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**RESPONSIVENESS OF MOTHERS TO MEDIA  
MESSAGES ON PROMPT TREATMENT OF MALARIA  
(PTM) IN CHILDREN**

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**ABSTRACT**

*Malaria has remained a major cause of mortality among children who are under five years old in Nigeria. Prompt Treatment of malaria (PMT) in children at the onset of malaria has been identified as one of the Roll Back Malaria (RBM) interventions in controlling child mortality. This work examined mothers' responses to media messages on Prompt Treatment in Malaria (PTM) in children. The participants were drawn from 200 mothers in Aba South L.G.A of Abia state Nigeria via multi stage sampling technique. The result of the study showed that mothers are exposed to PMT campaign messages. They are also knowledgeable of the symptoms and causes of malaria. It also revealed that mother start treatment within 8 hours of onset of malaria in their children. However, they use chloroquine in treating malaria in children rather than the recommended ACTs. This finding indicates that mothers still need to be sensitized on the need to use appropriate treatment in malaria. The study concluded that mothers should accelerate positive action towards prevention and control of malaria in their children. It equally recommended that wider publicity using interpersonal and group means (churches, village square, markets, etc), be given to issues on (PTM) in order to spur more women, especially the less educated in rural communities without access to the conventional media into taking positive action towards the treatment.*

**Keywords:** *Malaria, Caregivers, Under five children, Prompt treatment in Malaria, Child Mortality.*

## Introduction

Malaria is one of the most devastating diseases which threaten the lives of the world's population, especially children. According to Global Health Technical Briefs (2005), Malaria causes between 300 and 500 million illnesses and kills 1 to 2 million people each year. More than 90% of these illnesses and deaths occur in sub-Saharan Africa, where 1 in every 5 childhood death is caused by malaria making it one killer of young children. In 2016, there were 216 million cases of malaria in 91 countries, 5 million more than the 211 million cases reported in 2015. This marks a return to 2012 levels. Malaria continues to claim a significant number of lives: in 2016, 445 000 people died from malaria globally, compared to 446 000 estimated deaths in 2015. Children under 5 are particularly susceptible to malaria. The disease claims the life of a child every 2 minutes. Fifteen countries – all but one in sub-Saharan Africa – carry 80% of the global malaria burden (WHO, 2018). Furthermore, Nigeria accounts for more than 40% of estimated global malaria deaths according to World Health Organization (WHO, 2013).

In Nigeria, childhood malaria remains a vital concern in spite of major efforts to control it. The Nigerian government had overtime taken several sensitive measures towards addressing the problem of Malaria in the country. According to Hogan and Adindu (2013, p. 5), the National Malaria Control Program (NMCP) is progressing with increased funding from the Global Funds for AIDS, Tuberculosis and Malaria as governments are working toward increasing households with insecticide treated nets (ITNs), increase the number of children under five years sleeping under ITN; and increase the number of persons treated with effective anti-malaria within 24 hours of symptom. National minimum package for malaria control includes availability of insecticide treated nets for every pregnant woman and child under five years; use of artemisinin based combination therapy (ACT) for uncomplicated malaria; institutionalizing case management; and use of sulphadoxine – pyrimethamine for intermittent prevention in pregnant women (FMOH, 2007). Perhaps, due to increasing

level of mosquito resistance to anti-malaria drugs, the World Health Organization recommended the use of combination rather than mono-therapy, with integrated approach, prevention, access to treatment, and prompt treatment with effective drugs.

Unfortunately, most Nigerian, especially, mothers tend to perceive severe malaria cases as manifestation of minor fever and see assistance from health professionals necessary as the last option. For instance, Hill, Kendali and Auther (2003) in a study on mothers' behaviour toward effective treatment of malaria, discovered that most mothers seek medical assistance mainly at critical conditions. This, according to them, is manifested by high fever, inability to stand or walk, refusal to eat, loss of consciousness, severe diarrhea, vomiting and so on. Hence, considering the very nature of children under the age of five, who depend on their parents or guardians, and the need to sustain their health in the interest of the society, the question that clamors for answer is the extent to which caregivers, especially the mothers recognize the significance of prompt and early treatment of malaria, which is one of the bases of its control.

