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Use of Online Communication Platforms for Enlightenment Against Malaria Disease in Toto Local Government Area of Nasarawa State, Nigeria

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Abstract

This study evaluated the use of online communication platforms for enlightenment against malaria disease in Toto Local Government Area of Nasarawa State, Nigeria. The study adopted the survey research design, and used the Health Belief Model and Agenda Setting Theory. The estimated population was 183, 800 out of which a sample size of 384 was used. The findings revealed that the dominant online communication platforms used in Toto LGA are Facebook and WhatsApp. It was also discovered that the respondents are aware of digital media used to disseminate information concerning malaria. *These include Nigeria Malaria Twitter Data (6%), Zero Malaria Starts With Me (9%), Help Cure Malaria (6%), Draw the Line against Malaria (10%), Great Malaria Facebook Race (10%), and Stop Malaria in Africa.* Result of the study further indicated that malaria prevention messages received via new media included how to use the Insecticide Treated Nets, wearing of clothes that cover most of the body, use of insect repellent on exposed skin and early treatment. Lastly, it was found that the respondents have been applying the messages they received from online media concerning malaria to some extent. The study recommended among others that Nigerian government should intensify the malaria prevention campaign through the deployment of the new media.

Keywords: Online communication platforms, malaria, enlightenment, health belief model, agenda setting

Background to the Study

Malaria has remained a public health concern dating from 3200 and 1304 BC (Miller et al., 1994). Documents in India during the Vedic period (1500 to 800 BC) referred to malaria as *"King of diseases"* (National Academy of Science, 2004). The Chinese medical canon called the Nei Chin in 270 BC, blamed malaria's headaches, chills, and fevers on demons (Bruce-Chwatt, 1988). According to Karlen (1995), the arrival of malaria in Rome was in the first century AD. The devastating effect of malaria in 79 AD resulted

in farmers abandoning their fields and villages in some parts of Europe (Cartwright, 1991). Another account by Cox (2010) claimed that malaria parasites began in 1880 with the discovery of the parasites in blood of malaria patients by Alphonse Laveran.

In the 20th century alone, malaria was said to have claimed between 150 million to 300 million lives, accounting for 2 to 5 percent of death globally (Carter & Mendis, 2002). In 2020, there were 241 million incidents of malaria, while in 2019, it was 227 cases (World Health Organisation, 2021). The estimated number of those who died from malaria complication was 627, 000 in 2020. The African continent which Nigeria belongs is the worst affected by malaria disease and nearly half of the world's population are at risk for developing malaria (WHO Maternal Child Epidemiology Estimation, 2018). For instance, four African countries accounted for nearly half of global deaths resulting from malaria. These countries are Nigeria (31.3%), the Democratic Republic of Congo (12.6%), United Republic of Tanzania (4.1%) and Niger (3.9%), according to WHO, 2023. Another report by the World Health Organisation states that malaria affects an estimated 219 million people worldwide and kills up to 655,000 each year. While the majority of cases are in the African continent, the region of South-East Asia accounts for around 15 per cent of malaria cases. It is one of the most widespread infectious illnesses and is a huge public health crisis. It is responsible for 25-40 percent of outpatient visits at health facilities, 15-20 percent of all hospital admissions, and 9-14 percent of all hospital deaths (UDHS, 2016).

One the aspects of controlling and containing diseases by the society is through the use of the mass media. Sharma (2015) opines that the mass media are critical stakeholders in a society as they perform the role of informing and educating the people about important events related to their daily life such as giving them health tips. Altschull (1995 cited in Sharma & Kurma, 2017) posits that various mass media occupy our day to day activities and they help to shape our lives for the better. Health is one aspect of these daily activities. Through information and enlightenment concerning health matters, the media assist the people to practice good health behaviour. These changes may be related to change in the previous unhealthy habits, or wrong beliefs, or may be related to preoccupied attitudes or aimed at reinforcing the existing beliefs of habits. Media have wide reach and access to influence millions of audiences, geographically scattered over thousands of kilometres in different territories, across the geopolitical boundaries. With these qualities media are intensively employed in health education programmes.

