or ignorance of the effectiveness of these measures by respondents signifies the ineffectiveness of the malaria preventive measures on the radio.

While sampling opinions on the subject matter, a participant (F4R3) said he uses mosquito nets to prevent mosquito bites and anti-malaria drugs to treat malaria when infected.

I am not using anything to prevent malaria, except that I have a window net. However, I do not have any bed nets, although it is something I would like to acquire because of my children. However, I use "Lonart" (an anti-malarial drug) to treat malaria whenever I am down with malaria (F1R4).

I am very particular about my environment. Mosquitoes tend to breed more if you have bushy surroundings and stagnant water around your home. So that is how I prevent having too many mosquitoes around my home. However, this method is ineffective because mosquitoes still bite, especially at night. However, I used anti-malarial drugs to treat myself when infected with malaria (F3R2)

I do not use anything for now. I do not think the mosquito net or the insecticide is effective. I feel people will continue to be exposed to mosquito bites irrespective of any measure anyone adopts. Since malaria drugs are easy to get despite being expensive, I would prefer to treat myself using them (F2R4).

Malaria Preventive Messages and Respondents Attitude Towards Acceptance

This theme explored participants' attitudes towards accepting messages and their disposition toward the measures. Findings from the discussions showed that while some participants considered some of these measures (treated insecticide bed nets, insecticide, and anti-malarial drugs) effective, others felt these measures were not effective



enough to prevent malaria. Some participants claimed they had been treated with malaria repeatedly, even after using these measures. Regardless, some participants decided to adopt these measures after being exposed to these messages on the radio.

After listening to the radio on the health implications of malaria, I tried to avoid mosquito bites by sleeping inside the mosquito net at night or I sprinkle insecticide in my room; this helps to F4R6: keep mosquitoes away while I sleep (F4R7)

For me, none of these measures work. Because even after sleeping inside a mosquito net, I still ended up getting malaria last month. I feel our environment is encouraging the breeding of mosquitoes. So, because we have so many mosquitoes around, these measures will not work (F1R2).

Last year, I used to treat myself with traditional malaria medicine. However, after some explanation on the radio that not all malaria symptoms may be malaria, I decided to always consult health care professionals for proper diagnoses and treatment (F2R6).

Participants Perceived Effect of Radio Messages on Malaria Prevention

To ascertain participant's perceptions of the effect of radio messages on malaria prevention, we decided to observe their frequency of exposure to the messages. We discovered that participants were exposed to malaria prevention messages on the radio from our discussions. Participants' exposure frequency ranges from daily, weekly, monthly, to yearly. While some participants struggled to recall how often they have been exposed to malaria preventive messages on the radio, others could recall the frequency of exposure alongside specific brands of insecticide or malaria drugs advertised and the malaria preventive measures in the messages. Thus, remembering these messages in this study is essential as it helps us understand the disposition of participants towards these messages. Some participants claimed to have been exposed to malaria preventive measures on OSBC, 104 and Orisun 89.5FM. They claimed the messages were on mosquito nets, insecticide use, and drug use.

The last time I listened to the radio, they were talking about malaria prevention on Orisun 89.5FM, and that was around April if I am correct. On the radio, someone mentioned using mosquito nets to prevent malaria. The person said he was a representative from the Ministry of Health. I feel what he said was correct because I have been using mosquito nets to sleep, and indeed, it can reduce the rate at which

one is infected with malaria (F2R7).

It has been a year since I listened to malaria messages on the radio. However, sometimes I heard Rave 91.7 FM talk about malaria preventive measures like sleeping inside insecticide bed nets and sometimes using antimalarial drugs. The message was not accurate as antimalarial can only cure malaria but will not prevent subsequent infection in preventing malaria (F4R2).

I know Fresh 105.5 FM used to do one programme where they talked about malaria prevention on Thursdays. If I remember vividly, "Good Knight" insecticide had their representative talk about the health implications of contracting malaria and how to prevent it using "Good Knight" insecticide (F1R2).