Although the fatality rate for severe malaria among children is 10 - 30%, and are mainly due to cerebral malaria (Chirdan, Zoakah & Ejembi, 2008 as cited in WHO technical report series, 2000), maintain that negligence and improper treatment of the ailment cause the disease to take more lives of these children. Prompt disease recognition followed without delay by high quality treatment of malaria shortens the duration of the illness, reduces complication and saves lives. Treatment of malaria is expected to start within the home where caregivers of children especially mothers make key decisions and take actions to ensure proper treatment. This forms the basis for starting prompt treatment of malaria in children at the onset of fever.

However, Uzochukwu (2013) observed that even though effective interventions against malaria are available, the burden of the disease persists, largely because most people at risk of malaria are unaware of interventions; they are unable to afford them; or the interventions are inaccessible. Understanding people's awareness of malaria and the factors which influence their awareness are central to mounting successful interventions

to control malaria throughout the world. Thus reductions in the malaria burden will depend not only on the use of effective drugs and other preventive tools to combat malaria, but also on broader health sector development, including the integration of behavioural change communications. There is thus the need to discover how early the malaria symptoms are recognized in children and the appropriateness of the treatment measures being sought for by their caregivers. The basic presumption of this study is that caregivers, being aware of the dangers of malaria and complications associated with it, could heighten their willingness to adopt the appropriate treatment measures for the ailment, even as conveyed by the media. Hence the need to examine the responsiveness of mothers towards media messages on prompt treatment of malaria in children.

### **Statement of Research Problem**

Malaria episodes remain one of the most serious public health problems in the world despite the RBM interventions and information, education and communication (ICE) activities. Malaria, the fifth leading cause of death worldwide; the second leading cause of death in Africa, kills large number of African children each year (WHO, 2010, UNICEF, 2009). It has been observed that effective treatment of malaria within 24 hours from onset of symptom with timely and efficient treatment using artemisinin based combination therapy (ACT) is accessible for the control and prevention of this life threatening complication. Unfortunately, most childhood deaths from severe malaria are often due to delay in prompt treatment and use of other remedies by mothers before taking the child to a health professional. Hence, effective management of malaria in children under- five years requires mothers' prompt attention.

### **Objectives of the Study**

The major objective is to determine the responsiveness of mothers towards media messages on prompt treatment of malaria in their children. The specific objectives are to:

1. Ascertain the exposure of mothers to media messages on prompt treatment of malaria in children.

2. Find out their knowledge about malaria and its complications in children.
3. Discover their responses and treatment seeking behaviour towards the ailment.

### **Research Questions**

Drawing from the above objectives, this study was guided by the following research questions

1. What is the level of exposure of mothers to media messages on prompt treatment of malaria in children?
2. What is their level of knowledge about malaria and its complications in children?
3. What are their responses and treatment seeking behaviour towards the ailment?

### **Literature Review**

One of the Roll Back Malaria (RBM) strategies initiated in reducing malaria morbidity and mortality among children under the age of five is Prompt Treatment of Malaria (PTM). It is the rapid and effective treatment of children with malaria at home before going to a health facility within 24 hours of onset of symptom. The home is adjudged to be the first hospital for the management of malaria attack in children. Studies in Nigeria, Ghana, Mali and Zambia have shown that as many as 90% of children with fever are treated at home (Salako, Brieger, Afolabi, Umeh et al, 2001; Baume, 2002). Also similar studies in Nigeria, Burkina Faso and Kenya found that most mothers treat their child at home first using available drugs or herbs within the household. Help is sought from the wider community only when the home remedy fails (Uzochukwu et al, 2008; Muller et al, 2003 and Hamel et al 2001.)

With the inception of the Roll Back Malaria (RBM) Programme in 1998 initiated by World Health Organization (WHO), several evidence based and cost effective malaria control strategies recommended in reducing malaria morbidity and mortality have been made available including Home Management of Malaria (HMM) which emphasizes giving prompt and appropriate malaria treatment to children under five years (WHO, 2001).

These interventions Uzochukwu (2013) observed had been mounted in form of RBM intervention campaign messages as radio jingles, posters, handbills, and billboard messages in the country since 2010.



