Self-medication and Patronage of Orthodox Medical Facilities among the Indigenous People of Yakurr Local Government Area, Cross River State, Nigeria

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

The study examines the relationship between self-medication and patronage of orthodox medical facilities in Yakurr Local Government Area, Cross River State, Nigeria. Three research objectives were drawn which guided the formulation of three null hypotheses from the independent variable. The study adopted descriptive survey design. 17-item questionnaires entitled "Self-medication. And Patronage of Orthodox Medical Facilities (SMPOMF)" were distributed to four hundred and forty-

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eight (448) respondents selected through simple random sampling technique from the study area. In addition, key informants (KII) were used as data collection instrument. The reliability test of the instrument was conducted using the Cronbach reliability method. Data were gathered through primary and secondary sources and were analyzed using Pearson Product Moment Correlation Coefficient and One-way ANOVA statistical techniques. The three hypotheses, tested at 0.5 level of significance, revealed that, there is a significant relationship between belief system, level of awareness (p=.337), proximity to medical facility and self-medication in Yakurr Local Government Area, Cross River State, Nigeria (p=.325). This confirms that, there is a significant relationship between self-medication and patronage of orthodox medical facilities in the study area. The study recommends among other things, that, traditional medical practice should be integrated into the primary healthcare system to grant it a formal status in the healthcare delivery system in Nigeria. In addition, the safety and regulation of traditional medicine should be assessed to improve its standard and efficacy. Furthermore, government should build more medical facilities in the study area to encourage people to patronize these facilities when faced with health challenges; rather than reverting to traditional medicine and self-medication, which in most times are ineffective.

1. INTRODUCTION

Being ill is an unpleasant and possibly a life threatening experience. Once it starts, there may be little that one can do about it except to retire to bed, go to the hospital, take medication and wait to get better [1]. In our contemporary society, there has been an upsurge of drug abuse, attributable to "over-the-counter drugs" dispensing, which are bought by members of the public without any restriction. This phenomenon is called "self-medication". Over-the-counter-drugs used for self medication, are available in any pharmaceutical shop, chemist shop, and any convenience shop or store. Over-the-counter-drugs are used to treat common health issues such as cough, fever, headaches, body pains, etc [2].

In Nigeria, and Yakurr Local Government Area of Cross River State in particular, self-medication has engineered social anomalies of violence due to its progressive indulgence by people in our communities. For instance, in Yakurr Local Government Area, the incessant conflict between confraternities and killing and maiming of each other is alarming. This conflict situation has made the communities to be violence-prone. Factors such as poverty, ignorance, illiteracy, etc, are associated with why indigenes of this area increasingly indulge in self-medication. In addition, the reason for the increase of self-medication is the fact that, people of the area are not aware of the short and long-term dangers of self-medication. These is why the increasing population of youth from ages 15 and above, continue to engage every day in practicing self-

medication for reasons best known to them. This practice forms the basis of this research which is targeted at the phenomenon of self-medication and patronage of orthodox medical facilities in Yakurr Local Government Area, Cross River State, Nigeria.

1.1 Statement of Research Problem

There has been widespread drug abuse in every community in Yakurr Local Government Area. This includes the abuse of narcotics, antibiotics, and algesics, sedatives and hallucinogens. It has been observed that the primary cause of the phenomenon that affects the lives of a significant number of people in the society is self-medication. This is due to several factors which inhibit patients from patronizing health facilities in the Local Government Area. Most drugs are sold over the counter, thereby making the use and misuse of controlled drugs and dangerous drugs freely available. This problem has caused a devastating effect in the physical, emotional and psychological health of the indigenous people of Yakurr Local Government Area.

In spite of efforts put in by individuals, organizations and governments to curb the menace of self-medication, the practice is still on the increase. This is partly due to the absence of stringent government legislation and enforcement against over the counter drugs purchase and sale. Widespread poverty in the rural areas has also encouraged people to opt for this mode of treatment, since it is available, affordable and proximal to the people than to consult a health professional [3]. Based on the

foregoing, the main objective of this research was to examine the causes and correlates of why people indulge in self-medication in Yakurr Local Government Area and the consequences of this phenomenon.

1.2 Objectives of the Study

The main objective of the study was to examine the issue of self-medication and patronage of orthodox medical facilities in Yakurr Local Government Area, Cross River State, Nigeria. The specific objectives are to:

1. Examine the relationship between belief system and self-medication in Yakurr Local Government Area, Cross River State, Nigeria.
2. Investigate the influence of awareness level on self-medication in Yakurr Local Government Area, Cross River State, Nigeria.
3. Examine the relationship between proximity to medical facilities and self-medication in Yakurr Local Government Area, Cross River State, Nigeria.

1.3 Statement of Hypotheses

The following hypotheses were formulated to guide the focus of this study:

1. There is no significant relationship between system and self-medication in Yakurr Local Government Area, Cross River State, Nigeria.
2. There is no significant influence of awareness level and self-medication in Yakurr Local Government Area, Cross River State, Nigeria.
3. There is no significant relationship between proximity to medical facilities and self-medication in Yakurr Local Government Area.

2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

The issue of self-medication has become a global concern, especially among adolescents, families and communities in general. According the World Health Organization [4], self-medication is becoming widespread with increasing usage of over-the-counter drugs due to accessibility. The United Millennium Development Goals [5], affirms that, self-medication is as old as human society. According

to Inyang Asibong in a summit on health awareness (2017), self-medication is a global social problem, on alarming concept and a challenge to human health, which appears to have high casualties across age and gender. The magnitude of self-medication according to WHO [4], is a worrisome issue and rated as increasing worldwide.

2.1 Causes/Correlates of Self-medication

Self medication also known as self-provided healthcare behaviors, is generally generated by several motivational factors. Some of the potential and actual causes/correlates of self-medication include:

2.2 Influence of Peer Group

Friends have the greatest influence on self-medication. The practice of taking hard drugs and related substances such as cocaine, marijuana, etc, occurs in the company of a friend or friends who do not see self-medication as being wrong.

According to Chou, Grossman and Saffer [6], a female adolescent with the best friend who is a smoker is nine times more at risk to become a smoker. Smoking is a shared activity with important socializing functions such as club houses for both male and female youths. Peer smoking encourages continuous smoking among young people who have already begun to smoke. Cannabis abuse in school-going population has become associated with poor scholastic performance, school dropout and reinforcement of negative conduct symptoms.

In India, smoking is commoner with adolescents for the reason of easy availability, low cost and convenient usage. Adolescents from low income families, tend to influence friends to use cheap and spurious country-made liquor prepared illegally [7]. Similarly, peer group members making the product available, are likely to recruit new adolescents in the drug use behavior. According to Abdul [8], 100 million children live, work, smoke and drink on the streets and cities of the world; 40 million in Latin America, 25-30 million in Asia, and 10 million in Africa.

