

**INTERNATIONAL JOURNAL OF HUMAN KINETICS, HEALTH AND EDUCATION (IJoKHE)**

**EDITORIAL BOARDS**

**Editor-in-Chief**

Tr. Professor E.S. Samuel

Head, Department of Human Kinetics and Health Education

University of Nigeria, Nsukka

**Associate Editors**

Dr. Joshua E. Umeifekwem

Department of Human Kinetics

and Health Education

University of Nigeria, Nsukka

Dr. Evelyn N. Nwagu

Department of Human Kinetics

and Health Education

University of Nigeria, Nsukka

**Editors**

Dr. G.C.Nji

University of Nigeria, Nsukka

Dr. D.N. Ngwoke

University of Nigeria, Nsukka

Dr. C.C. Igbokwe

University of Nigeria, Nsukka

Dr. D.O. Dike

University of Nigeria, Nsukka

Dr. D.A. Aniodo

University of Nigeria, Nsukka

Dr. D.I. Ugwu

University of Nigeria, Nsukka

Dr. C.N. Ogbuji

University of Nigeria, Nsukka

Dr. F.C. Ugwueze

University of Nigeria, Nsukka

**Consulting Editors**

Professor A.O. Abass

Department of Human Kinetics and Health Education

University of Ibadan, Ibadan

Professor Ignatius Onyewadume

University of Botswana, Garborone

Professor O.A. Umeakuka

Department of Human Kinetics and Health Education

University of Nigeria, Nsukka

Professor Stephen S. Hamafyelto

Department of Human Kinetics and Health Education

University of Maiduguiri, Bornu State

Professor C. E. Ezedum

Madonna University, Okija

Anambra State

Professor O.C. Ene

Department of Human Kinetics and Community Health Education

University of Nigeria, Nsukka

Professor Maria Ikorok

Department of Physical and Health Education

University of Uyo, AkwaIbom State.

Professor Musa GarbaYakasai

Department of Physical and Health Education,

Bayero University Kano, Nigeria.

Professor Ernest I. Achalu

Department of Human Kinetics

and Health Education,

University of Port Harcourt,

East-West Road, Choba,

Port Harcourt, Rivers State, Nigeria.

**GUIDELINES TO AUTHORS**

The ***INTERNATIONAL JOURNAL OF HUMAN KINETICS, HEALTH AND EDUCATION* (IJoHKHE)** is a double-blind and peer-reviewed journal publication by the foremost **Department of Human Kinetics and Health Education, University of Nigeria, Nsukka** and publishes original research, applied, and educational articles in all areas of human Kinetics, Health and Education. We also welcome healthcare professionals, experts in practical and scientific fields, as well as academics, researchers and scholars to submit their work. We publish three times a year (January, May and September). Our publications are both in hardcopy and online platforms. **We receive submissions all through the year.**

**Preparation and Submission of Manuscripts**

1. *Manuscripts and References must conform to the Publication Manual of the* ***American Psychological Association (APA, 6th ed.)*** *and be submitted in English.*
2. *All correspondence between authors, editors and the Editor-in-Chief will be conducted* ***electronically*** *via e-mail attachments.*
3. *Authors must* ***submit manuscripts to the editors*** *who will initiate the blind review by qualified experts in the subject areas. Authors will be advised of the decision on their papers within* ***one to two months****.*
4. *Manuscripts submitted must be original research and not published elsewhere. While being reviewed, manuscripts* ***should not*** *be submitted to another journal.*
5. *Manuscripts should be typed with* ***one and half-line spacing*** *and should* ***not exceed 15 pages****, including tables, figures, and references. The body text should be in* ***12 point normal Times New Roman****. New paragraphs will be separated with a single empty line. The entire document should be* ***one and half-line spaced****.*

*The order for the manuscript presentation should be:*

* 1. *Title Page,*
  2. *Blind title page (without names(s) and address(es),*
  3. *Abstract,*
  4. *Text,( provide tables, figures and plates within the text)*
  5. *References.*

1. *The title page includes the full title, name of author(s),* ***(First Name, Middle name or initials and Last/Surname)*** *institutional affiliation(s), running head, date of manuscripts submission, full e-mail and postal address and telephone numbers of corresponding author which should be* ***marked with an asterisk.*** *The blind title page includes the* ***title only.***
2. *The abstract must not exceed* ***250 words*** *and should summarize the paper, giving a clear indication of the conclusions.*
3. *The author will also provide a* ***biographical note*** *of approximately 30 words.*
4. *All submissions must be accompanied by* ***a cover letter****. In the cover letter, the author(s) must clearly state that the manuscript is original, it has not been published, and it is not currently being considered for publication elsewhere.*
5. ***None compliance with the above guidelines may disqualify the manuscript from being considered for review. Therefore, please crosscheck with the guidelines above before submission.***
6. *All manuscript submissions are to be forwarded directly to any of the e-mail addresses below:*[joshua.umeifekwem@unn.edu.ng](mailto:joshua.umeifekwem@unn.edu.ng) **or** [evelyn.nwagu@unn.edu.ng](mailto:evelyn.nwagu@unn.edu.ng)
7. Manuscript assessment fee is ₦3,000.00.In addition, the publication fee is ₦9,000.00 for Single Author or ₦15,000.00 for two or more authors. All financial transactions must be through the ***Diamond Bank Plc.***
8. ***Account Name: International Journal of Human kinetics, Health and Education (IJoHKHE) Diamond Bank, Account Number: 0073372922***