Message Technique and Presentation

We also examined various message techniques employed. These included informative jingles, radio dramas, public service announcements, documentaries, testimonials, and talk shows. Our findings revealed that many participants were exposed to jingles promoting different brands of anti-malaria drugs and insecticides. However, only a minority recalled encountering messages presented in a discussion or interview format and in the form of testimonials. Interestingly, there needed to be more recollection of messages conveyed through radio dramas, documentaries, or public service announcements. These findings suggest that the messages primarily aim to promote specific brands rather than educate or raise awareness among participants. Consequently, there is a pressing need for radio stations to develop unique programs dedicated to addressing issues related to malaria disease regularly. The last malaria preventive message I listened to on the radio was the advertisement for Lonart (F1R1).

I had the opportunity to listen to a man who lost a six-month-old baby because of malaria disease. Since then, I have decided to handle malaria disease as an emergency case. That was the first time I knew malaria could kill (F3R6).

Most of the time, I hear people discussing malaria disease and preventive measures on the radio. I cannot tell whether it is an interview, but most of the time, when I listen, two or three people will discuss the dangers of malaria and how to prevent it (F2R1).

I heard the malaria consortium talk about malaria disease in April this



year on the radio. Parts of the giveaway were mosquito nets (F4R3).

Most of the time, it is an advertisement for malaria drugs or insecticides (F1R7).

In the radio messages on malaria prevention I have listened to, most times, it is either one person is talking or it is an advertisement (F4R4).

Discussion of Findings

This research examined the public perception of radio messages on malaria preventive measures among rural dwellers in Osun State. The first objective examined how rural dwellers in Osun State perceive the effectiveness of radio messages in educating them about malaria preventive measures. Findings showed that participants had a good perception of the radio to educate them about malaria preventive measures as participants claimed exposure and adoption of the measures. Many participants could recall radio messages educating listeners about the contraction, symptoms, treatment and prevention of malaria. These findings agree with Ibadapo's (2021) observation that radio has been a popular medium for disseminating malaria prevention information and improving public knowledge of key health behaviours. Also, Talabi et al. (2022) state that the radio provides critical information to the public during a health crisis, and radio campaigns are used to impact people's health habits and views. As indicated in the result, Radio messages have been used to promote malaria prevention measures, such as utilizing insecticide-treated bed nets, malaria medications, and insecticides to avoid mosquito bites or treat malaria infection. Furthermore, the result aligns with Precious et al. (2021), who found out that people tend to use malaria preventive measures like the use of insecticide nets, insecticide and malaria drugs after being adequately informed on the radio on the effectiveness of using these measures. Therefore, the assumption of the health belief model aligns with the findings of this study as messages that intend to change behaviour address perceived advantages, barriers, self-efficacy, and dangers, as seen in the findings of this study.

The second objective investigated the malaria prevention measures embraced by rural dwellers. From the result, it was discovered that participants were most familiar with using insecticides, treated mosquito nets, and anti-malaria drugs. Other measures received low responses, such as clearing bushes, avoiding stagnant water or pen water, cleaning drainages, etc. Findings also showed that some participants did not see the need to adopt any measures as they considered them ineffective in preventing malaria. This agrees to



agree with Ibadapo's (2021) observation, which discovers that some individuals in rural areas are usually sceptical about the effectiveness of preventive measures, which may result in alternative remedies. Another observation was the participant's tendency to always use anti-malaria drugs with a deliberate effort not to consider other measures. Thus, as mentioned earlier, these measures contribute to reducing malaria's prevalence, as opined by Adeniran (2022). The findings of this study did not agree with the assumption of the hypodermic Needle theory, which says media audiences are passive consumers of messages. Unlike the assumption of this theory, the findings of this study show that respondents decided what action to take after exposure to messages. As seen in the findings, some participants did not use the malaria preventive measures because they did not believe in their effectiveness, regardless of what the radio messages said. It simply means that the media audience is passive consumers of media content.