The World Drug Report [9] surveyed 40,697 males of whom 8,587 were children aged 12 - 18 years old. 3.8% of them were considered as users of alcohol, 0.6% users of cannabis, and 0.2% users of opiates. Children reported for

treatment of substance abuse in treatment centers, where patients below 20 years constituted 5% of all patients. However, more than 70% of all patients initiated their drug abuse before 20 years of age [9]. This means that, most of the drug users started initiating this act at an early age of adolescence, but were hidden from intervention services. This risky behavior is often initiated during childhood and adolescence.

It was also observed that, more than 70% persons reported to be adult smokers and started smoking on daily basis prior to age 18 [9].

2.3 Parental Influence

Parents have a tremendous influence and their children. The children of smokers are likely to become smokers. Robb, Huston and Finke [10], observe that, the disintegration of the old joint family system, has resulted in the absence of parental love and care in modern families. The authors stated that, parents who are working decline the old religious and moral values, which have led to a rise in the number of adolescent drug addicts, to escape the hard realities of life [10].

An adolescent, who has easy access to drug or alcohol because of his/her parent is using it, is more likely to use these drugs than those whose parents are not using them in the family.

Findings reveal that, parents believe that moderate alcohol consumption does not have adverse effect. Also, tobacco cessation could lead to weight gain. This belief permits the adolescent to you use drugs without hesitation or guilt [7]. The World Drug Report [9] has it that, higher levels of parental education and socio-economic variables have inverse relationship with tobacco use. And the use of other psycho-active substances is widely found among adolescents. According to the report, prevalence of smoking is more common in families with low socio-economic and educational status in the society [9]. Again, according to Mini, Varas, Levano, Rojas and Medina [11], maintain that, marital discord or divorce among parents, and single parenting, are associated with drug abuse among adolescents. Parents having poor monitoring of their children observe the authors, are more likely to have their children abusing drugs. The National Survey of Rural Health (2006) reports that, 74% of parents believe that, they should have access to many more non-

prescription medicine. Over-the-counter-medicines have existed for a long time in many societies, so, they must update themselves. This is an opinion shared by 87% of parents staying in Portugal.

2.4 Influence from Mass Media

The media place a role in The reception of health risk as it has become an advertising arena. Next media has interned influence the decision of young people to initiate smoking and misuse of drugs. This is due to the fact that, some film and television stars, pop stars and fashion models, make the misuse of drugs attractive [7]. Information and adverts with the internet are estimated to carry more than 90% of the global information capacity. In 2013, Germans were recorded to be among the most intensive internet users, rating 77.2% worldwide. A total of 75.9% of persons aged 14 years and above were online in 2012 (Instituto National de Estadistiea, 2016). The influence of the media generally informs patients and substance consumers on the latest findings in the field of medicine and health. A survey report in 2009 shows that, 79% of internet users search for information on health-related topics, to boost their self-medication practice. The same survey showed in 2013 that, television is the most important source in the mass media gathering of health-related information. For instance, information on new diagnostic and therapeutic possibilities, new scientific findings and risk or health hazard warnings, vary in efficacy with regard to individual perception and assessment of health risks [12].

Accordingly, reception of information is difficult in the case of health topics without any expert consensus. This lack of consensus is more frequent than is generally assumed, particularly, in the case of method which experts consider practical experience insufficient (Lee, Lemyre, Mercier, Bouchard & Knewski, 2007). In the case of proton therapy in cancer treatment, the patient relies on his own competence when making a decision. This means that, patients do not have to bear the risk of the decision, but also, the subsequent cost.

According to Lemit [13], the internet offers a considerable number of websites promoting mail order pharmacies with high financial implication on consumers of drugs. The author states that, as of 7th May, 2000, account using the search engine Yahoo, identified 16,966 Yahoo users and web crawlers identified 244,546 mail order

pharmacies promoting self-medication with its attendant huge cost on drug traffickers. Lemit [13] concludes that, there is no doubt that, in the future, self-prescription products sales through the Internet will increase enormously. This could create additional demand to switch prescription products to over the counter status. Although considered expensive, Lemit [13] believes that, self-medication can facilitate access to medicine, and reduce healthcare costs.

2.5 Global Incidence/Prevalence of Self Medication

Self-medication is a common practice but little is known about its determinants. In the developing countries, note Palloni and Yonker [14], self-medication is a common practice due to the quality concerns related to healthcare delivery system, as well as skepticism about the benefits of professional healthcare vis-a-vis traditional medicine. Below are some reviews of countries' reports on self-medication:

2.5.1 Nigeria

According to Arikpo, Eja and Enyi-Idoh [15], self-medication in rural Nigeria has reached a crisis state, as people take anything and even potentially toxic substances as remedies. In a study conducted by Arikpo, Eja and Enyi-Idoh [15], to investigate the self-medication profile of the rural people in Nigeria, it was revealed that, about 90.4% relied on self-medication, while 9.6% consulted physicians. A wide range of substances such as herbs, antibiotics, Ash, kerosene, petrol, etc, were used for the treatment of ailments. 10% herbs and 9.1% antibiotics were used for the treatment of any identified ailments in the communities. The reason behind this practice, was identified to be the high expenditure on drugs in the process of visiting a doctor in the hospital. Rather than spend too much money in either government or private owned hospitals, self-medication was another alternative [15].

2.5.2 China

According to Groves [16] in China, over 40% of urban consumers of self-medication were declared actively involved in diagnosing and treating their health problems. Above all, more than 50% demonstrated responsible healthcare behavior such as exercise, improved nutrition and having regular physical examinations in the hospitals [16].

2.5.3 Pakistan

Aqeel, Shabbir, Basharat, Moving, Bukharin, Shahid and Waqar [17] gave statistical facts of the prevalence and associated factors of self-medication. It has been observed among the urban and rural population of Islamabad that, self-medication was more prevalent among 15 - 30 years age group. The report gathered that, majority of participants at a rate of 72.8% trusted allopathic system the most. Pain was the most likely indicator, evaluated to be 67.6% for which its population self-medicated. Analgesics were evaluated as the most likely medicine used which has amounted to 61.1%, while majority of the population used paracetamol at 0.05%.

Meanwhile, rural sicknesses at 41.8% were determined to be the most common reason for self-medication. Generally, Aqeel, et al. [17] further stated that, a higher proportion of urban participants reported to be engaging in self-medication due to their previous experiences, and time saving factors. The rural population also reported that, the most common reason for the practice of self-medication, is inconsonance with "economic factor and lack of healthcare facilities". At least 60.8% of participants were reported to indulge in self-medication based on their own initiatives.

2.5.4 India

A report released by Nalini [18] shows self-medication in India to be in a relatively high range. The indication of self-medication with antibiotics was due to respiratory problems, as it stands at 73.3%, as well as common cold and sore throats. However, amoxicillin which is known to be the most commonly used antibiotics was at 40%. Drugs from medical representatives were seen as the main source of medicine used for self-medication, with 47.8% all used as sample. A self-prescribed drug such as antibiotics was placed at a level of 44.8%, as compared to the government hospital pharmacies which is at 7.4%. Meanwhile, antibiotics were considered as drugs used by individuals to self-medicate with 26.8% [18].