Research studies conducted world over have suggested that media, through right mix of messages, have the potential to produce behaviour change among the target population. Media play the role of change agent for positively influencing the health

behaviour of people. In fact, media can act an instrument for reinforcing the existing health belief and behaviour. Collins et al. (2003) argue that media play the role of change agent. It can influence the behaviour of people for the sake of better health by adapting to preventive measure which stops the spread of diseases. By informing and educating about different health issues, media help promote healthy lifestyle and positive behaviour changes among the common public.

The advent of the online communication platforms has further strengthened the mass media in addressing major public health such as malaria. Such optimism is grounded in the increasing levels of internet penetration as well as intrinsic characteristics of social media which include interactivity, genuine dialogue, speed, multimodality, user-generated content, mass customisation, horizontal communication, and multi-directionality of information (Neuhauser & Kreeps, 2010; USAID 2008). Walch (1999) corroborates that a significant part of the Internet is its capability to empower by putting more control in the hands of the user, as compared with other media. In line with malaria and the online communication tools, an information obtained from Access Bank Group (2023) contends that more than one million people in Nigeria have been reached with information, education and communication materials concerning malaria through the use of social media.

From the foregoing, it is important to stress that since the online communication tools are in their hands of the people now and they walk about with information, there is the tendency that they will be more informed about health-related issues such as malaria. Therefore, the crux of this study is to interrogate the use of online communication platforms for enlightenment against malaria disease in Toto Local Government Area (LGA) of Nasarawa State, Nigeria.

Statement of Problem

Malaria disease remains high in Nigeria, according to the World Health Organisation reports in 2023. Data from the World Malaria Report 2023 affirms that Nigeria accounts for 31.3 per cent of global deaths resulting from malaria scourge (Obinna, 2023). With these alarming figures, the use of new media for enlightenment becomes strategic.
Many scholars have investigated the use of both conventional and digital media in the fight against malaria (Lucas, 2023; Egbunike, 2011; Talipouo et al., 2019; Umar, 2021 and Kwenti, 2018). Lucas' (2023) study focused on the perception of residents of Kuje Area Council of Abuja on the effectiveness of *"We Fit Win Malaria"* programme messages on Federal Radio Corporation of Nigeria, (FRCN). Egbunike (2011) concentrated on new media and health communication strategies in malaria control in Nigeria. That of Umar (2021) was Malaria prevention using social media and text mining. While the study

of Talipouo et al (2019) dwelled on knowledge and practices of malaria prevention among residents of Yaounde. However, more studies need to be conducted to add to the volume of literature on new media and malaria control. Hence the focus of this study is to assess the use of online communication platforms for enlightenment against malaria disease in Toto Local Government Area (LGA) of Nasarawa State, Nigeria.

Objectives of the Study

i. To find out the online communication platforms residents of Toto LGA use to receive enlightenment information regarding malaria disease;
ii. To assess their awareness of online communication platforms used to disseminate malaria ailment;
iii. To find out the online malaria groups and forms of malaria prevention messages the respondents receive from online communication platforms;
iv. To assess the extent to which they have been receiving malaria disease messages from the online communication platforms;
v. To find out whether the messages they get from the online communication platforms have improved their knowledge of preventing and managing malaria scourge.

Review of Literature

Digital Communication Platforms

Online communication platforms are digital services that facilitate interactions between two or more distinct but interdependent sets of users (whether firms or individuals) who interact through the service via the Internet (OECD, 2023). Ekpemo and Igbozuruike (2018) describe the new media as a term that has to do with the "emergence of digital, computerised or networked information and communication technologies in the later part of the 20th century" (p.7). According to Study.com (2023), online communication platforms such as Facebook, blogs, Twitter, WhatsApp, YouTube, Email, Instagram, etc, are applications that people use to connect themselves through the services of the Internet. Similarly, Rouse (2022) describes the online media as a catch-all term used for various kinds of electronic communications that are conceivable due to innovation in computer technology and comprises online platforms, online video/audio, streams, emails, online social platforms, online communities, online forums, blogs, Internet telephone, web advocacy communication, etc. Cote (2022) concurs that the new media are any digital communication platforms that accommodate articles from newspapers to magazine, television and radio contents and any other forms of communication that are delivered to the public digitally. This implies that, from websites to emails to

mobile phones and streaming apps, any Internet-related form of communication is considered an online communication domain.

