

Communicating the Use of Insecticide Treated Mosquito Nets in the Fight of Malaria in Ebonyi State

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Abstract

The focus of this work is on the fight against malaria in Ebonyi State by creating awareness on the use of Long Lasting Insecticide Mosquito Nets (LLINs). The impact of malaria in Nigeria and Africa in general is devastating because a lot of people particularly pregnant women and children under the age of five have lost their lives through malaria. It is in realization of this fact that many governments (particularly in developing countries) non-government agencies such the World Bank, World Health Organization, good spirited individuals, among others, have embarked on serious fight against malaria. For instance, in 1997, Nigeria adopted its first national malaria control policy that identified malaria control as a priority health programme. Furthermore, Nigeria's Roll Back Malaria (RBM) programme was launched in 1998. The goal of the programme is to halve the world's malaria burden by 2010 with further reductions over subsequent years to achieve an overall reduction of 80% in 2013. Today emphasis is laid on the use of Long Lasting Insecticide Net which is the focus of this work. Despite these efforts malaria scourge still exists in Nigeria and particularly Ebonyi State which is the area of this study. However, the health development planners recognize the crucial role of Communication in Developmental Process. This implies that Communication is Central in any type of development.

Key words: Communication. Malaria Prevention. Ebonyi state. Insecticide Treated Mosquito Nets.

Introduction

There is no doubt that there is a link between Development and Communication. Development is defined as a movement (change) from existing conditions or situations that are no longer considered conducive to societal or group goals and aspirations to those that can meet expected societal or groups, goals and aspirations (Moemeka, 2013). On the other hand, communication according to Baran (2002) is the transmission of a message from a source to a receiver. This is expressed in terms of the basic element of communication process. Communication occurs when a source sends a message through a medium to a receiver and the message produces the effect. Development Communication is the role of communication in development processes. No wonder (Bello, 2013) says that scholars of communication and other disciplines have all identified the mass media and communication in general as important social agents in the course of developing any society.

Oso (1999) cites McQuail as stating that communication and mass media serve the purpose of extending public education and promoting innovation in agriculture, health and population control. There is no doubt that improved health system is a major issue in the development of any nation (Bello, 2013). The health sector is very important and that is why the United Nations in its Millennium Development Goals (MDGs) focuses on three areas of health namely: Goal 4: Reduce Child mortality, Goal 5: Improve maternal health, Goal 6: Combat HIV/AIDS, Malaria, and other diseases (Bello 2013).

Lawanson (2004) posits that health is very crucial for the development of human capital and productivity in a country. Only a healthy population can be fit enough to learn all the required skills for productive purposes and have the stamina to engage in production of goods and services to steer the economy of the country forward. He goes on to say that the level of health in Nigeria is low and this has resulted in low quality of human resources and strength of human capital. A clear and specific mention is given to Malaria owing to its degree of deadlines and the rate at which the disease is ravaging the countries of the world especially the developing nations (Bello, 2013).

It is therefore expected that the Mass Media comprising of radio, newspaper, television, books, magazines and the internet can be used effectively to create awareness and disseminate information on health issues particularly in the fight against malaria which is the focus of this study. This work however focuses on the newspaper which is a major means by which information is disseminated to the public. Daramola (2003) asserts that newspaper provides a wider variety of news and information than the other media, and they present far more details than radio and television.

According to Oyebanji (2007) the health condition in Nigeria is highly deplorable. Thousands (both children and adult) suffer from diverse health problems such as malaria, typhoid, polio, chicken pox, diarrhea, guinea worm, measles, just to mention a few. The health situation is even worse in the rural areas. According to Tuluhungwa and Bassiouni (1989) and Onabanjo (2002) there is high infant mortality rate, high prevalence of disease, inadequate health care facilities and few health personnel. Commenting on the state of health in rural areas, Onabanjo (2002) remarks, rural areas are notable for high levels of sickness and mortality physical and mental lethargy these are related to poor intake of nutritive food and the lack of health facilities.

According to Soola (2003) "the power of newspaper to inform, educate, sensitize, conscientize and mobilize a people is to say the least, tremendous. Also Media Awareness Network (2007) opines that newspapers perform a number of functions for the public such as informing the public by supplying facts, figures, charts, maps, photos and illustrations, it educates; going beyond the basic facts to in-depth analysis in feature stories, columns editorial and opinion piece. It also entertains with humours, columns features, comics and puzzles. It is against this background that this professional project is anchored on using feature article to communicate the use of treated mosquito net in the fight against Malaria in Nigeria particularly in Ebonyi State.