2.6 Consequences of Self-Medication

For diverse reasons, self-medication has become rampant in society. It is a practice and a common trend for people whenever they are ill. This they do by sourcing over the counter drugs or simply proceeding to treat themselves of self diagnosed

symptoms without consulting medical professionals [19]. The use of drugs without prescription by a qualified medical doctor has become a social norm, its consequences notwithstanding. Unknown to many, the practice of self-medication is potentially dangerous and improper. According to Vidyavati, Sneha, Kamarudin, and Katti [20], the risk of self-medication outweighs the benefits. To Vidyavati, et'al, it is easy for a lay person to misdiagnose a health problem and subsequently take a wrong medication. It is possible to correctly diagnose a problem, but still take the wrong medication. It is also possible to correctly diagnose a problem, take appropriate medication, but the wrong dosage [20]. Jelifat [21] observes the consequence of self-medication to be a result of drug sensitivity, to which an allergic reaction due to wrong choice of "over the counter drugs", which can result to adverse effects.

To Richman (2007), the issue of drug interaction is a case where the wrong combinations of drugs are taken. Richman opines that, an attempt by a lay person to solve a health challenge for example, certain drugs meant for treating a particular health problem could raise a person's blood pressure which could be serious or fatal.

According to Wilbur, Salam and Mohammadu [22], the body is a holistic piece of machinery that is high-tuned, and even when an individual read fully about a medication, he/she may not necessarily know how it is going to affect the body and the existing condition. The self-medication hypothesis originated in papers by Khantzian [23] cited in Suh, Ruffins, Robin, Albanese & Khantzian [24]; and states that, the individual's choice of a particular drug is not accidental, but as a result of individual's psychological condition, as the drug of choice provides result to the user's specific condition. Specifically, addiction is hypothesized to function as a compensatory means to modulate effects and treat distressful psychological states. This is to enable individuals choose the drug that will most appropriately manage specific psychological distress to achieve emotional stability.

Another substance commonly used in self-medication is tramadol consumption. According to Cosci, Schruers, Abrams and Griez [25], treating depression can put people in danger of self harm and suicidal thoughts. It was explained by them that, as the brain is changed by the substance (tramadol), people think of taking tramadol all the time. However, in the process, what comes to the mind is the thoughts of committing suicide rather than recover from the addiction [25]. Wrong substance abuse in self-medication, can compromise an individual's psychological development such as, formation of self identity (National Institute of Drug Abuse, 2009). Taking to self-medication, such as marijuana can have negative effect on the user's mind and body. Such drugs can impair memory and comprehension which can alter one's sense of time and reduce the ability to perform tasks that require concentration and coordination. The long-term effect of using marijuana include, the risk of lung cancer and other chronic lung disorders like head and neck cancer, sterility in men and infertility in women [8].

In rural Africa, the cultural consequences of self-medication are sometimes interpreted as normal ailments or health tradition. According to Bigby, Gibbs and Harvey [26], it is due to the lack of diagnostic competence, culture of passing down of healing knowledge verbally, from one generation to another, encourages individuals to indulge in self-medication. In traditional Africa, an individual who self-medicates privately but later exhibit consequences of that indulgence publicly, may be sympathized with. The society may see such a person as being under witchcraft attack and treatment administered in error by traditional healers. Accusation of witchcraft has been the trigger of serious forms of violence including murder which is common in places such as Burkina Faso, Ghana, India, Kenya, Malawi, Nepal and Tanzania (Duke Journal of Comparative and International Law, 1997). However, norms, values and health benefits differ across cultures which encourage the practice of self-medication. According to Jiloha [7], the encouragement of self-medication by individuals who are indulging in using over the counter drugs, makes it possible for others to practice self-medication whenever illness is experienced. By this, self-medication is culturally made possible as individuals or a person who is more competent with the use of their preferred language(s) uses the given opportunity to introduce more people to patronize over the counter drugs to self treat mild illnesses [7].

The social consequence of self-medication revolves around the cycle of social determinants of health. According to WHO (2016), The social determinants of health are the condition in which people are born, grow, work, live and age. Also,

the wider set of forces is systems shaping the condition of daily life, including development agenda, economic policies, social policies and political systems. A major social consequence of self-medication is that, it hinders health programmes put in place for sustainable development and progressive realization of universal health coverage WHO (2016). Those who indulge in self-medication create the impression that, obtaining medical attention in an Orthodox medical facility is not a right. They further practice self-denial of public health equality. According to a Public Health Report (2002), self-medication concerns the prevalence of certain health issues, their rate, data and evidence-based approach to addressing such ailments. self-medication stigmatizes families and peer groups considered naturally influential to the attitude of members. In their place of work, those who self-medicate are seen as sticklers, addicts and weaklings not worthy of handling serious or sensitive matters (Public Health Report 2002).

The labor market has worsened the careers of many young people which have been suddenly interrupted (Charles and Decca, Music 2005).

According to the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA), among 31% of European youth between ages 15 and 24 years, a total of 19.5 million individuals have tried illicit drugs in their lifetime. Overall, drugs caused 3.4% of all deaths in age group 15 to 39 years, due to the consumption of illicit drugs like cocaine, ecstasy drugs and opioids. According to Caulkins and Ritter [27], the increase probability of unemployed and lack of opportunities found in the labour market, make young people resort to self-medication causing an increase in demand in substance use.

Economic recessions have changed opportunity cost of substance consumption given few jobs available and low wages while spending time using drugs have smaller opportunity cost which enhances consumption of drugs.

Arkes [28], focusing on young Americans from 16 - 24 years old, observes that, the counter-cyclical link among drug consumption and the business cycle for this group of people is closely related with their limited response to the income effects. The study shows that, during economic recessions, the youths are more likely to sell drugs and be able to afford their consumption.

This finding is supported by other studies showing that, the youth can even get cannabis-like drugs for free [29].

The physical consequences of self-medication are the most visible of the various dimensions of health.

Again, some of the obvious signs of self-medication appear physically. The author explains different ways in which self-medication can be detrimental to victims of the practice. These include, physical inactivity, as unhealthy youths and adults who indulge in self-medication gradually become physically inactive. People use a variety of substances to alleviate physical discomfort. These perceived remedies carry great risk when abused. People turn to alcohol which is a central nervous system depressant in order to relieve physical pains. They find it to be a quick and accessible solution to their problems. But as they keep on relying more and more on the substance to change their mood, or behavior, it often gives way to a long-term addiction. Alcohol. Marijuana is one of the popular drugs used for self-medication. It is a drug used by many teenagers to help them cope with everyday stress of life. More than 32 million people worldwide use opioids annually, and according to the World Drug Report, substances like codeine as a means of self-medication, notably lead to addiction and even death. The physical consequence of self-medication is attributable to medicines which are extremely powerful and dangerous, and are unlicensed such as codeine, methodone, etc. Reactions to these drugs can be very intense and can worsen certain illnesses or ailments.