Malaria

Malaria is an acute febrile illness caused by plasmodium parasites, which are spread to people through the bites of infected female Anopheles mosquitoes (The New International Webster's Comprehensive Dictionary of the English Language, 2013). According to the World Health Organisation (2023), malaria is an ailment that threatens the lives of human population, particularly those living in tropical countries. It is caused by Plasmodium parasites. Although, there are five different types of the parasites, the plasmodium falciparum and plasmodium vivax are the ones that have greatest threat to human lives (WHO, 2023). Malaria is a life-threatening disease that is spread to humans through some kinds of mosquitoes (The Butterfly Tree Charity, 2022). Early symptoms of malaria include fever, headache and chills, while the acute signs extreme tiredness and fatigue, impaired consciousness, multiple convulsions and difficulty in breathing. Others are dark or blood urine, jaundice and abnormal bleeding (World Health Organisation, 2023).

Similarly, Centers for Disease Control and Prevention, (CDC), (2021) observed that malaria is a serious and sometimes fatal disease caused by parasite that commonly infects a certain type of mosquito, which feeds on humans. It is a mosquito-borne ailment caused by the bite of female Anopheles mosquitoes, which is responsible for spreading infectious Plasmodium parasites into a host (National Institute of Allergy and Infectious Diseases, 2016).

Understanding Behaviour Change Communication

Communication is very vital as it assists an individual to get knowledge, in addition to helping the individual to achieve their purpose in life. Communication makes humans to be identified as members of a social community (WHO 2009). Behaviour change communication usually takes various approaches to appeal to members of the society to change behaviour towards a specific health problem (Ngigi &Busolo, 2018). Relating it to health, Centers for Disease Control (2018) posits that BCC is the planned deployment of communication to encourage positive health results, based on established schools of thought that deal with behaviour change. In other words, behaviour change communication in line with health aims at changing people's mind towards engaging in certain health behaviour through access to information. It refers to the careful use of communications to motivate people to adopt good health behaviour and more sustainable practices. National Health Mission (2020) corroborates that behaviour change communication involves interaction with members of a given

community, individuals or groups using various communication methods with a view to promoting good health behaviour that are in line with global best practices. BCC uses an organised step starting with investigation and then evaluation of behaviour, which is then followed by effective communication planning, execution, monitoring, and assessment. Audiences are carefully segmented, messages and materials are pre-tested, and both mass media and interpersonal channels are used to achieve defined behavioural objectives.

Online Communication Platforms and Health Information Dissemination

The mass media across the length and breadth of the society are seen as major stakeholders particularly in the provision of information and enlightenment in all aspects of life, including health information. The media have the mandate of providing accurate, periodic and timely information to members of the public to enable them take actions in line with global best practices. In terms of health, the mass media remain strategic due to the fact that information is a vital instrument to enable the people respond adequately to health challenges and issues. Pousadela (2020) concurs that access to information concerning an ailment is a veritable means through which members of the public will be able to contain and manage such malady. Pousadela's position is not far from that of Sunday, Inobemhe and Santas (2021). According to these scholars, the frequency of information from the mass media regarding health-related matters is critical in helping the public to navigate through the trouble times. Gever and Ezeah (2020) lend credence that the mass media are the fourth estate of the realm, and they provide information to the people in all ramifications. The responsibility of educating the public about their health requires the mass media to, in the first instance, involve in watching the environment with a view to knowing the health issues that affect human population, and then go into investigation so that they can give the people the needed information (Gever & Ezeah, 2020).