Statement of Problem

Currently, malaria accounts for nearly 110 million clinically diagnosed cases per year. About 60% of out patients visits and 30% hospitalizations; an estimated 300,000 children die of malaria each year. It also causes up to 11% maternal mortality, 25% infant mortality and 30% children less than five mortality (FMOH, 2009-2013).

According to World malaria report 2005, malaria kills over one million people and sickens between 350 and 500 million more people each year world wide. Nine out of ten deaths are among sub Saharan African children below age five. Malaria kills African children every 30 seconds. Malaria has been rated a greater killer than the dreaded Acquired Immune Deficiency Syndrome (AIDS). Malaria is predominantly an African health problem. It is more endemic in Nigeria than in any other country. Out of the world's 300 million reported cases, 255 million are said to be found in Africa. According to statistics, 60 million people in Nigeria experience malaria attack in a year, while over 80 percent of the entire population in 2005 are exposed to the disease (Odiaka and Okumephuna, 2005).1

According to Vestergard Frandsen, a renowned leader in disease control, N132 billion is the country's economic loss to malaria. He also disclosed that about 110 million cases of malaria were treated in Nigeria yearly, adding that, of the figure 60 million were out patients and 30 million were actually

hospitalized. He disclosed further that 300,000 children died yearly from the infection besides adults Babalola (2006). Apart from killing an African child every 30 seconds, pregnant women and their unborn children are particularly vulnerable to malaria which is a major cause of prenatal mortality, low birth weight and maternal anaemia (Nwaneri, F. 2003).

In Nigeria, malaria is a major public health problem, it has a record of about three million reported cases of death with more than a million of those cases among children under the age of 5. Malaria is the cause of almost 25 percent of infant deaths and 30 percent of childhood mortality cases in the country (Ogundipe (2008).

Economic impact of malaria is enormous with about N132 billion lost to malaria annually in form of treatment costs, prevention, loss of man hours among others. Most deaths due to malaria occur at home hence are not reported FMOH (2009-2013). Until recently, in areas of high malaria transmission such as Nigeria, malaria treatment has been based mainly on clinical diagnosis which was presumptive, because malaria was considered one of the commonest causes of fever (FMOH, 2011).

Malaria, according to World Health Organization, (WHO) is a major public health problem affecting more than 500 million people worldwide and killing approximately two million children every year. Africa alone bears 90 percent of the world malaria burden. According to the World Health Organization, \$2 billion dollars is directly or indirectly lost to malaria yearly (Tosin, 2004).

Children under the age of five are more likely to die of malaria attacks because their young blood cells are easily destroyed leading to anemia. It could also cause sickness like severe diarrhoea, infection of the gut and of the brain. It also makes a child restless and can lead to convulsion (Tosin, 2004). Malaria infection on pregnant women can lead to miscarriage or abortion. It may cause the unborn child not to develop very well and be small in size at birth. It may also lead to pre-mature birth (Tosin, 2004).

According to Lambo (2004), pregnant women and children under five remain vulnerable, not as a result of their fault but due to physiological exigencies. Malaria robs the country of substantial investment, growth and development. The disease is killing a substantial number of children in the country, impoverishing those who survive its repeated annual attacks. Statistics from the ministry showed that malaria leads to 25 percent of infant mortality. (Ukwuoma, 2007).

The introduction in 2005, of Artemisinin based Combination Therapy (ACTs) as treatment of uncomplicated malaria following the failure of chloroquine and sulphadoxine- Pyrimethamine revolutionized the treatment of malaria in the country. Presently ACTs are the most efficacious anti malaria treatment available globally.

Chukwu (2011) further states that in a renowned effort to control malaria, emphasis has shifted from the vulnerable groups to the entire population at risk. Furthermore, the Road Map (2009-2013) put in place a good number of things in the control, and prevention of malaria. Such things include effective case management, malaria prevention in pregnancy, use of insecticide treated Nets (ITNs) as part of Integrated Vector Management (IVM) Larviciding Environment management.

Advocacy, Communication and Social Mobilization Approaches to Controlling Malaria.

