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Knowledge of Hazards of Self-Medication among Secondary School Students in Ethiopia East Local Government Area of Delta State

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Abstract
This study is set out to ascertain the knowledge of hazards of self-medication among Secondary School Students. The descriptive Survey design was adopted for the work. The population of the study is 9,500 students in the public Secondary Schools, in Ethiope East Local Government Area of Delta State. The sample is 300 students randomly selected using non-replacement technique from the 10 selected schools. The instrument used for data collection was questionnaire. Reliability of the instrument was ensured using the test, re-test technique and Cronbach's alpha to check internal consistency. The method used for the data analysis were descriptive statistic of frequency percentage, means and standard deviation, students T-test and one-way Anova. The major findings of this study was that general knowledge of self-medication was high 75% among Secondary School in Ethiope East Local Government Area as against 25% without general knowledge of self-medication, but their knowledge of hazard of self-medication was at varied levels. The findings revealed that age and religious affiliations had tremendous influence on the knowledge of the hazards of self-medication on the secondary school students, not undermining other prevailing factors, but there was no significant influence of sex (male and female) on the subject matter.
Keywords: Self-medication, Hazard, Health, Self-care, Drugs

1. Introduction

Self-medication is an age long phenomenon in the health sector. Indeed, the practice is as old as mankind. It is an act that has been practiced several decades back, whereby people use herbs, roots, tree barks, alcohol, even food, and other forms of behaviour to alleviate and treat symptoms of illness and ailments that afflict mankind at those times.

Several authors, including World Health Organization (WHO, 2015), have defined Self-medication and self-care as follows and on which the current research is based upon.

Self-medication is the selection and use of medicines by individuals to treat self-recognized illness or symptoms. For the purpose of this definition, medicines include herbal and traditional products.

Self-medication is one element of self-care.

Self-care is what people do for themselves to establish and maintain health, prevent and deal with illness.

It is a broad concept encompassing:

- Hygiene (general and personal);
- Nutrition (type and quality of food eaten);
- Lifestyle (sporting activities, leisure);
- Socioeconomic factors (income level, cultural belief etc.)
- Self-medication.

Self-medication has a strong correlate with the use of drugs.

According to Drug Safety (2001) drugs is any chemical you take that affects the way your body works. Alcohol, caffeine, aspirin and nicotine are all drugs. A drug must be able to pass from your body into your brain. Once inside your brain, drugs can change the messages your brain cells are sending to teach other, and to the rest of your body. They do this by interfering with your brain's own chemical signals: neurotransmitter that transfer signals across synapses.

Drugs are used to prevent, maintain, alleviate, diagnose illness and/or cure illness. Drugs come in various forms such as tablets, caplets, capsules, creams, ointments, injectable, lozenges, inhalations, and so on. Drugs may be swallowed, injected, applied to the skin, inhaled or inserted (Drug Safety 2001).

In recent times, self-medication has become integral part of living. Hence World Self-Medication Industry WSMI (2015) defined self-medication as the treatment of common health problems with medicines especially designed and labelled for use without medical supervision and approved as safe and effective for such use.

It is common for individuals to feel unwell at one time or the other and the inmate survival instinct in humans produces a tendency to treat themselves. All over the world, every day, people, irrespective of how knowledgeable they may be act on their own health issues without consulting qualified health personnel's; they

practice what is known as self-care, a lifelong habit and culture, which is practiced largely all over the world, Nigeria inclusive is a form of self-medication (Akubue, 2000).

By the end of the 19th century, the emergence of new class/group of drugs owing to innovations and scientific discoveries in medicine and health also led to the emergence of new drug users. Professionally, medicines for self-medications are called 'non-prescription' or over-the-counter' (OTC) products, and are available without a doctor's prescription through pharmacies, chemist, patent medicine shops, and in some countries, in supermarkets and other outlets. On the other hand, those medicines that require a doctor's prescription are generally called prescription products (R products). Self-medication with OTC medicines is sometimes referred to as 'responsible' self-medication to distinguish this from the practice of purchasing and using prescription medicine without a doctor's prescription. This is referred to as 'irresponsible' (and potentially dangerous) 'self-prescription' and has no place in self-care or (responsible) self-medication.

Self-medication has been largely aided and promoted by vigorous promotion adverts by pharmaceutical companies in recent time. In the print and social/electronic media, people are continually urged to keep fit by taking drugs to prevent and cure their common ailments such as readily available over-the-counter (OTC) drugs include pain relievers, cough remedies, antibiotics, vitamins, tonics, and many others (Chambers et al., 1997).