***Tr. Professor Efiong S. Samuel***

*Editor-in-Chief*

***IJoHKHE***

**CONTENTS**

Knowledge of Dangers of Self-medication among Secondary School Students in

Obowo LGA of Imo State

**Dr Ezebuiro V. O. & Kalu Mgbo Okeke** - - - - - - 1

Physical Activity Risk Behaviours among Secondary School Teachers in Udi

Education Zone, Enugu State, Nigeria.

**Enebechi, Jude C.** Ph. D**& Nwagu, Evelyn N.** Ph. D - - - - - 9

Knowledge of Maternal Mortality among Women of Childbearing Age in

Nsukka Health District, Enugu State

**Jacinta, Ejiaka Ugbelu** - - - - - - - - - 15

Sexual and Reproductive Health Attitude of Secondary School Students in

Udenu Local Government Area, Enugu State

**Dorathy C. Ngwu** & **E.U. Andrews** - - - - - - - 23

Availability and Adequacy of Child Health Service in Primary Health Care

Centres in Nsukka Health District of Enugu State

**Regina A. Onunze, Tr. Prof. E.S Samuel** & **Kabiru, Musa** - - - - 31

Childhood Diarrhoea Management Practices of Mothers in Ezeagu

Local Government Area of Enugu State, Nigeria.

**Nwokike, Helen U.** - - - - - - - - - 39

Nutritional Knowledge of Pregnant Women Attending Antenatal Clinic in

Nsukka Health District, Enugu State.

**Stella U. Ugwu**&**E.U. Andrews** - - - - - - - 47

Demographic Pattern of Physical Activity Behaviours among In-School

Adolescents in Jigawa State, Nigeria

**Tr. Prof. E.S. Samuel, J.E. Umeifekwem** (Ph.D) **& Kabiru, Musa** (Ph.D)- - - 54

Forms, Risk Factors, and Measures of Sexual Harassment Reduction Among Secondary

School Students In Obollo, Udenu Local Government Area of Enugu State

**Samuel I. C. Dibia**&**Godfery C. Nji** Ph.D - - - - - - 61

STIs and HIV and AIDS Services Needs of Adolescents in Enugu State of Nigeria

**Amelia Ngozi Odo**&**Tr. Prof. E. S. Samuel** - - - - - - 68

Patterns of Unsafe Sexual Attitude and Practices among Students of

Tertiary Institutions in Nasarawa State Nigeria

**Gabi Sunday Tsibi**&**Tr. Prof. E.S. Samuel** Ph.D - - - - - 75

Knowledge and Perception of Health Promotion among Health Educators in

Nigerian Higher Institutions

**Ekenedo, Golda O.**&**Iwuagwu, Tochi Emmanuel** - - - - - 83

Entrepreneurship Development as a Strategy for Sustainable Livelihood and Health Promotion

**Cosmas Uchenna, Ugwu** - - - - - - - - 90

Examining the Roles of Age and Gender on Attitude of ANAMCO Workers

towards Occupational Health Hazards

**Dorothy I. Ugwu,** Ph.D - - - - - - - - - 95

**KNOWLEDGE OF DANGERS OF SELF-MEDICATION AMONG SECONDARY SCHOOL STUDENTS IN OBOWO LGA OF IMO STATE**

**Dr Ezebuiro V. O.** & **Kalu Mgbo Okeke**

Department of Physical and Health Education

Alvan Ikoku University of Education, Owerri, Imo State

**Abstract**

*This study examined the knowledge of dangers of self-medication among secondary school students in Obowo LGA of Imo state. Four objectives with corresponding research questions and two hypotheses guided the study. Descriptive survey research design was used for the study. The population comprised 4,542 secondary school students in Obowo L.G.A from which a sample of 400 students were drawn using a multi-stage sampling procedure. Questionnaire was the instrument for data collection. The descriptive statistics of frequencies and percentages were used to answer the research questions while chi-square X2 tested at 0.05level of significance and at appropriate degrees of freedom was used to test the hypotheses. The findings of the study revealed that majority of the respondents had the knowledge of self-medication and dangers of self-medication. Female students had slightly higher knowledge of self-medication and dangers of self-medication. The study further revealed that there was no significant difference in the knowledge of self-medication and dangers of self-medication among student according to gender. Hence, it was recommended among others that health agencies, health educators and government should raise awareness through all electronic and print media on the dangers of self-medication.*