2.7 Self-Medication and Patronage of Orthodox Medical Facilities

Self-medication is the continuous use of drugs to treat self-diagnosed disorders, symptoms or the recurrence of diseases. Self-medication is often used in the treatment of common health problems with medicine labeled for use without medical supervision [30]. Sawair, Baqain, Abu and Abu [31] observe that, it has become a common trend that, everywhere and everyday members of the society reach out for self care products that help them during their common health problems. This they do, because it saves them the problem of booking an appointment with the healthcare professionals. They therefore have no option other than to self-medicate. To some end consumers, it is evidence that they

tend to recognize and respect non-prescription medicines. As a whole, they self-medicate appropriately, safely and carefully as they a-times read these non-prescription drug instructions. This shows that, consumers take more active role in their healthcare through self-medication.

According to WHO [32], responsible self-medication can help prevent and treat symptoms and ailments that do not require medical consultations. It has further been recorded by WHO that, health is of a strategic importance to a nation and its people. This is because a healthy nation is a wealthy nation, showing that, good health implies high productivity, low morbidity and low mortality. Self-medication has become a part of an individual's behavior, where exogenous substances to self-medication and administering treatments are bought and used by members of the society. Also, according to Balamurugan and Ganesh [33] the practice of self-medication involves the use of medicinal products by the individual to treat self recognized disorders or symptoms like headaches, common cold, body pains, etc. Pritisalian (2009) observes that, non-professionals who self-medicate are lay persons. As a social phenomenon which is rampant in society, self-medication is known to be a common trend for people whenever they are caught up with illness. They source for over-the-counter drugs which is an easy way in treating themselves without consulting with a medical professional.

Chana and Bradley's (2011) study was to analyze the socio-cultural, economic and regulatory factors influencing access to, and the use of medicines by consumers in Tiko, Cameroon. Using focus group discussions, information was obtained from members of Plantain Traders Association, Township Taxi Drivers' Association and Teachers of Government Bilingual High School (GBHS), Tico. This information was triangulated with those obtained from key informant interviews with sellers of medicines in community pharmacies. Key influences on medicine use were reported to have emanated from the socio-cultural and economic background of the people and also from inappropriate regulation on medicine distribution and sales and included the perceived need for medicines, the cost of medicines, the purchasing habits, the medicine use culture, medicine supply channels and poor medicines regulation and control.

2.8 System and Self-Medication

Our belief system is one of the most influential social institutions in Yakurr Local Government Area. It has a very high influence on the individual's lifestyle, worldview, words and actions. According to Benjamin (2005), activities and systems have been shown to be associated with numerous health behaviors such as smoking, drinking, drug usage, dieting and the general healthcare utilization. Belief system is so influential that, it has a significant impact on members in determining self-medication. Dada, Yinusa and Goes [34], conducted a study in Bayelsa State, Nigeria, to find out whether belief system has any significant influence and the patronage of modern medical facilities. The findings were that, in many developing countries, the traditional care of diseases remain popular despite civilization and the existence of modern healthcare facilities and services. The researcher reported that, in Nigeria, due to the traditional belief system, traditional bone setters, perhaps more than any other group of traditional caregivers enjoy high patronage and confidence in the society. Indeed, the patrons of these services cut across all strata of the society, including the educated and the affluent. Many reasons accounts for this, including the belief that, disease and accidents have spiritual components that need to be tackled along with treatment. As such, the ages of their clients vary from the newborn with musculoskeletal deformity to the elderly with fractures. Again, Dada, Yinusa and Goes [34] posit that, the commonest problems treated by traditional bone setters are fractures and dislocations. This practice is widely spread in Yakurr Local Government Area, and across the country, including areas with modern healthcare facilities.

2.9 Awareness and Self-Medication

According to Olusegun et al. (2009), self-medication is the indulgence in alternative medicine and medical interventions that are neither thought in medical schools, prescribed nor generally available in hospitals. Angell and Kassirer [35], described self-medication partly as indulgence in alternative medicine, used in place of conventional medical treatment. According to them, most of these self-medication practices, do not require professional knowledge but include practices such as spiritual and metaphysical practices. These are non-European medical traditions. They are newly developed approaches to healing. According to these scholars, self-

medication involves indulgence in medicines where the efficacy and safety have not been verified through scientific research [35].

According to Afolabi [36], awareness sometimes enables individuals to self administer medications through drug identification and trade names. Other common names of drug identification include use of generic names, action, color, shape and common usage names. Even the educated sometimes source information on drugs from sales clerks in chemist or patent medicine shops.

2.10 Proximity to Medical Center and Self-Medication

According to Moses and Freddie [37], distance to health facilities constitutes one of the reasons for self-medication. Other reasons for indulgence in self-medication with antimicrobial agents include drug knowledge, advice from friends and long waiting time. Again, they observed that long distance to health facilities and the need to reduce burden on health care services made the WHO to encourage community treatment of common diseases using self-medication. This is considered to be of benefit especially for developing countries such as African countries where there are challenges of limited healthcare infrastructure and human resources.

Oluwole and Babatunde [38], in their study conducted in western Nigeria, reported that, the common reasons for self-medication were non-availability of health facilities and trained personal and distantly located at facilities. Most individuals travel a distance from accessing health care facilities (Asenso-Okyere, Chiang, Thangata, and Andams, 2011). According to Asenso-Okyere et'al (2011), the health status of adults, affects their ability to work, and thus, underpins the welfare of the household including children development. Treatable conditions often go untreated because there is lack of access to healthcare. Development in health is only possible when there is access to healthcare services and in turn, its effective utilization by individuals. Access to healthcare facilities is multidimensional process involving the quality, type of healthcare, geographical accessibility, availability of the right type of care for those in need, financial accessibility, and acceptability of service [39].

Healthcare access and utilization are however the major interest to rural development, because

they are vital elements of well-being and components of human capital [40]. In rural communities for instance, where physical jobs tend to be more abundant, health care access and utilization stand to be more important than education in determining labor productivity [40].

Furthermore, every individual sees good health as a need, which makes healthcare utilization an economic good [41]. Peter, Grag, Bloom, Walker, Briefer and Rahman [39], maintain that, good health is a need for all, and that, the choice of a particular healthcare system in response to the law of demand and supply, is a derived demand. Healthcare is not demanded for itself, but for the advantages that can be derived from being healthy [39].

3. THEORETICAL FRAMEWORK

This research was framed based on two theoretical approaches viz; The Health Belief Model and Mechanic's General Theory of help seeking behavior.