These billboards on prompt treatment of children in malaria display information in both Igbo and English Languages and tries to sensitize caregivers to start malaria treatment at home immediately a child is suspected to have malaria

However, the workability of this strategy remains skeptical because of some behavioural issues of most caregivers requiring specific behavior communication strategy. First, there are issues of poor recognition of malaria symptom which has to do with recognizing fever and symptoms of complicated malaria which requires prompt malaria treatment to be given to the child. Second is the problem of complacency which is a case of public attitudes. Because with mild cases of malaria, fever in a child may go without any treatment, parents often delay administering anti-malarias or seeking treatment from health facilities. The third one is the issue of self-medication and poor

treatment compliance, in which case people treat malaria at home with herbs or with left over drugs from previous attacks or treat with inappropriate drugs or incorrect dosages or use outdated malaria treatment medicines. Researchers have tested the veracity of these assumptions in different communities to determine the exact curative health seeking behaviour of respondents.

The 2005 report of the World Health Organization (WHO) observes that Malaria is widely managed in the home although treatment, often inappropriate, is obtained through largely unregulated and informal private sector. This view is supported by findings from Uzochukwu and his colleagues that rural households (more than urban households) mostly used the services of informal healthcare. Although the Primary health centers which are supposed to be the first port of call for patients in rural areas were not used significantly in their first action, its use increased in the second action significantly. This, according to the researchers, might be a reflection of the confidence they have in the health centers as a source of care for complicated cases and their perception of the quality of healthcare than the patent medicine dealers which they used more in their first action. The reasons why mothers and caregivers do not use the formal health centers for their first action were stated thus:

The fact that they did not use the health centers significantly in the first action might be due to their perceived high cost of treatment or that they were not easily accessible geographically. The patent medicine dealers have been known to be both financially and geographically accessible to rural dwellers (Uzochukwu et al 2008, p. 4)

Other studies have shown that by the time most fever patients reach the public health sector facilities, on average three or more days have elapsed since the onset of symptoms (McCombie, 1996). It is further shown that the use of formal healthcare services by the urban respondents could reflect the availability of these healthcare

services in the urban setting. Other determinants could be the difference in educational level and occupational status of the mothers in both areas with the urban mothers being more educated and having higher occupational status than the rural mothers. In Kenya, despite marked differences between the rural and urban areas in population structures and access to treatment providers, “rural and urban mothers’ treatment seeking pattern in relation to childhood fevers were similar” (Snow et al, cited in Uzochukwu et al 2008, p.7). Other studies have shown that preventive and curative health-seeking behaviours for children are clearly better in urban than rural areas.

Similarly, Chirdan et al (2008) also in their study to find out the impact of the information received on home management and treatment of malaria in their children, among mothers in North Central, Nigeria, found that for the majority of the children, the mothers prescribed and purchased the antimalarials from Patent Medicine Vendors (PMVs). Majority of the women studied gave reasons of proximity of the drug outlets to their homes and familiarity with the PMVs. According to them, women who were aged 18-42 years were more likely to prescribe and buy drugs from the PMVs themselves, than visit the health care facility. Findings from other studies showed that cost of treatment, waiting time and perception of severity of illness were factors associated with choice of treatment options (Kidane & Morrow, 2000; McCombie, 2002;)

An important insight drawn from some of these studies is that while people may be found to act promptly when confronted with a malaria attack, their action often does not translate to an appropriate action. Chirdan et al (2008) found that less than half of those studied (32%) took an appropriate action to either tepid sponge the children and or gave analgesic. In the same vein, while 86% of the women were reported to have treated their children with malaria within 24 hours of onset of fever, only 32% of these treatments were with adequate dosage of chloroquine which was the most used anti malaria drug in Jengre, the area of study.