The last objective was to observe the attitude of rural dwellers in Osun State regarding the acceptance of malaria prevention measures. Results revealed that while some of the participants considered treated insecticide bed nets, insecticide, and antimalarial drugs effective, others felt these measures were not effective enough to prevent malaria. Some participants claimed they had been treated with malaria repeatedly, even after using these measures. Regardless, some participants decided to adopt these measures after being exposed to these messages on the radio. Hence, there is a need for radio stations to design radio programmes that will mainly address the risks and advantages of health messages. Also, the study examined the communication techniques used to encourage the adoption of malaria preventive measures on the radio in Osun State. Findings showed that most respondents were exposed to a jingle of different brands of anti-malaria drugs and insecticides. Few respondents agreed that messages were presented in a discussion/interview format. Also, a few respondents agreed that messages were also presented as testimonials. These findings imply that messages only communicated specific measures to respondents to sell the brand advertise as respondents could recall brands of anti-malaria drugs and insecticides.

Conclusion and Recommendations

This study examined public perceptions of radio messages on preventive measures for malaria among Osun State's rural dwellers. As provided in the findings, this study concludes that participants had a good perception of the radio to educate them about malaria



preventive measures. This study also observed participants' attitudes toward adopting malaria preventive measures. Results showed that while some participants embraced the use of treated insecticide mosquito nets, insecticide, anti-malaria drugs, cleaning of drainages, clearing of bushes, etc., other participants claimed these measures were ineffective enough to protect them from malaria. Therefore, the media should allocate more time for daily broadcasts of health issues, especially malaria, to get the desired change in health behaviour. Government and non-governmental organisations should consider radio an effective channel for broadcasting health-related issues to rural dwellers.

References

- Adeniran, L. O. (2022). Radio usage in the sensitization and validation of Ekiti residents knowledge of malaria disease. *Malaria Journal*, 7(1)385–39.
- Asogwa C. E. Ojih, E. U. & Onoja, B. I. (2012). Use of Social networking sites and Academic Performance among Students of Selected Tertiary Institutions in Kogi State International *Journal of African and Asian Studies*,6(2)62-72.
- Akpoghiran, P. (2015). Influence of broadcast media enlightenment campaigns on solid waste management in South-South of Nigeria. *New Media and Mass Communication*. 1 (39), 14-31.<https://doi:10.7176/NMMC.VOL3910-62>.
- Bamigbola, B. (2013).FG seeks collaboration for malaria control. Punch newspaper,5th July 2023. <https://punchng.com/fg-seeks-collaboration-for-malaria-control/>
- Becker, M. H. (2004). The health belief model and personal health behaviour. *Health Education Monographs*, 2(4), 21-31. <http://dx.doi.org/10.1177/109019817400200407>
- Egbunike, N. (2011). New media and health communication: Communication strategies in malaria control in Nigeria. Cultural identity and new communication technologies: political, ethnic and ideological implications. *Information Science* 3(1), 197-212.<https://doi10.4018/978-1-60960-591-9.ch010>
- Ezediuno, F. (2023).World Malaria Day: Nigeria contributi31.3 percent of global deaths – Oroge. Daily Post April 26, 2023 Nigeria. <https://dailypost.ng/2023/04/26/world-malaria-day-nigeria-contributing-31-3-percent-of-global-deaths-oroge/>

Ezediuno, F. (2023). Osun governor, Adeleke calls for cooperation in fight against malaria. Daily post July 6th.
<https://dailypost.ng/2023/07/06/osun-governor-adeleke-calls-for-cooperation-in-fight-against-malaria/>

Greener, S & Martelli, J. (2018). An introduction to business research methods. 3rd Edition. London; Ventus Publishing.