3.1 The Health Belief Model

The health belief model was developed by two socio-psychologists such as, Rosenstock and Kegel in the early 1950s in the United States Public Health Services. It was a theory developed to understand the widespread failure of people to accept disease prevention or screening test for the early detection of the asymptomatic diseases. The theory was later applied the patients' responses the symptoms and to compliance with prescribed medical regimen. The theory is known to be based on its two variables - the value placed by an individual on a particular good and the individual's anticipated likelihood that a given action can achieve that goal. The theory is based upon the following premises:

1. Perceived susceptibility: Individuals here widely vary in their feelings of personal vulnerability to a condition like diagnosis and illness in general. This dimension is subjective to one's perception of the risk of contracting a condition.
2. Perceived benefits: This depends on the beliefs regarding the effectiveness of various actions available in reducing the disease threats.
3. Perceived severity: This deals with the feelings concerning the seriousness of

contracting an illness or leaving it untreated as it varies from person to person.

4. Perceived barriers: This is concerned with the potential negative aspect of a particular health action that may act as an impediment to undertaking the recommended behavior. A kind of cost-benefit analysis is thought to occur wherein, the individual weighs the action's effectiveness against the perception that, it may be expensive, dangerous, unpleasant, inconvenient and time consuming.

This theory is relevant to this study in the sense that, it provides a framework for predicting and explaining the complexity in self-medication and for highlighting strategies to discouraging people from engaging himself-medication. The HBM was identified as the ideal framework for the study as self-medication should be seen as a reflection of the health belief system of the individual and the society, as a whole. The model, a well tested, comprehensive, social cognitive framework by Rosenstock and colleagues, was one of the first models used to predict and explain variations in self-medication behavior among women in the 1970s and 1980s. Yet, the HBM has seldom, since been applied in explaining other medical issues. The major criticism developed against this model is the overemphasis of need, at the expense of health beliefs and social structure. In addition, the theory has been criticized for failing to indicate where to actually get safety recommendations to treat illness.

3.2 Mechanic's General Theory of Help Seeking Behavior

The help seeking behavior theory was developed by David mechanic in 1978. The theory explains individual differences in help seeking behaviors. In other words, the theory explains why some people resort to self-medication when they are sick, while others do not. Mechanic (1978) notes that, socialization, belief system, awareness level and proximity of healthcare facilities play a major role in help seeking behavior of people, as it culturally defines what illness is, and how it should be dealt with or treated, ie, negatively or positively. Mechanic (1978) highlighted some socio-cultural factors that influence people not to resort to self-medication when they are ill. They include:

i. Visibility, recognizability or perceptual salience of symptoms or deviant signs.

ii. The extents to which the symptoms are perceived as serious.
iii. The extent to which symptoms disrupt family, work and other social activities.
iv. The frequency of appearance of symptoms, their persistence or their frequency of reoccurrence.
v. The tolerance threshold of those who are exposed to, and evaluate the symptoms.
vi. Available information, knowledge and cultural assumptions and understanding of the bodily changes.
vii. Basic needs which lead to autistic psychological processes- perceptual processes that distort reality.
viii. Needs competing with illness responses-competing needs and priorities.
ix. Competing cognitive interpretations that can be assigned to the symptoms once they are recognized.
x. Availability of treatment resources, physical proximity and psychological and monetary costs of taking action.

The theory is relevant to this study because, it can be applied to different strands of illness behavior. Such as, what people do when they are sick, where they go for help, how they seek medical or non-medical help, how they manage acute or chronic conditions, why they use healthcare services, and how they develop health beliefs and form illness perceptions? The theory explicitly explains that, people's health behavior show their routine activities related to their health lifestyles that ultimately determine potential health threats and maintain their current status of health. Relative to the phenomenon of self-medication, the criticism leveled against this theory is that, in seeking help the individual may take the wrong action by going to the chemist or patent vendor, for over the counter drugs, instead of going to qualified medical practitioners for examination, tests, diagnosis and treatments.

3.3 Research Design

The descriptive survey design was adopted for this study. This design was chosen to provide explanation of the phenomenon and measure the relationship between self-medication and patronage of orthodox medical facilities in Yakurr Local Government of Cross River State. Shields [42] notes that, prescriptive survey design is used to describe characteristics of population or phenomenon under study. It deals on questions such as who, what, when and where? [42] and is derived from a broad class of experimental

studies with the purpose of describing characteristics as they occur.

3.4 Research Area

The target area for this research was Yakurr Local Government Area of Cross River State, Nigeria. This area was chosen because self-medication is relatively high in this area. The area is located in the Central Senatorial district of Cross River State and constitutes one of the largest ethnic groups in the state. Yakurr Local Government is comprised of eight villages namely: Ugeb, Ekori, Idomi, Nko, Mkpani, Assiga, Agoilbami and Inyima respectively, and is bordered by Obubra to the Northeast, Biase to the West, Akamkpa to the Southeast and Abi to the Southwest. Ugep is its Council Headquarters. The dominant language spoken by the Yakurr people is "Lokaa." The Yakurr people are predominantly farmers and petty traders, and celebrate new yam festival known as "Lekoi Boku" annually.

3.5 Population of the Study

The population of the study comprise of people aged 15 - 49 years and above of both gender. This is because, the practice of self-medication is not limited to any age bracket or gender. This research is based on the 2006 National Population Census; whose figures stood at nine hundred and ninety-six thousand, two hundred and seventy-one (996,271) to be the total population of Yakurr Local Government Area. The total of ninety-nine thousand, four hundred and eighty five (99,485) of this population were males, and ninety-six thousand, seven hundred and eighty-six (96,786) were females respectively.

The Bureau of Statistics (2006) puts the youth population to be, one-hundred and fourteen thousand, six hundred and sixty four (114,664) and the elderly population to be seven thousand, one hundred and twenty-six (7,126) respectively.

3.6 Research Sample

The sample for this study was made up of four hundred and seventy four (474) respondents randomly drawn from the various communities in Yakurr Local Government Area of Cross River

State, Nigeria. The Survey Monkey sample size calculator was adopted in determining the sample size. The total population of the Local Government Area was keyed into the calculator at a confidence level of 95% and at a margin error of 4.5%, and the results displayed the needed sample of 474 respondents; as shown below:

Population size - 196,271
Confidence level (%) - 95
Margin of error (%) - 4.5
Sample size drawn - 474

3.7 Sampling Technique

Three methods of sampling were adopted for this study, viz, stratified sampling, purposive and simple randomization. Stratified sampling technique was adopted in the stratification of Yakurr Local Government Area into different strata according to the communities. From these strata, the purposive sampling technique was used in selecting four communities which are known to have numerous cases of people engaging in self-medication over time. These communities are Ugep, Nko, Mkpani and Idomi. This sampling method reduced the possibility of error as it allows the researcher to recognize, identify and consider the heterogeneous characteristics of the phenomena. The simple randomization was employed using the lottery method. Here, the proportion of the population was known, and these numbers written out on pieces of paper and put in a hat, and randomly picked out until the sample size is selected. The proportional sampling technique was then used to select the four hundred and seventy four (474) subjects for this study. The proportional sampling technique is used when the population size is known, thereby allowing the researcher to appropriately apportion a proportionate sample size according to the population of the study area. The breakdown of the sample size from each selected community was Ugep (296), Ekori (95), Nko (79), and Idomi (31) respectively.