**Keywords:** Self-medication; danger; students; drug and drug abuse.

**Introduction**

One health problem that is common among youths in developing countries is self-medication. Hence, self-medication which persists in most of our local communities may eventually culminate into drug abuse and misuse. This may also be why it was observed that self-medication could cause health problem which range from physical to psychological problems and even death. Some factors in our society could encourage self-medication. They include: the availability of non-prescription and prescriptions drugs in the open market, patent medicine stores, from drug hawkers and other illegal sources. According to Blackwell (2005) many people who are involved in self-medication tend to acquire the knowledge of the practice from relatives, neighbours, medicine dealers and sometimes the media. The situation in developing countries is frightening, where there is poor medical services and lack of professional control of pharmaceutical products. This therefore forces people to self-medicate and various forms of substances and herbs are often used for different medical complaints.

Frank (2013) is of the view that, a large number of people, when they fell sick, do not consult the physician. They either consult a chemist and obtain a medicine from his shelf, or may consult a neighbor who may be having some tablets left over from his previous illness, and can readily spares them. Sometimes you will have fever, cold, cough, constipation or indigestion, and your friends or even total strangers will volunteer advice on medicines to take like expert physicians. In short, this is what is meant to be self-medicating. The desire to take medicines, is one of the feature that distinguishes man from animals. Recent advances in drug research have provided many synthetic medicines for the treatment of diseases, leading to a drug explosion. Today, over 7000 drugs and drug combinations are available. Many of them have been released for general use, and are sold directly to the public as over the-counter (OTC) remedies. A large number of potent drugs are thus available to the individual for self-medication.

According to Ewuzie (2005), self-medication is the practice of procuring and taking drugs without doctor’s prescription. These are medicines sold to the consumer without doctor’s prescription at the local drug stores, such as patient medicine stores, chemists or supermarkets. A consumer could choose from a vast assortment of analgesics, cough mixtures, ointments, lotions and other drugs. The author further stated that all these drugs are useful in the right circumstances, but people could make wrong decisions in treating even a simple symptom like headache.

Marcia (2007) defined self-medication as the abuse of alcohol and other drugs in an attempt to relieve problems such as depression, anxiety, sleeplessness, emotional pain or bipolar disorder (also called manic –depression). Self-medication is a temporary fix, because it treats the symptoms of the problem, not the problem itself. When people use drugs other than those health care professionals prescribe for them, the underlying problem goes untreated and worsens. It can be said that self-medicating is short term gain but long term pain. According to Bernice (2012), self-medication involves the use of drugs without the advice of a qualified medical practitioner or doctor. It has become a norm in our society and unknown to many. It is a potentially dangerous practice to indulge in the stressful conditions under which we live.

Bernice (2012) submitted that several reasons are behind people’s decisions to self-medicate. For some people, it’s just a lack of time to consult a doctor and they believed that seeing a doctor often times is time consuming and another thing is that adequate health care these days is costly and thus, people will much rather opt for the less expensive over-the counter (OTC) remedies. Other times, it is the prescriptions from a previous illness people use after considering that the symptoms then, look the same now, the inherent dangers in self-medicating are numerous and can be fatal, if not now, then in the long run. Ewuzie (2005) posited that the factors that predispose one to self-medication, among others are accessibility to the drugs, poor medical and health facilities, poverty, ignorance, poor health culture, lack of hospital in the community and out of stock syndrome.

Johnson (1999) listed places where drugs are obtained to include: Pharmacies, general medicine dealers, hospital/clinics, traditional sources, private practitioners and other sources like household medicine cabinet containing previous medical prescriptions which may not have been prescribed for the same condition. According to the author, recent studies agree that the pharmacy and roadside/patent medicine stores were the commonest places where drugs were obtained for self-medication purposes. Also family medicine cabinets were sources of self-medication and the common sources of household stock are chemist, pharmacy, clinics, supermarket, friends and relatives. In developing countries common sources of anti-malarial used for self treatment are street and village shops and this could account for up to half of anti-malarial drug distribution. On the other hand, in choosing the most appropriate medicine to buy from the chemist shop, people rely on the advice of the sales clerk in the chemist shop, print media, family and friends, pharmacist, general medicine dealers, general and private medical practitioners (Afolabi, 2008). Furthermore, among the young ones, sources of drugs knowledge include family members especially the mothers (for therapeutic purposes), peer groups and illegal market (for intoxication purpose). More so, among the secondary school students the sources are in the following order: family members, previous illness experience, pharmacy shops, nurses, television or radio, newspaper or magazines, friends and teachers.