In the quest to continue to provide information in Nigeria and elsewhere, online communication platforms (such as social media and other Internet-enabled communication gadgets) have become important (Obi-Ani, Anikwenze & Isiani, 2020; Pandya & Lodha, 2021). Online communication platforms have increased health education and promoted healthy behaviours (Alliance for Malaria Prevention, 2020, p. 2).Fox (2013b) agrees that, people with various ailments have embraced the opportunity provided by the Internet to get information on how to manage their diseases. The public now take different actions regarding their health as a result of the health messages they receive from the mobile communication facilities at their disposal (Manhattan Research, 2012). In a study by Huo, Desai, Hong, Turner, Mainous and Bian (2019), it was discovered that the use of interactive communication platforms

for exchanging health messages has increased from 2013 to 2014. With the advent of the digital media, health seekers tend to rely on online information for their health-related concerns as well as making informed decisions in the selection of healthcare providers and hospitals (Share4Rare, 2020). Fayoyin (2016) contends that, today, the entire world cannot do without the Internet as it provides them with the opportunity to interact, spread health-related messages and promote personal issues.

Review of Empirical Studies

The thrust of Egbunike's (2011) research was on new media and health communication strategies in malaria control in Nigeria. The study focused mainly on the use of Insecticide Treated Nets by youth in Nigeria. It adopted the qualitative and quantitative research strategies, and used questionnaire and interview to collect data from the respondents. The study established that new media have been helpful in disseminating information about malaria. But despite this, the information gotten from the digital media has not translated into effective control of the disease. It was recommended that the new media should be embraced as one of the major tools for controlling malaria malaise. Despite the fact that Egbunike (2011) examined the use of new media in controlling malaria, the study was in 2011 and it targeted the youth, with Insecticide Treated Nets as the only measure studied. However, the study did not focus on residents of Toto LGA, Nasarawa State, Nigeria and did not look at other malaria preventive measures. This gap is filled by the current study.

Talipouo, et al (2019) used a descriptive cross-sectional survey to study the topic "Malaria Prevention in the City of Yaounde: Knowledge and Practices of Urban Dwellers". The research collected data through the deployment of the interview and questionnaire instruments. Findings revealed that 94% of those interviewed attributed malaria disease to mosquito bites. It was also discovered that malaria was being prevented through the use of treated bed nets, but this knowledge was more pronounced among those who have acquired university and secondary education. The study concluded that in spite of the knowledge of malaria and its prevention among the people, only few of them apply good practices. It recommended the intense enlightenment campaign through the use of the various media, in addition to an integrated approach to deal with the scourge. The focus of Talipouo et al (2019) study was on the knowledge, practices and prevention of malaria in Yaounde, Cameroun. However, much still needs to be done on malaria disease prevention and control, hence the current study dwelled on the engagement of the digital media for assessing malaria-related information by residents of Toto LGA, Nasarawa State, Nigeria in 2023.

Umar (2021) examined malaria prevention through the use of social media and text mining. The thrust of the research was to find out the perception of the public regarding Nigeria Malaria Twitter data, with a view to putting the results side by side with that of the World Health Organisation (WHO's) fight against the disease. The study found that malaria still has adverse effects on pregnant women and children under five years old. The study recommended improved deployment of Twitter not only for the fight against malaria, but for enlightenment against other ailments and sectors in Nigeria and other territories. The study opened a gap in knowledge as it was conducted in 2021 and focused mainly in the information posted on Twitter concerning malaria and its impact of mitigating the scourge in Nigeria. The current study, however, is on the use of online communication platforms and knowledge of the prevention of malaria among residents of Toto Local Government Area of Nasarawa State, Nigeria.