Globally, consumers often reach out for self-care products (self-medication) to help them solve their common challenges (Pommier et al., 2002). This is because they see it easier, time saving, more cost-effective, or sometime see the health problem too trivial to necessitate booking an appointment with a health professional with its attendants queues and delays, or in some cases, they may have no other available options.

Self-medication often co-exists with depression (Glover et al., 2003). Studies has reported that one of the reasons that they continued smoking marijuana was that they felt it relieved their symptoms of depression and anxiety (Kashikar-Zuck et al., 2001; Andersen, et al., 2006; McCabe, et al., 2007). Users of psychedelic drugs were usually motivated by a desire to discover in themselves something not obvious or attainable in normal experience (Koob & Le Moal, 2001).

Indeed, self-medication is a common practice both in the economically deprived society (rural area) as much as in the economically privileged society (urban area). Without doubt, self-medication has its positive and negative aspects. The World Health Organization (WHO, 2000) has 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 illness. It is therefore necessary to develop tools in every environment to evaluate the appropriateness of self-medication. The challenge and opportunity for government, health care professionals, and providers of self-medication products all over the world and in developing nations particularly, have a responsibility in the framework of self-medication.

Self-medication affects people from all social class. This exerts influence on the general attitude of society towards drug abuse and misuse. Drug abuse is not a new phenomenon in this act of taking a drug for the purpose of fulfilling a need that the drug cannot pharmacologically fulfil. While drug abuse is the repeated misuse of drugs (Mitka, 2004).

1.1 Statement of the Problem

Self-medication is fast gaining grounds as an important component of health care and educational system both in developing and developed nations. More so, unlike other aspects of self-care, it involves the use of drugs, which is capable of doing good as well as afflicts harm. Numerous subjects reveal that there are risks, such as drug resistance, misdiagnosis, below or over dose of drugs, use of expired drugs, drug interactions, prolonged duration of use, poly-pharmacy risk associated with improper use of non-prescribed medicine.

Generally, students are seen to be the greatest and worst offenders in the issue of self-medication as they resort to use of drugs in order to cope with academic challenges and stress. The secondary school students in Ethiope East Local Government are not left out in this issue of problem of self-medication, drug abuse and misuse.

Hence, finding out the level of knowledge of the hazard of self-medication among secondary school students in Ethiope East Government Area stimulates the researcher.

1.2 Research Question

The following research questions are important to the study:

a. What is the level of knowledge of self-medication among the secondary schools students in Ethoipe East Local Government Area?
b. Does age influence the knowledge of hazards of self-medication among Secondary school students in Ethiope East Local Government Area?
c. Is there any difference in the level of knowledge of hazard of self-medication between male and female secondary schools students in Ethiope Local Government Area?
d. Is the level of knowledge of hazards of self-medication among secondary schools students in Ethiope

East Local Government Area differ by their religious affiliation?

1.3 Research Hypothesis

The following hypothesis were formed to guide the study:

a. Knowledge of the hazard of self-medication among secondary schools students in Ethiope East Local Government Area does not significantly differ by age.
b. The sex of secondary schools students in Ethiope East Local Government Area does not influence their knowledge of hazard of self-medication.
c. Knowledge of hazard of self-medication among secondary schools in Ethiope East Local Government Area does not significantly differ by religious affiliation.

1.4 Significance of the Study

The outcome of this study will bring up data on the students level of knowledge of the hazards of self-medication, and the findings will be important in the following ways:

For the students, it will enhance their knowledge about the hazards of self-medication, and also help them in sound decision making by avoiding irresponsible (inappropriate) self-medication. The study will provide relevant information to parents, teachers, social workers, guidance and counsellors on the broad concept of self-medication and to determine effective ways of solving the problems of irresponsible (inappropriate) self-medication.

The school teachers, health workers (doctors, nurses, and pharmacist) will by the information obtained in this study, map out programs such as seminars, workshops, conferences, town hall meetings to give health talks on self-medication and its hazards.

The study will help the federal, state, and local ministries of education, health and other relevant government and non-governmental bodies to plan effectively towards drug control/regulation and establishment of hard and hazardous free society.

Finally, it will enable the school curriculum planners or the ministry of education to include subjects on drugs and consumer education in the school curriculum.