A comprehensive breakdown of the population according to the proportional sampling technique is highlighted in Table 1. The disparity in the selection of sample size for each community is as a result of unequal distribution of the study population in the various communities.

Table 1. Proportional selection of samples for each community

S/NO	Community	NO. of Population	Proportion of population	Sample size
1	Ugep	53,696	0.56	269
2	Ekori	18,870	0.70	95
3	Nko	15,699	0.20	79
4	Idomi	6,298	0.07	31
		∑ = 94,563		∑n = 474

Source: Fieldwork, 2018

3.8 Research Instruments

Instruments used for this research was a – 17 item structured questionnaire and key informant interview data presented were of both close – ended and open – ended questionnaire. This was chosen to give respondents access to pin down personal opinions, as there was not discrimination between indigenes and non-indigenes residing in the research area. The questionnaire was further structured into two sections. Section "A" constituted personal demographic data of respondents while section "B" was to generate phenomenal data. The key informant interview was designed to obtain relevant data that complemented data derived from the questionnaire. Through this medium, data were generated that helped measure the relationship between self-medication and patronage of orthodox medical facilities in Yakurr Local Government Area of Cross River State, Nigeria.

3.9 Data Analytic Technique

Data collected were properly checked and analyzed using appropriate statistical methods. Frequency distribution, simple percentage and Pearson Product Moment Correlation, as well as one ANOVA analysis were employed. The analyses were presented hypothesis by hypothesis, testing each at 0.05 level of significance

4. DATA PRESENTATION, RESULTS AND DISCUSSIONS

Out of the 474 questionnaires administered, only 448 were returnee and these were analyzed accordingly. 26 questionnaires were not retrieved. The socio-demographic data were presented in tabular form.

4.1 General Description of Data

Out of the 448 respondents used for the analysis 188 representing 42% were males while 260 representing 58% were females. Description of respondents based on age shows that, 228 representing 51% were 18 – 25 years, 71 or 16% were aged 16 – 33 years, 68 or 15% were 34 – 41 years; 67 or 15% were 42 – 49 years while 14 – 3% were 50 years and above.

This trend is a true representation of the society where there are more youths than aged people. For marital status of respondents, 273 or 60.9% were single, 124 or 27.7% were married; 20 or 4.5% were divorced; 29 0r 5.5% were widowed while 2 or 0.4% did not respond to this question. The distribution of respondents based on educational qualification shows that WASSC./GCE/NECO were 124 or 27.7%; BSC/BA/BED/HND were 48 or 10.7%; Msc/MA/MED were 22 or 4.92%; NCE/ND were 70 or 15.6%, FSLC were 158 or 35.3%; and those without formal education were 26 or 5.8% respectively. This finding shows that respondents were not illiterates. On religious affiliations 350 or 78.1% respondents were Christians; 10 or 2.2% were Muslims, while 20 or 4.5% were African traditional religion practitioners. 68 or 15.2% respondents did not respond to this question. Findings from the occupational status of the respondents revealed that, 141 or 31.5% were civil servants; 130 or 29%were self employed; 61 or 13.6% are farmers; 106 or 23% were unemployed, while 10 or 2.2% were not responded to. On the distribution by place of origin, 258 or 57.6% were from Ugep; 88 or 19.6% were from Ekori; 28 or 6.3% from Idomi and 74 or 16.5% were from Nko respectively.

4.2 Testing of Hypotheses

Hypothesis one:

H_0: There is no significant relationship between belief system and self-medication in Yakurr Local Government Area

H_1: There is a significant relationship between belief system and self-medication in Yakurr Local Government Area

Decision Rule:

Accept H_0 if calculated r value is ≥ 0.0098 critical value at 446 degrees of freedom and 0.05 level of significance, otherwise reject H_0 and accept H_1.

This hypothesis was plotted using items 1 – 4 measuring belief system of the questionnaire (See Appendix 1); and tested using Pearson Product Moment Correlation (PPMC) as shown in Table 3.

Table 2. Socio-demographic distribution of respondents

Variable	Category	N	Percentages
Gender	Male	188	42
	Female	260	58
	Total	448	100
Age	18 – 25 years	228	51.0
	26 - 33 years	71	16.0
	34 – 41 years	68	15.0
	42 – 49 years	67	15.0
	50 years and above	14	3.0
	Total	448	100
Marital status	Single	273	60.9
	Married	124	27.7
	Divorced	20	4.5
	Widows/widowers	29	6.5
	No response	2	4
	Total	448	100
Educational status	Ph.D	0	0
	M.Sc/MA/BA	22	4.9
	B.Sc/B.ED/HND	48	10.7
	NCE/ND	70	15.6
	WASSCE/GCE/NECO	124	27.7
	FSLC	158	35.3
	No formal education	26	5.8
	Total	448	100
Religious affiliation	Christianity	350	78.1
	Islam	10	2.2
	ATR	20	4.5
	No response	68	15.2
	Total	448	100
Occupational status	Civil servant	141	31.5
	Self-employed	130	29.0
	Farmer	61	13.6
	Unemployed	106	23.7
	No response	10	2.2
	Total	448	100
Place of origin	Ugep	258	57.6
	Ekori	88	19.6
	Idomi	28	6.3
	Nko	74	16.5
	Total	448	100

Source: Field Survey, 2018

Table 3. Pearson product moment correlation of belief system and self-medication

Variable	Mean	SD	r-value	Sig.
Belief system	15.97	2.83		
			0.584**	.000
Self-medication	16.43	3.40		

Significant at 0.05 level; df = 446, critical r value = 0.098; Source: Field Survey, 2018

Decision: Since the calculated r value of 0.548 is greater the critical value of 0.098 at 446 degrees of freedom and 0.05 level of significance, the null hypothesis is hereby rejected and the alternate accepted. This hypothesis states that, there is a significant relationship between belief system and patronage of orthodox medical facilities in Yakurr Local Government Area.

Hypothesis two

H_0: There is no significant influence between awareness level and self-medication in Yakurr Local Government Area.
H_1: There is a significant influence between awareness level and self-medication in Yakurr Local Government Area.

Decision Rule: Accept H_0 if calculated F value ≥ 3.00 (p < .05) at 2,446 degrees of freedom; otherwise, reject H_0 and accept H_1.

This hypothesis was plotted using items 5.7 measuring awareness level of the questionnaire (see Appendix 1) and tested using the one way analysis of variance (ANOVA), as shown on Table 4 A – C.