Lucas (2023) study focused on perception of the effectiveness of "We Fit Win Malaria" programme on Federal Radio Corporation of Nigeria. The study deployed the survey research design and collected data from residents of Kuje Area Council of Abuja. It was anchored on the Health Belief Model and agenda setting theory. Results of the study indicated that a good number of Kuje Area Council residents were aware of the programme and saw the programme as a good means of fighting malaria disease. Lucas' study and the current research share similarities in terms of methodology and theories used. However, while Lucas' study was on the use of conventional media (radio) for enlightenment against malaria in Kuje, the present study focused on the reactions of online communication media messages by residents of Toto LGA, Nasarawa State in controlling malaria.

Theoretical Underpinning

The study was situated within the Health Belief Model and Agenda Setting Theory. The purpose of anchoring the research on two theories was to bridge the lapses of one theory over the other. For instance, the Health Belief Model is basically concerned with the actions that people take in order to prevent contracting a disease, while the agenda setting theory concerns itself with the frequency of messages that the mass media disseminate about an issue, in the case of this study, malaria.

Health Belief Model

The origin of this Model is traced back to the work of social psychologists in the United States of America in the 1950s, the Public Health Services (Ngigi &Busolo, 2018). The Model is concerned with how people adopt various approaches to prevent the spread of an ailment, as well as to contain it. The Model posits that an individual behaviour is predicated on a number of beliefs about hazards or threats to a person's safety and the

extent of the effectiveness and results of specific actions or behaviours (University of Twente 2017).

The Model is sub-divided into five basic areas of health behaviours. These are perceived threat, perceived susceptibility, perceived severity, perceived benefits and perceived barriers. At the centre of these perceives is the perceived threat. It is concerned with how ready an individual take action to prevent a disease. The perceived susceptibility explains the subjective perception of a person to the risk of contracting an ailment. There is wide variation in a person's feelings of personal vulnerability to an illness or disease. Furthermore, perceived severity holds that an individual's feelings on the seriousness of contracting an ailment or malady or leaving the ailment or malady untreated. There is broad discrepancy in a person's feelings of severity. Often, a person considers the medical cost, such as death or disability, and social implications, including family life and social relationships, when assessing the severity. The perceived benefits suggest the perception of a person on how effective are the different actions that he or she is going to take that will lead to reducing the threat poses by the ailment. The perceived barrier, on the other hand, is concerned with the hurdles that an individual encounters in trying to carry out the recommended health behaviour. Here, the individual thinks deeply about the efficacy of the actions against the viewpoint that the actions may be hurting, time consuming and may involve a lot of financial cost.

From the foregoing, the crux of the Model is motivating people to take proactive health decisions so that they will not end up spending more when they contract a disease. Situating it in the context of mass media, Echo (2012) argues that, Health Belief Model talks about the influence of the mass media on taking health behaviours or actions; it focuses on the perceptions and beliefs of clients that can be changed to improve certain health behaviours. Hence, the Model was considered relevant for this study.

