KNOWLEDGE, ATTITUDE AND PRACTICE OF SELF-MEDICATION AMONG SENIOR SECONDARY SCHOOL STUDENTS IN IBADAN NORTH-WEST LOCAL GOVERNMENT AREA

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DEDICATION

This is dedicated to God Almighty.

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ABSTRACT

Previous researches conducted in Nigeria identified a high prevalence of self-medication among adolescents and younger-aged people compared to the older ones. Knowledge had been identified to be a cogent factor in practicing self-medication, however, the effect of knowledge on attitude and practice of self-medication had not been well documented. This study therefore explored the knowledge, attitude and practice of self-medication among senior secondary school students in Ibadan North-West Local Government Area, (LGA) Oyo State, Nigeria.

This study was a descriptive cross-sectional survey. A five stage sampling technique was employed in selecting 435 students attending 7 public and private secondary schools. A semi-structured, self-administered questionnaire was used to collect information on the socio demographic characteristics, knowledge, attitude, practice and factors influencing self-medication. Knowledge was scored on a 9-point scale; scores of ≤3, 4 – 6 and >6 were classified as poor, fair and good knowledge respectively. Attitude was scored on a 9-point scale; scores of ≤4 and >4 were rated as good and poor attitude respectively. Practice was also scored on a 6-point scale; scores of 0, 1 – 6 were categorized as non- practicing and practicing respectively. The quantitative data were analyzed using SPSS version 20. Descriptive statistics and Chi-square test at p=0.05 were used.

Respondent's mean age was 15.33±1.51 years. More than half (53.7%) of the respondents were female while many (67.8%) of the respondents were within the ages of 14 and 16 years. Over two-third (69.7%) were Christians while more than three-quarter (75.7%) were Yoruba. Majority (92.1%) of the respondents had knowledge score of ≤3, that is, poor knowledge. Only 9% had score of 4-6, that is, fair knowledge while none had knowledge score of 6-9, that is, none had good knowledge of self-medication. Most (90.2%) of the respondents had attitude score of 5-9, that is, poor attitude (they reported self-medication was not appropriate) while only 9.8% fell in the score range of 1-4 which is good attitude towards self-medication. More than three-quarter of the respondents (88.5%) practiced self-medication, that is, they had practice scores of 1-6 while only 11.5% did not practice self-medication. Most of the respondents reported 'non-

severity of the illness', 'lack of clinics in schools', 'recommendation from parents or guardians', 'previous experience about a particular illness', and 'effectiveness of medication when used' as factors influencing their self-medication practices.

This study showed that although knowledge was poor, respondents still perceived that self-medication was not appropriate. The prevalence of self-medication was very high while the social environment greatly influenced their self-medication practices. Strategies such as Health education (using group dialogue, peer educators, counseling and lectures to educate the students, parents and school administrators about self-medication) and Advocacy (to facilitate policy formation relating to regulation of medication sales, incorporating sick-bays in schools and introducing knowledge of self-medication into the secondary school curriculum) would be appropriate strategies to reduce self-medication practices.

Keywords: Self-medication,Knowledge, Attitude, Practice, Senior Secondary School students.

Word count: 470

CERTIFICATION

I certify that this project was carried out by OLASANTAN Oladiwura Elizabeth in the department of Health Promotion and Education, Faculty of Public Health, College of Medicine, University of Ibadan, Oyo state, Nigeria.

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INTRODUCTION

1.0 Background of study

Self-medication is the use of medicine to treat self-diagnosed illnesses or symptoms or the continuous use of previously prescribed medication to treat chronic or recurrent disease (Arute, Adje, Akonoghrere and Omuta, 2013). Self-medication can also be described as the use of medication without a doctor's prescription to treat or prevent symptoms of minor ailments, either on an individual's own initiative or following an advice of an individual who is not a healthcare professional (Menton and Van Schoor, 2005). The prevalence of self-medication is higher in developing countries compared to developed countries because professional health care is relatively expensive and in some cases not readily available, making self-medication an alternative to health care services (Emmanuel, Daniel, Achema, Afoi, Onyejekwe and Gimba 2011). Also, there is substantial variation in the prevalence rates of self-medication among developing and developed nations due to inherent differences in cultural and socioeconomic factors, disparities in health care systems such as reimbursement policies, access to health care, and medication dispensing policies (Osemene and Lamikanra, 2012). Therefore, self-medication is a fairly common practice especially in economically deprived countries (Almasdy and Sharrif, 2011). Many people resort to the practice of self-medication instead of contacting professional health care workers because of long waiting period in hospitals, minor ailment, cost (to save money), time, lack of accessibility, shortage of doctors or the belief that the ailment is beyond the knowledge of professionally trained doctors (Arute et al., 2013). In addition to the factors mentioned earlier, people also prefer to receive recommendation about medications from Patent Medicine Vendors (PMVs) or pharmacists rather than consulting trained doctors.

Self-mediation as a behaviour cannot be entirely classified as being harmful because it is grouped into responsible or non-responsible (Awosusi and Konwea, 2015). The World Health Organization (WHO) does not consider self-medication as a totally bad practice as long as it is 'responsible', and by responsible it means the practice where a person can treat their illnesses with medicine that do not require a medical prescription to be sold (Vazquez, 2014). Self-medication is practiced correctly and

termed as 'responsible' if the leaflets or other information about the medication are read, when instructions are followed strictly, if treatment course (dosages) are completed, pharmacist or a doctor was consulted to explain what was not understood about the medication and when side effects are reported immediately (WHO, 2012). The WHO has also pointed out that responsible self-medication can help prevent ailments, treat ailments that do not require medical consultation and provide cheaper alternative for treating common illnesses. Responsible self-medication is being promoted by WHO for effective and quick relief of symptoms to reduce burden on health care service centers (Almasdy and Sharrif, 2011; Ahmad, Mohanta and Balkrishnan, 2014). Responsible or rational self-medication has a positive impact on individual and health care system because it allows patients to take responsibility and build confidence to manage their own health, thereby promoting self-empowerment (Almasdy and Sharrif, 2011). Furthermore, it can save the time spent in waiting to see a doctor, it is economical and provides saving for medical schemes and the national healthcare system (Menton and Van Schoor, 2005).

However, self-medication could be dangerous if not controlled. Some problems associated with self-medication according to Emmanuel et al. (2011) are wastage of resources, increased resistance to pathogen and generally entails enormous health hazard such as adverse reaction and prolong suffering. Irrational self-medication may result in greater probability of inappropriate, incorrect or undue therapy, missed diagnosis, delays in appropriate treatment, pathogen resistance and increased morbidity (Bennadi, 2014).

The practice of self-medication cuts across cultures, age groups, gender, health and social status, race, occupation or any other socio-medical or demographic factors (Arute et al., 2013). Knowledge about medication prior to its use or basic knowledge about the appropriate use or storage of medication is very important in practicing self-medication (Menton and Van Schoor, 2005; Afolabi, 2012). The reasons people practice self-medication varies. Some of the reasons are to avoid long waiting periods in the hospital, perception about the ailment (not severe), to save money and time, shortage of doctors or a belief that the ailment is beyond the knowledge of a trained medical doctor (Arute et al., 2013).

Self-medication facilitates better use of clinical skills, increased access to medication and reduction in medication costs; it is therefore a very important aspect of self-care

which is nowadays generally accepted as an important part of healthcare system (Menton and Van Schoor, 2005; Hughes, McElnay and Fleming, 2012).

1.1 Statement of problem

The practice of self-medication cuts across cultures, genders, health and social status, race occupation or any other socio-medical or demographic factors (Arute et at., 2013). In addition, non-responsible or irrational self-medication is a cause of both professional and public health concern (Hithin, Tanuj, Bhaskaran, Rekha, Prasanna and Vanam, 2010). It is widely practiced in both developing and developed countries, however, the prevalence of self-medication is higher in developing countries, including Nigeria (Eke et al., 2014; Emmanuel et al., 2011). A review on self-medication by Afolabi (2012) illustrate that the younger age group practiced self-medication than the older age group. Other studies conducted in Nigeria have also illustrated this (e.g Osemene and Lamikanra, 2012; Arute et al., 2013; Awosusi and Konwea, 2015).

Limited knowledge of appropriate management of medications results in the increase of self-medication (Afolabi, 2012). According to Klemenc-Ketis et al. (2010), responsible self-medication which is an important aspect of self-care is associated with a certain level of knowledge before it is practiced appropriately; however, the basic knowledge about the proper way of dealing with medications and potential dangers of self-medication is both insufficient and under estimated (Afolabi, 2012). Lack of knowledge about self-medication (lack of knowledge about the medication prior its usage) which is attributed to irrational self-medication practice was common with side-effects (Lam et al., 1994; Afolabi, 2012). Apart from side effects, other dangers are drug misuse and abuse, drug addiction and dependency (Igudia et al., 2012) which were also stated in the conclusion of a research conducted by Emmanuel et al. (2011) among undergraduate nursing students in Jos. The importance of knowledge to practice of self-medication had been highlighted; however, the importance of attitude towards self-medication and practice had been under-researched. This was also stated by Afolabi (2012), that researches on the importance of attitude to self-medication are insufficient and under estimated.

1.2 Justification

Knowledge and attitude relating to self-medication is very important because these two factors had been noted to influence the prevalence of self-medication (Afolabi, 2012). Studies carried out in Nigeria on self-medication were mainly among students in the tertiary institutions and medical related fields (e.g. Emmanuel et al. (2011); Eke et al. (2014); Osemene and Lamikanra (2012); Fadare and Tanumo (2011) and Auta, Omale and Abiodun (2011). Researches conducted among secondary schools students focused on the practices and factors responsible for self-medication (e.g. Onohwosafe and Olaseha (2013) and Awosusi and Konwea (2015)). Fewer studies have however focused on the knowledge and attitude of secondary school students towards self-medication and their association with practice. This study therefore investigated knowledge, attitude and practice of self-medication among senior secondary school students. In addition, it also assessed the factors influencing self-medication. Issues and concerns that emerged from this study may have potential to help facilitate intervention(s) that may address self-medication problems among in-school adolescents.

1.3 Research questions

1. What is the level of knowledge of self-medication among the senior secondary school students?
2. What is the attitude of the senior secondary school students towards self-medication?
3. What is the prevalence of self-medication practice among the senior secondary school students?
4. What are the factors that influence self-medication among the senior secondary school students?

1.4 Broad objective of the study

To assess the knowledge, attitude and practice of self-medication among senior secondary school students in Ibadan North-West Local Government Area (L.G.A.).

1.5 Specific objectives

1. To assess the level of knowledge of self-medication among senior secondary school students in Ibadan North-West LGA
2. To determine the attitude of self-medication among senior secondary school students in Ibadan North-West LGA
3. To determine the prevalence of self-medication practices among senior secondary school students in Ibadan North-West LGA
4. To identify factors that influence self-medication among senior secondary school students in Ibadan North-West LGA

1.6 Variables

Independent variables: age, sex, religion, class, parents' occupations, ethnic group, school category (private or public), whom the respondents reside with.

Dependent variables: knowledge, attitude, practice and factors responsible for self-medication

1.7 Hypotheses testing

Hypothesis 1: There is no significant relationship between socio-demographic characteristics of respondents (age, school category, gender, parents' occupation, whom they reside with) and knowledge.

Alternative hypothesis: There is a significant relationship between socio-demographic characteristics of respondents (age, school category, gender, parents' occupation, whom they reside with) and knowledge.

Hypothesis 2: There is no significant relationship between socio-demographic characteristics of respondents (age, school category, gender, religion, parents' occupation, whom they reside with) and practice of self-medication.

Alternative hypothesis: There is a significant relationship between socio-demographic characteristics of respondents (age, school category, gender, religion, parents' occupation, whom they reside with) and practice of self-medication.

Hypothesis 3: There is no significant relationship between knowledge and attitude towards self-medication.

Alternative hypothesis: There is a significant relationship between knowledge and attitude towards self-medication.

Hypothesis 4: There is no significant relationship between knowledge and practice of self-medication.

Alternative hypothesis: There is a significant relationship between knowledge and practice of self-medication.

Hypothesis 5: There is no significant relationship between attitude and practice of self-medication.

Alternative hypothesis: There is a significant relationship between attitude and practice of self-medication.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter reviews literatures on self-medication. It describes medications, categories of medication, scope, classification, distribution, knowledge, reasons, sources, common health challenges associated with self-medication. This chapter also appraises the advantages and dangers of self-medication.

2.1 Medications

Medications are any chemical compounds used on or administered to humans or animals as an aid in the diagnosis, treatment or prevention of disease, or other abnormal condition, for the relief of pain or suffering, or to control or improve any physiologic or pathologic state (Cowgill A., 2004). Drugs are substances other than food that change the structure or function of the body while medications are drugs that are used to treat or prevent disease or other conditions and they are taken for different reasons, hence, all medications are drugs but not all drugs are medications (Medicine and Drugs, 2010). In the last decades, medicines have had an unprecedented positive effect on health, leading to reduced mortality and disease burden, and consequently to an improved quality of life (WHO, 2012). According to Medicines and Drugs (2010), the reasons for taking medications include prevention of diseases, fighting of pathogens and promotion of health. In addition, medications are also taken to cure diseases or conditions (e.g. antibiotics are given to cure an infection), to treat medical condition (anti-depressants for depression) and to relieve symptoms of an illness (e.g. pain reliever to reduce pain) (BDS medication administration curriculum, 2011). Furthermore, medications are taken to supplement a deficiency, assist the body metabolism to correct itself, to decrease an over-abundance of a body substance and to balance systems and organs of the body (Howell, 2011).