## **Empirical review**

Some empirical literatures which lend credence to the present study were reviewed. Oreagba, Onajole, Olayemi and Mabadeje (2004), did a comparative assessment of awareness and treatment knowledge of malaria amongst caregivers of young children in urban and rural areas of Ado-Odo/Ota Local Government Area in Ogun State, using a structured questionnaires administered to caregivers of children under the age of five years in 1472 households via the multistage random sampling technique, it was found that caregivers of children in the communities studied have poor knowledge of Malaria which they mainly (65%) attributed to mosquito bite. According to the study, although caregivers in urban areas had better understanding of the dosage regimen for both adult and pediatric doses than those in rural areas, caregivers in urban areas also sought more frequently for treatment of their children that are febrile than those living in rural areas. These imply that the malaria interventions and treatment measures within the urban areas yield more positive result than those in the rural areas, perhaps due the environmental and socio economic backgrounds of the respondents.

It is also acknowledged in the 2005 report of the World Health Organization (WHO) that Malaria is widely managed in the home, although treatment, often inappropriate, is largely obtained through unregulated and informal private sectors. This view is supported by findings from Uzochukwu and colleagues that rural households (more than urban households) mostly used the services of informal healthcare. Similarly, Chirdan, Zoakah, and Ejembi (2008) also in their study on the impact of the information received on home management and treatment of malaria, among mothers in North Central, Nigeria, found that for the majority of the children, the mothers prescribed and purchased the antimalarias from Patent Medicine Vendors (PMVs). Majority of the women studied gave reasons of proximity of the drug outlets to their homes and familiarity with the PMVs. According to the scholars, women who were aged 18-42 years were more likely to prescribe and buy drugs from the PMVs themselves, than visit the health care facility. An important insight drawn from some of these studies is that

while people may be found to act promptly when confronted with a malaria attack, their action often does not translate to an appropriate action. Chirdan et al (2008) also found that less than half of those studied (32%) took an appropriate action to either tepid sponge the children and or gave analgesic. This present study; in the light of these past studies seek to discover the ways caregivers in Aba city respond to the campaign messages on prompt treatment of malaria in children.

Uzochukwu, Onwujekwe, Onoka and Ughasoro, (2008), in a study on Rural-Urban Differences in Maternal Responses to Childhood Fever in South East Nigeria, found that awareness of the association of mosquitoes with malaria was high especially in rural settings and that knowledge of complications of malaria such as convulsion, anemia, brain damage, kidney and respiratory problems assessed at baseline, are relatively high among mothers. They further argued that mothers had good knowledge of convulsions, anemia and respiratory problems which can be complications from malaria. Therefore, since mothers are aware of these dangers, the assumption of this present study is that they would positively respond to the prompt treatment of malaria in their children.

In 2010, FMOH malaria household survey was conducted in nine states of the federation. Among other finding from the survey it was observed that 5.8% children less than five years of age with fever received treatment with Artemisinin Based Combination Therapy (ACT) in 2010 compared to <1% in 2006. There is an indication of an increase in percentage over a period of four years; however, the increase is very negligible.

In a similar study by Tobin-West and Sede, (2011) on management and control of malaria in under five children in Rivers State, it was found that a high proportion of mothers and caregivers were aware that mosquitoes are the vectors responsible for transmitting the organisms causing malaria fever. They further gathered that good knowledge of the prevention of malaria among mothers such as the use of ITNs, Insecticide sprays, nets on windows and doors, and use of protective clothing was demonstrated by merely 5% of the respondents, although it increased after intervention.

This still echo the widespread knowledge of malaria complications and prevention among mothers.

In 2013, Ashikeni, Envuladi, & Zoakah, did a comparative study of the knowledge of mothers on the cause, prevention and complications of malaria in children both at the pre and post intervention programmes in Kuje Area council, Abuja. They found that at baseline, mothers of children less than five years old demonstrated poor knowledge of the cause of malaria, although this improved a bit after the intervention. According to Ashikeni, et al (2013, p. 219), "Poor knowledge of the cause of malaria was demonstrated by the respondents who thought malaria was caused by fatigue, exposure to sun, eating groundnut, drinking dirty water or by witchcraft.

### **Theoretical Framework**

This study adopts the Health Belief Model (HBM) as the framework to understand the responsiveness of mothers to media messages on prompt treatment of malaria in children, in order to help determine their level of practice of the messages to improve child health. HBM was developed in the 1950s by a group of socio-psychologists, Hochbaum, Rosenstock and others at the U.S Public Health Service to better understand the widespread failure of people participating in programs to prevent and detect disease. The HBM suggests that people's beliefs about health problems, perceived benefits of action and barriers to action and self efficacy explain engagement (or lack of engagement) in health promoting behaviour. It also holds that a stimulus or cue to action must also be present in order to trigger the health-promoting behaviour (Janz and Becker; 1984).

