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Audience Awareness and Responses of Accompanying Warnings on Malaria Medication Adverts

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Abstract:

Malaria disease is considered a global epidemic owing to the worrisome statistics in its mortality rate. In Nigeria, one of the efforts designed to combat this was enlisting malaria medication as an over-the-counter medication to make it accessible to all and sundry. To check the abuse of the medication, adverts for malaria medication often carry a caveat that require that the user consults a doctor should the symptoms persist after three days. This study evaluated the extent to which the audience are aware of and adhere to this caveat. Employing the potentialities of the survey design, it collected data from 500 residents of North Central Nigeria who constituted the population of the study. Premised on the Theory of Reasoned Action, the study found out among others that the first response to malaria symptoms amongst 82% of the respondents, is self-medication. Also, despite the respondents' high exposure to the caveat (91%), there is an abysmally low adherence as only 16% of the respondents attested to a regular compliance. The study thus concluded that while direct to consumer advert for malaria medication may be important for the audience as well as pharmaceutical companies, it inadvertently serves the dysfunctional purpose of promoting unsafe self-medication. The study recommended that advertisers should modify the caveat to emphasize on the severity of non-adherence; possibly similar to that used by tobacco companies which states that 'smokers are liable to die young'.

Keywords: Malaria Advert, DTCA, Self-Medication, Advert warnings, Over-the-counter Medication

1. Introduction

Development in every society is often measured using key performance indicators across the different sectors. The health sector constitutes a salient portion in this regard and it may not be out of place to conclude that the viability of every other sector is largely dependent on it. The labour force must be a healthy one to guarantee efficiency. Consequently, advancement in the health sector translates into an increased human knowledge in managing the health system and curing disease as well as other life threatening issues. Health systems are thus considered central in helping people maintain and improve their health. To operate at peak efficiency, communication plays a critical role in healthcare deliverables. According to Obaje (2016) effective communication is a sine qua non in the healthcare continuum as it directly affects the quality of patient care, safety, satisfaction and medical outcomes. The central place of communication in the healthcare process is increasingly being recognized as critical to the success of the entire healthcare system. It is required not just for successful interaction between individuals and their healthcare providers but also between healthcare providers themselves. Improving the quality of communication is thus synonymous to improving patient outcomes. Gooch & Watts (2015) opine that effective communication in healthcare contributes to the development and sustainability of a culture of safety. It is one of the most important tools for providing great patient care and improving patient satisfaction. One aspect of health care communication receiving enormous global attention in recent times is advertising of pharmaceutical products.

Some of the major issues raised by the opponents of the Direct to Consumer (DTC) advertising in medicine largely stem from issues associated with self-medication. According to Babatunde, Fadare, Atoyebi, Ojo, Durowade, Ajayi, and Olaniyan (2016), the concept of self-medication is the selection and use of medicines chosen by the patient for the treatment of an illness or the treatment of symptoms perceived by him/her. According to Auta, Shalkur, Omale and Abiodun (2012) self-medication is a common practice in developing countries and about 60-80 % of health problems are self-medicated. It encompasses the use of medicines to treat self-recognized diseases or symptoms; or the intermittent or continued use of prescribed medication for chronic or recurring disease or symptoms; or the use of medications of family members. According to Linden (2005) self-medication gives individuals the opportunity to take responsibility of their own health; enhances access to medications; improves medicine knowledge; and promotes the efficient use of scarce resources of the health care system especially in the developing world.

The disadvantages associated with self-medication practices are enormous. They include but not limited to, wrong diagnosis, unsuitable choice of treatment, delayed health seeking behaviour, amplified risks of adverse drug reactions, risk

of double medication and harmful interactions, risks of dependence and abuse, inappropriate storage and administration of expired medicines; and medication wastage. However, these do not in any way negate the potentials of self-medication. In fact according to World Health Organization (2008) the term responsible self-medication is being used globally to refer to instances where a patient treat his illness or symptom with medicine available without prescription which is safe and effective when used according to the established conditions.