Medications have different categories and their classification is based on their origin. The classes of medications are: drugs from natural origin (herbal or plant), drugs from chemical and natural origin, drugs derived from chemical synthesis, drugs from animal origin, drugs derived from microbial source, drugs from biotechnology

genetic-engineering and drugs obtained from radioactive substances (Spatz and McGee, 2013).

Medications are administered into the body in a number of different ways. The way medications gain access into the body is called the "route" and the most common "route" for medications is orally (by mouth) in the form of pills, capsules, liquids, emulsions and powder. This route is convenient, easy and safe (HowMed, 2015; Howell, 2011). However, if an individual is unable to take medications orally, other routes which the medication can be administered into the body are through the following: nasal (through the nose), buccal (on cheek), sublingual (under the tongue and it enhances easy absorption, dissolution and less first pass effect), eye or ear drops, transdermal (through the skin), topical (on the skin), sub cutaneous (fatty tissues), intravenous (directly into the veins), enteral (directly into the stomach/intestine), rectal or vaginal, inhaled (steam inhalation, crystals and inhaler. Medication passes directly into the lungs and there is a rapid absorption and minimal side effects) (HowMed, 2015; Howell, 2011; BDS Medication Administration curriculum, 2011).

Medications usually take different times and durations to begin their effect on the body and it is largely dependent on the routes (HowMed, 2011). How medications are processed in the body include administration (taking in medication by their form and route), delivery (dissolution into the blood stream and migrations to their destinations), performance (induction of their effects) and elimination (excreting the waste residues of the drug) (Howell, 2011). The effects of medications can either be localized (where the medication do not usually enter the blood stream in significant quantities) or systemic (where the medication end up in the blood stream and act on a specific organ or system in the body) (BDS Medication administration curriculum, 2011).

In as much as the advantages of medications are improving health, prolonging lives and curing ailments, they also have their dangers. These dangers of medications which are negative reactions or adverse effects on the body could be as a result of misuse of medication, drug interactions, natural reactions or allergy, included: skin reactions (rashes, itching, blotches), gastro intestinal reactions (diarrhoea, vomiting, stomach pain), reactions affecting the whole body (from mild such as drop in blood pressure and in the worst case scenario an anaphylactic reaction which is potentially

life threatening), shortness of breath or changes or difficulty in breathing or swallowing, swelling in any way – commonly the mouth, eyes, and face and throat, large portions of the body being itchy or red or swollen, vomiting, diarrhoea and stomach pains or dizziness – feeling of fainting and so on. These side effects listed above are just few out of many. Side effects vary with the type of medication, health history and the individual. The signs are therefore encouraged to be reported (Spatz and McGee, 2013; BDS medication administration acurriculum, 2011).

2.2 Categories of medication

Medicinal products can generally be classified into prescription medications and non-prescription medications (over-the-counter drugs (OCT drugs).

2.2.1 Prescription medications

Prescription medicine are those which are only available to people on prescription from a physician after consultation and are generally unsafe for use without supervision (World Medical Association, 2015). Prescription medications can also be explained to be pharmaceutical medications that legally require a medical prescription to be dispensed (Crane, 2014).

Prescription medications are generally classified into 2:

- Controlled medication. They are also called narcotics or scheduled medications. These are prescription medications that have the potential for abuse or dependence. There are special procedures that you have to follow when controlled medications are prescribed.
- Non-controlled medication: these are every other prescription medications which are not 'controlled' (BDS medication administration curriculum, 2011; Alexander et al., 2011).

Prescription medications are prescribed for certain purposes because they are strong, designed to treat specific conditions, dosage specific and come along with extremely adverse effects (West Africa Rescue Association, 2012).

2.2.2 Non-Prescription or "Over-the-counter" (OTC) medications

The concept of self-medication is generally built around OTC medications. These are medications that one can typically get at the pharmacy without a prescription or medication order. Generally, OTC medications are used to treat conditions that do not

necessarily require care from a healthcare professional and have been proven to meet higher safety standards for self-medication by patients (Alexander et al., 2011).

The broad Therapeutic Classes of OTC Medications are analgesics and antipyretics, cold, cough, and allergy suppressants, nighttime sleep-aids, gastrointestinal products, dermatological products, other topical products (including dermal and vaginal antifungals, anorectic medications, head lice products, hair loss products, and otics), ophthalmic (eye care) products (artificial tears and ocular nutrition), oral (mouth) health care products, menstrual products, nicotine replacement products, weight loss aids, vaginal contraceptives and emergency contraceptives (American College of Preventive Medicine, 2011).

In addition to the OTC medication list above, others are: digestion OTC products (acid suppressant and antacids, anti-diarrheal, laxative, stool softeners and fibers), ear care products, nose care, respiratory products (decongestants and allergy), supplements and women care (hormones) (Seeman, 2015; Aetna better health, 2010). Over the counter medications are safe and effective, however, inappropriate use of these medications can be harmful. Warnings and precautions should be considered when taking them (Snunez, 2011).

2.3 Scope of self-medication

The history of self-medication practice started in the ancient cultures where even though there were people specialized in treating sickness but health was more a matter of self-care (Vazquez, 2014). According to Afolabi, (2012), in his review of self-medication, drug dependency and self-managed health care, the crave for medicine and self-medication has been part of mankind from one generation to another and humans generally believe that medications should be used on the event of any sickness or discomfort. Man has used medications for various purposes from the dawn of history. Herbal and other plant derived remedies have been estimated by the World Health Organization (WHO) to be the most frequently used therapies worldwide (Afolabi, 2012). Every day, we are practicing self-medication in the form of self-care of our health (Bennadi, 2014).

Self-medication had been given a lot of definitions by various researchers, but it is generally defined by a lay man as the use of medications without consulting a healthcare professional (Klemenc-Ketis, Hladnik and Kersnik, 2010). It is the use of

medications with curative intention but without professional advice or prescription. It has also been defined as the use of non-prescription medicines by people on their own initiative (Osemene and Lamikanra, 2012). According to Almasdy and Sharrif (2011), self-medication is said to be an act of obtaining and consuming medication without the advice of physician either for diagnosis, prescription or surveillance of the treatment, or usage of any medication for self-treatment without consultation of heath care professional.

Self-medication is traditionally defined as the taking of medications, herbs or home remedies on one's own initiative or on the advice of another person without consulting a doctor (Bennadi, 2014). Self-medication is also explained to be the use of medications by a patient on his own initiative or on the advice of a pharmacist or a lay person instead of consulting a medical practitioner (Emmanuel et al., 2011). Self-medication is the use of medications to treat self-diagnosed disorders or symptoms, or the intermittent or continued use of a prescribed medication for chronic or recurrent disease or symptoms (Arute et al., 2013) or the use of a registered medicine without a doctor's prescription to treat or to prevent symptoms of minor ailments, either on an individual's own initiative or following the advice of a healthcare professional (Menton and Van Schoor, 2005). Ruiz and Curr (2010) explained self-medication to be the selection and use of medicines by individuals (or a member of the individual's family) to treat self-recognized or self-diagnosed conditions and symptoms.

Self-medication does not only entail using non-prescribed medications or refusal to consult a healthcare professional, it is also the intermittent or continued use of a prescribed medication for chronic or recurrent disease or symptoms (Rushi, Kunal, Falgun and Varsha, 2010; Sarahoodi, 2012). Self-medication also does not only take into account the use of medications legally approved to be sold without prescription but it also considers the use of controlled medication that the consumer has access to as a result of leftovers from unfinished treatments (Vazquez, 2014).

2.4 Classification of self-medication

Self-mediation as a behavior cannot be entirely classified as being harmful because it is grouped into responsible or non-responsible practice (Awosusi and Konwea 2015). Self-medication is far from being a completely safe practice, in particular in the case of non-responsible self-medication (Ruiz and Curr, 2010). The WHO does not

consider self-medication as a bad practice as long as it is 'responsible', and by responsible it means the practice where a person can treat their illnesses with medicine that don't require a medical prescription to be sold (Vazquez, 2014). Without doubt, self-medication by means of non-prescription medicines is a growing trend of 'self-care' which has its positive and negative aspects (Odusanya, 2011). The proper use of these medications can be life-saving while the consequences of their abuse can be as dangerous as those from illegal drugs, leading to emergency department visits and deaths (Seeman, 2015). According to a research in Slovenia, self-medication can be divided into two groups according to the assumption of some preexisting scientifically grounded knowledge on medications and medication use or the lack of such knowledge (Klemenc-Ketis et al., 2010).

2.4.1 Responsible or Rational self-medication

Rational use of medicine requires that patient receive appropriate medications in doses that meet their own individual requirements for an adequate period of time and at the lowest cost to them and their community (WHO, 2012; Alfa and Adigwe, 2014). According to International self-care foundation, 2010, WHO recommendation for rational self-medication are; to always read directions on leaflets and any other information about the medicines, to follow instructions strictly, have a pharmacist or doctor explain what is not understood, call a doctor right away if there is any serious side effects and complete the treatment course (dosage). The term 'responsible use of medicines' implies that the activities, capabilities and existing resources of health system stakeholders are aligned to ensure patients receive the right medicines at the right time, use them appropriately, and benefit from them (Pursuit of responsible use of drugs, 2012)

Responsible self-medication entails using approved and available medicine in a safe and effective way as directed though without prescription (WHO 2014). According to World Medical Association (2015), responsible self-medication is the use of a registered or monographed medicine legally available without a physician's prescription either on an individual's own initiative or following the advice of a health care professional. It can also be described as the use of appropriate medications, such as over the counter (OTC) medications, only to the situations for which they are necessary (Klemenc-Ketis et al., 2010). Self-medication with OTC medicines is sometimes referred to as 'responsible' self-medication to distinguish this from the

practice of purchasing and using a prescription medicine without a doctors' prescription (Odusanya, 2011).

Responsible self-medication requires a certain level of knowledge by those who practice it (Klemenc-Ketis et al., 2010). Responsible self-medication is possible in the developed nations because of high quality of education, accessibility to health information, safety and quality health care including government policies on health coupled with the health-seeking behavior and skeptical expert knowledge (Awosusi and Konwea, 2015). However, the prevalence of responsible self-medication in the developing countries, for example Nigeria, is very low compared to the developed countries due to scarcity of available resources, critical national sectors (including health), lack of adequate funding, high level of illiteracy and poverty (over half of the population lives below the poverty line) (WHO 2014). However, specialised bodies such as agencies and Non-Governmental Organisations (NGOs) are being used in some developing countries for the promotion of responsible self-medication based on the general principles of set out by the WHO, using strategies like: use of clinical guidelines; development and use of national essential medicines list; relevant training, both at undergraduate level and during professional practice; avoidance of perverse financial incentives; and public education about medicines (Alfa and Adigwe, 2014).

The WHO has also pointed out that responsible self-medication can help prevent and treat ailments that do not require medical consultation and provides a cheaper alternative for treating common illnesses (Almasdy and Sharrif, 2011). When practiced correctly, self-medication can also offer savings for medical schemes and the national healthcare system (Menton and Van Schoor, 2005). In addition to its correct use, self-medication has a positive impact on individual and health care system. It allows patients to take responsibility and build confidence to manage their own health, thereby, promoting self-empowerment. Furthermore, it can save the time spent in waiting to see a doctor, maybe economical, and also over saving for medical schemes and the national healthcare system (Almasdy and Sharrif, 2011). Appropriate self-medication can cure illness, save time and money which could be spend on visiting doctors and it could also save lives in acute conditions. It can also be beneficial to governments, health authorities and patients (Sarahroodi, 2012). Responsible self-medication can also reduce the work overload of public health institutions, especially in places where these are limited (Vazquez, 2014).

2.4.2 Non-responsible or Irrational self-medication

Self-medication is a common practice worldwide and the irrational use of medications is a cause of both professional and public concern (Hithin et al., 2010; Ahmad et al., 2014). Irrational use of medications is a major problem worldwide and WHO estimates that half of all medicines are dispensed or sold inappropriately and half of the patients fail to take them correctly (WHO, 2012; Alfa and Adigwe, 2014). Ways self-medication could be abused includes taking medication that belongs to someone else, taking a medication in a higher or in another manner than required and taking the medication for another purpose than prescribed (Drug fact, 2014).

The non-medical use and abuse of over-the-counter medications is a severe and growing public health problem throughout the Nation. While the use of illegal substances has declined over the past decade abuse of prescription and over-the-counter medications has increased sharply. According to the most recent Partnership for a Drug-Free America's annual tracking survey, one in five teens report having abused a prescription medication, and one in ten young people report having abused over-the-counter cough medicines (County Comprehensive Report, 2012). In fact, prescription and over-the-counter (OTC) medications are, after marijuana (and alcohol), the most commonly abused substances by Americans 14 and older (Adams L., 2014).

Non-responsible self-medication is the use of medications in the treatment of self-diagnosed ailments or symptoms of diseases without supervision or prescription by a physician (Awosusi and Konwea, 2015). The use prescription medicine without a prior medical prescription is NOT part of responsible self-medication (World Medical Association, 2015). Non-responsible self-medication is the lack of clinical evaluation by a medical professional which can result into wrong diagnosis and delay in appropriate treatment, medication resistance, use of expired medications, wrong doses and prolonged duration of usage (Awosusi and Konwea, 2015). Non-responsible self-medication which also referred to as inappropriate self-medication is considered the misuse of non-prescription medications (Almasdy and Sharrif, 2011). According to American College of Preventive Medicine, 2011, there are classes of misuse or abuse of self-medication.

The definitions as follows were supplied by the American Association of Poison Control Centers (AAPCC):

Therapeutic error: An unintentional deviation from a proper therapeutic regimen that results in the wrong dose, incorrect route of administration, administration to the wrong person, or administration of the wrong substance.

Intentional misuse: An exposure resulting from the intentional improper or incorrect use of a substance for reasons other than the pursuit of a psychotropic or euphoric effect.