Put explicitly, the HBM assumes that behaviour change occurs with the existence of three ideas at the same time, including perceived susceptibility and severity, perceived threat and perceived benefits and barriers. This means that an individual recognizes that there is enough reason to make a health concern relevant (perceived susceptibility and severity); that person understands he or she may be vulnerable to a disease or negative

health outcome (perceived threat) and lastly the individual must realize that behavioral change can be beneficial and the benefits of that change will outweigh any costs of doing so (perceived benefits and barriers).

Bringing this model within the purview of maternal response to media message on prompt treatment of malaria in their children, the HBM can be a valuable tool in exploring the perception of mothers about malaria disease and its complications, the risk associated with it as well as the role of the media in triggering the desired action from the audience. Thus, for a behavioural change to occur a mother whose child has malaria, must understand that the child is at risk of complications which can lead to death, and as such take necessary health action to save the child's life.

## **Methodology**

Survey design is employed to study two hundred (N=200) adult women in Aba. A multi-stage sampling procedure was used. It involved randomly selecting an enumeration area from where some streets were randomly selected; even-number houses were purposively selected within the streets and finally respondents who had under five year children were purposively selected from the houses. The simple random sampling was used in the first two stages and purposive sampling at the last two stages. The sample of 200 was arrived at, out of the total population of 238,827 adult women using the sample size formula, espoused by Comrey and Lee (1992). Survey was considered appropriate because of the need to decode the mothers' responsiveness to health media messages on malaria prevention for child safety. The population comprises of mothers who are residents in Aba metropolis, though the 2006 population census only have the population of women as 238,827, while the population of mothers was not singled out. Aba was chosen because it is a commercial nerve centre of Abia state with the largest concentration of people who constitute the entire state's population. As a result of this settlement pattern, enormous environmental problems have become manifest, including refuse heaps, traffic congestion, overcrowding of residential areas and pollution of water bodies. These no doubt create the environment for mosquitoes to

thrive and as a result, tendency is high for malaria attacks on people, especially the children. Therefore, considering these environmental and climate conditions, this study is centered on the responsiveness of mothers to media messages on prompt treatment of malaria in their children.

Out of the two Local Government's Areas in Aba city (Aba South and Aba North), Aba South was purposively selected because it is the main city centre. Its headquarters is where most of the malaria control intervention programmes are accessed by the residents. A purposive sampling technique was used to select mothers who have at least one child who is under five years of age. Close-ended and pre-coded questionnaire, which was pre-tested via a pilot test, using 10 caregivers within the sample frame served as the instrument for data collection. The data was analyzed using simple frequencies and percentages in respect the research questions and problem earlier raised.

### **Analysis of results**

The entire 200 copies of the questionnaires administered among respondents, were all returned and found useful, representing a 100% return rate. Analysis of the demographic data of the respondents show that majority of respondents, 92 representing 46% fall within the age brackets 26 – 35 years of age. Also these respondents had formal education of primary (23%), secondary (37.5%) or tertiary education (29%), while only 11% of the respondents have no formal education. Most of the respondents are mainly traders (31%) and civil servants (26%). While house wives (24%), students (21%), self employed (5%) and unemployed (5%) were among the respondents. The implication of these findings is that a little below half of the respondents are young mothers with some level of education and a means of livelihood that predisposes them to take proper care of their children when sick

## Mother's Exposure to Media Messages on Prompt Treatment of Malaria

**Table 1: *Exposure to the media campaign messages***

<b>Mothers' Exposure to the messages</b>	<b>Percentages</b>
Yes	88% (N=176)
No	12% (N=24)
<b>Total</b>	<b>100%</b> <b>(N=200)</b>