Decision: Since the ANOVA result for awareness level is F = 19.000 and greater than the critical F value of 3.00 (P. < .05) at 2,446

degrees of freedom, the null hypothesis is hereby accepted and the alternate hypothesis, rejected. This hypothesis states that, there is no significant influence of awareness on patronage of orthodox medical facilities in Yakurr Local Government Area. The post HOC test was performed to establish which of the categories (Low, moderate and high) have more influence on patronage of orthodox medical facilities in Yakurr Local Government Area and the result are presented in Table 4[b] and 4[c].

Hypothesis three:

H_0: There is no significant relationship between proximity to medical facilities and self-medication in Yakurr Local Government Area.
H_1: There is a significant relationship between proximity to medical facilities and self-medication in Yakurr Local Government Area.

Decision Rule: Accept H_0 if calculated r ≥ 0.098 at 446 degrees of freedom and 0.05 level of significance; otherwise, reject H_0 and accept H_1.

This hypothesis was plotted using items 9 – 12 of the questionnaire measuring proximity to medical facilities (see Appendix 1) and tested using PPMC as shown on Table 5.

Table 4A. ANOVA of awareness level and self-medication

Category	N	Mean	SD		
Low	148	12.12	3.58		
Moderate	132	13.64	4.60		
High	168	18.17	6.33		
Total	448	14.76	5.39		
Source of variance	Sum of Squares	Df	Mean square	F-value	Sig.
Between groups	1872.674	2	936.337	19.000	.000
Within groups	16114.890	446	49.281		
Total	17987.564	448			

Significant at 0.05 level; df = 2, 446; critical F. = 3.00
Source: Field Survey, 2018

Table 4B. Scheffe Post Hoc test

Awareness level	(J) Awareness Level	Mean Difference (I-J)	Std. Error	Sig.
Low	Moderate	1.51	1.02	.337
	High	6.05*	1.10	.000
Moderate	Low	1.51	1.02	.337
	High	4.53*	0.88	.000
High	Low	6.05*	1.10	.000
	Moderate	4.53*	0.88	.000

* The mean difference is significant at the 0.05 level

Table 4C. Homogeneous subsets

	Awareness level	N	Subset for alpha 0.05 1	2
Scheffe[a,b]	Low	148	12.12	
	Moderate	132	13.64	
	High	168		18.17
	Sig.		.325	1,000

Table 5. Pearson product moment correlation of proximity to medical facilities and self-medication

Variable	Mean	SD	r-value	Sig.
Proximity	15.41	2.22	0.334**	.000
Self-medication	16.43	1.40		

*significant at 0.05 level; df = 446 critical r-value = 0.098
Source: Field survey, 2018

4.3 Discussion of Findings

Respondents demographic data for sex showed that 188 or 42% were male and 260 or 58% were female. Description based on age showed that most of the respondents. 228 or 51% were between 18 – 25 years; 17 or 16% were 26 – 33 years; 68 or 15% were 34 – 41 years, 67 or 15% were 42 – 49 years; while 14 or 3% were aged 50years and above. This trend is a true representation of our society where we have more youthful population than the elderly population. The marital status distribution showed that, 273 or 60% were single; 124 or 27% were married, 20 or 4.5% were divorced 29 or 6.5% were widowed; while 2 or 0.,4% did not respond to that question.

The distribution of respondents by educational qualification showed that, those with SSC/GCE/NECO were 124 or 27.7%; BSC/BA/BED/HND were 48 or 10.7%; MSC/MA/MED were 22 or 4.9%; NCE/ND were 70 or 15.6%; FSLC were 158 or 35.3% while those with no formal education were 26 or 5.8% respectively. On religious affiliation, 350 or 78.1% were Christians; 10 or 2.2% were Muslims and 20 or 4.5% practiced African Traditional Religion. 68 or 15.2% did not respond to this question. Findings from the occupational status showed that, 141 or 31.5% were civil servants, 130 or 29% were self employed; 61 or 13.6% were farmers 106 or 23.7% were unemployed, while 10 or 2.2% did not respond to this question. The place of origin distribution showed 258 or 57.6% were from Ugep; 88 or 19.6% from Ekori; 28 or 6.3% from Idomi while 74 or 16.5% were from Nko respectively.

Hypothesis one finding revealed that there is a significant relationship between belief system and self-medication in Yakurr Local Government Area of Cross River State, Nigeria. From the statistical analysis, the calculated r value of 0.544 is greater than the critical value of 0.098 at 0.05 level of significance and 446 degrees of freedom. This showed that people belief system influenced their use of over-the-counter drugs or using other forms of self medication. This finding is supported by the work by Dada, et al. [34] and Benjamin (2005) who asserted that, the activities and belief system are associated with numerous health behavior such as smoking, drinking of alcohol, drug usage dieting and general healthcare services utilization. Belief systems are so influential that, they have a significant impact on people in determining self-medication. This is because they shape the cultural norms and values of the members of society especially in relation to drug use. Dada et al. [34] conducted a study to find out whether belief system has any significant influence on the patronage of modern medical facilities whose finding showed that, the traditional care of diseases, remain more popular despite the level of civilization and existence of modern health care facilities and services. This goes a long way to confirm the fact that, in Nigeria, due to traditional belief system, some traditional medical practitioners e.g. traditional bone setters, still enjoy more patronage than the orthodox doctors in our health care facilities. Two key informant interviews were conducted to triangulate research findings with that from the questionnaire. Report from a male nurse working with the primary health centre in Idomi. Mr. Otor Esekpa, using structured interview schedule, which was tape-recorded and transcribed

revealed that, people find it difficult patronizing orthodox medical facilities because of their traditional belief system which include, the use of local herbs, roots and bark of trees. These concoctions are believed to be more potent and efficacious than orthodox medicines in treating ailments like malaria, mumps, bone fractures, dislocations, dysmenorrhoea.

Response from another interviewee, a patient medicine vendor, Mrs. Obia Daniel Ibiang from Idomi, collaborated the earlier response. According to her, most of the locals, prefer to use traditional medicine, because it is what our forefathers used and it worked for them. She added that, the poverty situation of the people of the community, made them to prefer using local herbs which are obtained at no cost from the forest and farmlands, than visiting the orthodox health centres where they are charged heavily for anything done for them.

Result from the second hypothesis revealed that there is a significant influence of awareness level on self-medication on Yakurr Local Government Area of Cross River State, Nigeria. This result implies that, people's knowledge of orthodox medicine influences patronage. The one way-analysis of variance for awareness level (low, moderate and high) and patronage of orthodox medical facilities revealed that, there is a statistical significant influence of awareness level. Calculated F = 19,000 which is greater than critical F = 3.00 (p <.05) with 2,446 degrees of freedom. This finding is supported by the work of Afolabi [36] and Bamidele (2009). According to Afolabi [36], awareness sometimes, enables individuals to indulge in self-medication through drug identification and trade names. Other common means of drug identification include, use of generic names, action, colour, shape and common drug usage, Bamidele (2009) on his part, notes that, Sododema graphic determinants of self-medication among the educated are age, gender, occupation, educational qualification, place of residence, income and culture.