To mitigate against the risk associated with self-medication, pharmaceutical companies explore varied strategies which in some cases are statutory or just being socially responsible in others. Most popular amongst them is the use of accompanying warnings which typically provide a certain sense of direction or instructions to the target audience with particular reference or emphasis on their safety and or tendencies to maximize the use of the medication. Following the prevalence of malaria in Nigeria, it is not uncommon to find a plethora of adverts for malaria medication in the media. The accompanying warnings or caveats have enjoyed growing popularity amongst pharmaceutical advertisers over the years. Typically announced at the end of the most broadcast malaria adverts, they are also usually printed underneath print adverts and may also be contained in the leaflets that are included in medication packs. The efficacy of the warnings are however largely dependent on the levels of compliance among the audience to whom the adverts are targeted. Consequent upon this, proponent of DTC advertising argue that while most adverts are simply conceptualized to persuade the audience towards patronage, simply including an accompanying caveat portray the advertiser as socially responsible and ethically considerate.

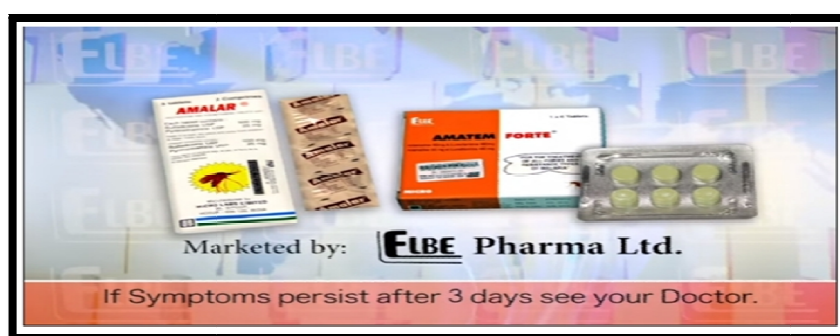


Figure 1: A Typical Malaria Medication Advert in the Print Media

1.1. Statement of Problem

There has been a consistent and increased dependence on orthodox medicine in Nigeria over the years. This development has also seen pharmaceutical companies in the bid to increase their market share, employ varied advert strategies to serve the audience who constitute their potential customers, profitably. It is thus imperative that such critical services are controlled. One of the most common approaches used in minimizing patients' exposure to every form of medication and the abuse thereof is the classification of medicine into over-the-counter (OTC) and prescription medicines. While over the counter medication are readily available, prescription medicine becomes only accessible with the backing of a doctor. The availability of over the counter medication is premised on the knowledge and rationality of the patient. It is expected that with relevant information, patients can actually manage its use. This is what forms the basis of safe self-medication. However, one major risk factor this presents is drug abuse. To mitigate against drug abuse, pharmaceutical companies usually include a caveat when advertising medicine. The major caveat advocates that the attention of a doctor must be sought after a defined period should the symptoms remain after a stipulated period. Failure to adhere to these caveats may result in fatal consequences. Many such as Mamman, Othman and Lian (2014) considers it a worthy social responsibility tactic even though its efficacy is solely dependent on the patient or users responsiveness to these caveats.

According to the 2020 World Malaria Report, Nigeria has the highest number of global malaria cases (27%) in 2019 and according to the highest number of deaths (23% of global malaria deaths). Some of the efforts to combat this include but not limited to categorizing malaria as an over the counter medication and employing direct to consumer advertising for its promotion. Typically packaged as a three-day dosage, malaria medication advertisers usually include a warning which directs the audience to consult a doctor if symptoms of the disease persist after three days. The potency of this approach is principally dependent on the levels of awareness and compliance levels of the caveat by the audience.

1.2. Objectives of the Study

This study sought to examine audience attention and responses to medical advert caveat on malaria medication in North Central Nigeria. Specifically, the study sought to

- Find out if residents of North Central Nigeria are aware of the caveat that accompany malaria medication adverts.
- Determine the most available medium through which residents of North Central Nigeria are exposed to malaria medication advert caveats.
- To find out audience first response to malaria symptoms
- Examine how residents of North Central Nigeria respond to the caveats on malaria medication advert.

1.3. Research Questions

In order to give direction to the study, the following questions were raised.

- To what extent are residents of North Central Nigeria aware of the medical advert caveats that accompany malaria medication adverts?
- What is the most available medium through which residents of North Central Nigeria are exposed to malaria medication advert caveats?
- What is the audience first response to malaria symptoms?
- How do residents of North Central Nigeria respond to the caveats on malaria medication advert?

2. Theoretical Framework and Literature Review

The study was anchored on the Theory of Reasoned Action.