Intentional abuse: An exposure resulting from the intentional improper or incorrect use of a substance where the individual was likely attempting to achieve a euphoric or psychotropic effect.

Irrational self-medication may result in greater probability of inappropriate, incorrect or undue therapy, missed diagnosis, delays in appropriate treatment, pathogen resistance and increased morbidity (Bennadi, 2014). Inappropriate self-medication is characterized by indiscriminate use of medications for the management of ailments many of which have resulted into intoxication (Brazilian Journal of Pharmaceutical Sciences as cited by Awosusi and Konwea, 2015).

According to Odusanya in 2011, using a prescription medicine without a doctor's prescription is an irresponsible (and potentially dangerous) 'self-prescription', and has no place in self-care or (responsible) self-medication. With respect to OTC medications which are the highest category of medication used for self-medication, several side effects and contraindication had been attached to its abuse such as drug interactions, Steven-Johnson's syndrome, risk of over-dosage, dependence, development of resistance especially to a wide range of bacteria, masked diagnoses, use of excessive drug dosage, prolonged duration of use, drug interactions, poly-pharmacy, contra-indication, adverse drug reactions and super-infection (Eke et al., 2014; Igudia et al., 2012; Osemene and Lamikanra, 2012). Inappropriate self-medication also results in wastage of resources, increased resistance of pathogens to medications, and generally entails serious health hazards such as adverse reactions and prolonged hospitalization (Arute et al., 2013; Emmanuel et al., 2011).

In addition to these adverse effects, the problem of medication misuse and abuse is however a public health concern because of its attendant medical (drug resistance and hypersensitivity), social (juvenile delinquency) and psychological (addiction and

physical dependence) problems (Afolabi, 2012). Apart from the attendant medical effects (drug resistance and hypersensitivity) of inappropriate self-medication listed above, it has also been associated with drug addiction and state of dependency (Afolabi, 2012; Igudia et al., 2012). The relationship between self-medication and drug dependency was explained by Khantzian as the crave of patients to seek a specific medication for relief of a particular set of symptoms for adaptive purposes (Afolabi, 2012). Irrational self-medication can create a lot of problems for patient and even the society (Sarahroodi, 2012).

2.5 Distribution of self-medication practice

Self-medication is widely practiced in both developing and developed countries (Eke, Diwe, Chineke, Duru, and Uwakwe, 2014). It is not restricted to a region or race since both developing and developed countries are experiencing the problems of self-medication. However, the prevalence of self-medication is higher in developing countries compared to developed countries because professional health care is relatively expensive and in some cases not readily available therapy making self-medication an alternative to health care services (Emmanuel et al., 2011).

Self-medication is a global phenomenon which is a common practice worldwide especially in economic deprived communities (Bennadi, 2014). Self-medication occurs globally and it is practiced from culture to culture or nation to nation (Sarahroodi, 2012). There is substantial variation in the prevalence rates of self-medication among developing and developed nations due to inherent differences in cultural and socioeconomic factors, disparities in health care systems such as reimbursement policies, access to health care, and medication dispensing policies (Osemene and Lamikanra, 2012). The prevalence is also higher in the developing countries than the developed because most illnesses are treated by self-medication (Arute et al., 2013). Even though the developed countries have functioning health care systems and sufficient health manpower, many people still buy non-dangerous medications (OTC medications) without a doctor's prescription. Sales statistics reflect the pattern of self-medication, as shown in studies conducted in Britain and United States where on the average 50-75% of health care takes place within the realm of self-medication (Afolabi, 2012). Self-medication is indeed a very common practice,

both in the economically deprived communities as much as it is in the economically privileged (Odusanya and Omowale, 2011).

2.6 Knowledge and self-medication

Self-medication is attributed to certain level of knowledge before it is practiced as the prevalence of side effects was associated with lack of knowledge about the medication prior to usage (Afolabi, 2012). Therefore, in order to use OTC medicines effectively and safely, consumers need to have some basic knowledge about the medicine, its appropriate use and safe storage when opting for self-medication (Menton and Van Schoor, 2005). Responsible self-medication requires a certain level of knowledge by those who practice it. That is, self-medication very often and can be divided into two groups according to the assumption of some preexisting grounded knowledge, or the lack of such knowledge (Klemenc-Ketis et al., 2010). Even with the importance of 'knowledge' to appropriate self-medication practices, the basic knowledge about the proper way of dealing with medications and potential dangers of self-medication is both insufficient and under estimated (Afolabi, 2012). It would be safe if the people who engage in self-medication have sufficient knowledge about its dose, time intake, side effects on overdose because serious lack in knowledge can cause serious effects (Bennadi, 2014). In spite of the shortcomings in knowledge, individual attitude to self-medication has not diminished as can be seen from various studies conducted worldwide which revealed prevalence which range from 60-90% (Afolabi, 2012). Improved knowledge and understanding about self-medication may result in rational use and thus limit any complicating issues (Bennadi, 2014).

2.7 Reasons why people self-medicate and its determinants.

Many resort to the practice of self-medication instead of contacting professional health care workers because of long waiting period in hospitals, minor ailment, cost, to save money and time, lack of accessibility, shortage of doctors or a feeling that their ailment is beyond the knowledge of western trained doctors (Arute et al., 2013). Modern consumers (patients) wish to take a greater role in the maintenance of their own health and often competent to manage chronic and recurrent illnesses after proper medical diagnosis (Bennadi, 2014). Common people in most parts of the world have strong believes in their traditional remedies (herbal medicines), acupuncture,

Ayurveda and other traditional remedies which is often used as self-medication (Sarahoodi, 2012).

Self-medication is also encouraged because people are more likely to seek care from Physicians for symptoms that are serious since it was perceived that Doctors do not have time for trivial complaints. Hence, whenever they perceive a symptom as minor, self-medication was usually used for treating, therefore, people began to sense the positive benefits of self-care among which is its apparent contribution toward improvement of the efficiency of the overall health care system of themselves (Afolabi, 2012). Other common reasons are to cure an ailment, suppress its cause indefinitely to give the body time to completely overcome it or for prevention, prophylaxis, palliation, convenience, postponing a natural event, out of habit or for special purposes (Afolabi, 2012).

According to Ahmad et al. (2014), some reasons for growth in self-medication are the urge of self-care, feeling of sympathy towards family members in sickness, lack of health services, poverty, ignorance, misbeliefs, extensive advertisements of medications and availability of medications on establishments other than pharmacies.
In conclusion, self-medication is an important self-care practice used when an individual encounters common health problems that he/she believes do not require a visit to a doctor (Klemenc-Ketis et al., 2010).

2.7.1 Determinants of self-medication

Despite a growing research interest in self-medication, little information has been available about its major determinants (Afolabi, 2012), even though Afolabi, 2012 identified that Individual self-care in illness is shaped in the social environment which is as a major determinant of the type and amount of health care services used. It has also been reported that medication use is influenced by the socio-demographic or socio-medical characteristics or state of medication consumers such as gender, culture, occupation, race, educational status, marital status, religion, income and expenditure, self-care orientation, medical knowledge, satisfaction, morbidity, age, attitudes about life and health, stress and social status (Afolabi, 2012; Almasdy and Sharrif, 2011; Arute et al., 2013; Osemene and Lamikanra, 2012).

Despite these demographic factors listed above as major influence of self-medication, various researchers do not correlate some of these factors to self-medication practices. Examples are below:

Some researchers showed that self-medication has nothing to do with education and ethnicity (Osemene and Lamikanra, 2012). In an attempt to assess self-medication practice among university students in Palestine, it was discovered that, there was no difference between gender and practice of self-medication even though self-medication with anti-malarial was found to be less common among females (Emmanuel et al., 2011). According to Afolabi (2012), studies showed no correlation between self-medication and occupational status, others revealed some association. For instance, employment status affected the pattern of OTC and prescription medications. Despite researches which showed the variation in the use of medications relating to depression, reproduction or pre-menstrual disorder among men and women, some studies still revealed no association between gender and self-medication (Afolabi, 2012). According to various researches, the younger age group engaged in self-medication than the older ones. However, some studies revealed no association between age and self-medication (Afolabi, 2012). Apart from the demographic factors listed above, self-medication is also influenced by society, law, availability of medications and exposure to advertisements (Bennadi, 2014; Sarahroodi, 2012).

2.8 Sources of medicines associated with self-medication

The misperception that medications could provide a desired level of intoxication and the ease of obtaining these medications were made easy by the family physicians, over the counter from the pharmacy or medicine cabinet in the home. In 2007, the National Survey on Drug Use and Health (NSDUH) found that over half (54%) of individuals reporting nonmedical use of psychotherapeutics got them "from a friend or relative for free (County of Orange Care Agency, 2012). These medications are gotten from friends, family members, neighbors, pharmacists, previous prescriptions or suggestions from advertisements in media are common sources (Bennadi, 2014). Most adolescents who abuse medications are given them for free by a friend or relative (Drug fact, 2014).

As it is known that OCT medications are gotten without professional prescriptions and they are found almost everywhere. The various sources for these OCT

medications according to previous researches are druggists, pharmacists, licensed medicine sellers, street drug vendors, open markets, sale clerk in the chemist shop, village kiosks, general medicine dealers, hospital/clinics, traditional sources, private practitioners, roadside/patent medicine stores, local hawkers/mobile drug vendors, native healers even from friends and relatives were the commonest places where medications were obtained for self-medication purposes(Afolabi, 2012; Arute et al., 2013; Eke et al., 2014). Other studies also agrees that the family/relative medicine cabinets which contain previous medical prescription which may not have been prescribed for the same condition were sources of self-medication (Afolabi, 2012).

In addition, individuals sometimes self-administer medications via medication identification. Trade names were common means of identification and less frequently by generic names, action, color, shape and common usage names (Afolabi, 2012). Drug manufacturers have also not helped matters as their chief concern is to promote the sale of their medicines without giving adequate information to the public on such medication if possible in the local language. This is compounded by high illiteracy level, poverty and inadequate health facilities and personnel (Afolabi, 2012). Apart from advertisements from the drug manufactures, the younger age group tends to depend on other sources of information like mass media, older family members, peer groups and previous illness experiences. Possible reasons might be because the younger age group can easily be influenced through these means (Arute et al., 2013).
Self-medication is an ordinary yet important part of patients' behavior in coping with illnesses (Klemenc-Ketis et al., 2010). Therefore, increasing self-medication will require enlightenment of both the public and health professionals to reduce irrational use of medications (Arute et al., 2013).

2.9 Common health challenges and medications associated with self-medication

Different researches had identified the various health issues which call for more self-medication practices. Some of them are headache, fever, cough, cold, gastrointestinal tract infection, mouth ulcer, throat infection, pain, allergies, indigestion, body pains, malaria, worm, infection, menstrual pains, wounds, pile and urinary tract infections (Afolabi, 2012; Eke et al., 2014; Emmanuel et al., 2011).
Medications that are prone to self-medication are analgesics, antimicrobials, decongestants, herbal remedies, antibiotics, anti-malarial, cough syrups, multivitamins, vitamins, cough or cold medications (Afolabi, 2012; Emmanuel et al.,

2011; Osemene and Lamikanra, 2012). Others are nasal allergies (Claritin, Benadryl), athlete foot (Clotrimazole, Lamisil), cough and cold (Guaifenesin DM, Mucinex DM), fever (Acetaminophen, Ibuprofen), migraine (Ibuprofen, Excedrin), pain and inflammation (Ibuprofen, Naproxen) and stomach reflux (Ranitidine, Omeprazole) (Snunez, 2011).

2.10 Advantages of self-medication

The use of 'over-the-counter' (OTC) medicines is nowadays generally accepted as an important part of healthcare (Menton and Van Schoor, 2005). Self-medication is a very important part of self-care, which can be defined as the primary public health resource in the health care system. It consists of the health activities and health-related decision-making of individuals, families, friends, colleagues at work, and so on (WHO, 2000). People are being called upon to assume more responsibility for their health promotion and disease prevention practices. This challenge has motivated them to embrace the concept of self-medication (Afolabi, 2012). Self-medication which is a potential means of reducing pressure within the health budget is a greater reliance on self-health care. Self-care users may visit the physician less often and stay fewer days in the hospital resulting in lower expenditure for the hospital and Physician services (Afolabi, 2012).

Self-medication facilitates better use of clinical skills, increase access to medication and may contribute to reducing prescribed medications costs (Hughes et al., 2012). The use of over the counter medications allows the patient to have greater access to a variety of medications available in the market to treat some medical conditions. In addition, it allows the patient to save money, because they usually cost less than other medications (MCS classicare, 2011).

Bennadi, 2014 listed the potential benefits of self-medication at the individual and the community level. The individual benefits include active role in his or her own health care, self-reliance in preventing minor conditions, education opportunities on health issues and convenience. The community level include saving scarce medical resources, lowering the cost of community funded health care programs, reducing absenteeism in medical services, reduce pressure on medical services and increased availability of health care to population

2.11Dangers of self-medication

Self-medication is associated with risks such as misdiagnosis, use of excessive drug dosage, prolonged duration of use, drug interactions and poly pharmacy (especially in the elderly) (Hughes et al., 2012). In addition, dangers of self-medication also include incorrect self-diagnosis, delays in seeking medical advice when needed, adverse reactions, incorrect manner of administration, incorrect choice of therapy, masking of severe disease and risk of dependency and abuse (Ruiz and Curr, 2010). Individual (failure to recognize contra indications and incorrect medication storage), community (increased medication induced disease and wasteful public expenditure)

People often think that OTC medications are safer than illicit drugs, but that's only true when they are taken exactly as prescribed and for the purpose intended. When abused, prescription and OTC medications can be addictive and put abusers at risk for other adverse health effects, including overdose—especially when taken along with other medications or alcohol (Drug fact, 2014).