2. Conceptual/Theoretical Framework

a. Self-care Theory

Self-care theory was propounded by Dorothea Elizabeth Orem in 1971 a nursing model, she defined self-care as a learned good oriented behaviour or activity of individuals. It is a behaviour that exists in concrete life situations directed by persons-to self or to the environment to regulated factors that affect their own development and functioning in the interests of life, health or wellbeing.

The model focuses on the self-care activities which are those personal tasks on individual personally initiates and performs to maintain life and wellbeing. Self-care activities contribute to the maintenance and promotion of structural integrity, functioning and developments. Self-care requisites are expressions of purposes to attained results desired from deliberate engagement in self-care.

Dorothea, (1971) identified three (3) categories of self-care requisites – Universal self-care requisites;

These are those demands and actions necessary to seek the basic needs of daily living, it deals with the essential needs of life which an individual must have that are common to all human beings and are associated with maintaining life processes, Dorothea, (1971) identified 8 universal self-care requisites which are:

i. Maintenance of sufficient air
ii. Maintenance of sufficient water
iii. Maintenance of sufficient food
iv. Balance between activity and rest
v. Balance between solitude and social interaction
vi. Provision of care associated with elimination process and self-exaction
vii. Prevention of hazards to human life functioning and well being
viii. Learning to live with the condition on a life promotes continued development.

b. Health Deviation Self-Care Requisites

Health Deviation self-care requisites are associated with individuals who are ill, injured or hence pathological condition and are receiving medical care. Orem states that these disease or injuries do not affect only specific structures or physiologic or physiological mechanism, but also integrated human functioning. This affects the individual's development permanently and temporarily. Discomfort and frustration resulting from medical care also create a requisite for self-care to bring relief and succour.

Dorothea, (1971) identified 6 requisites for individuals with health deviations, which are:

i. Seeking and seeing appropriate medical assistance
ii. Recognizing and taking care of this condition

iii. Implementing prescribed, diagnostic, therapeutic and rehabilitative measures.
iv. Recognizing the effect of treatment
v. Modifying self-concept and acceptance of the condition
vi. Learning to live with the condition in a life that promotes continued development.

c. Developmental Self-Care Requisites

Essentially, these are those requisites associated with developmental process and condition occurring during the life cycle. They promote processes of life and maturation and prevent conditions deleterious to maturation or mitigate those effects:

Dorothea, (1971) identified 2 categories of developmental self-care requisites. They are:

i. Maintaining conditions that supports life processes and promote development
ii. Prevention of harmful effects on human development and the provision of care to overcome this effect.

Thus, in conjunction with the above theory, self-medication arises during the process of self-care. Therefore, this in essence connotes that self-medication is a part and parcel of self-care activities to maintain normal development, functioning and promotion of normal living (Wikepedia 2015).

2.1 Sources of Knowledge on the use of Medications/Drugs

The sources of information or knowledge of medication or drug use according to most surveys include: pharmacists, general medicines dealers, general and private medical practitioners, household members, product information leaflets, friends, relatives (not healthcare professionals), and media advertisements with the largest prevalence shown in surveys being from pharmacists and previous prescription given to subjects. In parallel to this is the health information relating to the therapeutic and side effects of commodity self-medicated drugs that is more relevant and useful to the end user (Jain et al., 2011).

However, among the numerous source of information and knowledge on drug use and side effects mention above, those indulging in self-medication rely essentially on their selves, peer group, friends, relations and previous prescriptions given to their friends rather than consulting trained and qualified health experts for their medications.

2.2 Concept of Medication/Drugs and Self-Medication

Medication is a medicine or substance for curing or relieving pain, medication refers to a licensed drugs taking to cure or reduce symptoms of an ailment or medical condition, as well as administration of such drug (Brook 2001). World Health Organization (WHO 2013; WHO 2015), defined drug as any substance that modifies or explores pathological status for the benefit of the recipient. Drug is a chemical substance capable of altering the physical and psychological function of the body.

Jain et al., (2011), added that drug is any substance which is used for internal and external application to the body in the treatment of disease and for the prevention of infections. Medication and drugs are therefore formulated to prevent disease, promote and maintain health, alleviate pains and suffering and generally to save life.

World self-medication Industry (WSMI 2015), defines self-medication as the treatment of common health problems with medicine especially designed and labelled for use without medical supervision and approved as safe and effective for such use. Self-medication is further explained as the use of non-prescription medicine by people on their own initiative. Pharmacist play a key role in providing assistance, advice for self-medication purpose (Jain et al., 2011). A person may also self-mediate by taking more or less than the recommended dose of a drug.