This communication plan incorporates the advocacy, communication and social mobilization approaches to controlling Malaria. It is based on the premise that everyone is at risk of malaria infection. It is designed to encourage leaders, health workers, community members and individuals to take specific minimal double actions to prevent and or treat malaria in themselves and in others, and it specifies how they are to be done, and the benefit of taking those actions (FMOH, 2010).

Information should be disseminated using appropriate media to emphasize the mandatory use of ITNs/LLINs by all public and private institutions such as schools, health institutions and hotels. Also, there should be information on prevention of Malaria through the use of ITNs/LLNs at all ports of entry into the country such as land and air (FMOH, 2009).

The plan is based on the theory that behaviour change is a process that begins with sending and receiving the relevant messages; followed by recalling them, believing them, intending to act on them, acting and advocating/recommending them to others hence improvements in health status (FMOH, 2010).

The researcher used newspaper feature articles complimented with traditional media in communicating the use of insecticide nets in Ebonyi state which will be published in a local newspaper (Citizen Advocate) and will be dispatched to the Local Government chairmen, Chiefs and opinion leaders in each local government areas. These people would disseminate information to both literate and illiterates. Some traditional media such as village square, resourced/viewing Centres, Opinion leaders will be used to disseminate information to the illiterate masses on the need to accept and use correctly the LLINs in the fight against Malaria in Ebonyi State.

On the other hand, the literate ones will be encouraged to read the article in the newspaper. This can be done through the local government chairman who can get some copies and distribute to them in the villages. However, those in the urban areas can pick copies either from the publisher or from the church if announcement is made to that effect.

Print Medium of Choice

There are a lot of reasons why the researcher used print medium (a newspaper feature article). Such reasons include the following in line with the postulations of (Moemeka, 2012):

- (i) Clippings from the print media can be fited away and referred to again and again and passed from one reader to another
- (ii) No special equipment is required to gain access to the content of newspapers.
- (iii) They can be carried easily from one place to another.

Highlighting the characteristics of a feature story (Omojuwa, Ofulue, Onwubere 2008) opine that a feature story is a colourful story about people, events, places, and life. Furthermore, it is an in-depth research and creative piece of writing with information drawn from eye witnesses and experts on the subject.

Also, a feature story is imperishable, cannot be scooped, can be created from mudane ideas or issues, give in-depth information on topical issues delayed and more complete, stylish and colourful (Omojuwa, Ofulue, Onwubere, 2008).

Other advantages are that feature stories do not require light or battery and they are read under relaxed atmosphere. It is against this background that the researcher decided to use print medium (a feature story in a local newspaper) to carry out this assignment

Campaign Message

The campaign messages should capture the thematic areas such as belief to promote, action to promote, role of individuals/families/communities, organizations and governments, myths and misconceptions to address, environmental management and the media. The Need for this project is to

create awareness through feature article in a local newspaper why Ebonyi residents should accept and use the Long Lasting Insecticide Nets (LLINs).

The Ebonyi State coordinator of Malaria control, Mr. Lawrence Nwankwo emphasized that why Malaria still persists in Ebonyi state despite the efforts made by the government is because of people's attitudes. He said that the government of Ebonyi State would provide the nets and people would refuse to sleep in the nets. People would not clean their environment or get drugs in the nearby health centres free of charge. Instead of appreciating the efforts of the government, some are skeptical because the facilities are free. They concluded that what government is giving free should be re-evaluated because nothing good is given free. Some say they suffocate inside the nets, while others use the nets wrongly. He pointed out that some wash their nets before use instead of airing the net for 24 hours. Majority of Ebonyi residents do not even know when the nets expire, hence the need for the topic communicating the use of mosquitos' nets in the fight against Malaria in Ebonyi State.

There is no doubt that Malaria in Nigeria is endemic and it constitutes a major health problem. The National Malaria control programme (NMCP) has made significant strides in the past few years towards a formal policy framework for control of Malaria in Nigeria and recently revised the 2006-2010 National Malaria control strategic plan (NMSP) to produce the 2009-2013 new NMSP. This is to ensure that Malaria related mortality and all causes of mortality in children and material mortality is reduced by at least 50% by 2010 (Osotimehin 2009).