Agenda Setting

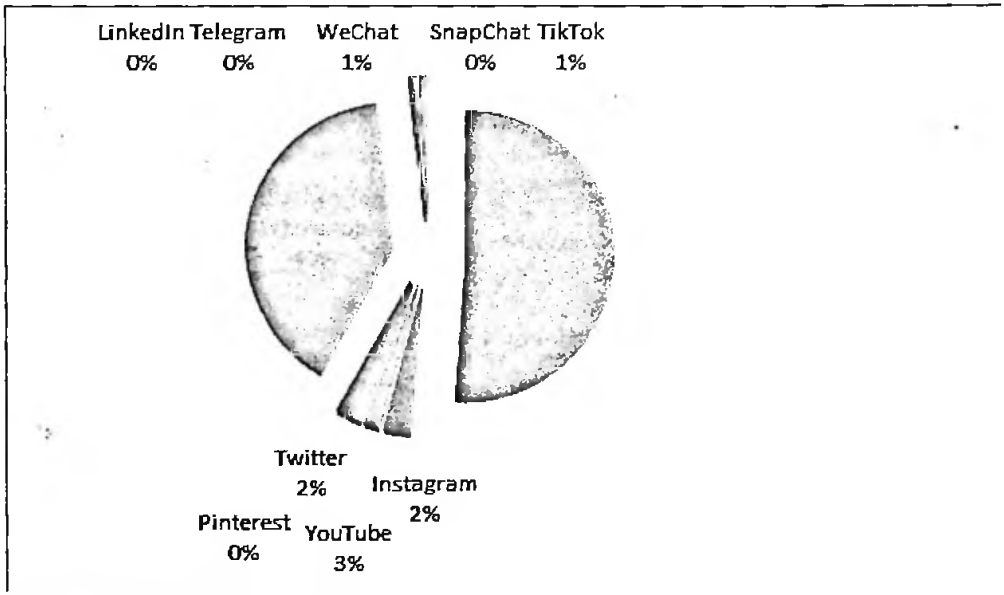
Agenda Setting Theory was proposed by McCombs and Shaw in 1972. According to these theorists, agenda setting is the idea that there is a strong correlation between the emphasis that the mass media place on certain issues - based on relative placement or amount of coverage - and the importance attributed to these issues by mass audiences. This implies that the theory is concerned with how the mass media focus their attention on a particular issue, thereby making the public to shift their thinking towards the direction of the issue. Relating the Agenda Setting Theory to this study, the online communication platforms are expected to set the agenda for public discourse on the scourge of malaria as a result of threat of the disease to human life.

Methodology

The study adopted the quantitative research approach and used survey to collect data. The population of the study were residents of Toto Local Government Area of Nasarawa State. The rationale for using the quantitative strategy was based on arguments by scholars that quantitative research generates reliable data that can be generalised to some larger populations (Traci, 2021 & Bhasin, 2022). The choice of studying Toto was based on reports by World Health Organisation (WHO, 2023) that mosquitoes are rampant in tropical countries, which Nigeria belongs and especially in the rural areas. According to information obtained from City Population (2022), the current estimated population of Toto Local Government Area is 183, 800. Out of this population, the study pulled out a sample size of 384 using Krejcie and Morgan (1970) sample size table. The researcher randomly distributed the questionnaire to only those who understand English language and who make use of the online communication platforms. 377 copies of the questionnaire were retrieved. The study then used tables, charts, figures, frequencies, and percentages to present data, and this was based on the fact that they are easy to understand.

Data Presentation/Analysis

Figure 1: Types of Online Communication Platforms Respondents Use to Access Malaria Messages



Source: Field Survey, 2023.

Results in the above Figure are an indication that Facebook and WhatsApp are the most used online communication platforms for seeking information such as health-related issues.

Table 1: Awareness of Malaria Groups on Online Communication Platforms

Options	Frequency	Percentage
Nigeria Malaria Twitter Data	23	6%
Management Sciences for Health (MSH)	10	3%
Zero Malaria Starts with Me	26	9%
Africa Fighting Malaria	16	4.2%
One Million Faces against Malaria – Project Blackout Task Force	7	2%
Draw the Line against Malaria	39	10%
Help Cure Malaria	22	6%
Burma Empowerment Action Team: Beat Malaria	0	0%
Malaria Action Now	15	4%
Malaria-to-Zero-Initiative	18	5%
Net-a Sucker	9	2.3%
Nothing But Nets: Broughton	0	0%
Bring Back DDT	0	0%
Join One Million Faces against Malaria for Positive Change	32	8%
Mosquito should FOAD	0	0%
Nothing But Nets: Campaign	0	0%
Stop Malaria in Africa	20	5%
Nothing But Nets alone	13	3.4%
The Malaria Foundation International	41	11%
Nothing But Nets	11	3%
Help the Fight against Malaria	18	5%
Great Malaria Facebook Race	37	10%
UMaine Fights Malaria	0	0%
Faith Acts Malaria	7	2%
Buzz and Bite Malaria Prevention Campaign	13	3%
Upper Valley Nothing But Nets (Students-to-Students)	0	0%
Total	**377**	**100%**

Source: Field Survey, 2023.