2.3 Predisposing Factors to Self-Medication

Numerous factors are implicated as possible causes for the act of self-medication Gray et al., (2002), opined that such factors could be social, physical or psychological. One of the strongest social reasons for people under involvement in self-medication is peer group. Both teenager and adults are involved. Such peer influence is characterized by the desire to be accepted among friends or in social circumstance. Many of the students, who use hard drug, obtain them from friends in the same school or neighbouring schools. Such drugs are used at social gathering or when students have symptoms of sickness or stay awake during examination (Gray et al., 2002)

Judith, (2012) stated that pain management is one of the main reasons for self-medication among adolescents (Hansen et al., 2003, Westerlund et al., 2008). Chambers et al., (1997) noted that 58% -76% of junior high school students in the USA (n = 650) reported taking OTC pain medications in the preceding 3 months without first consulting with an adult. Self-treatment, used for headaches, menstrual pain, stomach-aches, and ear, throat, muscle, joint, and back pain, began between the ages of 11 and 12 years and increased significantly with age. Higher prevalence of self-medication for pain was also noted among adolescent girls

compared with boys (Chambers et al., 1997). Methods of self-treatment included OTC analgesics such as acetaminophen, ibuprofen, and aspirin and, less frequently, prescription pain relievers (Chambers et al., 1997; Handu, et al., 2006; Wu et al., 2008). In most cases nonprescribed medications were obtained from parents, home medicine cabinets, pharmacies or supermarkets, and friends (Chambers et al., 1997; Goldsworthy & Mayhorn, 2009; Handu, et al., 2006; Pommier et al., 2002; Stoelben, et al., 2000).

2.4 Consequences/Dangers of Self-Medication

Goldsworthy and Mayhorn. (2009) asserted that the potential risk of self-medication practices include: incorrect self-diagnosis delays in seeking medical advice when needed, infrequent but severe medical adverse reactions, dangerous drug interactions, incorrect manner of administration, incorrect dosage, incorrect choice of therapy, masking of a severe disease and risk of dependence and abuse. Other particularly important dangers related to self-medication and abuse includes: poly-pharmacy and drug interactions, medications abuse or dependence, misdiagnosis and incorrect choice of treatment.

Numerous and varied dangers are associated with self-medication. This is because the consumer has no knowledge of the efficacy of drugs or their hazards, thus resulting to high number of toxic reactions. According to Ekwe (2002), the dangers of self-medication are problems to contemporary medical personnel. It brings serious adverse consequence to the user, his family, community and the larger society.

Indulgence in self-medication could result to dangerous drug interactions due to combination of drugs. Famakinwa (2003), explained that drug interact in four different ways with other drugs, additive, synergistic, potentiating or antagonist. Some of the individual is not a medical experts, he may not have the knowledge of drugs that should not be combined in self-medication thus exposes the individual to harmful adverse effect. Self-prescription and administration could therefore pose serious health problems.

Self-medication could lead to disorganization of the physiological nature of the body. Some medications are capable of interfering with the ability of the body to absorb or use certain vitamins and minerals in food, consequently leading to risk of malnutrition in certain situation. Some drugs are food sensitive, others are fat and oil sensitive and often time, this leads to dangerous drug – food interactions (Axis Residential Treatment 2015).

Segall (1990) introduced the theory that drug dependence or addiction results from self-medication for the distress caused by the pre-existing condition. Physical dependence called addiction can develop with the use of tranquilizers, pain relievers and narcotics. But the psychological dependence called habituation results due to pleasurable sensations or relief from stress or anxiety from such drugs as cocaine, marijuana etc.

1. Research Design

The researcher employed the descriptive survey design in this study. Descriptive survey according to Ekwe (2002), is a type of research method that explains conditions as they occur in their natural settings through the use of questionnaire to elicit responses on the issues involved. Thus, for the purpose of achieving the objectives of this study, the survey was utilized to determine the extent of knowledge of hazards of self-medication among secondary school students in Ethiope East Local Government Area; this method has been used in similar studies.