Major, Vincze and Mesko (2007) opined that many resort to the practice instead of contacting professional health care worker because of long waiting periods in hospitals, minor ailments, cost, to save money and time, lack of accessibility, shortages of doctors, or a feeling that their ailment is beyond the knowledge of western trained doctors. Individuals sometimes self-administer medications through drug identification. Trade names were common means of identification and less frequently by generic name, action color, shape and common usage names. Sources of drug information could be from the sales clerks in the chemist shops, print media, family and friends, pharmacists, general medicine dealers, general and private medical practitioners and among individuals who interact frequently with the public like hairdressers, sales people and bank officials (Harnack& Duval, 2006). Self-medication begins in early adolescence, often during the middle school years. The degree of self medication among adolescents especially girls for treatment of dysmenorrhea (menstrual pain) have gone out of hand. The research conducted by Davis (2006) shows that 93 percent of women take at least one medication for menstrual pain and this prescription of self-medication include acetaminophen and codeine, ibuprofen and hydrocodone and rofecoxib. Many people resort to self-medicating themselves for reasons unknown without knowing that it can lead to unwanted and sometimes fatal consequences.

Frank (2013) opined that availability of many irrational drug combinations in the market, which expose the individual to several drugs needlessly, each of which can cause adverse effects. Very few combinations have a legitimate place in modern medicine. Yet irrational combinations abound and are being used by some professionals.

Bernice (2012) pointed out that the main danger in self-medication is that it is either taken over dose or underdose. For example, a multivite tablet which is consider safe had been found to contain many kinds of vitamins and overdose of vitamin A which can cause fatigue, loss of hair and menstrual irregularities. The author claimed that in the cause of under-dose, it leads to the development of strain and once a person resist a drug it will become ineffective and a different drug will be introduced to care the ailment. Hence, there is need to conduct a study to determine the knowledge of dangers of self-medication among secondary school students in Obowo Local Government Area.

According to Winik (1993) about sixteen to seventeen million secondary school students depended on self-medication and out of this number, about twelve thousand are students from Imo state. This the author claimed may be as a result of ignorance. The author stated that most of the drugs used by student are dangerous and poisonous and can kill instantly. They do not know the dangers involved. Furthermore, anxiety can kill or lead to intake of drugs that can lead to death. Over-publicity in our news media, radio, television and print media has been found to be a cause of self-medication among the students. Some of the drugs are advertised in ours media as potential drugs.

Frank (2013) observed that all drugs are poisons. The availability of potent and dangerous drugs has increased considerably since the close of the 19th century. At the same time expanding availability of medical care exposes a large population of people to drugs, leading to a greater number of toxic reactions. This situation is further worsened in our country by the slack implementation of Drug Controls. Even certain prescription drugs are available to the lay person without the physician’s advice. As people vary greatly in their sensitivity to drugs, so an appropriate dose for one person can be an overdose for another. Even skilled physicians sometimes fail to avoid such reactions. Thus, the lay person is ill-advised in subjecting himself to potentially dangerous self-medication. Furthermore, the proprietary drugs which are sold over-the-counter to include pain relievers, cough remedies, anti-allergic laxatives, vitamins, tonics, antacids and many others are not altogether non harmful. Even dangerous drugs like the antibiotics and the hormones can be procured, somehow or the other without a valid prescription. This is an entirely different facet of drugging. It is encouraging to note that stricter ‘drug control’ is being gradually clamped country-wide.

According to Harman (2000) there is false belief that the more medicine you take the quicker one gets better. He maintained that one aspect of self-medication is the untold misery and hardship it has brought to students due to over-dose. The author observed that five hundred students (youths) die every year due to the use of unprescribed left over drugs from a previous sickness under what seemed to be similar circumstance. The author concluded that students were used to taking drugs prescribed for another patient for a similar ailment (example, cough, malaria attack, headache) which is detrimental and dangerous due to circumstance.

Monteiro and Graham (2003) stated that one major consequence of self-medication that has not been properly given serious attention is substance abuse. This could be a problem especially in rural communities, where native concoctions mixed with alcohol in the form of palmwine and locally made gin are consumed on regular basis. In African countries, little is known about the potential effects of these substances on pregnancy. Their use is unrestricted even during pregnancy. There is increasing evidence that unborn babies exposed early to these substances abuse may suffer from overwhelming morbidity and mortality.

It has been observed that students who are involved in self-medication may eventually progress into drug abuse and consequently depend on such drugs. Hence secret society, violent crimes, mental and psychologically problems plaguing students in some Nigeria communities could possibly be associated with drug use or abuse. In view of the established physical and psychological problems associated with self-medication. It becomes justifiable to investigate the knowledge of self-medication among secondary school students in Obowo LGA.

The purpose of this study was to determine the knowledge of dangers of self-medication among secondary school students in Obowo L.G.A. Specifically, the objectives of the study investigated the knowledge of the:

1. meaning of self-medication among secondary school students in Obowo LGA.
2. dangers of self-medication among secondary school students in Obowo LGA.
3. concept of self-medication according to gender of students in Obowo secondary schools.
4. dangers of self-medication among secondary school students in Obowo LGA according to gender.