2.1. Theory of Reasoned Action: An Overview

The theory of reasoned action aims to explain the relationship between beliefs, attitudes, intentions, and behaviour and is based on the assumption that human beings are rational and apply information available to them in a systematic way, weighing the costs and benefits of a particular action. According to this theory, the most important determinant of a person's behaviour is the intention to carry it out (behaviour intention). An intention to perform a behaviour is a combination of attitude towards performing the behaviour (based on beliefs about the consequences of performing it) and subjective norms. In order to be effective, this theory suggests that written materials need to construct arguments and models of logic that make sense to the target audience. (Obaje, 2016). The theory of Reasoned Action first introduced in 1967 by Fishbein and has been very popular in creating and evaluating health campaigns from cancer)to HIV. The theory posits that individual's intention to perform preventive health care behaviour predicts preventive behaviour. According to the theory of reasoned action, the most accurate determinant of behaviour is behavioural intention. The direct determinants of people's behavioural intentions are their attitudes towards performing the behaviour and the subjective norms associated with the behaviour. Attitude is determined by a person's beliefs about the outcomes or attributes of performing a specific behaviour (that is, behavioural beliefs), weighted by evaluations of those outcomes or attributes. The subjective norm of a person is determined by whether important referents (that is, people who are important to the person) approve or disapprove of the performance of a behaviour (that is, normative beliefs), weighted by the person's motivation to comply with those referents (Ajzen&Fishbein, 1980).

The relevance of this theory to this study stems from the fact that, this study evaluates the levels of audience member's exposure to malaria medication caveats and their tendency to adhere to them. The theory of reasoned action is based on the assumption that human beings are rational and apply information available to them in a systematic way, weighing the costs and benefits of a particular action. As such it is safe to assume based on this tenet of the theory that audience members are rational and would weigh the consequences of adherence and non-adherence to the medication's caveats.

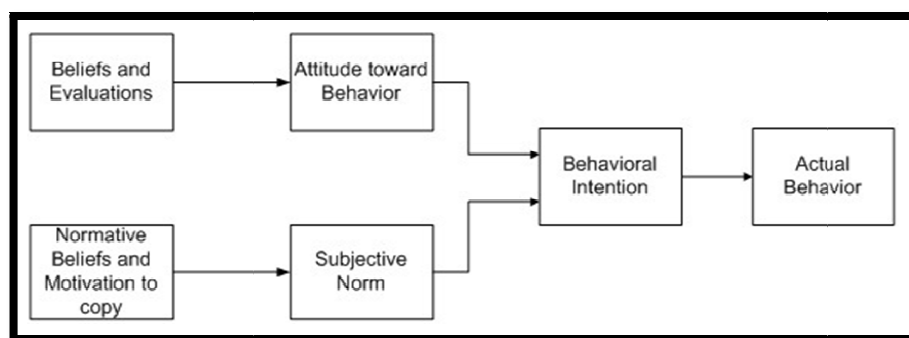


Figure 2: A Schematic Representation of the Theory of Reasoned Action

2.2. Communication and Healthcare

Communication is a vital ingredient in healthcare delivery. It allows the exchange of thoughts and ideas by way of verbal and non-verbal means. Effective communication integrates the use of active listening, paraphrasing, touch, empathy and feedback. 'Communication is a two- way process where meaning is stimulated in the mind of others using verbal and non-verbal messages' (Grover, 2005, p 13). Effective communication is determined by the mutual giving and receiving of information in a style that produces understanding and awareness of the persons communicating. Healthcare communication is any human communication that deals with the assessment, delivery, or evaluation of healthcare. It can take place on several levels, including interpersonal communication, small group communication, organizational communication and mass communication (Northouse & Northouse, 1998). The healthcare professionals use their senses for effective assessment: inspection, auscultation, palpation and percussion. These skills are integral to effective communication as well. When a diagnosis is determined, the healthcare professional must then assess how to transmit the information gathered or the diagnosis to the receiver, either another healthcare professional or the patient. To effectively deliver the information, the healthcare professional must assess the situation and how the information delivered might affect the receiver, and then decide on the appropriate words, gestures and facial expressions to use. Communication is a vital part of healthcare practice. Not only does healthcare providers have to understand the daily medical terminologies

used and be able to provide effective communication skills, they also have to be an effective listener. Communication is a two-way process. A speaker that provides the information, and a listener who accepts the information being given.