3.1 Area of Study/Setting

The study was carried out in Secondary schools in Ethiope East Local Government Area in Delta Central. Ethiope East Local Government Area has its headquarters in Isiokolo town as shown in table 1: It has an area of 380km^2 and a population of 200,792 people. (National Census figure of 2006).It is one of the oil producing Local Government Area in Delta State. It is bounded in the north by Obiaruku in Ukwuani Local Government Area, South by Orerokpe in Okpe Local Government Area, West by Mosogar Ethiope West Local Government Area, and East by Aragba in Ughelli north respectively. Ethiope East was chosen because of its proximity and accessibility to the researcher.

There are about twenty (20) secondary schools in Ethiope East Local Government Area. Essentially, a great number of the people practice Christian religion, although, a few are traditional worshippers. Urhobo is their local dialect, while the general spoken language is English. Their major occupations include subsistence farming, civil service and petty trading. Delta State University, Abraka dwells in Ethiope East Local Government Area with a good number of primary and secondary schools, churches, banks and markets. Their literacy level is slightly above average, this is not unconnected with the presence of the Delta State University in Ethiope East Local Government Area.

3.2 Population of Study

The target population of this study consists of all the public secondary schools students in Ethiope East Local Government Area of Delta State. This includes all the female and male students of the public secondary schools in the local government area.

Table 1. List of Public Secondary Schools in Ethiope East Local Government in Alphabetical order.

S/N	NAMES OF SCHOOL	POPULATION
1.	Abraka Grammar School, Abraka	1,300
2.	Agbon Secondary School, Isiokolo	680
3.	Eku Baptist High School, Eku	720
4.	Erho Secondary School, Erho-Abraka	600
5.	Igun Secondary School, Igun	500
6.	Kokori Boys Secondary School, Kokori	480
7.	Kokori Girls Secondary School, Kokori	550
8.	Ojeta Secondary School, Ojeta-Abraka	380
9.	Okpara Inland Boys Secondary School, Okpara Inland	420
10.	Okpara Inland Girls Secondary School, Okpara Inland	450
11.	Okpara Water Side Boys Secondary School, Okpara Water Side	350
12.	Okpara Water Side Mixed Secondary School, Okpara Water Side	550
13.	Okurekpo Secondary School, Okurekpo-Okpara	250
14.	Oruakpor Secondary School, Oruakpor	220
15.	Otorho Secondary School, Otorho-Abraka	280
16.	Oviorie Secondary School, Oviorie-Ovu	320
17.	Ovu Inland Secondary School, Ovu Inland	400
18.	Samagidi Secondary School, Samagidi-Eku	300
19.	Umiagwhia Secondary School, Umiagwhia-Abraka	350
20.	Urhoka Secondary School, Urhoka-Abraka	400
	TOTAL	**9,500**

Table 2. Showing Sample Allocation

S/N	Sampled Schools	Class Levels			Total Population	No. of Sampled per School
		JSS1	JSS2	SS3		
1.	Agbon Secondary School, Isiokolo	10	10	10	680	30
2.	Eku Baptist High School, Eku	10	10	10	720	30
3.	Igun Secondary School, Igun	10	10	10	500	30
4.	Kokori Girls Secondary School, Kokori	10	10	10	550	30
5.	Okpara Inland Boys Secondary School, Okpara Inland	10	10	10	420	30
6.	Okpara Inland Girls Secondary School, Okpara Inland	10	10	10	450	30
7.	Okpara Water Side Boys Secondary School, Okpara	10	10	10	350	30
8.	Okurekpo Secondary School, Okurekpo-Okpara	10	10	10	250	30
9.	Otorho Secondary School, Otorho-Abraka	10	10	10	280	30
10.	Samagidi Secondary School, Samagidi-Eku	10	10	10	300	30
	TOTAL					**300**

3.3 Samples and Sampling Technique

The sample for the study comprises of three (300) hundred females and male students drawn from the under listed secondary schools randomly selected.

The sample size was determined by the use of approximation of 3% as suggested by (Gray et al., 2002). The research employs the multi-stage sampling technique. The procedure involves 3 stages. The simple random non-replacement sampling technique was to draw samples, thus, giving every member equal chance to be sampled.

Stage 1: Selection of Secondary Schools:

Employing the simple random non-replacement sampling technique, 10 secondary schools were selected from the 20 public secondary schools.

Stage 2: Selection of Classes from Selected Schools:

From each selected secondary school, 3 classes were drawn using the simple random non-replacement sampling technique.