2.12Conceptual Framework (The Social Learning Theory(SLT))

The SLT proposed by Albert Bandura has become perhaps the most influential theory of learning and development (Cherry, 2015). Bandura believed that direct reinforcement could not account for all types of learning, hence, learning can also occur simply by observing the action of others (Cherry, 2015). People learn by observing others' behaviour, attitude and outcomes of those behaviours; therefore, most human behaviour is learned observationally through modelling: from observing others, one forms an idea of how new behaviour is performed and on later occasions this coded information serves as a guide for action (Bandura) (Knowledge base and Webliography, 2015). The social learning theory is the dynamic interaction of the person, behaviour and the environment in which the behaviour is performed. Afolabi (2012) identified that Individual self-care in illness is shaped in the social environment which is as a major determinant of the type and amount of health care services used.

Concepts in Social Learning Theory

Reciprocal Determinism: This is the bi-directional or dynamic interaction of an individual, his/her behaviour and the environment in which the behaviour is performed. This concept explains that contrary to previous conceptions about the environment being the major factor which modifies behaviour but people also modify their environments according to the behaviours. It is a back and forth interaction in which a concept modifies the other either positively or negatively.

Environment: These are factors that are physically external to the individual which could influence the behaviour. It entails social environment, physical environment, government, policies, facilities, media, culture, education and so on.

Observational learning: This entails cultivating a particular behaviour(s) by imitating or observing people in the environment. The behaviour is usually desired and those who are likely to be imitated are people the individual grew up with or looked up to like the parents, siblings, older relatives, teachers, clergy or neighbours.

Person: This is the individual who adopts and performs behaviour. The characteristics the individual possess which play a cogent role in framing the behaviour are the socio demographic characteristics, gender, age, parent socio-demographic characteristics,

level of education, level of knowledge and skills, awareness, culture and to a certain extent, the religion.

Outcome expectations: These are the expected results from indulging or abstaining in behaviour. It could also be an individual's beliefs about likely results of actions which could either be positive or negative.

Behaviour: This is what an individual does or fails to do which could benefit or harm his/her health.

Self-efficacy: This is an individual's confidence to perform a particular behaviour or not. It also entails the confidence in one's ability to persist in a particular behaviour and it increases through the level of information, encouragement, modelling and practice.

Application of SLT to knowledge, attitude and practice of self-medication among senior secondary school students in Ibadan North-West.

Environment: Environmental factors such as education, information on medications, policy on ground which regulates medication sales, peer influence, puberty, neighbours, parental education, parental care, accessibility to health services all have a dynamic effect on the practice of self-medication. Environment also influences their socio-demographic factors and the behavior of these students in respect to self-medication practices.

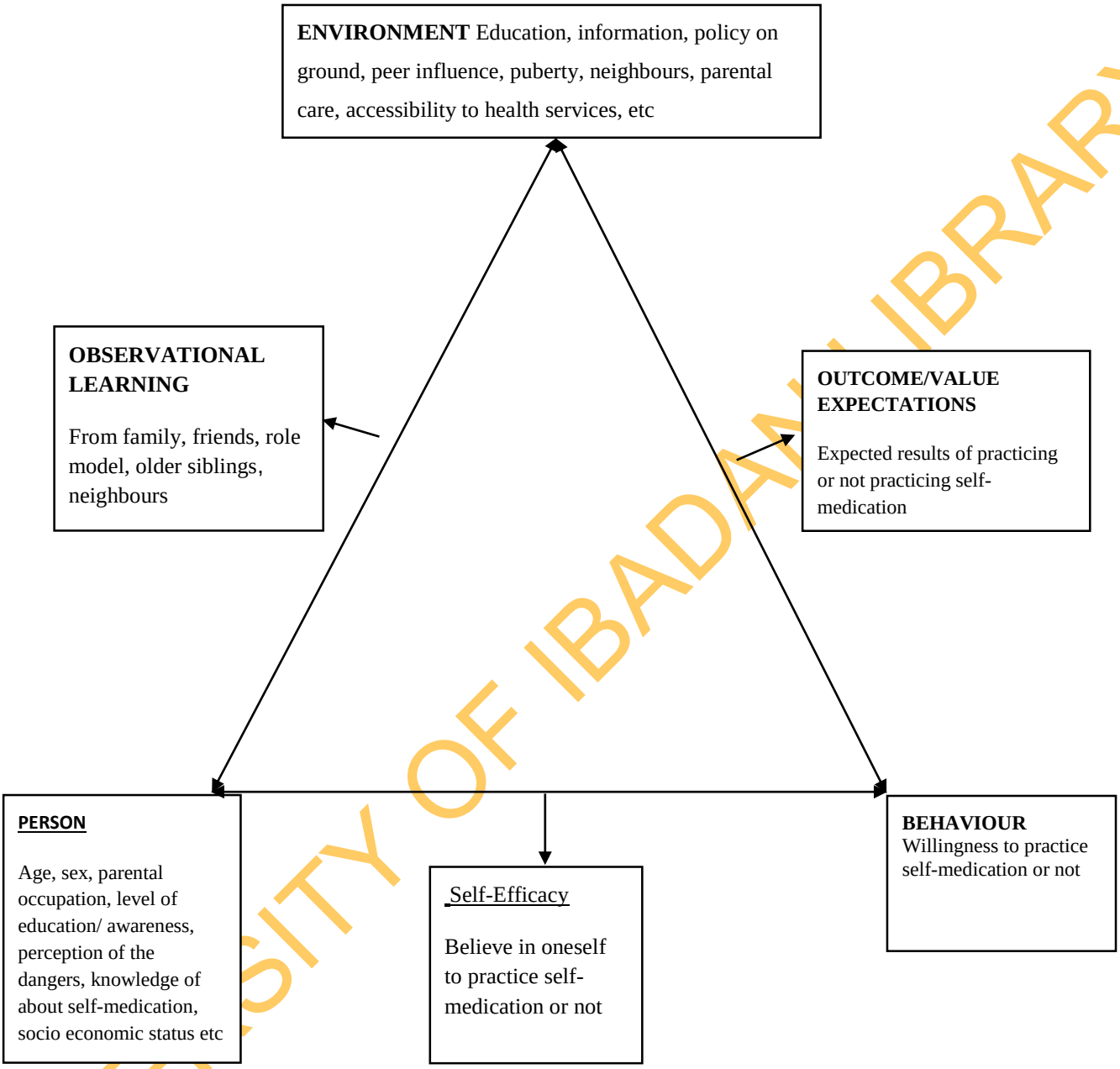
Observational learning: These secondary school students tend to imitate the self-medication practices of their parents, older siblings, neighours and even friends. It is a form of learning process where the students adopt the behavior of the set of people they grew up with or hold on a high esteem.

Person: This is the socio-demographic characteristics of the students e.g. sex, age, religion, class, parents' occupation and who they reside with. It also constitutes their level of knowledge, attitude and practice of self-medication. These factors are cogent characteristics of these individuals.

Outcome expectation: This is the perceived result of practicing self-medication. It could either be perceived as positive or negative effect. This will also influence their level of self-medication practice.

Self-efficacy: This is the belief in oneself to either practice or not practice self-medication. To a very large extent, it determines how influenced the individual will be to practice self-medication or resist.

Fig 1.Diagram illustrating Social Learning Theory concept



Adopted from Bandura (1977)

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter presents the research methodology of the study. It describes the methods and processes that were used in order to collect data to be used in answering the research questions. The chapter is presented under the following sections namely: study design, study setting, study population, sample size determination, sampling procedures, method of data collection, validity and reliability of the instrument.

3.2 Study design and scope

This study was a descriptive cross-sectional survey. The study assessed the knowledge, attitude and practice of self-medication among senior secondary school students in Ibadan North-West Local Government Area.

3.3 Study setting

The study was carried out in selected public and private secondary schools in Ibadan North-West LGA, which is one of the five LGA in Ibadan metropolis. Ibadan is the largest city in Nigeria and the capital of Oyo state with a land mass of 3,080km^2 and a population of 3.2 million. Ibadan North-West LGA which has its administrative headquarters at Onireke, Dugbe was created in 1991 by the then military head of state Major General Gbadamoshi. The local government is bounded in the north by Ido LGA, in the south by Ibadan South-East LGA, in the west by Ibadan South-West LGA and in the east by Ibadan North-East LGA. Occupations in this local government include trading, farming, civil service, artisans and entrepreneurs. Ibadan North-West LGA is inhabited by people of various tribes, the tribes include, Yoruba, Igbo, Hausa, Tiv, Ebira, Urhobo, Isekiri among others. Ibadan North-West LGA has an area of 26km^2, an approximate population of 196,844 (according to the Oyo state National Population Commission, 47,720 are adolescents between the ages of 10-24), eleven political wards and various communities which included Onireke, Agbede-Adodo, Jericho, Adamasingba, Ogunpa, Dugbe, Sapati, Origbegi, Inalende, Akilapa, Agbeni etc.

The social facilities in the local government include the Cocoa house (Cocoa dome), club 18, De Access hotel, Grand serene Hotel, Sagitarius consult and so on. The health facilities in the local government are available in Oniyanrin, Eleyele, Ogunpa, Origbegi, Ayeye and Orieleru communities. They render services such as treatment of common ailments and disease, provision of essential drugs, health education and counseling to the inhabitants, including the adolescents. Ibadan North-West LGA has thirteen (13) public secondary schools and sixteen (16) registered private secondary schools.

3.4 Study population

The population in this study consisted of senior secondary school students in both public and private schools in Ibadan North-West LGA.

3.5.1 Inclusion criteria

Respondent were students in S.S.1 and S.S.2 classes in the selected public and private schools in Ibadan North-West LGA who consented to participate in the study.

3.5.2 Exclusion criteria

Respondents who were excluded from this study were students who did not consent to participate and junior secondary school students in the selected private and public secondary schools in Ibadan North-West LGA. Students of other public and private secondary schools who were not selected and students in schools outside Ibadan North-West LGA were also exempted from this study.

3.6 Sample size

The study sample for this research was calculated using the model used by Daniel (1978), and Kibikiwa (2008) which is:

$$n = \frac{z^2pq}{d^2}$$

n = minimum sample size that was be required

z = confidence limit of survey at 95% (1.96)

p= the prevalence of self-medication according to Awosusi and Konwea (2015) was 80.4% (p = 0.80)

d = absolute deviation from true value (degree of accuracy) = 0.05 (5%)

$$p+q = 1$$

$$q = 1 - 0.80 = 0.20$$

$$n = \frac{z^2 pq}{d^2}$$

$$\frac{(1.96)^2 \times 0.80 \times 0.20}{(0.05)^2} = 246$$

The sample size was increased to 300 to account for the non-response rate. However, a total of 435 respondents participated in this study.

3.7 Sampling procedure

A multistage sampling procedure was adopted to select respondents for this study. This consisted of 6 stages. The details about each stage are described below:

Stage 1: Twenty-nine secondary schools were stratified into public and private schools.

Stage 2: Proportionate sampling was used to determine the number of schools to be selected, that is, 25% of the total number of schools in each stratum was selected for the study. Balloting technique was used to select three (3) out of 13 public schools and 4 out of 16 private schools.

Stage 3: Proportionate sampling was adopted to determine the number of respondents from each selected senior secondary school. The total population of both SS1 and SS2 was acquired from their administrators (Table 3.1).

Stage 4: Respondents were selected across the classes of SS1 and SS2 based on the sample size. The number of respondents in each school was divided into 2 to enable equal respondents from both SS1 and SS2 students.

Stage 5: In each selected class, simple random sampling (balloting technique) was employed in selecting the required number of respondents from consenting students.

Table 3.1 List of secondary schools selected for the study

School category	Name of schools	Total no in SS1&2	Sample size determination	Number of respondents
Private school	Moret Comprehensive College, Adamasingba.	84	$\frac{84}{1033}$ X 435	35
	Lead City High School, Jericho G.R.A.	116	$\frac{116}{1033}$ X 435	49
	Fowebs College, Eleyele.	159	$\frac{159}{1033}$ X 435	67
	Tobi International School, Jericho.	47	$\frac{47}{1033}$ X 435	20
Public school	Army-day High School, Letmauck Barracks, Mokola.	197	$\frac{197}{1033}$ X 435	83
	Oba Abass Alesinloye Grammar School, Benjamin, Eleyele	195	$\frac{195}{1033}$ X 435	82
	Sacred Heart Secondary School, Ode-oolo, Nalende	235	$\frac{235}{1033}$ X 435	99
	Total	1033		435

3.8 Method and instrument of data collection

A self-administered, semi-structured questionnaire was used to collect data (Appendix I). The questionnaire consisted of five (5) sections and a total of thirty-eight (38) questions. The first section (A) explored the socio-demographic characteristics of the respondents. Section B assessed the level of knowledge of the respondents on self-medication where a 9-point knowledge scale was developed. Sections C and D explored attitude and practice of self-medication where a 9-point attitude and a 6-point practice scale were developed respectively. The last section (E) assessed factors responsible for self-medication. The questionnaire was written in English language and transcribed to Yoruba language (Appendix II).

3.9 Validity of the instrument

Several measures were taken to ensure that the instrument was valid. Validity of the questionnaire contents were achieved through consultation of relevant literatures and adherence to the study objectives. The draft was subjected to independent peer review and expert review by the research supervisor where the content and structure of the instrument were critically examined. Necessary corrections were effected to ensure structure and content validity. The instrument was drafted in English language (Appendix I). Findings from the pre-test were used to make necessary corrections to ensure relevance, appropriateness and adequacy of the items in the instrument.