According to Barletta and Stimphil (2011) 'Communication in the healthcare field is important for ensuring that each patient's needs are fully met' (p.14). Communication within healthcare involves communication between physician and patient, medical assistant and patient, medical assistant and physician, and much more. When communication between caregivers and patients is lacking, misdiagnosis of medical conditions and other serious events can occur. Improving communication between caregiver and patient will improve the likelihood of early detection of illnesses so that they can be treated in a timely manner. Good communication can come in many forms, such as, verbal, nonverbal, and environmental. Verbal communication involves using words to communicate with others. Nonverbal communication involves using hands, eyes, and other tools to communicate with others. Environmental communication involves the use of objects and colours to produce inviting feelings toward others. Whilst working in a healthcare setting there is a need for good communication. Communication is vital for a good working relationship; it encourages trust and confidence in your ability to do your work. Communication is vital between co-workers and patients alike, including other professionals and family members and careers etc. Deficiencies in collaboration and communication between healthcare professionals have a negative impact on the provision of healthcare and on patient outcomes. Policymakers and healthcare managers, as well as clinicians and practitioners, are aware of this and have a growing interest in improving these relationships. To establish new models of care delivery it is necessary to determine the interventions that are most effective in furthering inter-professional collaboration. According to Rotenstein and Daniel (2005) 'An increasing volume of literature reports that deficiencies in collaboration and communication between healthcare professionals have a negative impact on the provision of healthcare and on patient outcomes' (p.7). Kohn, Corrigan and Donaldson (2006) opines that the consequences reach far beyond stress and frustration levels experienced by professionals; they can result in adverse events such as medication errors and failure to rescue.

2.2.1. Direct to Consumer Pharmaceutical Advertising

Direct-to-consumer pharmaceutical advertising (DTCPA) has grown rapidly during the past several decades and is now one of the most prominent type of health communication that the public encounters. DTCPA can be defined as an effort (usually via popular media) made by a pharmaceutical company to promote its prescription products directly to patients. The sensitivity of this nature of advertising require a firm regulation. To this end, developed economies clearly defined statutory provisions to ensure that this is achieved. According to Abel, Penson and Joffe (2006) In the west, the U.S. and New Zealand are the only countries that allow DTCPA that includes product claims and other countries don't allow DTCPA at all. In most developed nations of the world, The Food and Drugs Administration (FDA) regulates DTCPA, but critics say that the rules are too relaxed and inadequately enforced. Although only limited data exist, some research suggests that DTCPA is both beneficial and detrimental to the public health. Ventola (2011) opines that DTCPA is fairly evenly balanced, and viewpoints presented by both sides can be supported with evidence. Although there have been calls to ban or severely curtail consumer drug advertising, remedies to maximize the benefits and minimize the risks of DTCPA are more frequently suggested. Channels used to distribute DTCPA most commonly include television, print (magazines, newspapers), radio, the Internet, and other forms of mass media (billboards and direct mailings). According to Connors (2009) Promotional brochures that are supplied to health care professionals to distribute to patients can also be considered DTCPA, even though they aren't provided directly to the consumer by the manufacturer. This obviously suggests that many marketers are also beginning to recognize the enormous potential of online DTCPA, which reaches millions of potential consumers globally. Though the vast majority of DTCPA budgets are still allocated to traditional media, marketers are beginning to shift some of their promotional spending to digital promotion, such as product Web sites, online display advertising, search engine marketing, social media campaigns, and mobile advertising.

2.2.2. Debate Over Direct to Consumer Advertising of Prescription Medicines

There are innumerable debates that surround DCTA. One sensitive aspect of these debates centers on whose interest DCTA serve between the consumer and the government. According to Hoek, Gendall and Feetham(2001)Opponents of DTCA advance three key reasons why advertising of prescription medicines serves neither consumers' nor governments' interest. First, they argue that these advertisements create intolerable pressure on an already inadequate drugs budget, and ultimately lead to higher rates of prescribing in an already 'over-medicalized' population. Some also suggest that consumers lack the medical knowledge to evaluate claims made in drug advertisements. Finally, opponents of DTCA argue that the advertisements themselves do not convey information in a fair or balanced manner.