The Table above reveals with 11% that most of the respondents are aware of the Malaria Foundation International on the online communication platforms. Other top findings include awareness of Draw the line against malaria (10%), Zero Malaria Starts with Me (9%) and Great Malaria Facebook Race (10%). It could, therefore, be deduced from the finding that online communication messages concerning malaria are getting to the people.

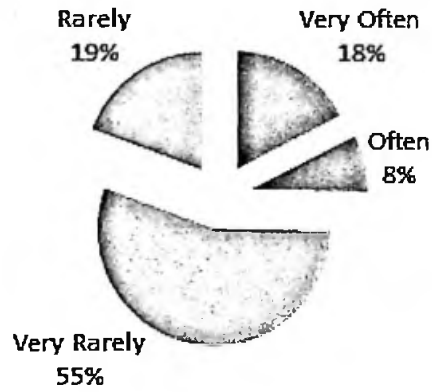
Table 2: Types of Malaria Prevention Messages Received from Online Communication Platforms

Options	Frequency	Percentage
Use of Insecticide Treated Net	17	5%
Making malaria a top government agenda	11	3%
Mobilisation of additional resources	8	2%
Messages on empowering communities to take ownership of malaria prevention and care	14	4%
Early treatment and how to treat it	33	9%
Wearing of clothes that cover most of the body	27	7%
Use of insect repellent on exposed skin	19	5%
Putting of screens on windows and doors	23	6%
All of the Above	225	60%
None of the Above	0	0%
Total	**377**	**100%**

Source: Field Survey, 2023.

In this Table with analysis of types of malaria prevention messages received from online communication platforms, it is discovered that are very good number of the respondents are awareness of messages such as early treatment and how to treat it (9%), putting of screens on windows and doors (6%) and wearing of clothes that cover most of the body (7%). The result is an indication that there are online messages concerning prevention and management of malaria. Thus, implication could be more adoption of the messages among the people.

Figure 2: Frequency of Finding Malaria Disease Messages on the Online Communication Platforms



Source: Field Survey, 2023.

The data shows that a high proportion of the respondents (55%) affirmed that they come across malaria-related messages on the online communication platforms on very rare basis. The implication of this finding is that since the online media is able to reach a seasonable number of rural dwellers with malaria-related messages, it can then be inferred that malaria prevention in Nigeria is possible through the deployment of online communication tools for campaign against the scourge. Further, the digital media need to do more.

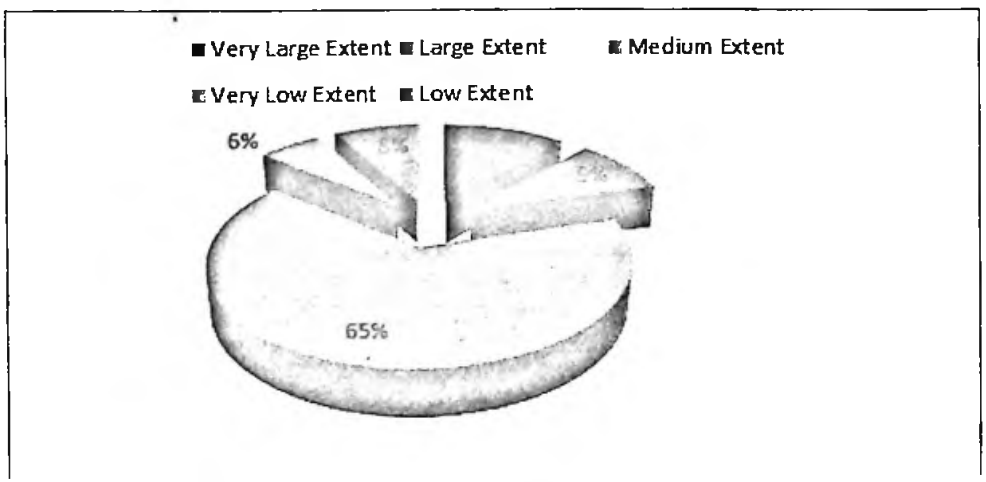


Figure 3: Extent of Utilisation of Messages Respondents Received from Online Communication Platforms Concerning Malaria Prevention and Management

Source: Field Survey, 2023.