3.10 Reliability of the instrument

The questionnaires were pretested among 44 students in Y.M.C grammar school at Yemetu (which represented the public school category) and Orita-mefa Baptist Church grammar school, Total garden (represented the private school category), in Ibadan North LGA. Equal numbers (that is, 22 each) of the instrument were pretested in the two categories of schools. The local government has similar characteristics with Ibadan North-west LGA. The Cronbach's Alpha correlation coefficient of the Statistical Package for Social Sciences (SPSS) was used to analyse the pre-test data and to determine the reliability. A reliability coefficient of 0.7 was obtained. This was interpreted as reliable because the correlation coefficient was greater than the average correlation coefficient of 0.5. After the pre-test, questions in section B of the questionnaire were changed to those which would assess knowledge about awareness

of self-medication, meaning of OTCs, medication bought without prescription and dangers of self-medication. The attitude questions were reduced to prevent repetition while the practice questions were also corrected to enable the respondents provide detailed information and to prevent ambiguities.

3.11 Data collection procedure

Data collection for the study took place in July, 2015. The questionnaire was self-administered since the respondents could read and write in English language. A total of 435 questionnaires were administered to the participants over a period of 8 days. Whenever the respondents needed clarification about the questions, the researcher explained to the understanding of the students. However, only 419 questionnaires were accurately completed. The Principal for each selected school were visited to obtain approval to carry out the research in their schools. Verbal consent was sought for from the students after explaining to them the purpose, benefits and ethical considerations guiding the study. The respondents of this study were those who consented to participate. The respondents completed their questionnaires in their classrooms during the school hours, under supervision of the researcher and some teachers assigned to assist in the data collection process. Each questionnaire was retrieved immediately after completion and checked thoroughly to ensure completeness and data quality. Observations or errors from the questionnaire were immediately noted and returned to the respondent to effect the change.

3.12 Data management, analysis and presentation

The questionnaires were checked for errors and numbered serially by the researcher for easy identification and recall. Completed questionnaires were sorted, edited and coded with the use of a coding guide. The data obtained from the questionnaires were entered into the computer using the SPSS software, version 20. Frequency counts were run to detect missing cases or errors after the data entry and data cleaning was carried out. Certain responses were merged and re-coded by the researcher to prevent ambiguity and repetition of data. A pharmacist was consulted to help merge the brand name of medications given as responses by the participants into their broad pharmaceutical categories. A 9-point knowledge, 9-point attitude and 6-point practice scale was developed. Respondents with knowledge scores of ≤ 3, 4 – 6 and >6 were classified as poor, fair and good knowledge respectively. Attitude scores of ≤ 4 and >4

were rated as good and poor attitude respectively. Scores of 0 and 1 – 6 were categorized as non- practicing and practicing respectively. Analysis was carried out using descriptive (frequency counts, percentages, means and standard deviations) and inferential statistics at 95% confidence interval. Relationships between the variables and categories were analyzed using the chi-square at $P<0.05$ level of confidence. Outcomes of the data analysed were presented in tables.

3.13 Ethical consideration

Ethical approval for this study was obtained from the Oyo State Ethical Review Committee (Appendix III). Approval to conduct this study in the selected secondary schools was obtained from the Oyo State Ministry of health, Local Inspector of Education (LIE) for Ibadan North-West LGA and the principals of the schools. The participants were informed of their right to decline or withdraw from the research without any undesirable effects. Data collected were only used for the purpose of this research and were kept confidential on a password protected computer. Students were assured of confidentiality as no form of identifiers was included in the questionnaire. Study participation was without coercion. Apart from the approval given by the school administrators, assent from the students was sought for before the respondents were selected. The respondents were also not subjected to any form of harm and their safety was reassured by informing them of no identifiers on the questionnaires.

CHAPTER FOUR

RESULT

4.1 Respondent's Socio-demographic characteristics

About sixty-one point one percent of the respondents were attending public school while 38.9% were attending private school. The age of the respondents ranged from 12 – 19 years with a mean age of 15.33 ± 1.51 years and over half of the respondents were females. About half (50.4%) of the total respondents were in SS2 class and 49.6% were in SS1. Many (69.7%) of the respondents were Christians and about three-quarter (75.7%) of the respondents were Yoruba (Table 4.1).

One hundred and twenty seven (35.1%) of the respondents' fathers were civil servants while majority (68.1%) of the respondents' mothers were entrepreneurs. Most of the respondents (77.6%) lived with their parents while very few (2.1%) lived with their father (Table 4.2 and Table 4.3).

Table 4.1 Socio demographic characteristics of respondents (N=419)

Variables	Frequency	Percentages (%)
School category		
Public	256	61.1
Private	163	38.9
Sex		
Male	194	46.3
Female	225	53.7
Age (grouped) in years*		
11-13	44	10.5
14-16	284	67.8
17-19	91	21.7
Class		
S.S. 1	208	49.6
S.S. 2	211	50.4
Religion		
Christianity	292	69.7
Islam	125	29.8
Traditional	2	0.5
Ethnic group		
Yoruba	317	75.7
Igbo	52	12.4
Hausa	27	6.4
Others**	23	5.5
Location of schools		
Eleyele	149	35.6
Jericho GRA	61	14.6
Adamasingba	35	8.3
Mokola	83	19.8
Ode-oolo	91	21.7

*Mean age = 15.33 ± 1.51 years.

**Others – Ethnic group: Idoma, Igala, Ebira (Kogi), Edo, Urhobo, Isekiri, Eting, Akwa-Ibom, Tiv, Cross-river, Nupe, Iboji, Benue and Ghanaian.

Table 4.2 Respondents' fathers' and mothers' occupations

Occupation	Father		Mother	
	(n=361)	(%)	(n=373)	(%)
Health worker	10	2.8	14	3.7
Entrepreneur	114	31.6	254	68.1
Artisans	61	16.9	39	10.5
Civil servant	127	35.1	63	16.9
Armed forces	49	13.6	3	0.8

Table 4.3 Whom the respondents lived with **(N=419)**

Variables	Frequency	Percentage (%)
Both Parents	325	77.6
Father alone	9	2.1
Mother alone	43	10.3
Guardian *	42	10.0

*Guardian: siblings, cousin, grandparents.

4.2 Respondents' knowledge about Self medication

Two hundred and ninety four (70.2%) of the respondents had heard about self-medication while 29.8% admitted not to have heard about self-medication anywhere. Out of the respondents who heard about self-medication, many (65.6%) heard from their schools, 13.6% from hospitals and 10.2% from homes (Table 4.4). Four hundred (95.5%) of the respondents did not know what 'Over-The-Counter' medications are. Respondents who claimed to know what OTC drugs are were required to define it. About one-quarter (25.7%) out of the respondents who did not know what OTC drugs are reported OTC medications as: 'drugs prescribed by the doctor', 'drug that are not tablets, 'when people use overdose', 'using drugs not prescribed by the doctor', 'buying unapproved drugs from unauthorized places', 'unapproved/illegal drugs not sold in the pharmacy', 'where unapproved drugs are sold', 'drugs bought from the Pharmacy or patent medicine vendor (PMV)', 'scarce drugs', 'buying prescribed drugs', 'amount of drugs used at a time', 'using more than prescribed', 'dispensable drugs (counted drugs)' and 'drugs that cannot be counted'. Only nineteen (4.5%) of the respondents knew what OTC medications are. However, 26.3% of these nineteen respondents correctly defined OTC medications (Table 4.5).

Majority (72.8%) of the respondents did not know what dosage meant and 85.1% of these respondents reported dosage as: 'drugs prescribed by the doctor', 'using of drugs without prescription, 'using more than prescribed', 'drug usage or intake', 'how to use drugs prescribed', 'using overdose', 'act of taking drugs fully', 'the total number of drugs used', 'the way people use drugs', 'measured amount of medication', 'administration of medication', 'drug abuse' and 'drugs that make people drowsy or sleep'. However, less than one-third (27.2%) of the overall respondents knew what dosage was. Only 14% respondents who reported to know what dosage meant defined dosage as 'quantity of drugs to be used or used at a particular time' (Table 4.6).
About one-third (35.1%) of the respondents were aware of the dangers associated with self-medication while many (64.9%) were not aware (Table 4.7).

Among the medications the respondents knew people bought without prescription, the highest was paracetamol (22.2%) which was an analgesic, followed by pain relievers (14.7%) which were also analgesic. Other medications are shown in Table 4.8. Other

medications bought without prescription as stated by the respondents included anti-oxidants (29.9%), antibacterial (23.2%) and haematinic (15.9%) (Table 4.9).

Knowledge score for self-medication was calculated using a 9-point knowledge scale. Awareness about self-medication had a score of 1 where all respondents who answered 'yes' scored 1 while all who answered 'no' scored zero. Knowledge about OTC drugs and knowledge about dosage had a total score of 2 points each because they both required definitions. Definitions that were appropriately stated had a score of 2, incomplete definitions scored 1 and the wrong responses scored 0. Knowledge about the dangers associated with self-medication had a total of 4 points. The scores were computed to give combined knowledge score for the respondent. The scores were categorized into three; poor (92.1%), fair (7.9%) and good knowledge (0%) (Table 4.10).

Table 4.4 Where the respondents heard about self-medication n=294

Responses	Frequency	Percentage (%)
School	193	65.6
Hospital	40	13.6
Home	30	10.2
Media	11	3.7
Pharmacy and PMV	5	1.7
Others*	15	5.2

*Others: Seminar, Church.

Table 4.5 Respondents' knowledge about Over the Counter drugs n=19

Responses	Frequency	Percentage (%)
Drugs not prescribed by the doctor	14	73.7
Drugs bought or sold without prescription **	5	26.3

** most appropriate definition

Table 4.6 Respondents' knowledge about 'Dosage' **n=114**

Responses	Frequency	Percentage (%)
Amount of a particular drug used or to be used	70	61.4
Quantity of a prescribed drugs used	19	16.7
Quantity of a drug to be used or to be used at a particular time **	16	14.0
Using a drug at a particular time	7	6.1
Quantity to be use according to age or weight	2	1.8

** most appropriate definition

Table 4.7 Knowledge about dangers associated with self-medication n=198

Responses	Frequency	Percentage (%)
Death	107	54.0
Additional illness	33	16.7
Drug abuse	14	7.1
Prolonged illness	14	7.1
Overdose	13	6.6
Liver disease	6	3.0
Drug resistance	6	3.0
Incomplete dosages	1	0.5
Drug interaction	1	0.5
Kidney disease	1	0.5
Poly-pharmacy	1	0.5
Liver disease	1	0.5

Table 4.8 Knowledge about medication bought without prescription N=1730

Variables	Frequency	Percentage (%)
Paracetamol	384	22.2
Pain reliever	254	14.7
Cough syrup	225	13.0
Flagyl	215	12.4
Antimalarial	214	12.4
Antibiotics	154	8.9
Aspirin	137	7.9
Chloramphenicol	86	5.0
Antacids	33	1.9
Antifungal	28	1.6

***multiple response**

Table 4.9 Other medications respondents knew people bought without prescription **N=164**

Responses	Frequency	Percentage
Anti-oxidant	49	29.9
Antibacterial	38	23.2
Haematinic	26	15.9
Decongestant	23	14.0
Analgesic	8	4.9
Anti-histamine	8	4.9
Multivitamins	5	3.0
Antacids	3	1.8
Contraceptives	2	1.2
Anti-helminthic	1	0.6
Herbal concoction	1	0.6

Table 4.10 Knowledge category of the respondents **N=419**

Categories	Range	Frequency	Percentage (%)
Poor knowledge	0-3	386	92.1
Fair knowledge	4-6	33	7.9
Good knowledge	7-9	0	0

4.3 Attitude of respondents to self-medication

Nine questions were used to assess the attitude of the respondents towards self-medication. Majority (82.8%) of the respondents disagreed that seeing a doctor was not necessary since they could buy drugs by themselves while 3.8% were undecided. About one-quarter (24.8%) of the respondents agreed that they always knew the drugs to use whenever they fell ill while most (66.1%) of the respondents disagreed. Majority of the respondents (80%) disagreed that there was nothing wrong taking drugs without doctor's prescription while only 11.2% agreed. Most (80%) of the respondents also agreed that using drugs not prescribed by the doctor could be dangerous. Over three-quarter of the respondents (89%) could not use any medication because they perform different functions while 3.6% thought otherwise. Over one-quarter (32.7%) preferred when their parents/guardian gave them medications to use whenever ill, while more than half (56.6%) of the respondents disagreed. Less than one-quarter of the respondents (20.3%) agreed that combining medications was better than using just 1 while more than half of the respondents disagreed. Majority of the respondents (87.8%) used prescribed drugs as directed by the doctor while only 6% used drugs prescribed by the doctor whenever they liked. More than one-third (37.5%) of the respondents did not complete their dosages when they felt well while majority of the respondents (86.9%) agreed that prescribed drugs were safer to use (Table 4.11).

Attitude score for self-medication was calculated using a 9-point attitude scale. Appropriate answers for each questions had a score of 1, while the other options were scored zero. The scores were summed up to provide each respondent with their appropriate scores and the total mean score was 6.9±1.7. The scores were grouped into 2 categories; poor attitude to self-medication which was the positive (90.2%) and good attitude to self-medication which was the negative (9.8%) (Table 4.12).