Opponents of DTCA have also argued that these promotions stimulate demand for the promoted drugs and that this demand eventually leads to pressure to subsidise those drugs (Sheffett&Kopp 1997; Burak& Damico 1999). From regulators' or health managers' perspective, this pressure threatens their ability to contain a drug budget that has come under increasing pressure from a variety of sources. However, not much empirical evidence is available to support this view. Logically, since part-charges have applied to several medicines for a number of years, the model for applying charges to medicines has existed for some time; even if some recently promoted drugs have comparatively high costs. Where the promoted medicines are 'lifestyle drugs', designed to enhance overall quality of life rather than treat a dangerous or life-threatening condition, it may be helpful to publicise funding priorities, so neither consumers nor drug companies have unrealistic expectations about any future subsidies these drugs may attract. Where the medicines offer a superior means of treating serious conditions, the question of funding becomes increasingly political. It is beyond the scope of this paper to

debate the funding of the pharmaceutical budget. Overall, however, it is clear that the development of new drugs will itself create pressure on drug funding agencies. DTCA may catalyse this process, but it does not introduce pressures that would not be highly likely to occur anyway. The criticism that DTCA may lead to prescriptions for conditions whose treatment is debatable, or that could be treated through less interventionist means, such as dietary changes or an increase in the amount of exercise undertaken, may have more substance. The New Zealand Medical Association (NZMA) for example has criticised the use of advertising to create markets where no clinical justification exists culminating into what Peyrot and Aparasu (2000) cited Hoek, Gendll and Feetham.(2001) describe as 'a pill for every ill' mentality (p. 104) which could divert patients' attention from aspects of their lifestyle that they could control. However, if patients are advised of alternative treatments and make an informed decision regarding a prescription that they are willing to purchase, the criticisms lose their force. Some may hold the view that 'green' prescriptions are preferable to medicines, but this view should not override patients' right to elect a drug-based treatment after due consideration of other options.

2.2.3. Malaria and its Global Concerns

Maigemu and Hassan (2015) opines that Malaria is a global health challenge and remains a cause of morbidity and mortality. Africa bears the brunt of the disease. Malaria in Nigeria and Africa remains most important health problem. It remains a vital public health fear of our time. According to Olusegun (2012), malaria prevalent causes frequent suffering to human society and influences tremendously, unkind and gigantic burden on human population. It has been stated that out of the more than one million deaths caused by malaria worldwide, 90% take place in sub-Saharan Africa (WHO, 2012).

World Health Organization (2012) and World Bank (2009) stated that malaria disturbs 3.3 billion persons equivalent to half of global population. WHO (2010) stated that, malaria is a public health problem of global concern because of its high economic burden on the nation and high incidence of morbidity and mortality. According to the World Health Organization report (2010), 56% of the world population lives in malaria endemic regions. According to the report, each year 300-500 million cases of malaria occur and more than one million people die of malaria annually, with Africa bearing the brunt of the disease (Wang, Xia, Zhou, Zhou, Wang, & Zhang, 2011). Therefore, malaria is the most prevalent and most destructive parasitic disease of humans in Africa having a harmful effect to the general members of the society (Acharya, 2011). Malaria is a prime etiological factor that slowed down the economic growth in the continent of Africa as a result of lost productivity or income associated with illness or death and other damages associated with the disease. Malaria is a social and economic problem in the country and is the major cause of morbidity and mortality (WHO 2012).

2.4. Empirical Studies

Adibe, Igboeli, Ubaka, Udeogaranya, Onwudiwe and Ita (2015) conducted a research titled '*Evaluation of Information Contained in Drug Advertisement and Promotion Materials in Nigeria*'. They sought to evaluate the physical characteristics (size, legibility or readability) and the completeness of information in drug package leaflets/inserts and drug promotional brochures in Nigeria. 300 (drug information leaflets and brochures) were collected from various community pharmacies, private and governmental clinics and from various pharmaceutical distributor or representatives from different states of Nigeria. Two independent panels sorted and evaluated the information found in them and differences were resolved by consensus. This study revealed that 80.7 % of the materials evaluated were leaflets while brochures accounted for 18 %. The physical characteristics of the materials showed that 58.7, 31.3 and 89.0 % of the materials were sizeable, readable/legible and had adequate colour contrast respectively. Most of the materials were written in English (78.7 %), English and French 17.3 %, English and Arabic accounted for only 4 %. Description of indications for which the drugs were used was mentioned in 30.3% of materials. Other contents of the materials were mechanism of action (70.3 %), overdoses information (55.0 %), drug interaction (51.3 %), pharmacokinetics (36.3 %) and revision date of the information (21.0 %). The study revealed that advertising materials used in promoting drugs in Nigeria have incomplete information and the physical characteristics of the materials are not adequate. Information in some pharmaceutical brochures exaggerated the benefits of the drug and downplayed risks associated with the drugs. This reviewed study is similar to the present study following its concentration on drug advertisement but it is different in many ways. This reviewed study content analysed promotional material while the present study used survey to collect primary data from the audience. The present study also focused exclusively on the caveat on all medium as opposed to the reviewed study which looks at only information on medication leaflet.