Based on the specific objectives, the following research questions were formulated:

1. What is the knowledge of self-medication among secondary school students in Obowo LGA?
2. What is the knowledge of dangers of self-medication among secondary school students in Obowo LGA?
3. What is the knowledge of self-medication possessed by students in Obowo secondary school according to gender?
4. What is the knowledge of dangers of self-medication among secondary school students in Obowo LGA according to gender?

**Hypotheses**

The study hypothesized as follows:

1. There is no significant difference in the knowledge the meaning of self- medication possessed by secondary school students of Obowo LGA according to gender
2. There is no significant difference in the knowledge of dangers of self-medication possessed by secondary school students of Obowo LGA according to gender.

**Methods**

Descriptive survey design was used for this study. It is deemed appropriate for the study because it produces information that is vital to the field of health education. Monteiro and Graham (2003) utilized the design to study the problem of self-medication in European. This justified the use of survey research design for this study.

The population for the study comprised four thousand five hundred and fourth two (4,542) secondary school students in Obowo Local Government Area 4,542(Ministry of Education, Imo State Secretariat, 2013). The sample size consisted of four hundred students which were drawn using multi-stage sampling procedure. Stage one involved purposive selection of four schools from the seven schools in Obowo LGA. Stage two involved the clustering of the classes into JSS and SSS classes. Stage three involved simple random selection of 100 students from each school (50 students from each cluster of JSS and SSS in each school) to arrive at 400 as the sample size. Questionnaire was the instrument for data collection. Data was analyzed using descriptive statistics of frequency tables and percentages for the research questions and chi square for the hypotheses which were tested at 0.05 level of significance.

**Results**

**Table 1: Frequency Distribution on the Knowledge of Self-Medication.**

**SN Items True False**

**f % f % Total %**

1. Self-medication is treating oneself

without doctor’s prescription 326 81.5 74 18.5 400 100

2 Self-medication is drinking

drugs prescribed by self 328 82 72 18 400 100

3 Self-medication is purchasing of

drugs from medication stores

without doctor’s prescription 346 86.5 54 13.5 400 100

4 Self-medication is for alleviation

of pain 348 87 52 13 400 100

5 Self-medication is the abuse of

alcohol and other drugs in an

attempt to relieve problems. 321 80.3 79 19.8 400 100

The Table 1 revealed that 326 (81.5%) of the respondents indicated that self-medication is treating oneself without doctor’s prescription; 328 (82%) indicated that self-medication is drinking drugs prescribed by self and 346 (86.5%) indicated that self-medication is purchasing of drugs from medicine stores without doctor’s prescription. The Table further revealed that 348 (87%) of the respondents indicated that self-medication is for alleviation of pain while 321 (80.3%) indicated that self-medication is the abuse of alcohol and other drugs in an attempt to relieve problems. This implies that majority of the students had high knowledge of the meaning of self-medication.

**Table 2: Frequency Distribution Table on the Knowledge of Dangers of Self-medication.**

**SN Items True False**

**f % f % Total Total %**

6 Self-medication can lead to death 327 81.75 73 18.25   400 100

7 Self-medication can lead to

drugs abuse 331 82.75 69 17.25 400 100

8 Self-medication can complicate

disease 335 83.75 65 16.25 400 100

9 Self-medication can lead to drug

dependency 334 83.5 66 16.5 400 100

10 Self-medication can supress 340 85 60 15 400 100

disease symptom

11 Self-medication has adverse 344 86 56 14 400 100

effect on people’s live.

12 Self-medication can lead to 339 84.75 61 15.25 400 100

prolong ill health.

13 Self-medication can bring about 327 81.75 73 18.25 400 100

increase anxiety

14 Self-medication involves 317 79.25 83 20.75 400 100

wrong diagnosis

15 Self-medication is the use of 319 79.75 81 20.25 400 100

non prescribe drugs

Table 2 shows responses on dangers of knowledge of self-medication among secondary school students. The Table 2 revealed that 327 (81.75%) of respondents indicated that self-medication can lead to death, 331 (82.75%) indicated that self-medication can lead to drug abuse, and 335 (83.75%) indicated that self-medication can complicate disease; 334 (83.5%) indicated that self-medication can lead to drug dependency, 340 (85%) indicated that self-medication can supress disease symptom. The table further revealed that 344 (86%) of the respondents indicated that self-medication has adverse effect on people’s life, 339 (84.75%) of respondents indicated that self-medication can lead to prolonging ill health, 327 (81.75%) indicated that self-medication can bring about increased anxiety, and 317 (79.25%) of respondents indicated that self-medication involves wrong diagnosis, 319 (79.75%) of respondents indicated that self-medication is the use of non-prescription drugs. This implies that the students had high knowledge on the dangers of self-medication.