Table 4.11Attitude of respondents towards self-medication N=419

Variables	Agree		Disagree		Undecided	
	no	%	no	%	no	%
Seeing a doctor is not necessary since I can buy drugs by myself	56	13.4	347	82.8	16	3.8
I always know the drug to use for my illness	104	24.8	277	66.1	38	9.1
There is nothing wrong in taking drugs without doctor's prescription	47	11.2	335	80	37	8.8
Using drugs not prescribed by a doctor could be dangerous	335	80	55	13.1	29	6.9
I can use any drug because they all work the same way	15	3.6	373	89	31	7.4
I prefer when my parents/guardian gives me drugs to use when ill	137	32.7	237	56.6	45	10.7
Using 2 or 3 drugs together is better than using just one	85	20.3	221	52.7	113	27
Even the drug prescribed to me by my doctor, I use whenever I like	25	6	368	87.8	26	6.2
I don't complete my drugs as soon as I feel better	157	37.5	236	56.3	26	6.2
Prescribed drugs are safer to use	364	86.9	43	10.3	12	2.9

Table 4.12 Attitude category of the respondents **N=419**

Categories	Score range	Frequency	Percentage (%)
Good attitude towards self-medication	1 - 4	41	9.8
Poor attitude towards self-medication	5 - 9	378	90.2

4.4 Practice of self-medication

Most (73.5%) of the respondents bought drugs without the doctor's prescription and among these respondents, 19.2% reported they always did while most (64.9%) of the respondents sometimes did. Over one-third (34.8%) out of the respondents who practiced self-medication reported that their parents suggested the medication they used while one-third (33.2%) of the respondents used medications on their own volition. The highest category of medication (46.4%) used by the respondents who practiced self-medication were analgesics, followed by antimalarial (13.2%) (Table 4.13). Majority (91.6%) of the medication-illness combinations used by the respondents while self-medicating were correct while only 8.4% of the medication-illness were wrongly combined.

Three questions were used to develop a 6-point practice scale that assessed the practice of self-medication among the respondents. Respondents who bought drugs without the doctor's prescription scored 1 point while respondents who did not scored zero. Respondents who reported that they used medications not prescribed by the doctor also scored 1 point while respondents who used only medication prescribed by the doctor scored zero. Medication-illness combinations used by the respondents to self-medicate had a total score of 4. The scores were computed such that each respondent had a total practice score and a mean total score of 3.9±1.9. The scores were grouped into 2 categories: non-practicing (11.5%) and practicing (88.5%) (Table 4.14).

Most (88.5%) of the respondents practiced self-medication and about half (50.7%) of these respondents were not familiar with the medications they used while 49.3% were familiar. Less than half (47.8%) of the respondents who were familiar with the medication did because they used it regularly while only 9.9% got familiar with the medications from their parents (Table 4.15).

Over one-third (38%) of the respondents who self-medicated used a particular medication all the time. Most (69.5%) of the medications they used frequently were analgesics, followed by antimalarial drugs (12.8%). Other categories of medications frequently used were decongestants (2.1%), multivitamins (2.1%), anti-oxidants (0.7%), antacids (2.8%), antibiotics (2.8%), antibacterial (1.4%), haematinic (2.8%), anti-histamine (0.7%) and anti-spasmodic (1.4%).

More than one-quarter (28.6%) of the respondents who practiced self-medication reported that they enjoyed taking medications. Reasons reported were: 'because the medications tasted good (39.8%)', 'because of its effectiveness (22.4%)' and 'because it made them well, comfortable and healthy (20.4%)'. Other reasons were 'because they hated injections (8.2%)', 'because it was cheap (1%) and 1% had no reason in particular. The highest category of medications the respondents enjoyed using was analgesics (37.4%), followed by anti-oxidant (34.3%) and haematinic (12.1%). Other categories of medication were cough and cold suppressants (6.1%), decongestants (2%), antibacterial (2%), antimalarial (2%), anti-histamine (2%) and antibiotic (1%).

More than one-quarter (29.6%) of the respondents got the medications they used from the pharmacy, 27.7% from the PMVs and 24.2% from hospitals (Table 4.16).

Table 4.13 Respondents' practice of self-medication

Variables	Frequency	Percentage(%)	Mean/SD	No (N)
Respondents who bought medications without prescription	Yes – 308 No – 111	73.5 26.5	0.7±0.4	**419**
How frequent	Always – 59 Sometimes – 200 Rarely – 49	19.2 64.9 15.9		**308**
Medications used without the doctor's prescription. **	Analgesic – 470 Antimalarial – 134 Cough/cold suppressant – 121 Antibacterial – 102 Antibiotics – 45 Decongestant – 37 Antacids – 26 Anti-oxidant – 24 Haematinic – 21 Anti-spasmodic – 11 Anti-histamine – 10 Multivitamin – 6 Additive – 3 Antiseptic – 1 Anti-emetic – 1 Anti-ulcer – 1 Anti-helminthic – 1	46.4 13.2 11.9 10.1 4.4 3.6 2.6 2.4 2.1 1.1 0.9 0.6 0.3 0.1 0.1 0.1 0.1	2.4±1.5	**1014**
Respondents who used medications prescribed by a doctor only	Yes – 111 No – 308	26.5 73.5	0.7±0.4	**419**
Who recommended the medications	Parents – 88 Myself – 84 PMV – 39 Pharmacist – 21 A nurse – 8 Guardian – 7 A friend – 6	34.8 33.2 15.4 8.3 3.2 2.7 2.4		**253**

** **multiple response**

Table 4.14 Practice category of the respondents **N=419**

Categories	Score range	Frequency	Percentage (%)
Non-practicing	0	48	11.5
Practicing	1 – 6	371	88.5

Table 4.15 Ways respondents got familiar with medications they used n=183

Responses	Frequency	Percentage
I use it regularly	87	47.8
From my parents	18	9.9
From the pharmacy/hospital	16	8.8
From the PMVs	13	7.1
How effective it is/how it works	13	7.1
Others*	11	6
By their names and colours	10	5.5
It is commonly used by people	7	3.8
I buy the drugs by myself	5	2.7
From a friend	2	1.1

*Others: from advertisements, I see the drug almost everywhere, I read about the drug

Table 4.16 Places (sources) where respondents got medications N=1063

Variables	Frequency	Percentage
Pharmacy	315	29.6
PMV	292	27.5
Hospital	257	24.2
Home	72	6.8
Parents	37	3.5
Drug hawkers	29	2.7
Guardian	29	2.7
Teacher	18	1.7
Friends	11	1.0
School nurse	3	0.3

***multiple response**

4.5 Other self-medication practices

Over one-third (40.4%) of respondents who practiced self-medication did not read leaflets or instructions attached to medications. More than one-quarter (30.2%) admitted they combine medications for an illness. Most (43.7%) of the respondents who combined medications did because they felt it was more effective and they got better sooner while 12.9% had no reason in particular. Among the medication-illness combinations the respondents self-medicated with, over one-third (45.3%) were wrongly combined. Almost one-third (31.3%) of the respondents who practiced self-medication used medications without informing anybody and most (85.1%) of the medications used were analgesics. One-quarter (25.1%) of the respondents did not complete their dosages and more than two-third (69.6%) of these respondents did not complete their dosages because they felt well and did not have to continue. Almost half (49.1%) of the respondents who self-medicate used left-over drugs (incomplete dosages) (Table 4.17a; 4.17b).

Table 4.17a Respondents' other self-medication practices

Variables	Responses	Frequency	Percentage(%)	No(N)
Reading leaflets or instructions attached to medication	Yes	221	59.6	371
	No	150	40.4	
Information gotten from the leaflet	Dosage	85	38.5	221
	Instructions	66	29.9	
	Cautions	30	13.6	
	Prescription	14	6.3	
	Function of the drug	12	5.4	
	Others[1]	8	3.6	
	Expiry date	6	2.7	
Additional information apart from those gotten from the leaflet	Yes	23	6.2	371
	No	348	93.8	
The source of additional information	The pack	8	34.8	23
	Others[2]	8	34.8	
	Google	7	30.4	
Taking medications without telling anybody	Yes	116	31.3	371
	No	255	68.7	
What medication	Analgesic	92	85.1	108
	Others[3]	7	6.5	
	Anti-spasmodic	6	5.6	
	Anti-oxidant	3	2.8	
Using complete dosage	Yes	278	74.9	371
	No	93	25.1	
Reasons for not completing the dosage	Because I am well and don't have to continue	48	69.6	69
	I don't like using drugs	11	16.0	
	Others[4]	7	10.1	
	No reason in particular	3	4.3	
Using left-over medications	Yes	182	49.1	371
	No	189	50.9	

Table 4.17b Respondents' other self-medication practice

Variables	Responses	Frequency	Percentag(%)	No(N)
Combining medications when treating an illness	Yes	112	30.2	371
	No	259	69.8	
Reasons for combining the medications	It is more effective and I get better sooner	44	43.7	101
	A doctor or pharmacists instructed me to	14	13.9	
	No reason in particular	13	12.9	
	The illness cures better	10	9.9	
	Others[3]	6	5.9	
	To cure illnesses that require more than a medication	6	5.9	
	Each drug works differently and I don't know which would work faster	4	3.9	
	Medications all have same function and a drug does not really cure an illness	3	2.9	
	A nurse instructed me to	1	1.0	
Right or wrong medication combination to illness	Right	41	54.7	75
	Wrong	34	45.3	

Others[1]: composition of drugs, the manufacturer, where to keep the drugs and side effects.

Others[2]: newspapers, textbooks, adverts, standing order, prescription list and pharmacy

Others[3]: for my relief, I am an adult and I know what to do

Others[4]: multivitamins, antacids, cough/cold suppressants, antibiotic, hematinic and anti-histamine

Others[5]: I don't want to use overdose, it is not good, it adds to the sickness

4.6 Factors responsible for self-medication

Seventy-two (17.2%) of the respondents agreed that going to the hospital was time wasting while more than half of the respondents (51.6%) do not have clinics in their schools. Over half (52.5%) of the respondents did not perceive the illness was serious while more than one-third (41.5%) of the respondents already knew the medications to use when ill. Almost two-third (62.3%) of the respondents reported that their guardians or parents gave them medications to use at home while most (81.4%) of the parents or guardians of the respondents could afford to pay hospital bills. Ove three-quarter (85.9%) of the respondents felt better after using medications while almost one-third (31%) of the respondents reported that they immitated their guardians, parents or siblings who also practiced self-medication (Table 4.18).

4.18 Respondents' factors influencing self-medication **N=419**

Variables	Frequency	Percentage(%)
Going to the hospital wastes time	Yes – 72 No – 347	17.2 82.8
We do not have a clinic in my school	Yes - 216 No - 203	51.6 48.4
I copy my parents/guardian/sibling	Yes - 130 No - 289	31.0 69.0
The illness is not serious	Yes - 220 No - 199	52.5 47.5
Buying drugs by myself is cheaper than going to the hospital/clinic	Yes - 148 No – 271	35.3 64.7
My parents/guradian gives me drugs to use at home	Yes - 261 No - 158	62.3 37.7
I already know the drug I use when ill	Yes - 174 No - 245	41.5 58.5
My parents/guardian cannot afford totake me to the hospital	Yes - 78 No - 341	18.6 81.4
I usually feel better after taking drugs	Yes - 360 No - 59	85.9 14.1
My friends don't go to the hospital, so I don't go too	Yes - 41 No - 377	10.0 90.0

Hypotheses testing

Hypothesis 1: There is no significant relationship between socio-demographic characteristics of respondents (age, school category, gender, religion, parents' occupation, whom they reside with) and knowledge.

Table 4.19: Hypothesis 1

Variables		Poor(%)	fair(%)	Total(%)	X^2	df	p-value
School category	Public	97.3	2.7	100	23.976	1	0.000
	Private	84.0	16.0	100			
	Total(%)	92.1	7.9	100			
Age group	11-13	81.8	18.2	100	9.077	2	0.011
	14-16	92.3	7.7	100			
	17-19	96.7	3.3	100			
	Total(%)	92.1	7.9	100			

Respondents attending private schools were more knowledgeable about self-medication than the respondents attending public school. Respondents in the age group of 11-13 years were more knowledgeable about self-medication than the older respondents between the ages of 14 and 19 years. Therefore, there was a significant relationship between the school category of the respondents, the age group and the knowledge, hence, the null hypotheses for these variables were rejected. However, there was no significant relationship between gender, religion, parents' occupation, whom the respondents lived with and knowledge. Hence, the null hypotheses for these variables were accepted.

Hypothesis 2: There is no significant relationship between socio-demographic characteristics of respondents (age, school category, gender, religion, parents' occupation, whom they reside with) and practice.

Table 4.20: Hypothesis 2

Variables		Non-practicing (%)	Practicing (%)	Total (%)	X^2	df	p-value
Whom the respondents lived with	Both parents	11.1	88.9	100	8.290	3	0.040
	Father alone	22.2	77.8	100			
	Mother alone	20.9	79.1	100			
	Guardian	2.4	97.6	100			
	Total(%)	11.5	88.5	100			

Respondents living with their guardians practiced self-medication more than those living with both parents and either parent. Therefore, there was a significant relationship between whom the respondents lived with and practice; hence, the hull hypothesis for this variable is rejected. However, there was no significant relationship between gender, religion, school category, age of the respondents and practice, hence, the null hypothesis for these variables were accepted.

Hypothesis 3: There is no significant relationship between knowledge and attitude towards self-medication.

Table 4.21: Hypothesis 3

Variables	Knowledge category					
	Poor(%)	Fair(%)	Total(%)	X^2	df	P-value
Good attitude towards self-medication	100	0	100			
Poor attitude towards self-medication	91.3	8.7	100	3.885	1	0.049
Total (%)	83.1	16.5	100			

More of the respondents who had good attitude towards self-medication (who reported self-medication was appropriate) had poor knowledge than those who had poor attitude. Therefore, there was a significant relationship between the knowledge and attitude of the respondents towards self-medication. The null hypothesis was therefore rejected.

Hypothesis 4: There is no significant relationship between knowledge and practice of self-medication.

Table 4.22: Hypothesis 4

Variables	Knowledge category					
	Poor(%)	Fair(%)	Total(%)	X^2	df	P-value
Non practicing	91.7	8.3	100			
Practicing	92.2	7.8	100	0.16	1	0.900
Total(%)	92.1	7.9	100			

Respondents who had fair knowledge practiced self-medication as much as those who had poor knowledge about self-medication. This also applied to the respondents who did not practice. Therefore, there was no significant relationship between knowledge and practice of self-medication. Thus, the null hypothesis was accepted.