Kim, Kornfield, Shi, Vera, Daubresse, Alexander, and Emery (2016) conducted another study titled '*Effects of televised direct-to-consumer advertising for Varenicline on prescription dispensing in the United States, 2006-2009*'. The researchers sought to quantify the extent to which drug advert influenced varenicline use. Kim et al linked monthly drug advert television ratings with monthly prescription data from the county's Health's National Prescription Audit across top 75 media markets in 2006-2009. The researchers used Poisson models with Generalized Estimating Equations to analyse effects of exposures to drug advert for both varenicline and nicotine replacement therapies on rate of dispensed varenicline prescriptions among smokers, controlling for population characteristics and varenicline-related events. The result showed that Varenicline prescriptions increased dramatically following drug launch and declined sharply after safety risks were publicized and US Food and Drug Administration (FDA) issued an advisory. Thus, drug advert was found to have had significant impact on new prescription dispensing in the subsequent month. One major similarity this reviewed study has with the present study is in the fact that their scope covers medical caveat and seek to determine the response of the audience when exposed to the caveat. The reviewed study collected its primary data from television ratings and medical audit records to determine the effect of the televised advert on the audience. This present study on the other hand used survey as its method and the questionnaire as its primary source of data collection.

3. Methodology

This study was conducted using the survey method. All residents of North Central Nigeria constituted the population of the study and according to the National Bureau of Statistics, the total number of residents in North Central Nigeria as at August, 2020 was 28,982,408. Multi stage sampling was used to select two towns each in Benue, Kogi and Nassarawa states amongst the North Central state. A sample size of 500 was determined for the study using Philip Meyers table. The return rate was 98 % (489). Data was collected using the questionnaire and was analysed using SPSS.

4. Data Presentation and Analysis

Response	Percentage
I am familiar with the warning 'If symptoms persist after three days, consult your doctor' that is used in malaria medication advert	91%(N=445)
I am not familiar with the warning 'If symptoms persist after three days, consult your doctor' that is used in malaria medication advert	13%(N=64)
I am not sure if I am aware of the warning 'If symptoms persist after three days, consult your doctor' that is used in malaria medication advert	3%(N=15)
Total	100%(N=489)

Table 1: Respondents Knowledge of Malaria Advert Caveat

The study primarily sought to determine the level of awareness of the respondents to the caveat that accompany malaria medication advert. Data in Table 1 captures the respondents' awareness and familiarity with the caveat that accompany malaria medication. Typically, the caveat request the consultation of a physician if symptoms persist after three days of usage of the medication. The table shows that 91% of the respondents are familiar with the caveat. 6% attest to not being familiar and 3% are unsure. The table shows that the caveat is very popular amongst the respondents.

Media	Respondents' Major Sources of Malaria Advert
Newspaper	21%(N=103)
Magazine	13%(N=64)
Television	26%(N=127)
Radio	23%(N=112)
Internet	17%(N=83)
Total	100%(N=489)

Table 2: Respondents Major Source of Malaria Advert

Respondents were requested to identify the medium from which they consider as their major source of malaria advert. This is necessary so as to identify the medium that is most popular in the dissemination of the advert. To this end, television appear to be the major conveyor of malaria advert with almost a quarter of the audience (26%) identified television as their major source of malaria advert. Radio also appear to be a popular source of the advert among the respondent as 23% of the respondents attested to same. Newspaper is also a major source of malaria medication advert as it was also ranked 21%. The internet and magazine appear to be the least popular in this regard with 17% and 13% respectively.