The Figure above indicates a result of higher proportion of the respondents (65%) who agreed that the utilisation of the messages is at a medium extent. The implication is that malaria disease may continue to ravage the people if drastic measures are not taken to deepen the preventive measures among the people.

Discussion of Findings

This is done according to the research objectives:

Research Objective One: To find out the online communication platforms residents of Toto LGA use to receive enlightenment information regarding

malaria disease: Findings revealed that the dominant online communication platforms used in Toto LGA are Facebook and WhatsApp (Figure 1 above). The finding agrees with Sasu's (2022) position that WhatsApp is the most popular online communication tool used by Nigerians, with more than 90 million users. Temiloluwa (2021) corroborates that Facebook has 48.3 million followers in the country, with an average time per visit standing at 18 minutes and 90 seconds. Fox (2013a) supports further that large percentage of people in today's world turn to the digital environment to look for health information either by reading health contents or viewing videos online that relate to health.

Research Objective Two: To assess their awareness of online communication platforms used to disseminate malaria ailment: Data show that the respondents are aware of digital media used to disseminate information concerning malaria. These include Nigeria Malaria Twitter Data (6%), Zero Malaria Starts With Me (9%), Help Cure Malaria (6%), Draw the Line against Malaria (10%), Great Malaria Facebook Race (10%), and Stop Malaria in Africa (5%), among others (Table 1 above). Egbunike's (2011) finding is in line with this result. Egbunike established that there were quite a number of malaria prevention strategies online that the affected populations are aware of. This further demonstrates the position of the agenda setting theory adopted in the study, which argues that the media is expected to set agenda for discussion on all issues.

Research Objective Three: To find out the forms of malaria prevention messages the respondents receive from online communication platforms: Here, the result of the study indicates that malaria prevention messages received via new media included how to use the Insecticide Treated Nets, advocacy for the government to prioritize malaria prevention and control in its agenda, wearing of clothes that cover most of the body, use of insect repellent on exposed skin, and early treatment (Table 2 above). Talipouo et al (2019) study agrees that malaria was being prevented through the use of treated bed nets, but this knowledge was more pronounced among those who have acquired university and secondary education. Finding further shows that the respondents get messages on malaria on rare occasion (Figure 2 above).

2**To find out whether the messages they get from the online communication platforms have improved their knowledge of preventing and managing malaria scourge:** Data as presented in Figure 3 above revealed that the respondents have been applying the messages, they received from the online

media concerning malaria to some extent . This finding is not far from that of Talipouo et al (2019), which discovered that in spite of the knowledge of malaria and its prevention among the people, only few of them apply good practices. Umar (2021) equally discovered that malaria still has adverse effects on pregnant women and children under five years old.

Conclusion

The crux of this research is to assess the use of online communication platforms for enlightenment against malaria disease in Toto Local Government Area of Nasarawa State, Nigeria. The study, therefore, concludes that residents of Toto make use of Facebook and WhatsApp to access information online. Also, various online platforms and groups such as Nigeria Malaria Twitter Data, Zero Malaria Starts With Me, among others are used to disseminate malaria-related preventives messages. These include how to use of Insecticide Treated Net, wearing of clothes that cover most of the body and use of malaria repellent on exposed skin. However the utilisation of the messages is low.

Recommendations

The study recommends the following based on the findings:

i. The people should continue to make use of the new media to draw knowledge on best malaria preventive and control measures.
ii. More online communication tools should be used by the people as against the WhatsApp and Facebook that is dominant among them. This is because other digital platforms like YouTube, Twitter and the likes do disseminate health information.
iii. Nigerian government should intensify its malaria prevention campaign through the deployment of the new media.

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