Hypothesis 5: There is no significant relationship between attitude and practice of self-medication.

Table 4.23: Hypothesis 5

Variables	Practice category		Total	X^2	df	P-value
	Non practicing	practicing				
Good attitude towards self-medication	7.3	92.7	100			
Poor attitude towards self-medication	11.9	88.1	100	0.767	1	0.381
Total	11.5	88.5	100			

Respondents who had poor attitude practiced self-medication as much as those who had good attitude towards self-medication. Same applied to the category of respondents who did not practice self-medication. therefore, there was no significant relationship between attitude of the respondents towards self-medication and their level of practice. Null hypothesis was accepted.

CHAPTER FIVE

DISCUSSION, CONCLUSION AND RECOMMENDATION

Socio-demographic characteristics and related information of respondents

According to the National Policy on Education, students were expected to finish their secondary school education by the age of 18years. Respondents who were 11 years were recorded, this implies that students are now finishing secondary school earlier contrary to the National Policy which could be because of factors such as early admission into schools, double promotions given to students especially in private primary school or urge from parents for their children to complete school early, hereby, encouraging their wards into secondary school without completing their primary school education. Most of the respondents were females and this finding was similar to a study conducted among secondary schools in Ekiti state were more than half (55%) of the respondents were female (Awosusi and Konwea, 2015). Majority of the respondents were in SS2 and this was also similar to research conducted among senior secondary schools students in Imo state on their perception of common diseases and use of medication (Chukwucha et al., 2009). The proportion of the respondents who practiced Christianity is higher than those who practiced Islam and traditional religion which was similar with the research conducted in Ekiti state by Arute et al (2013) where over half (59.9%) of the respondents were Christians. Three quarter of the total respondents were from the Yoruba ethnic group, this was because this study was conducted in a Yoruba speaking state.

Knowledge of self-medication

Majority of the respondents had heard about self-medication from difference sources and greater proportion of them heard about self-medication from their schools. This implies that the school environment is a very important learning and building setting for adolescents. It was discovered that only 1.2% of all the respondents knew what over-the-counter medications are. This knowledge deficit could increase their vulnerability of using prescription medications without knowing. According to World Medical Association (2015) prescription medications are generally unsafe for use without supervision or strict direction from a physician.

Three quarter of the respondents did not understand what dosage was. World Health Organization (2012) attributed one of the major problems associated with self-medication to patients failing to take their medication correctly, that is, adhering to the dosage (the amount of a medicine that should be taken at a time or regularly over a period of time). It would be safe if the people who engage in self-medication have sufficient knowledge about its dose, time intake, side effects on overdose because serious lack in knowledge can cause serious effects (Bennadi, 2014).

Few respondents were knowledgeable about the dangers associated with self-medication. Self-medication is associated with risks such as misdiagnosis, use of excessive drug dosage, prolonged duration of use, drug interactions and poly pharmacy (Hughes et al., 2012). In addition, dangers of self-medication also include incorrect self-diagnosis, delays in seeking medical advice when needed, adverse reactions, incorrect manner of administration, incorrect choice of therapy, masking of severe disease and risk of dependency and abuse (Ruiz and Curr, 2010). These dangers ranged from mild to life threatening. Knowledge about the dangers associated with self-medication could help in taking necessary precautionary measures such as reading leaflet or instructions attached to medications, reporting adverse-effects and completing dosages which could reduce life-threatening situations or even death.

In this study, it was discovered that almost all the respondents (92.1%) had poor knowledge about self-medication and none of the respondents had substantial or adequate knowledge about self-medication. A contrary result was obtained from a study carried out on the knowledge of self-medication among undergraduates in Imo state (Eke et al., 2014). Their knowledge about self-medication was due to the fact that they were matured, enlightened and supposedly learnt enough to understand the concept. Hence, the secondary school students might not have learnt much nor had much experience on issues relating to medications compared to the much older university students. If secondary school students lacked adequate knowledge about self-medication and undergraduates are highly knowledgeable about self-medication, it was assumed that somewhere between secondary school and university the knowledge about self-medication was acquired. These secondary school students lacked substantial knowledge about self-medication, hence, their self-medication practice would have been improper because according to Afolabi (2012), ‘proper self-medication practice is associated with a certain level of knowledge’. The

implementation of 'Self-medication Education Intervention' among secondary school students that could increase their knowledge about the concept and dangers of self-medication is justifiable.

Respondents attending private schools were more knowledgeable than those attending the public schools. This could be due to differences in cogent factors such as the economic status of their parents, the environments they lived or grew up in, the level of education of their parents, caliber of friends and peer groups and various degrees of exposure or freedom (media, social-media, electronic gadgets and assess to first-hand information). It was also discovered that respondents in the younger age group (11-13) was more knowledgeable about self-medication than the other age groups (14-19). This could be due to the exposure of these older students to various information from peers, social media and the internet. Hence, they either surf for other information pertaining to their interests or they acquire wrong information from these sources. Has it had been identified that these adolescents are greatly influenced by peers, mass and social media (Arute et al., 2013).

Paracetamol was the medication most of the respondents knew people bought without prescription, followed by pain relievers, cough syrups, flagyl and antimalarial drugs. This finding was similar to that of the research carried out by Chukwucha et al. (2009) where majority of the students reported paracetamol followed by antimalarial and flagyl. The findings of a research conducted by Atoyebi and Atoyebi (2013) also identified paracetamol (an analgesic) as the most commonly bought medication without prescription.

Attitude of self-medication

In this study, it was discovered that majority of the respondents reported self-medication not to be appropriate as majority of them considered seeing a doctor a necessity when ill. This was similar to the findings of a research conducted by Eke et al. (2014) where majority (68.3%) of the respondents felt that self-medication was bad. A study conducted by Odusanya and Omowale (2011) among residents in Ikeja, Lagos state also discovered that majority of the respondents (83.8%) believed that self-medication should not be encouraged. Hence, the beliefs, depositions and feelings of majority of the respondents in this present study did not support or encourage self-medication practices.

It was discovered that more of the respondents who considered self-medication has inappropriate had better knowledge about self-medication than the other category of respondents who had good attitude to self-medication. The better the knowledge of the respondents about self-medication, the more their belief and disposition against self-medication practices.

Practice of self-medication

From this study, about two-third of the respondents bought drugs without doctor's prescription. This finding was similar to the results of a research conducted by Arute et al., 2013 in Ekiti state where 80.8% of the respondents bought drugs without prescription. Among the medications bought without prescription, majority of them were analgesics, followed by antimalarial, cough and cold suppressants and antibacterial. This finding correlates with the result of a research conducted by Emmanuel et al., 2012 among undergraduates in Jos where majority of the students bought analgesics and then followed by antimalarial and antibiotics. Another similarity was in the result of a study by Eke et al. (2014) conducted among students in Imo state where analgesics was the most frequently medicated drugs preceded by antimalarial. In a research conducted among secondary school students in Ekiti states by Awosusi and Konwea (2015), analgesics was also the highest category of drug the student self-medicated with. In addition, a study carried out by Auta et al. (2012) among students in Jos also showed that analgesics was the largest proportion of the drugs the students self-medicated with. A study conducted by Oshodi, Aina and Onjole (2010) also identified the practice of self-medication with these groups of drugs: analgesics, antimalarial and antibiotics. These medications however, could not be categorized into either prescription medications or OTCs because in Nigeria there are no laid down laws or standing orders with respect to prescription and non-prescription drugs. Prescription medications are readily sold to people without requesting a doctor's prescription list. This therefore requires an immediate intervention to curb these practices.

This could be that the most common illnesses the students experienced were aches, malaria, common cold and bacterial infections. To support this claim, a study conducted by Chukwuocha et al., (2009) among secondary school students in Imo state reported malaria, diarrhoea, cough and flu has common illnesses the students experienced. Another study conducted by Emmanuel et al. (2011) among nursing

undergraduate students in Jos reported body pain, malaria and gastrointestinal disorders has the major illnesses the students seek self-medication to treat. These findings were also similar to that of a study conducted by Arute et al. (2013) in Ekiti where headache, fever, cough and abdominal pain were reported as the illnesses the respondents used medications for without consulting a doctor. Among respondents who practice self-medication in this present study, 38% of them used a particular medication all the time and majority of the medication used were analgesics. To correlate with the previous statement about analgesics being the highest category of medication the respondents used without prescription, hence, it could therefore be inferred that analgesics which they frequently used were not prescribed by the doctor and this could lead to risk of medication dependency and abuse.

It was discovered in this present study that majority of the respondents who bought medications without doctor's prescription did on their own volition. The finding was similar to that of Eke et al. (2014) where 44.1% got medications on their own volition. The students used medications on their own preference probably due to their past experiences of the same illness or knowledge about someone who had the same illness. Hence, they presumed the medication previously used for an illness could always be used every time they felt similar symptoms. Apart from the decision of the students to use medications without consulting a doctor, majority were directed by their parents and the Patent Medicine Vendors (PMVs). This finding was similar to that of Eke et al. (2014) where 29.7% was from the street medicine shop (PMVs) and 13.2% from family members. It was discovered that these students were manipulated and influenced by older family members, peer groups and experience from previous illness (Arute et al., 2013). Ruiz and Curr (2010) explained self-medication to be the selection and use of medicines by individuals (or a member of the individual's family) to treat self-recognized or self-diagnosed conditions and symptoms.

In this present study, majority of the respondents practiced self-medication and this finding correlates with a research conducted by Awosusi and Konwea (2015) which revealed that respondents who practiced self-medication were 80.4% and those who did not practice self-medication were only 19.6%.

The possible prevalence of side effects was associated with lack of knowledge about the medication prior to usage (Afolabi, 2012). From this present study, it was

discovered that majority of the respondents who practiced self-medication were not familiar with the medications they used. A study conducted among undergraduates in Sri-Lanka by Gunawardhana, Sakeem and Sivayoganthan (2015) also indicated that majority of the respondents did not have adequate knowledge about the drug they used. Among the few who were familiar with the medications they used, majority of them did because they used the medication regularly while others did from their parents. Apart from advertisements from the drug manufactures, adolescents tends to depend on other sources of information like mass media, older family members, peer groups and previous illness experiences. Possible reasons might be because the younger age group and adolescents can easily be influenced through these means (Arute et al., 2013). This could explain why respondents in this study who bought medications without prescription did based on experience of previous illness or parents' recommendation.

Over one-quarter of the respondents who practiced self-medication enjoyed taking medications and different reasons were given. According to Ruiz and Curr (2010), dangers of self-medication include incorrect self-diagnosis, delays in seeking medical advice when needed, adverse reactions, incorrect manner of administration, incorrect choice of therapy, masking of severe disease and risk of dependency and abuse. Hence, these students were exposed to the risk of medication dependency and abuse which is one of the dangers of self-medication.

Respondents who lived with their guardians practiced self-medication more than those who lived with both parents and either parent. This could be due to lesser monitoring, attention, care and inadequate information from the guardians which to a very large extent affected the self-medication practices of these students. Respondents who lived with either only the father or only the mother practiced self-medication least. This could be due to more care, attention and monitoring from the single parent which could curb certain practices to the bare minimum.

Sources of medications used to self-medicate

In this study, majority of the respondents got their medications from the pharmacy, followed by the PMV, hospital, from their teachers, friends, drug hawkers, guardians and school nurses. Other sources were from home and from their parents, which correlates with Afolabi (2012) where it was documeted that the family/relative

medicine cabinets which contain previous medical prescription which may not have been prescribed for the same condition were sources of self-medication. Result from a research conducted by Arute et al., 2013 correlated with this finding where hospitals, pharmacy shops, PMV, drug hawkers were identified as sources of medications used in self-medication. Another research by Chukwuocha et al., 2009 also identified clinics, pharmacy, PMV, hospital and homes to be sources of medications used to self-medicate. Findings of this study was also similar to that of Arute et al., 2013 where the sources identified were pharmacy, PMVs, friends and relatives.

Factors responsible for self-medication (reasons)

Common reasons the respondents practiced self-medication according to the findings of this study were lack of clinic in their schools, perception that the illness wasn't 'serious', their parents recommended and gave them medication to use at home, previous experience about the illness (they knew the medication to use when ill) and economical purposes (purchasing medication is cheaper than going to the hospital). This correlates with the survey conducted by Awosusi and Knowea (2015) where it was reported that the most common reasons students gave for self-medicating was "I know what to do always". This was closely followed by "ailment/disease is not serious enough to warrant going to hospital" and "using left over of drugs applied on previous health problem". Other researches carried out by Auta et al. (2012), Awosusi and Konwea (2015), Arute et al. (2013) and Emmanuel et al. (2011) also identified time wastage, money conservation, perception of less severity of the illness, knowledge about the medication to use when ill and high hospital bill which were also similar to the findings of this present study.

Implication of findings for health promotion and education

The result of this study highlights cogent reasons for planning, implementation and evaluation of health education on self-medication in the secondary school setting and Nigeria at large. Targeted population for health education should also include the parents, school staff, pharmacy stores, PMVs, media group and the state or LGA educational board. Appropriate methods to enable the health education include public enlightenment using the mass media, group dialogue, peer educators, counseling and lectures. Through health education, the targeted population will understand the concept of self-medication, acquire adequate knowledge about self-medication and

every other information incorporated into self-medication practices. The use of advocacy is another appropriate strategy to curb self-medication practices. Advocacy will help to facilitate policy formation relating to regulation of medication sales, incorporating sick-bays in schools and introducing knowledge of self-medication into the secondary school curriculum. Parents and staff of schools can also benefit from the Parents-Teachers Association (PTA) meetings where the relevance of their roles both at home and at schools is important in curbing self-medication practice among the students who are in their formative years.