Media	Respondents' Major Sources of Malaria Advert caveat
Newspaper	20%(N=98)
Magazine	15%(N=73)
Television	22%(N=108)
Radio	34%(N=166)
Internet	9%(N=44)
Total	100%(N=489)

Table 3: Respondents Major Source of Malaria Advert Caveat

The table 3 above also captures the major source of the respondents' exposure to the warnings that accompany malaria advert. It showed that while malaria advert on television is more popular amongst the respondents, radio is the major source of advert with warnings. With a representation of 34%, it means that more than a quarter of the respondents attested to this. Television is also a popular source with 22% and newspaper with 20%. The implication of this is the affirmation that radio is a popular medium for sensitization.

First Response to Malaria Symptoms	Percentage
Self-Medication is my first response to malaria symptoms	82%
Consulting a medical professional is my first response	15%
Conducting a test is my first response to malaria symptom	3%
Total	100%(N=489)

Table 4: Respondents First Response to Malaria Symptoms

In the Table above, the attempt was made to establish the first response to malaria symptoms by the respondents. The data generated shows that 82% of the respondents self-medicate as their first response to malaria and 15% usually consult a medical practitioner as their first response. 3% of the respondents typically embark on a medical test as a first response. The data shows that majority of the respondents self-medicate as the first response to malaria symptoms. While increased access to information may be responsible for this, it is established that self-medication towards the disease has become a popular practice.

Adherence to Caveat	Percentage
I Regularly adhere to the warnings on the advert	16%(N=78)
I Occasionally adhere to the warnings on the advert	43%(N=210)
I Never adhere to the warnings on the advert	41%(N=201)
I Never adhere to the warnings on the advert	100%(N=489)

Table 5: Frequency of Respondents Adherence to Malaria Advert Caveat

The effectiveness of the caveat that accompany malaria medication advert owe its potency to the compliance of the audience. The table above details the frequency of adherence to the caveat amongst the respondents. Data shows that the respondents primarily adhere to the warnings occasionally as 43 % (N=210) of the respondents attested to same. Also, 41% of the respondents admit that they almost never adhere to the caveat. Only 16% of the respondents admit to a regular adherence to the caveat. The data above shows that about 84% of the audience either adhere occasionally or never adhere to the caveat. This depicts a relatively low adherence level amongst the respondents.

Age	I Regularly adhere to the warnings on the advert	I Occasionally adhere to the warnings on the advert	I Never adhere to the warnings on the advert
18-28	21%	47%	48%
29-40	28%	31%	25%
41&Above	51%	22%	27%
Total	100% (N=78)	100% (N=210)	100% (N=201)

Table 6: Respondents' Adherence to the Caveat

$$X^2 = 13.416, \text{ dff. } 3; p < .002$$

The above crosstab analyses was intended to establish the relationship between age and level of adherence to the warning. The table above suggest a significant relationship between respondents' level of compliance to the caveat and their age. The main observation here is that an increase in age tend to increase the level of compliance. This was found to be statistically significant at the .002 level. Details in this table also show that regular compliance was more among age 41 and above (51%) while the least compliance was observed among the 18-28 age bracket (48%).

4.1. Discussion of Findings

The study primarily sought to determine awareness and compliance of the accompanying caveat on advertised malaria medication amongst residents of North Central Nigeria. Research Question 1 sought to determine the level of awareness of the caveat among the respondents. As depicted in table 1, findings revealed a high level of caveat awareness and familiarity among the respondents. (91%) of the respondents attested to the fact that they are aware that malaria advert carries the caveat that '*If symptoms persist after three days, consult your doctor*'. This tend to have so enormous impact on the both the audience and the healthcare system. This is further corroborated by Greene and Kesselheim (2011) who opines that as consumers are exposed to more pharmaceutical advertising, health professionals need to be conscious of the impact that these messages can have on patient interactions with the health care system.

Research Question 2 sought to determine the most available medium from where the respondents receive the advert caveat. According to the data presented in Tables 2 and 3, television is the respondent's major source of malaria medication advert as attested by 26% of the audience but radio advert appear to be more consistent in propagating the warnings (34%). These findings lends credence to the fact that television still remains a veritable tool for advertisement and radio for sensitization. One advantage of this is reflected by Burak& Damico (1999) who suggest that information provided through prescription medicine television advertising encourages individuals to seek advice about health conditions they recognise, but have not been clinically diagnosed or treated.