Conceptual clarifications

Malaria is defined as acute or chronic disease caused by the presence of sporozoan parasites of genus plasmodium in the red blood cells, transmitted from an infected to uninfected individual by the bite of anopheline mosquitoes, (<http://www.merriam-webster.com/medical/malaria>).

Furthermore, Chambers Dictionary (2009) defined malaria as an infectious disease that produces anemia and recurring bouts of fever, caused by parasitic protozoan which is transmitted to humans by the bite of mosquitoes.

Malaria is also defined as a life threatening blood disease caused by a parasite that is transmitted to humans by the Anopheles mosquitoes, (<http://www.medicalnewstoday.com/articles/15670.php>).

Malaria is characterized by periodic attack of chills and fever that coincide with mass destruction of blood cells and the release of toxic substances by the parasite at the end of each reproductive cycle (<http://www.merriam-webster.com/medical/malaria>).

A bite from a parasite infected mosquito causes malaria. There are five species of plasmodium (p) parasites that infect people-as analyzed below (<http://www.merriam-webster.com/medical/malaria>).

Infection with *P. falciparum*:

- *P.falciparum* is found in the tropics and subtropics (nears the equator).
- Infection with *P. falciparum* can lead to life threatening complications after the first few days.
- *P. faclciparum* is often resistant to a popular antimalaria medicine (chloroquine) and needs treatmentwith other medicines.

Infection with *P. vivax*, *P. malaria*, *P. ovale* or *P. Knowles*:

- *P. vivax* and *P. malariae* occur all over the tropical regions of the world, *P. ovale* is found in Western Africa, and *P. Knowles* is found in Southern Asia.
- Infection with *P. vivax*, *P. malariae*, or *P. ovale* is usually not life threatening and a person may recover in a month without treatment. But infection with *P. Knowles* may be fatal.

However, there is so much that is unknown about what makes them bite one person in preference to another. While researchers are yet to pinpoint what mosquitoes consider the ideal human flesh there is tremendous amount of research being conducted on what is considered the “magnetic” compounds and odour people exude that might be attractive to mosquitoes (Ogundipe, 2005).

According to the American Mosquito Control Association, there are over 400 different compounds that fall into this category and researchers think they are just beginning to scratch the surface (Ogundipe, 2005).

Malariologists, Entomologist (experts on insects) and other scientists believe that genetics account for 85 percent of our susceptibility to mosquito bites. According to them; people with high concentration of steroids or cholesterol on their skin surface attract mosquitoes. The insect also targets people who produce excess amount of certain acids such as uric acids, which can trigger its sense of smell. Malaria is classified into uncomplicated and severe Malaria. Uncomplicated Malaria is systematic malaria that has no life-threatening manifestations while severe malaria can cause the death of an individual due to plasmodium falciparum.

Malaria has had a devastating impact on people across the globe, including Nigeria. The latest WHO report indicates that 3,000 children mostly in the rural areas die of malaria everyday in Africa. The record also indicates that 41% of the world’s population live in areas where malaria is transmitted, which translates to 350-500 million cases of malaria globally every year. Ademowo (2009) observes that malaria does not only hinder international trade and development, but is equally the major cause of absenteeism from work and school in Africa. It also negatively affects productivity and labour supply due to illness and death.

In Africa, the direct annual economic losses resulting from malaria attacks amount to about 12 billion US dollars. The 6th goal of the MDG is to combat HIV/AIDS, malaria and other diseases. More importantly, a clear and specific mention is given to malaria owing to its degree of deadliness and the rate at which the disease is ravaging countries and nations (Bello, 2013). There is no doubt that scholars had realized long ago that in addressing issues of public health, the place of the Mass Media and communication cannot be over emphasized. Also in Nigeria, the 2008 WHO report on malaria shows that Nigeria accounts for a quarter of all malaria cases in Africa. The people who are at risk for severe malaria include children less than five years and pregnant women. Others include those returning or coming to Nigeria after living in malaria free areas and sickle cell anemia individuals.

People who are infested with malaria are typically very sick with high fever, chills and flu-like illness. Other symptoms of severe malaria include progressive weakness, abnormal behavior, convulsions, drowsiness, fast breathing, and reduced urinary output, among others. In line with the health hazard associated with malaria, concerted and continued efforts have been made to combat malaria over the years. Efforts ranging from scientific researches to determine the causes, symptoms, effects and prevention, which resulted in the discovery of various anti-malaria drugs to administrative efforts where WHO encourages international agencies such as Tropical Disease Research Control, World Bank, UNESCO, etc in the course of combating malaria in the world, especially in Africa (Bello, 2013).