**Table 3: Knowledge of the Meaning of Self-medication by Gender.**

**SN Items Male Female**

**True False True False**

**f % f % f % f % Total %**

1 Self-medication is treating 145 (36.25) 29 (7.25) 181 (45.25) 45 (11.25) 400 100

oneself without doctors

prescription

2 Self-medication is drinking 121 (30.25) 28 (7) 207 (51.75) 44 (11) 400 100

drugs prescribed by self

3 Self-medication is purchasing 154 (38.5) 22 (5.5) 192 (48) 32 (8) 400 100

of drugs from medication

stores without doctor’sprescription

4 Self-medication is taking 160 (40) 23 (5.575) 188 (47) 29 (7.25) 400 100

unprescribed drug for

alleviation of pain

5 Self-medication is the 129 (32.25) 25 (6.25) 192 (48) 54 (135) 400 100

abuse of alcohol and other

drugs in an attempt to

relieve problems

**Total 141.8 192**

Table 3 revealed that 145 (36.25%) of males while 181 (45.25%) of females indicated that self-medication is treating oneself without doctor’s prescription, 121 (30.25%) of males while 207 (51.75%) of females indicated that self-medication is drinking drugs prescribed by self and 154 (38.5%) of males while 192 (48%) of females indicated that self-medication is purchasing of drugs from medication stores without doctor’s prescription.

The Table further revealed that 160 (40%) of males and 188 (47%) of females indicated that self-medication is taking unprescribed drugs for alleviation of pain and 129 (32.25%) of males while 192 (48%) of female indicated that self-medication is the abuse of alcohol and other drugs in an attempt to relieve problems. This implies that females have slightly higher knowledge of self-medication than males.

**Table 4: Knowledge of Dangers of Self-medication by Gender.**

**SN Items Male Female**

**True False True False**

**f % f % f % f % Total %**

6 Self-medication can lead to death 142 (35.5) 31 (7.25) 185 (46.25) 42 (10.5) 400 100

7 Self-medication can lead to drug 130 (32.5) 21 (5.25) 201 (50.25) 48 (12) 400 100

abuse

8 Self-medication can complicate 152 (38) 22 (5.5) 183 (45.75) 43 (10.75) 400 100

disease

9 Self-medication can lead to drug 131 (32.75) 20 (5.) 203 (50.75) 46 (11..5) 400 100

dependency

10 Self-medication can depress 138 (34.5) 21 (5.25) 202 (50.5) 39 (9.75) 400 100

disease symptom

11 Self-medication has adverse 157 (39.25) 24 (6) 197 (46.75) 32 (8) 400 100

effect on people’slife

12 Self-medication can lead to 145 (36.25) 19 (4.75) 194 (48.5) 21 (10.5) 400 100

prolong ill health

13 Self-medication bring about 136 (34) 29 (7.25) 191 (47.75) 44 (11) 400 100

increased anxiety

14 Self-medication involves 131 (32.75) 30 (7.5) 186 (46.5) 53 (13.25) 400 100

wrong diagnosis

15 Self-medication is the use of 137 (34.25) 39 (9.75) 182 (45.5) 42 (10.5) 400 100

non prescribed drug

**Total 279.8 384.8**

Table 4 shows responses on knowledge of dangers of self-medication according to gender. The revealed that 142 (35.5%) of males while 185 (40.255%) of females indicated that self-medication can lead to death. 130 (32.5%) of males while 201(50.25%) of females indicated that self-medication can lead to drugs abuse and 152 (38%) of males while 183 (45.75%) of female indicated that self-medication can complicate disease. Whereas 131 (32.75%) of males while 203 (50.75%) of females indicated that self-medication can lead to drugs dependency. 138 (34.5%) of males while 202 (50.5%) of female indicated that self-medication can supress disease symptom.

The Table further revealed that 157 (39.25%) of males while 197 (46.75%) of females indicated that self-medication has adverse effect on people’s live and 145 (36.25%) of males while 194 (48.5%) of females indicated that self-medication can lead to prolong ill health. More so, 136 (34%) of males while 191 (47.75%) of females indicated that self-medication bring about increase anxiety and 131 (32.75%) of males while 186 (46.5%) of females indicated that self-medication is involves wrong diagnosis and 137 (34.25%) of males while 182 (45.5%) of females indicated that self-medication is the use of non-prescribed drugs. This implies that females have slightly higher knowledge of dangers of self-medication than male students.

**Hypothesis 1**

There is no significant difference in the level of knowledge of self-medication possessed by secondary school students of Obowo L.G.A according to gender. Data verifying this hypothesis are presented in table 5.

**Table 5: Summary of Chi-square Analysis Testing Knowledge of Self-medication According to Gender.**

**Variable Cal X2Table Value Level of significance df Decision**

Gender 3.671 9.4880.05 4 Accepted

The data in table 5 show chi-square analysis verifying the responses on the knowledge of self-medication possessed by students according to gender. Since calculated X2 of 3.671 is less than X2 table value of 9.488 at 0.05 and level of significance and at 4 degree of freedom, the null hypothesis is retained and therefore concluded that there is no significance difference in the knowledge of self-medication possessed by the respondents according to gender.