Ibidapo, A.R. (2021). Perception and challenges of accepting malaria preventive messages in a rural community. *Aust J Rural Health*. 2021;13:214-8. <https://doi.org/10.1221/j.1440-1584.2005.00704.x>

Iyorza, S. & Ekwok, L. (2014). Global media and cultural hybridization in the 21st century Nigeria. Ed. NedaKhan. *Journal of Social Sciences (JSS)*. 3(3): 408-416. https://doi.org/publication/335820014_

Kola, H.K. (2019). Malaria preventive measures among rural dwellers in Oyo, Nigeria. *The Journal of science*, 1(2)8-33. <https://doi.org/10.1155/2019/6402947>.

Muanya, C. (2023). International Day: Nigerians spend N2.04 trillion yearly on malaria prevention, treatment. (The Guardian Newspaper, 25) April <https://guardian.ng/news/international-day-nigerians-spend-n2-04-trillion-yearly-on-malaria-prevention-treatment/>

Orji, U. F. (2020). Influence of radio health programmes on residents' of select communities in imo state: a study orient 94.4 fmowerri. *Journal of Communication*, 2 (1), 11-27. doi: 10.13140/RG.2.2.36548.14726.

Oladimeji, K.E. Tsoka-Gwegweni, J.M. Ojewole, E. & Yunga, S.T. (2019). Knowledge of malaria prevention among pregnant women and non-pregnant mothers of children aged under 5 years in Ibadan, South West Nigeria. *Malaria Journal*, 18(2), 1-12. doi:10.1186/s12936-019-2706-1.

Oribhabor, C.B. & Anyanwu, C.A (2019). Research sampling and sample size determination: a practical application. *Journal of Education Research*, 2(1), 47-56.

Okpoko, C. & Aniwada, E. (2017). Issues in malaria communication in Enugu, South East Nigeria. *Mediterranean Journal of Social Sciences*. 8 (1). <http://doi: 10.5901/mjss.2017.v8n1p285>

Oluwaseun, A. Zary, S. Farah, H. Iyabo, A. & Comfort F. (2019). A cross-sectional study of the prevalence, density and risk factors associated with malaria transmission in urban communities of Ibadan,



Southwestern Nigeria. Universiti Sains Malaysia - KampusKesihatan.
Research Square, 2(3), 112-134. doi: 10.1016/j.heliyon.2021.e05975

Precious A. D., Veronica, M. D., Chiagoziem, O. E., Pascal, A., Francis, A. & Jerry, J. N. (2021). Rural-urban dimensions of the perception of malaria severity and practice of malaria preventive measures: Insight from the 2018 Nigeria Demographic and Health Survey. *Journal of Biosocial Science*, 1(1), 1 of 18. <https://doi.org/10.1017/S0021932021000420>

Talabi, F.O. & Oko-Epelle, L. (2024). Influence of Radio Messages on the Awareness and Adoption of Malaria Preventive Measures among Rural Dwellers in South-West Nigeria. *journal. Media* 2024, 5(1), 271-280; <https://doi.org/10.3390/journalmedia5010018>

Talabi, F.O., Oyedeji, K.A, Adelabu, O., Sanusi, B.O., Adaja, T. & Talabi J.M. (2022). Public perception of radio campaign messages in managing COVID-19 pandemic in selected states, Nigeria. *Human Vaccines & Immunotherapeutics* Volume 18, 2022 - Issue 5 <https://doi.org/10.1080/21645515.2022.2085958>

USAID President's Malaria Initiative FY 2020 Nigeria Malaria Operational Plan
https://www.usaid.gov/sites/default/files/documents/WHO_2022.
World malaria report. [https://www.google.com/search?q=WHO+\(2022](https://www.google.com/search?q=WHO+(2022)

Vincent, B. Pascal, M. Justine, M. Edgar, M. & Fred, N. (2012). Timing of malaria messages for target audience on radio airwaves. *Malaria Journal*, 11(1), 283-296. doi: 10.1186/1475-2875-11-283