Stage 3: Selection of Students from Selected Classes:

From each selected class levels above as shown in stage 2, JSS1, JSS2 and JSS3 were the classes randomly

selected. 10 students were drawn from each level randomly using the non-replacement sampling technique. Thus, in each school, 30 students were randomly sampled giving a sum total of 300 students from the 10 randomly selected secondary schools.

3.4 Research Instrument

Self-structured questionnaire was the major instrument utilized by the researcher for the collection of data. The questionnaire was in two (2) sections: Section A comprise of personal data while Section B comprises of 10 items based on the purpose of the research work.

3.5 Reliability of the Instrument

Reliability refers to the consistency and stability of measurement from one period to another. A test-re-test reliability technique was used for testing the reliability of instrument. 20 students from schools that were not sampled were used for the pilot study. The questionnaire was first presented on face-to-face basis, then 14 days later, the same group of students were given the same questionnaire. They were analysed using the Cronbach's alpha correlation technique to check for internal consistency, a reliability coefficient of 0.06 was obtained.

3.6 Method of Data Collection

The researcher made prior visit to familiarize himself with the schools in Ethiope East Local Government Area to strike an understanding with the principals of the 10 sampled schools. The researcher was introduced to students by the principals. On the appointment day the researcher administered the questionnaire after instructing the respondents on what to do on face-to-face basis. The administration and collection of the instrument lasted for 21 days. A total number of the three hundred (300) questionnaires were administered and retrieved with the help of an assistant who also helped in the distribution of the questionnaire.

3.7 Method of Data Analysis

The data were analysed using the descriptive (frequencies, percentages mean and standard deviations) and inferential (students t-test and one – way ANOVA) statistics.
Significances, Post Hoc Scheffe tests were conducted to fund to what direction significances lie.
Formula used for percentage:

$$Percentage\,(\%) = \frac{No\ \ of\ \ respondent}{Total\ number} \times \frac{100}{1}$$

4. Presentation, Data Analysis and Discussion/Findings

This section essentially dealt with presentation and analysis of data derived from the distributed instrument to the respondents. The questionnaires were coded and fed into SPSS version 20 spread sheet for descriptive (frequencies, percentages means and standard deviations) and inferential (student's-test and one-way ANOVA) statistics. Situations where one-way ANOVA gave significances, Post Hoc Scheffe tests were conducted to find to what direction significances lie.

Cronbach's alpha was run on all 10 Likert scale items pertaining to level of knowledge of hazards of self-medication to check for internal consistency, producing a Cronbach's alpha of 0.568. This test is used to check for reliability of a research instrument, showing that it can be re-subjected to same study by another researcher and give same statistically reliable results.

In order to draw logical conclusions, mean students' responses were transformed into percentages by dividing the means by 4 and then multiplied by 100 to give percentage knowledge of hazards of self-medication among secondary school students in Ethiope East Local Government Area. Percentages were then graded into Low knowledge (<50%); Average knowledge (50% - <75%); High knowledge (≥75%).

An independent samples t-test was conducted to examine whether there was a significant difference between male and female students in Ethiope East Local Government Area (E.E.L.G.A) in relation to their level of knowledge of hazards of self-medication. The test revealed no statistically significant difference between males (mean score, % = 3.1, 78%) and females (mean score, % =3.2, 80%) students in E.E.L.G.A, (t = 1.317, df = 298; p=0.189).

Also, a one-way ANOVA was conducted to examine whether there were statistically significant differences among secondary school students in different age groups in relation to their level of knowledge of health hazards of self-medication. The results revealed statistically significant differences among the age groups, F (3, 296) = 3.718; p = 0.012. Post-hoc Scheffe tests revealed statistically significant differences between age group 12-14 years (mean score±sd, % = 3.29±0.42, 83%) and those 15-17 years (mean score±sd, % = 3.13±0.39, 78%) and those 18-20 (mean score±sd, % = 3.13±0.39, 78%), but comparable knowledge with those 21 years and above (mean score±sd, % = 3.20±0.31, 80%). This may mean that students between the ages of 15- 20 were

likely to misuse and abuse drugs.

In the same vein, a one-way ANOVA was conducted to examine whether there were any statistically significant differences among secondary school students affiliated to different religions in relation to their knowledge of health hazards of self-medication. The results revealed a perfectly, statistically significant differences in knowledge among students by religious affiliations, F (3, 296) = 6.745; p = 0.000. Post-hoc Scheffe tests revealed statistically significant differences between Pagans (3.73±0.38, 93%) and Christians (3.16±0.37, 80%), and Muslims (3.09±0.25, 78%) and Traditionalists (2.9±0.17, 73%). Students affiliated to Paganism reported best knowledge of hazards of self-medication than the others.