Three key informant interviews were conducted using one Mr. Utum Felix, a community health Assistant working in Primary Health Center, Ugep, Mrs. Mary Ibiang, a female local drug dispenser and Mr. Otor Esekpa, both from Idomi. On how awareness affects self-medication, Mr. Utum Felix maintained that, most community members in Ugep are not aware of the dangers of self-medication; and that, it is the same over-the-counter drugs that they are usually given

even if they patronized the orthodox health care facilities and at a higher price. On her part, Mrs. Mary Ibiang notes that, most of locals prefer the use of traditional herbs, roots and other traditional methods, arguing that most of the drugs used in the orthodox health care facilities are made from traditional herbs, roots, bark of trees and other traditional substances. Lastly, on his part, Mr. Otor Esekpa asserted that, awareness can dissotde people from self-medication if they are fully aware of the repercussions and dangers of drug abuse.

The result from the fourth and final hypothesis revealed that, there is a significant relationship between proximity to medical facilities and self-medication among the people of Yakurr Local Government Area of Cross River State, Nigeria. This result implies that, the closeness to an orthodox medical facility influences an individuals patronage of the facility. The calculated value of 0.334 is greater than the critical value of 00.98 at 446 degrees of freedom and 0.05 level of significance. This finding is supported by the works of Oluwole and Babatunde [38] and Moses and Fredrick [37] Moses and Freddie [37], observed that, long distance to health facilities and that made patronage of these facilities low need to reduce burden on health care services made the WHO to encourage community treatment of common diseases using self-medication. On their part, Oluwole and Babatunde [38] in their study in Western Nigeria, reported that, the common reasons for self-medication were non-availability of healthcare facilities lack of trained personnel, and distantly located health care facilities. Also, key informant interviews were conducted using Mr. Otor Esekpa, Mrs. Mary Ibiang and Mr. Utum Felix. For Mr. Otor Esekpa, most people find it difficult to visit orthodox health care facilities because of the distance away from their residence, and the difficulty in transporting themselves to the healthcare facilities. The topography of the community makes it difficult to reach out to the facility since the roads to them are not motorable. Instead, they prefer to use the local drug vendors, dispensaries and chemist shops for their health care needs.

5. SUMMARY, CONCLUSION AND RECOMMENDATIONS

This study was set to examine self-medication and patronage of orthodox medical facilities in Yakurr Local Government Area of Cross River State, Nigeria.

Three specific objectives were formulated and were:

(i) To examine the relationship between belief system and self-medication in Yakurr Local Government Area of Cross River State, Nigeria.
(ii) To investigate the influence of awareness level on self-medication in Yakurr Local Government Area of Cross River State, Nigeria.
(iii) To examine the relationship between proximity to medical facilities and patronage of orthodox medical facilities in Yakurr Local Government Area of Cross River State. Nigeria.

Three null hypotheses were formulated to guide and direct these researches which were tested using appropriate statistical techniques at the end of this study. Relevant literatures were reviewed in line with the variables identified for this study. Two theories – the Health Belief Model and Mechanic's grand theory of help seeking behavior were used as the theoretical framework of this study. The descriptive survey research design was adopted for the study and a sample size of 474 was selected using the survey market sample size calculator. The sampling techniques used were purposive, proportional stratified and the simple randomization. The questionnaire and key informant interview were the instrument of data collection and were subjected to both face and content validity tests conducted by experts in measurement and evaluation in the Faculty of Social Sciences, University of Calabar, Calabar. Data generated were coded accordingly, and analyzed using the statistical tools were adopted because of the nature of variables involved in this study. All hypotheses were tested at 0.05 level of significance. The results of this test shared that:

1. There is a significant relationship between belief system and self-medication in Yakurr Local Government Area of Cross River State, Nigeria.
2. There is a significant influence of awareness level on self-medication in Yakurr Local Government Area of Cross River State, Nigeria.
3. There is a significant relationship between proximity to medical facilities and self-medication in Yakurr Local Government Area of Cross River State, Nigeria.

Based on the findings of this study, the following recommendations were made:

1. The National Health Insurance Scheme should be extended to the rural populace in Yakurr Local Government Area. The availability and accessibility of services will discourage the rural poor from engaging in self-medication.
2. An optional plan of education with more awareness campaigns and preclinical experiences should be made in rural communities on the advantages of using orthodox medicine to increase the knowledge and confidence of health care facilities utilization and minimize phobia among community members
3. The patent / general medicine dealers constitute the single substantial channel of information and the usual source where market women obtained these medications. Renewal of these annual operating licenses could be tied to attending and passing workshops to update and improve their knowledge on managing simple complaints and dispensing of over-the-counter drugs. Such workshops should emphasize that, only those who could write and read, or who could be trained could be patent/general medicine dealers just as traditional birth attendants, village or community health workers, and so on, have been trained irrespective of their educational level.

ETHICAL APPROVAL AND CONSENT

Ethical issues involved were the obtaining of consent for participation by respondents who took part in the research. These consents were documented across the four communities used for the research. Consent was obtained first from the traditional ruler of the village, as well as the persons sampled for the study.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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APPENDIX I

Pearson product moment correlation of belief system and self-medication

Variable	Mean	SD	r-value	Sig.
Belief system	15.97	2.83		
			0.584**	.000
Self-medication	16.43	3.40		

Significant at 0.05 level; df = 446, critical r value = 0.098
Source: Field Survey, 2018

ANOVA of awareness level and self-medication

Category	N	Mean	SD		
Low	148	12.12	3.58		
Moderate	132	13.64	4.60		
High	168	18.17	6.33		
Total	448	14.76	5.39		
Source of variance	Sum of squares	Df	Mean square	F-value	Sig.
Between groups	1872.674	2	936.337	19.000	.000
Within groups	16114.890	446	49.281		
Total	17987.564	448			

*Significant at 0.05 level; df = 2, 446; critical F. = 3.00
Source: Field Survey, 2018

Scheffe Post Hoc test

(1)Awareness level	(J) Awareness Level	Mean Difference (I-J)	Std. Error	Sig.
Low	Moderate	1.51	1.02	.337
	High	6.05*	1.10	.000
Moderate	Low	1.51	1.02	.337
	High	4.53*	0.88	.000
High	Low	6.05*	1.10	.000
	Moderate	4.53*	0.88	.000

* The mean difference is significant at the 0.05 level

Homogeneous subsets

	Awareness Level	N	Subset for alpha 0.05	
			1	2
Scheffe[a,b]	Low	148	12.12	
	Moderate	132	13.64	
	High	168		18.17
	Sig.		.325	1,000