Data contained in Table 1 shows that majority of the respondents (88%) are exposed to mass media messages on prompt treatment of malaria in children while only 12% are not exposed to them. This finding suggests that campaign messages on prompt treatment in malaria is widespread among mothers who constitute respondents for the study which therefore it is expected to translate into more positive action towards implementing the campaign messages. Considering that majority of mothers are fairly educated (90%) and are predominantly business people and farmers (31%). With more than two third (88%) of them exposed to the campaign messages, it is probable that there is high awareness of the campaign message on prompt treatment in children among the mothers

## Knowledge about Malaria and Its Complications in Children

**Table 2: Mothers' recognition of major illnesses causing fever and causes of Malaria**

Knowledge about symptoms of Malaria	Percentages	Major illness causing fever in children	Percentages	Mothers knowledge about cause of malaria	Percentages
Change in temperature	37% (N=74)	Malaria	78% (N=155)	Mosquito bite	93% (N=186)
Loss of appetite	21% (N=42)	Teething	8% (N=16)	Exposure to sun	-
Cold	12% (N=23)	Measles	6% (N=11)	Fatigue	4% (N=7)
Headache	20% (41)	Pneumonia	4% (N=9)	Taking excess groundnut contaminated water	1% (N=2)
body pains	10% (N=20)	Diarrhoea	4% (N=9)		2% (N=5)
<b>Total</b>	<b>100%</b> <b>(N=200)</b>	<b>Total</b>	<b>100%</b> <b>(N=200)</b>	<b>Total</b>	<b>100%</b> <b>(N=200)</b>

Apart from the wide exposure of these women to media campaigns on prompt treatment of malaria prevention, data contained in the above table also presents their knowledge of the symptoms and causes of malaria, as well as the major illnesses that cause fever in children. Majority of these mothers (78%) identified Malaria to be a major illness causing fever that threaten the lives of their children and also identified the major symptoms to include change in temperature (37%), followed by others such as; loss of appetite (21%), headache (20%), cold (12%), and body pains (10%). This is an indication that these women are quite aware of malaria signs and symptoms, perhaps due to past experiences and persistence of the ailment among their other children. Further investigation into mothers knowledge of the cause of malaria indicated that mosquito (93%) was mainly identified as the cause of malaria among children, other causes identified include; fatigue (4%), drinking contaminated water (2%) taking excess groundnut (1%). The severity of these mosquito bites obviously, is related to environmental condition of these women, especially those living in swampy areas.

**Table 3**  
**Mothers recognition of malaria threats, complications and treatments**

Knowledge of Malaria complications	Percentages	Perceived threat to life	Percentages	Knowledge of Appropriate treatment	Percentages
Yes	82% (N=163)	Yes	99% (N=198)	Paracetamol	8% (N=16)
No	18% (N=37)	No	1% (N=2)	Chloroquine	45% (N=91)
<b>Total</b>	<b>100%</b> <b>(N=200)</b>	<b>Total</b>	<b>100%</b> <b>(N=200)</b>	Sulfadoxine/Pyremethamine	12% (N=23)
				Artemisinin based combination Therapy (ACTs)	35% (N=70)
				<b>Total</b>	<b>100%</b> <b>(N=200)</b>

Table 3 presents mothers' knowledge about dangers of Malaria and its possible complications among children. As contained in the above table, 82 % of the mothers admit being aware that malaria poses serious dangers to children and may come with some complications in children, which could result in threat to the life of the child as indicated by (99%). However, despite the media campaign on the use of combination therapy in treatment of malaria as one of the interventions in prevention and control of malaria, a little below half of the respondents (45%) identifies chloroquine as the appropriate drug in treatment for malaria, while 35% of the respondents identified Artemisinin based combination Therapy (ACTs) as appropriate drug in treatment of malaria in children. The result of this finding raises a doubt on whether mother awareness/exposure to the media campaigns have actually translated into appropriate health seeking behavior.