Table 3: Analysis of Respondent Bio-Data

Variable		Frequency	Percent
Sex	Male	141	47
	Female	159	53
Age group	12-14	67	22.3
	15-17	161	53.7
	18-20	62	20.7
	21 and above	10	3.3
Class	JSS I	8	2.7
	JSS II	35	11.7
	JSS III	195	65.0
	SS I	60	20.0
	SS II	2	0.7
Religion	Christianity	276	92.0
	Islamic	13	4.3
	Traditional	3	1.0
	Pagan	2	0.7

Table 4: Level of Knowledge of Hazards of Self-medication among Secondary School Students in Ethiope East Local Government Area

S/n	Variable	N	SA(%)	A(%)	D(%)	SD(%)	Mean	Sd
1	I know what self-medication means	300	177(59.0)	109(36.3)	6(2.0)	8(2.7)	3.52	0.67
2	I am aware of hazards of self-medication	299	71(23.7)	151(50.5)	72(24.1)	5(1.7)	2.96	0.74
3	Self-medication can lead to wrong diagnosis	298	118(39.6)	142(47.7)	32(10.7)	6(2.0)	3.25	0.72
4	Self-medication can lead to wrong treatment	298	163(54.7)	89(29.9)	39(13.1)	7(2.3)	3.37	0.99
5	Self-medication leads to drug addiction and dependence	300	137(45.7)	122(40.7)	30(10.0)	11(3.7)	3.28	0.79
6	Self-medication can cause organ damage e.g. liver and kidney	300	133(44.3)	199(39.7)	35(11.7)	13(4.3)	3.24	0.82
7	Death can result from self-medication due to over dose	300	160(53.3)	112(37.3)	20(6.7)	8(2.7)	3.41	0.73
8	Adverts on medication on television, radio and newspapers can lead to self-medication	300	79(26.3)	88(29.3)	81(27.0)	52(17.3)	2.65	1.05
9	Influence of friends can lead to self-medication	298	129(43.3)	112(37.6)	22(7.4)	35(11.7)	3.12	0.98
10	Influence of family members can lead to self-medication	295	92(31.2)	126(42.7)	55(18.6)	22(7.5)	2.98	0.89
				Σ mean±sd		**3.18±0.38**	**=75%(High)**	

SA: Strongly Agree; A: Agree; SD: Strongly Disagree; D: Disagree

4.1 Hypotheses Testing

a. Hypothesis One

Using X and Y to represent knowledge of male and female students respectively,

Null Hypothesis:

H_{o1}: X = Y; There is no significant differences between sex of students in their knowledge of the hazards of self-medication in Ethiope East Local Government Area

Table 5: T- Test for the Knowledge of hazards of self-medication by sex

Sex			$\sum N = 300$				
	n	**Mean**	**Percent (%)**	**Sd**	**Df**	**t-value $_{cal.}$**	**p-value**
Male	141	3.1348	78	0.36016	298	1.317	0.189
Female	159	3.1931	80	0.40191			

t is significant at p<0.05

From Table 5 above, t=1.317, df=298, with a p-value of 0.189 which is greater than 0.05. Hence, the null hypothesis of no difference is accepted. This means that the knowledge of health hazards of self-medication among secondary school students in Ethiope East Local Government Area is insignificantly different by sex males have comparable knowledge with females.

b. Hypothesis Two:

Using W, X, Y and Z to represent knowledge of students between the ages of 12-14, 15-17, 18-20 and 21 and above respectively,

Null Hypothesis:

H_{o1}: - There is no significant difference in the Knowledge of the hazards of self-medication among Secondary School Students in Ethiope East Local Government Area by age

H_o is rejected at p< 5%. Otherwise, accepted.

Table 6: Knowledge of hazards of self-medication by age

Age			$\sum N = 300$				
	n	**Mean**	**Percent (%)**	**Sd**	**Df**	**F_{cal}**	**p-value**
12-14	67	3.2985	83	0.41941	3.296	3.718	0.012
15-17	161	3.1298	78	0.39177			
18-20	62	3.1097	78	0.29571			
21 and above	10	3.2000	80	0.30551			

F is significant at p<0.05

Table 6 above, presents the ANOVA (F) for knowledge of hazards of self-medication by age. F (3.296) = 3.718 producing a p-value of 0.012 which is less than 0.05 Hence, the hypothesis of no difference in knowledge by age is rejected as there exists significant differences.