**Hypothesis 2**

There is no significant difference in the knowledge of dangers of self-medication possessed by secondary school students of Obowo LGA according to gender. Data verifying this hypothesis are presented in table 6.

**Table 6: Chi-square Analysis Verifying Level of Knowledge of Dangers of Self-medication According to Gender.**

**Variable Calx2Table Value Level of significance df Decision**

Gender 0.3 9.4880.05 4 Accepted

The data in table 6 show chi-square analysis verifying the responses on the knowledge of dangers of self-medication possessed by students according to gender. Since x2cal = 0.3 is less than X2 table value of 9.488 at 0.05 and degree of freedom of 4, the null hypothesis is accepted and concluded that there is no significant difference in the knowledge of dangers of self-medication according to gender of the respondents.

**Discussion**

Discussion of findings are presented under the following headings:

* knowledge of self-medication and;
* knowledge of dangers of self-medication.

Table 1, 3 and 5 revealed the knowledge of self-medication among secondary school students. The findings revealed that the students have knowledge of self-medication. This finding is expected and not surprising because it could be that the students are sent on errands by their parents, guardians and elder ones to buy them drugs from the patent medicine dealer. This might have exposed them to the knowledge of self-medication. The finding also corresponds with the view of Osigwe (2001) who reported that many students are involved in pills only to realize the effects at a later stage. The findings also revealed that female students have a slightly higher knowledge of self-medication than male students. The findings were expected and therefore not surprising because Osigwe (2001) also pointed out that the female students are very fond of taking anti-pregnancy pills any time they have sexual relationship with an opposite sex to make sure that pregnancy did not result. So the finding is however, not surprising and expected. The results in table 5 indicated that there was no significant difference in the knowledge of self-medication possessed among male and female students. This may be because both the female and male students experience headache and pain and may resort to taking paracetamol or other analgesics which may lead them to self-medicate in order to relieve the pain.

Table 2, 4 and 6 revealed the knowledge of dangers of self-medication among secondary school students. The findings revealed that the students have knowledge of dangers of self-medication. This finding is not surprising because the students might have heard from mass media that self-medication could lead to many health problems damage to organs of the body or even death. The finding also revealed that the female students have a higher knowledge of dangers of self-medication than the males. This finding is expected because it is expected that majority of female students have been exposed to dangers of self-medication due to one health problem or the other especially on the treatment of dysmenorrhea (painful menstruation). This finding corroborates with that of Davis (2006) who reported that 93% of adolescent girls take at least one medication for menstrual pain, and the majority (91%) use over the counter (OTC) medications. Therefore this finding is not surprising because it is expected that female have a slightly higher knowledge of dangers of self-medication than male students due to treatment of dysmenorrhea.

**Conclusions**

Based on the findings, the following conclusions were drawn:

1. Majority of the respondents have the knowledge of self-medication.

2 Majority of the respondents have the knowledge of the dangers of self-medication.

3. Females have a slightly higher knowledge of self-medication than male students.

4. Females have a slightly higher knowledge of dangers of self-medication than male students.

5**.** There is no significant difference in the knowledge of self-medication possessed by secondary school students according to gender.

6. There is no significant difference in the knowledge of dangers of self-medication possessed by secondary school students based on gender.

**Recommendations**

Based on the findings and conclusion of the study, the following recommendation were made:

1. There is need for provision of free medical treatment for the students by the government in cities and rural areas to help reduce self-medication.
2. There should be establishment of equipped school clinic every school oversee the health needs of the students and staff.

**References**

Afolabi, A.O. (2008). Factors Influencing the pattern of self-medication in an adult Nigerian population. *Ann Afr Med, 7* (3):120-127.

Blackwell, S.C. (2005). Use of Over-the-counter medications and herbal remedies in pregnancy. *Amj Perinatol*. 22 (6): 321-4.

Bernice, A. (2012). *The dangers of self-medication*. <http://connectnigeria.com/articles>.

Davis, A.R. (2006). Self treatment patterns among adolescent girls with dysmenorrhea .*J. Pediatr Adolesc Gynecol,* 19:285-289.

Ewuzie, M.A (2005). *Drug, Alcohol & Tobacco.* Owerri: Colon Concepts Ltd.

Frank, S.K. (2005). *Dangers of self- medication*. Retrieved on 20th June, 2014 from htt://www.boloji.com/index.,cfmd=content&sd=articles&articles….

Frank S.K (2013). *Dangers of self-medication.* Retrieved on 20th June, 2014 from <http://www.boloji.com/index.cfm?md=content&sd=articles&articlel>...

Harman, J. (2000). *The dangers of being your own Doctor*. *Readers Magazine,* Enugu, p.2.

Harnack, L. & Duval, S.J. (2006). Use of nonprescription medications for perceived cardiovascular health. *AMJ Prev Med*. 30:78-81.