## The Mothers' Treatment Seeking Behaviour and Responses to PMT Campaign Messages

**Table 4**

***Mothers' perception of the need to eliminate the malaria scourge***

<b>Recent Malaria attack on children</b>	<b>Percentages</b>	<b>Perceived severity of attack</b>	<b>Percentages</b>	<b>Time interval between onset of fever and treatment</b>	<b>Percentages</b>
Yes	76% (N=152)	Serious	62% (N=123)	0 – 8 hours	46% (N=91)
No	24% (N=48)	Not Serious	38% (N=77)	8 – 24 hours	30% (N=60)
<b>Total</b>	<b>100%</b> <b>(N=200)</b>	<b>Total</b>	<b>100%</b> <b>(N=200)</b>	24 hours to three days	10% (N=21)
				More than three days	14% (N=28)
				<b>Total</b>	<b>100%</b> <b>(N=200)</b>

The study went further to investigate the perception of these mothers towards eliminating the malaria scourge. Data presented above, also shows that more than two third of these women, have experienced malaria attack in their under five children in the last one or two months. Again a little above one half of the respondents indicated that the severity of the malaria attacked was serious however only 46% of them sought for treatment within 8 hours of onset of the disease. This does not show a positive behavioural disposition towards the campaign messages on the part of the women, a factor which more often worsens the health situation of their children.

This study further revealed that mothers' responsiveness to prompt treatment of malaria in children is based on their level of understanding, education, exposure and availability of some health facilities, as they apply certain precautionary and treatment measures to save their children's lives. About (27%) of the respondent stepped sponge their children as their first action on the onset of a fever, (42%) administered paracetamol, (14%) gave cold bath, while (15%) gave plenty of water. Still on their responsiveness, after the

precautionary measures taken by them, 40% treat their children themselves using available drugs in their homes, 31% of them visit patent medicine stores, 22% visit the hospital and only 7%, go to the health centre. These women further gave reasons for their choice of treatment as the following: quality of treatments (46%), cost of treatment (34%), their perceived confidence of the person consulted (10%), familiarity with the physician (8%). It is still evident from the responses of these mothers that awareness of the intervention has not actually translated into expected behavioural changes because most of them are still not conforming to the information received from the campaign messages on prompt treatment in malaria in children.

**Table 5: Mothers responses, treatment measures and reasons**

<b>Mothers' action at onset of fever</b>	<b>Percentages</b>	<b>Action Taken</b>	<b>Percentages</b>	<b>Reasons for choice</b>	<b>Percentages</b>
Tepid sponge	27% (N=54)	Self treatment with available drug in the house	40% (N=80)	Closeness to residence	2% (N=4)
Gave paracetamol	42% (N=84)	Visited patent medicine store	31% (N=62)	Familiarity with the physician	8% (N=15)
Gave cold bath	14% (N=21)	Visited hospital	22% (N=45)	Quality of treatments	46% (N=93)
Gave Plenty water	15% (N=30)	Visited Health Center	7% (N=13)	Perceived competence of the person consulting	10% (N=20)
Did nothing	2% (N=5)	Visited Traditional Healer	-	Cost of treatment	34% (N=68)
<b>Total</b>	<b>100% (N=200)</b>	<b>Total</b>	<b>100% (N=200)</b>	<b>Total</b>	<b>100% (N=200)</b>

This finding conforms with the observation by Lars & Beth (2000, p. 5) that treatment seeking behavior has been shown to be related to the cost, availability and cultural beliefs about the causes and effective cures for malaria-like symptoms.

### **Discussion of Findings**

Given the spread of media campaigns on prompt treatment of malaria in children, the health implications of this ailment, and the need to save the lives of children, the need arises to examine the responsiveness of mothers to the said campaign messages in the media. It is striking that majority of the respondents are exposed to mass media messages on prompt treatment of malaria in children, confirming that the campaign message is widespread among mothers in Aba. This finding corresponds with previous studies (Uzochukwu, 2013; NMCP, 2010) affirming that mothers are aware and exposed to the RBM media campaign messages. It was also found that their knowledge of the symptoms and causes of malaria, as well as the major illnesses that cause fever in children was high; they were also able to identify its symptoms to include change in temperature (37%), followed by others such as; loss of appetite (21%), headache (20%), cold (12%), and body pains (10%). This is an indication that these women are quite aware of malaria signs and symptoms. Further investigation into mothers knowledge of the cause of malaria indicated that mosquito (93%) was mainly identified as the cause of malaria among children, other causes identified include; fatigue (4%), drinking contaminated water (2%) taking excess groundnut (1%). The severity of these mosquito bites obviously, is related to environmental condition of these women, especially those living in swampy areas.