Post Hoc Scheffe test revealed where the significances lie. It showed that those students between the ages of 12 and 14 had significantly higher level of knowledge of hazards of self-medication (mean score, % = 3.3, 83%) than those in ages 15-20 (mean score, % = 3.1, 78%), but comparable with those who were 21 years and above (mean score, % = 3.2, 80%).

c. Hypothesis Three:

Using W, X, Y and Z to represent knowledge of students according to their religious affiliations- Christianity, Islamic, Traditional and Pagan respectively,

Null Hypothesis:

Ho1: - There is no significant difference in the knowledge of hazards of self-medication among Secondary School Students in Ethiope East Local Government Area by their religious affiliation.

Alternate Hypothesis:

HA: $W \neq X \neq Y \neq Z$ (i.e., there exists significant difference among W, X, Y and Z)

Ho is rejected at p< 5%. Otherwise, accepted.

Table 7: Knowledge of hazards of self-medication by Religious Affiliation

Religion	∑N =300						
	N	Mean	Percent (%)	Sd	Df	F_{cal}	p-value
Christian	276	3.1558	80	0.37407	3. 296	6.745	0.000
Muslim	13	3.0923	78	0.25318			
Traditionalist	3	2.9000	73	0.17321			
Pagan	8	3.7250	93	0.38333			

Table 7 presents the ANOVA (F) for knowledge of hazards of self-medication by religious affiliation.

F (3,297) = 6.745; producing a P – value of 0.00 which is highly less than 0.05. Hence, the null hypothesis of no difference in knowledge by religious affiliation is perfectly rejected. This means that the level of knowledge of hazards of self-medication varies by religious affiliation, with those affiliated with paganism portraying significantly highest knowledge as revealed by the Post Hoc scheffe test.

Post Hoch scheffe test revealed that Pagans were found to have, significantly, the highest level of knowledge of self-medication (mean score, % = 3.72, 93%) than Christians (mean score, % = 3.15, 80%), Muslims (mean score, % = 3.1, 78%) and Traditionalists (mean score, %, = 2.90, 73%).

4.2 Discussion of Findings:

The data on Table 3 revealed that 75% have knowledge of the hazards of self-medication compared to 25% that do not have the knowledge. The table also showed that students had the knowledge of all the listed hazards but at varied degree.

These findings was in agreement with Segall, (1990) that self-medication has been largely aided by vigorous promotion adverts by pharmaceutical companies in recent time in the print, and social/electronic media to keep fit by taking drugs to prevent and cure their common ailments. This too could be because the Secondary School Students used for this study dwell in and around the Delta State University, Abraka Community inn Ethiope East Local Government Area, this could influence their general knowledge and access to information on self-medication.

5. Conclusion

Based on the findings of the study, the following conclusions were made.

Secondary School Students in Ethiope East Local Government Area have high knowledge of the hazards of self-medication (see table 4). Knowledge of the hazards of self-medication was not influenced by sex (male and female) (see table 5). Age does not have influence on the knowledge of hazards of self-medication among secondary school students (table 6). Also, religious affiliations does influence the knowledge of hazards of self-medication among secondary school students as seen in table 7.

Before now, so many people were in doubt, a lot completely ignorant and others may have scanty and insufficient knowledge about the findings of that age, religious affiliation, family members, friends and adverts on medication on television, radio and newspaper have remarkable influence on the knowledge of hazards of self-medication among secondary school students.

The findings of this study has thus brought to light the right place and benefits of self-medication if practiced responsibly. Therefore, the concept of self-medication have two components; which are responsible (appropriate) and non-responsible (inappropriate) self-medication. The later non-responsible (inappropriate) self-medication is the practiced that is associated with hazards and must be avoided. Whereas, responsible (appropriate) self-medication is beneficial, unavoidable and an integral part of man's activities of daily living and an essential component of health care delivery system.

Thus, awareness campaign on self-medication and its health related hazards should be embarked upon by health practitioners and intensive school health education should be carried out. Also, Parents and elders should lay off the practice of "non-responsible" self-medication. They should also monitor how the younger ones use drugs at home.

Finally, the government should ensure that there is regulation, control and law enforcement on the sale of drugs by untrained personnel's as this will reduce drastically, indiscriminate use of drugs and non-responsive self-medication.

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