Recently, the World Health Organization and other relevant agencies realized the pivotal role of communication and the media towards the improvement of public health and specially to combat killer

diseases such as malaria, HIV/AIDS and so on. For instance, Roll Back malaria (RBM) partners WHO United Nations Children's Fund (UNICEF), the United Nations Development Program (UNDP) and; the World Bank using communication for the prevention of malaria launched a public awareness campaign in Washington D.C in 2006 for the prevention of the disease www.worldbank.org.

The public awareness campaign was followed up by television and radio messages that were broadcast throughout Africa. The content of the message was to warn against the dangers of the ailment and urge parents and communities to protect young children from it (www.worldbank.org). Communication scholars and experts in other fields of mass media and communication in general are important social agents in the course of developing any society (Bello, 2013). Gambo (2008) equally observes that mass media of communication are social institutions that serve the society by gathering, writing and distributing news of the day.

It is against this background that this newspaper feature article focuses on communicating the use of insecticide treated mosquito nets in the fight against malaria in Ebonyi State. The use of insecticide mosquito treated nets in the control of malaria can reduce child deaths by over 20 percent and malaria illness by 50 percent. It can also prevent about a million deaths and cut malaria cases among children under five years by half. In 2004 less than five percent of African children were sleeping under a net (Njoku, 2005). An insecticide treated net is a mosquito net that repels, disables and/or kills mosquitoes coming into contact with insecticide on the netting materials.

There are two categories of nets namely conventionally treated nets and long-lasting insecticide nets. A conventionally treated net is a mosquito net that has been treated by dipping in WHO recommended insecticide. To ensure its continued insecticidal effect, the net should be re-treated after three washes or every six months. A long-lasting insecticidal net is a factory-treated mosquito net made with netting material that has insecticide incorporated within or bound around the fibres. The net must retain its effective biological activity without re-treatment for at least 20 WHO standard washes under laboratory conditions and three years of recommended use under field conditions (Global Malaria Programme). Untreated nets on the other hand, provide only physical barriers to mosquitoes and are not as effective as treated nets of insecticides when used individually. It is in recognition of the importance of treated mosquito nets in the fight against malaria that led the International Communities to make the nets available to developing countries of the world, including Nigeria.

Ebonyi State which is the focus of this writing has benefited a lot from the gesture. For example, the State Government in 2011 embarked on the universal campaign on net distribution. A total of 998,126 nets were distributed with every household receiving two nets each. Adenigbo Godwin a USAID representative pointed out that Ebonyi State has enough in terms of treatment of malaria. This was supported by the State Programme Manager on Malaria Control, Mr. Lawrence Nwankwo who noted that the success was achieved by State Ministry of Health who equipped health workers with diagnostic kits, microscope to carry out tests on them to know if they are suffering from the disease with a view to encouraging them to take relevant drugs and other treatments. However, Adenigbo, Godwin, a USAID representative observed that the nets are not readily available like malaria drugs this requires the state and development partners to work hand in hand to provide additional nets for the citizens.

The distribution of the insecticide mosquito treated nets is not across board in Ebonyi State and that is why some people are not aware of the free distribution of the nets by the Government. The development therefore requires effective dissemination of information for the targeted population to benefit. This is more so as the programme manager on malaria control in the state, Mr. Nwankwo said that discomfort, ignorance, lack of adequate manpower, belief system, low awareness particularly in the rural areas of the state are why some people have not benefited from the free distribution exercise. Indeed,

there is need to obtain and use Long Lasting Insecticide Nets correctly by the people, but the desired result will not be achieved without adequate enlightenment on its use.