Research Question 3 sought to find out the respondents first response to malaria symptoms in spite of the high awareness about the caveat. As depicted by Table 4, the study revealed a high prevalence of self-medication among the respondents. 82% of the respondents attested to self-medicate as their first response to malaria symptoms while 15% of

them reported to consult medical professional as their first response. Self-medication has obvious advantages as articulated by According to Phalke, and Durgawale, (2006), self-medication has the approval of the WHO for quick and effective relief of symptoms of minor ailments without medical consultations in order to reduce burden on health care services, most especially in understaffed, inaccessible rural or remote areas. This in itself prescribes the conditions for safe self-medication. Although several opponents of self-medication agree to its potentials they however still possess valid arguments on its inability to do much in the fight against malaria in Nigeria. One of such is captured by Chukwuocha (2012) who opines that despite several efforts being put in place to control malaria in Nigeria, several setbacks have been encountered which have actually made effective and sustainable control of the diseases a mirage because a good number of malaria treatments occur at home. The majority rural dwellers lack basic education required to read and stick to instructions stipulated, thereby encouraging the irrational use of antimalarial (p.12).

Research Question 4 sought to determine how the residents of \north Central Nigeria respond to the caveat that accompany malaria medication advert. Tables 5 and 6 captured data related to this. Findings revealed that as it relates to adherence, 43% of the respondents attested to an occasional adherence and 41% of them claim to disregard the caveat. Only 16% agree to a regular adherence to the caveat. This shows that despite a high exposure rate to the advert caveat, there is a relatively poor adherence rate amongst the respondents. One of the assumptions that may be responsible for this trend could be the lack of clinical justification to some of the claims put forward by the advert. The New Zealand Medical Association (NZMA) for example has criticised the use of advertising to create markets where no clinical justification exists culminating into what Peyrot and Aparasu (2000) describe as creating 'a pill for every ill' mentality (p. 104). Also, Data also observed a statistically significant relationship between the respondent's age and their adherence to the caveat. It observed that the higher the age, the lower the tendency to self-medicate. as respondents as who are 41 years and above had a 51% regular adherence level and 18-28 years age bracket had 21% regular adherence which happens to be the highest and the lowest respectively amongst all the categories. The increasing cases of self-diagnosis facilitated by the availability of health information on the internet, may be responsible for this trend as the 18-28 age bracket appear to be more conversant with the internet. This is further substantiated by Hooper (2014) who stated that doctors are increasingly faced with patients who arrive with a self-diagnosis based on information they have found on the Internet. When faced with unexplained symptoms, some consumers may jump to the worst-case scenario conclusion based on the health information they find online—a phenomenon sometimes referred to as 'cyberchondria'.

5. Conclusion

The media which over the years have proved to be a veritable platform for promotion, has according to this study been a major source for disseminating medical adverts. The potency of the media in this regard is evident in the relatively high exposure to malaria medical adverts and its accompanying caveat amongst the respondents. In spite of this, there is still an abysmally low level of compliance to the warnings. Even though self-medication is tolerable, consulting a medical professional at the instant of any symptom is more advisable. This is because the line between self-medication and drug abuse could often get blurry with possible inimical consequences to the health of the patient. The findings in this study has shown that self-medication is a very popular practice and the first response to malaria symptoms among the respondents; compliance to the caveat on the other hand remained low. This suggest that promoting self-medication may be one of the dysfunctions that may have resulted from the direct to consumer advertising especially with regard to malaria medication since the adverts have not been very successful at persuading the respondents to adhere to the caveat. Greene, and Kesselheim, (2011) sums it all up that as consumers are exposed to more pharmaceutical advertising, health professionals need to be conscious of the impact that these messages can have on patient interactions with the health care system.

6. Recommendations

The major findings of this study, necessitates the following recommendations:

- The current caveat 'If symptoms persist after three days, consult your doctor' does not contain the severity of non-adherence. Advertisers should modify the caveat to one similar to that used by tobacco companies where it is stated that 'smokers are liable to die young'. This associated risk presumably possess a capacity to cause behavioural change than the former.
- Drug abuse campaign typically concentrates on substance abuse such as marijuana, heroin, cocaine etc. There is the need for stakeholder to begin to focus on the abuse of prescription medicine especially malaria medication. This is important as many users do not consider their continual consumption of malaria medication as drug abuse.
- Pharmaceutical marketers and regulators of the industry should encourage periodic assessment of audience compliance to caveats that accompany medication adverts with a view to modify their approaches toward persuasion for increased adherence.

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