The use of Behavioural Communication Concepts (BCC) such as billboards, posters or banners within the school premises can also enlighten the students about self-medication. Media houses can also make jingles and adverts to educate the public about the concept of self-medication. School counselors, school nurses and clinic staff, peer educators (which is most appropriate for this population) can also be used to discourage self-medication practice among the students. The findings of this study can be used by the state or local government educational board as a training needs assessment to design and develop a training curriculum on self-medication for secondary schools.

Conclusion

This study explored the level of knowledge, attitude and practice of self-medication among secondary school students in Ibadan North-west LGA. The level of knowledge about self-medication was very low among the respondents. Majority of the respondents perceived that self-medicating was not an appropriate practice and the prevalence of self-medication practice was very high. Irrational self-medication practice which is a global and public health concern is very high among the respondents who practiced self-medication. Majority of the respondents were influenced by their social environment to self-medicate, that is, peer influence, parents, neighbours, information from media. Hence, affiliated to the impact of observational learning,

Recommendations

1. Secondary school students do not have sufficient knowledge about self-medication and as it is widely known that adolescent stage is formative and a critical stage of development; hence, the state and local government educational board should design and develop a training curriculum on self-medication.

2. It was discovered in this study that irrespective of the level of knowledge about self-medication the practice was still high. Further researches should be conducted which could include qualitative aspect in order to further explore the relationship between knowledge and practice of self-medication.

3. Among the sources of medication the respondents used while practicing self-medication, parents and teachers were identified. Thus, appropriate health promotion strategies including health education training, seminars should be directed towards school administrations and parents on issues relating to self-medication.

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APPENDIX I

KNOWLEDGE, ATTITUDE AND PRACTICE OF SELF-MEDICATION AMONG SENIOR SECONDARY SCHOOLS IN IBADAN NORTH-WEST LOCAL GOVERNMENT AREA.

My name is Olasantan Oladiwura E, and I am student at the department of Health promotion and Education, Faculty of Public Health, College of Medicine, University of Ibadan. The following questions are to assess your knowledge, attitude and practice on self-medication. This questionnaire would be kept confidential and you shall not fill in your name. This is not compulsory as you have the right to decline from this study as deem fit. Your sincere response is encouraged and the information provided would be used for the research purpose. Thank you.

Self-medication is when drugs are purchased and used without the Doctor's or professional prescription.

School category: Public [ ] Private [ ]
Location:…….

SECTION A: DEMOGRAPHIC CHARACTERISTICS

Sex: Male[ ] Female[ ] Age as at last birthday……

Class: S.S1[ ] S.S.2[ ] S.S.3[ ]

Religion: Christianity[ ] Islam [ ] Traditional[ ]

Ethnic group: Yoruba[ ] Igbo[ ] Hausa[ ] Others:……

Father's occupation ……. Mother's occupation……

Whom do you live with? Parents[ ] Father[ ] Mother[ ] Sibling[ ] Guardian[ ] Others……

SECTION B: KNOWLEDGE ABOUT SELF-MEDICATION
[Tick (√) appropriate answers in the boxes provided.]

1 Have you heard about self-medication? Yes[ ] No[ ]
If yes, where? …….

2 Do you know what Over the Counter drugs (OCT) mean? Yes[ ]No[ ]
If yes, what are Over the Counterdrugs?……..

3 What drugs do you know people buy without prescription (you can tick more than an answer

Paracetamol		Antifungal		Antimalaria		Flagyl		Cough syrup	
Chloramphenicol		Antibiotics		Pain reliever		Aspirin		Antacids	

Mention others:

4 Do you understand the word 'dosage'? Yes[ ] No[ ]
If yes, what is dosage? ……

5 Are you aware of the dangers associated with self-medication? Yes[ ] No[ ]
If yes, mention them:

SECTION C: ATTITUDE TOWARDS SELF-MEDICATION
Tick (√) appropriate answers in the boxes provided.

s/n		Agree	Disagree	I don't know
6	Seeing a doctor is not necessary since I can buy drugs by myself			
7	I always know what drug to use for my illness			
8	There is nothing wrong in taking drugs without doctor's prescription			
9	Using drugs not prescribed by a doctor could be dangerous			
10	I can use any drug because they all work the same way			
11	I prefer when my parents/guardian gives me drug to use when ill			
12	Using 2 or 3 drugs together is better than using just 1			
13	Even the drugs prescribed to me by the doctor, I use it whenever I like			
14	I don't complete my drugs as soon as I feel better			
15	Prescribed drugs are safer to use			

SECTION D: PRACTICE OF SELF-MEDICATION
Tick (√) appropriate answers in the boxes provided.

16 Do you buy drugs without a doctor's prescription? Yes [ ] No [ ]
If yes, how frequent? Always [ ] Sometimes [ ] Rarely [ ]

17 Mention the drugs you use without prescription and the illness you use them for :

1)…….. what illness?…….
2)…….. what illness? ……
3)…….. what illness? …….....
4)…….. what illness? ……

18 Are all the drugs you use prescribed by a doctor? Yes[ ] No[ ]
If no, who prescribed the drug? ……

19 Are you familiar with the drugs you use? Yes[ ] No[ ]
If yes, how did you get familiar with the drug? ……

20 Do you use a particular drug all the time? Yes[ ] No[ ]
If yes, what drug?.....What illness do you use it for?.....

21 Where do you buy drugs?.....

22 Do you read leaflets or instructions attached to drugs? Yes[ ] No[ ]

What information do you read from the leaflet? ……

Do you read additional information apart from those in the leaflet?Yes[ ]No[ ]

If yes, from what source? ……

23 Do you use more than one drug for an illness? Yes[ ] No[ ]

If yes, why do you combine the drugs? ……

Mention the drugs and the illness you use them for

1)…….. 2)……

3)…… What illness?.....

24 Do you take drugs on your own without telling anybody? Yes[ ] No[ ]

If yes, what drug(s)? ……

25 Do you complete your dosage? Yes[ ] No[ ]

If no, why? ……

26 Do you use left-over drugs?(for example, if your brother/sister used a cough syrup halfway, can you use the remaining half if you also have a cough?)

Yes[ ] No[ ]

27 Do you enjoy taking drug(s)? Yes[ ] No[ ]

If yes, what drug(s) do you enjoy taking? ……..……

Why do you enjoy taking the drug(s)? ……

28 Where do you get the drugs you use? (You can tick more than an answer)

Pharmacy[ ] From my teacher[ ] Hospital[ ] Friends[ ]
Parents[ ] Street drug sellers[ ] At home[ ] Guardian[ ]
Chemist[ ] Others:……

SECTION E: FACTORS RESPONSIBLE FOR SELF-MEDICATION

Tick (√) appropriate answers in the boxes provided.

s/n		Yes	No
29	Going to the hospital wastes time		
30	We do not have a clinic in my school		
31	I copy my parents/guardian/sibling		
32	The illness is not serious		
33	Buying drugs by myself is cheaper than going to the hospital/clinic		
34	My parents/guardian gives me drugs to use at home		
35	I already know the drug I use when ill		
36	My parents/guardian cannot afford to take me to the hospital		
37	I usually feel better after taking drugs		
38	My friends don't go to the hospital, so I don't go too		

Thank you for your time!

APPENDIX II

IBEERE

Oruko mi ni …… mo wa lati eka Health Promotion and Education, Faculty of Public health, ile iwe eko giga ti Ibadan. Awon ibeere wonyi yio se ayewo imo, iwa ati asa lori ara gbigba. Awon ibeere wonyi yio wa pelu igbekele ati pe eyin ki yio ko oruko yin sile. Awon ibeere wonyi yio se alaye fun o nipa ara gbigba, beeni ko si ijamba kankan. Eleyi kii se tipatipa tori o ni eto lati kuro ni iwadi yii bi ose to. E se.

Ara gbigba ni ti aba ra tabi lo oogun lai si itoni tabi apejuwe lati onisegun oyinbo

Fi ami (∨) si awon aaye ti a fisile bo se ye

Eka ile iwe: Akosile [ ] Aladani [ ]
Agbegbe……

SECTION A: ABUDA

Iseda: Okunrin [ ] Obinrin [ ] Ojo ori:…….

Kilasi: S.S. 1 [ ] S.S. 2 [ ] S.S 3 [ ]

Esin: Christiani [ ] Musulumi [ ] Esin ibile [ ]

Eya: Yoruba [ ] igbo [ ] Hausa [ ]

Ise obi: Baba …….. Iya……..

Tani o n bagbe: Obi [ ] Baba [ ] Iya [ ] Omo baba tabo iya kan naa [ ]

Olusoni [ ] Iyoku:…….

SECTION B : IMO NIPA ARA GBIGBA

Fi ami si aaye ti a fisile

1. Se o ti gbo nipa ara gbigba ri beeni [ ] beeko [ ]

   Bi beeni, nibo?.....

2. Se o mo nkan ti 'Over the Counter Drugs' je? Beeni [ ] beeko [ ]

   Bi beeni. Kini 'Over the Counter Drugs?.....

3 awon oogun wo ni iwo mot i awon eniyan n ra laisi apejuwe dokita (o le mu ju eyokan lo)

Paracetamol		Antifungal		Antimalaria		Flagyl		Cough syrup	
Chloramphenicol		Antibiotics		Pain reliever		Aspirin		Antacids	

Daruko awon omiran

4 Se o mo nkan ti ‘dosage’ je? Beeni [ ] beeko [ ]

Bi beeni, kini ‘dosage’ je?.....

5 Se o moa won njamba to rom o ara gbigba beeni [ ] beeko [ ]

Bi beeni, daruko won

SECTION C: IWA SI ARA GBIGBA

s/n		Mo gba	Mi o mo	Mi o gba
6	Mo fara mo ki m ra oogun ju ki n ri dokita lo			
7	Mo ma n mo oogun ti mo ma n lo fun aisan kankan			
8	O dara lati lo oogun laisi apejuwe lati odo dokita			
9	Ikankan naa ni ti aba ra oogun pelu apejuwe dokita ati laisi apejuwe dokita			
10	Mo ro pe lilo oogun laisi apejuwe dokita ko lewu			
11	Mo le lo oogun ti mo ba ri elomi ti o lo oogun naa			
12	Mo feran ki awon obi mi tabi oluso mi fun mi ni oogun lo ju ki n lo si ile iwosan lo			
13	Oogun ma n je ki ara mi ya			
14	Lilo si ile iwosan saaju oogun rira dara			
15	Oogun ti won se apejuwe re dara lati lo			

SECTION D: ASA ARA GBIGBA

16 Se o ma n ra oogun laisi apejuwe dokita? Beeni [ ] Beeko [ ]

To ba je beeni, nigba wo? Nigbakuugba [ ] leekokan [ ]

17 daruko awon oogun ti o ma n lo laisi apejuwe dokita

1)…….. aisan wo?…….
2)…….. aisan wo?……
3)…….. aisan wo? …….....
4)…….. aisan wo? ……

18 Se dokita lo n se apejuwe gbogbo oogun ti o ma n lo? beeni [ ] beeko [ ]

Bi beeko, tani……

19 Se iwo mo oogun ti o ma n lo?Beeni [ ] Beeko [ ]

Bi beeni, bawo lo se moo?.....

20 Se o ma n lo oogun kan soso nigbakuugab? Beeni [ ] Beeko [ ]

Bi beeni, daruko oogun naa……..ati aisan ti o n loo fun……..

21 Nibo ni o ti n ra oogun…….

22 Se o ma n ka imoran ti o ma n ba oogun wa? Beeni [ ] Beeko [ ]

Bi beeni, kini o ma n ka ninu re……

Se iwo ma n ka imoran miran yato si eleyi ti o ba oogun wa? beeni[ ] beeko[ ]

Bi beeni, nibo……..

23 Se o ma n lo ju oogun kan lo fun aisan kan soso? Beeni [ ] Beeko [ ]

Bi beeni, kini idi ti o fi n lo bee?.....

To ba je beeni, awon oogun wo ati aisan to o loo fun

1)…… 2)……
3)……aisan wo……..

24 Se o ma n lo oogun fun'ra e lai so fun enikeni? Beeni [ ] Beeko [ ]

Bi beeni, oogun wo……..

25 Se iwo ma n pari oogun re? beeni [ ] beeko [ ]

Bi beeko, kini idi?.....

26 Se o ma n lo oogun aloku? Beeni [ ] Beeko [ ]

27 Se lilo oogun man dun mo e ninu? Beeni [ ] Beeko [ ]

Bi beeni, oogun wo……

Kini idi ti o fi n mu inu re un ti iwo ba loo?.....

28 Nibo lo ti ma n ri awon oogun ti o ma n lo? (o le mu juu idahun kan lo)

Ile oloogun oyinbo[ ] N'ile [ ] Oloogun adugbo [ ] Ile iwosan [ ]

Awon obi [ ] Oluso [ ] Ore [ ] Oluko [ ] Omo iya tabi omo baba [ ]

Iyoku……

SECTION E: OHUN TI O N SOKUN FA ARA GBIGBA

s/n		Beeni	Beeko
29	Lilo si ile iwosan ma n padanu asiko		
30	Ko si ile iwosan ni ile iwe mi		
31	Mo ma n se ohun ti awon obi/oluso/egbon tabi aburo mi n se		
32	Aisan naa o se pataki		
33	Rira oogun fun'rami din'wo ju lilo si ile iwosan		
34	Awon obi/oluso mi fun mi oogun lo ni'le		
35	Mo ti mo oogun ti mo ma n lo		
36	Awon obi/oluso mi o nipa lati gbemi lo si'le iwosan		
37	Ara mi ma n ya ti n ba ti l'oogun		
387	Awon ore mi o ki n lo si'le iwosan		

E seun fun akoko yin!