It is also evident that the level of knowledge of these mothers about malaria symptoms and causes of malaria in their children could be linked to their educational attainment which is associated with better malaria knowledge. Considering that majority of mothers are fairly educated (90%). This supports the views of Dike, Onwujekwe, Ojukwu, Ikeme, Uzochukwu and Shu (2006) that higher levels of education were associated with

improved knowledge and practice about appropriate malaria prevention and control measures.

Considering also how knowledgeable these mothers are about dangers of malaria and its possible complications among children, a high percentage of them admit being aware of the dangers and complications associated with malaria in children, including child death. It is worrisome that mothers in this study still use chloroquine more than the recommended ACTs in treating malaria despite the fact that most malaria treatment are resistant to chloroquine. This finding collaborates Akaba, Otubu, Agida and Onafowokan (2013) that some women still used the already abandoned weekly pyrimethamine (Daraprim) and Chloroquine for anti-malarial prophylaxis in pregnancy. The persistence and severity of the ailment was more buttressed in this study as more than two third of the women, admitted having malaria attack in their children in the last one or two months, with only 46% seeking for treatment within 8 hours of onset of the disease. This does not show a positive behavioural disposition towards the campaign messages on the part of the women, a factor which more often worsens the health situation of their children. Still, 38% of them fail to recognize the seriousness of the disease, thereby showing a negligent attitude on the part of some of the women, which is also a factor that threatens the survival of children and the society at large. It can also be argued that based on the demographic features of the women, especially their level of education and exposure to the campaign messages; their responsiveness to media messages is worrisome in several ways, just as this study records that 27% of the respondents tepid sponge their children as their first action on the onset of a fever, 42% administered paracetamol, 14% gave cold bath, while 15% gave plenty of water. Still on their responsiveness, after the precautionary measures taken by them, 40% treat their children themselves using available drugs in their homes, 31% of them visit patent medicine stores, 22% visit the hospital and only 7%, go to the health centre. One finding of the study which collaborates with previous studies by (Hamel et al 2001; Muller et al, 2003; Uzochukwu et al, 2008;) identified that these women administer available drugs they have at home and visiting patent medicine stores instead of hospitals and health

centers where they will receive appropriate treatment with prescribed drugs from health professionals. Reasons given for their choice of treatment also include: quality of treatments (46%), cost of treatment (34%), their perceived confidence of the person consulted (10%), familiarity with the physician (8%).

This is sequel to an observation by Lars & Beth (2000, p. 5) that treatment seeking behaviour has been shown to be related to the cost, availability and cultural beliefs about the causes and effective cures for malaria-like symptoms. This also implies that there are certain factors that determine the nature and mode of treatment given to children by their mothers. It is still evident from the responses of these mothers that awareness of the intervention has not actually translated into expected behavioural changes because most of them are still not conforming to the information received from the campaign messages on prompt treatment in malaria in children. This finding conforms with the observation by Lars & Beth (2000, p. 5) that treatment seeking behavior has been shown to be related to the cost, availability and cultural beliefs about the causes and effective cures for malaria-like symptoms. Hence, the argument of this study still holds that given the greater number of Nigerian and African children who lose their lives on account of malaria attacks per year, mothers should take routine measures to sustain their children's' lives and perhaps put into practice, the messages of the media campaign target at such.

## **Conclusion**

In the light of the findings of this study it concludes that the incidence of malaria induced deaths and hazards should be reduced to the barest minimum and that mothers should accelerate positive action towards prevention and control of malaria in their children, since it is a major bane to societal growth and development. Given also the fact that mothers in Aba city, are exposed to media messages on malaria treatment in children, this study concludes that such campaigns should be given wider publicity even through

the interpersonal means (for instance, churches, village square, markets, etc), in order to persuade more women into positive action.

While acknowledging the need for more campaigns and other health interventions by the government and NGOs, to improve the Children's health status, consideration must be given to the socio-economic and cultural factors. This is because most drugs could be relatively expensive or scarce in some rural communities and also the belief among some rural people to utilize unorthodox medicine in the treatment of malaria in children, which in most cases are disastrous.

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