The Campaign Messages Should Include:

- Promotion of ITNs/LLINs hanging and use. Despite the large scale distribution of ITNs/LLINs in Nigeria, the hanging and use remain unacceptably low. Some Ebonyi residents who obtained the nets free do not know how to hang it. There is need also for aggressive information dissemination on the correct practice of ITN to assist in malaria prevention and control in the area. Hangers kits should be deployed programmatically to ensure effective use of ITNs/LLINs in communities in the country. Sleep under the net every night, encourage fellow community members particularly pregnant women to access and use LLINs.
- The following myths and misconceptions should be addressed and they include: that LLINs cause rashes and other allergies, it is too hot to sleep under LLINs, LLINs make good fishing nets, sponges and cover cloths for sleeping.
- Other misconceptions and myths include that many pregnant women particularly in the rural areas hide the status of their pregnancy because of 'bad luck'. Some say that since the nets are distributed free of charge by Ebonyi State government that they are afraid of collecting them because nothing goes for nothing.
- Environmental Management should be encouraged because mosquitoes breed in uncovered stagnant water. There is need therefore to get rid of breeding sites.
- There is need to replace torn or worn out nets as well as supply to new families and family members. Targeting new population will include free distribution of insecticide treated Net/Long lasting Insecticide Nets (ITNS/LLINs) through routine health services Ante- natal clinics and other programmes/strategies.
- There is also need to integrate communication strategies into the broad spectrum of malaria interventions.
- The ministry of health and other appropriate authorities should address in concrete terms the issues of myths and misconceptions in the fight against malaria. Also, they should make the populace aware of the importance and proper use of the treated nets through the mass media and other means of communication.

The focus of this write-up is on communicating the use of ITNs/LLINs in the fight against malaria among Ebonyi residents. The campaign should therefore address the correct use of ITNs/LLINs, the myths and misconceptions surrounding the use of nets and the attitude of some Ebonyi residents who refuse to access the facilities on ground. For example, refusing to sleep in the net or accessing drugs free - of -charge in the nearby health centres.

However, all hands should be deck in the fight against malaria in Ebonyi State. In other words, the policy makers, health provider, communities/Local Organisations, individuals/family heads and the media should work hand in hand in controlling malaria in Ebonyi State.

Summary

The primary concern of this professional project was to use feature article in a local newspaper in communicating the use of Insecticide treated mosquito nets in the fight against malaria in Ebonyi State. A brief introduction of the role of communication in development particularly in the area of health was highlighted and the background of the study analyzed.

The background revealed that malaria has claimed many lives in developing countries particularly among pregnant women and children under the age of 5 years. It is in realization of this fact, that several interventions have been put in place to control malaria. Such interventions include; prevention of malaria

transmission through vector control as part of an integrated vector management strategy (IVM), prompt diagnosis and adequate treatment of clinical cases. Others are complementary and indoor resided spraying (IRS), use of environmental management larviciding to reduce mosquito population and universal access to and the use of Long Lasting Insecticide Nets (LLINs) by all population groups, which is the focus of this project.

The aim of this study is to reduce malaria morbidity and mortality in Ebonyi by using Long Lasting Insecticide Nets (LLINs). Also, the need for this project is to create awareness through local newspaper article on why Ebonyi residents should accept and use the Long Lasting Insecticide Nets in Ebonyi State. Finally the work postulates that all hands should be on deck in the fight against malaria. In order words, communication should be complemented with other intervention strategies in the fight against malaria in Ebonyi State.

Conclusion

This study focused on the use of feature article in a local newspaper to create awareness on the use of long lasting insecticide Nets in the fight against malaria in Ebonyi State. The available records show that many people do not use treated insecticide nets in Ebonyi State because of challenges such as myths and misconceptions, ignorance, wrong use of nets among other.

The use of long lasting insecticide treated mosquito nets alone cannot curb the menace of mosquitoes in Ebonyi State. So, communication should be at the centre in creating awareness on all intervention strategies in the fight against malaria in Ebonyi State, Nigeria and Africa in general.

Recommendations

Based on the study, the following recommendations are put forward:

- (1) The campaign message should address the myths and misconceptions surrounding the use of the Long Lasting Insecticide Nets.
- (2) People should be educated on the correct use of Long Lasting Insecticide Nets. For example, they should air the net for 24 hours before use and avoid washing. Nets that have lost their values should be replaced.
- (3) There should be an integrated approach in the fight against malaria in Ebonyi State. This implies that there should be a cordial relationship between the government and the International bodies in providing the nets promptly. The media should create awareness on the availability of the treated nets and the masses should use the nets correctly.
- (4) There should be a column in the local newspapers where up-to-date information about malaria should be published on a regular basis.
- (5) There should be proper monitoring and evaluation by the coordinator of Roll Back malaria and others who are involved in the fight against malaria in Ebonyi State.

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