Johnson, L.W. (1999). The demand for OTC medicines: Some Australian evidence. *Asia Pac. J Public Health, 5* (3): 228-235.

Major, C., Vincze, Z., & Mesko, A. (2007). Medicating outside the consulting room. *Oru Hetil.* 148:291-298.

Marcia, L.B. (2007). Self medication by adolescents. *Pediatr Pharm. 13* (5): 1-4.

Monteiro, M, & Graham, K. (2003). Alcohol as a risk factor for global burden of disease. *European Addition Research*, 9:157-164.

Osigwe, I. (2001). *Practical nursing.* London. Macmillan Publishing Ltd.

Winik, D.M. (1993). *Introduction to Public Health*. New York: Macmillan Publishing Company.

**PHYSICAL ACTIVITY RISK BEHAVIOURS AMONG SECONDARY SCHOOL TEACHERS IN UDI EDUCATION ZONE, ENUGU STATE, NIGERIA**

**Enebechi, Jude C.** Ph. D

Department of Physical & Health Education,

Enugu State College of Education (Technical), Enugu.

and

**Nwagu, Evelyn N.** Ph. D

Department of Health & Physical Education,

University of Nigeria, Nsukka

**Abstract**

*Risk behaviors have been associated with leading causes of non-communicable diseases. Coupled to this is the little knowledge exhibited by people regarding this relationship. Against this background, a study to determine the physical activity risk behaviours of secondary school teachers in Udi education zone of Enugu State, Nigeria was carried out. Three research questions and two null hypotheses were raised to guide the study. The survey involved a sample of 120 teachers drawn from a population of 1225 using the multistage sampling procedure. Physical Activity Risk Behaviour Questionnaire (PARBQ) adapted from the Youth Risk Behaviour Survey (YRBS) questionnaire of Center for Disease Prevention and Control, USA, was the instrument for data collection. It was validated by three experts and reliability established through split-half method and Cronbach Alpha Statistic used to determine the correlation co-efficient index, which yielded 0.79. Only 117 out of the 120 copies of the questionnaire were duly completed. Data were analysed using mean & standard deviation. The t-test and ANOVA statistics were employed to test the two null hypotheses p<.05. Findings showed that the teachers were involved in physical activity risk behaviours such as neglecting participation in regular physical exercises. It was also established that while the risk behaviours depended on gender, teaching experiences had no significant influence on the behaviours. Consequently, a well designed workplace health promotion programme for the teachers was recommended.*

**Keywords**: Physical Activity, Behaviours, Risk Behaviours, Health Promotion.

**Introduction**

Risk behviours have generated a lot of disturbing concern in the public health sector. The concern arose from the fact that risk behaviours are associated with leading causes of contemporary diseases of non-communicable nature. Coupled to this is the ignorance exhibited by people regarding the relationship between risk behaviours and related diseases. Nelson and Larsen (2006) observed that little was known about risk behaviours and leading causes of morbidity or mortality. Among such risk behaviours is non participation in physical activities. WHO (2002) sees physical activity as any movement produced by skeletal muscles that require energy expenditure. Kent (2006) defined physical activity as any form of body movement that has significant metabolic demand.

Physical activity risk behaviours are actions perceived as being potentially harmful to human health through a habitual neglect of body movements that have significant metabolic demand. These activities can either be formal or informal. Behaviour has been conceptualized as observable and measurable actions that describe how an individual functions (Umeano, 1999; Hornby, 2000). Participation in physical activity regularly is habit forming and a positive one. Benefits derived from participation in regular physical activities are numerous. The US Department of Health and Human Services (1996) stated that physical activity can reduce substantially the risk of developing or dying from heart diseases, diabetes, colon cancer and high blood pressure. Okafor (2009) outlined some major benefits of participating in physical activity to include increased cardiovascular fitness, less body fat and greater lean body mass, improved flexibility, reduced effect of secondary ageing, reduction in internal tension, and good appearance among others.

In spite of these benefits, participation in physical activity has continued to receive neglected treatment from the citizens even among the educated class such as secondary school teachers. This behaviour of neglect to physical activities constitutes a risk to human health. Participation in physical activity has the benefit of discharging harmful adrenaline activities. Build up of adrenaline in the body system promotes anxiety and stress. Anxiety and stress have adverse effect on people including workers such as teachers and disposition to work and productivity will be affected. When the worker such as the teachers is exposed to this adverse effect of non-participation in physical activities, absenteeism to work due to failing health prevails. Ill heath has been highly rated as a major cause of absenteeism among teaching staff (Hobson, 2001). Participation in regular exercise could help greatly in reducing ill-health induced absenteeism among the teaching staff.

However, many reasons have been advanced on why people do not participate in physical activities on regular basis. Prominent among such reasons, according to Ene (2004) are lack of time, fatigue, inadequate facilities, poor knowledge about fitness and lack of will power to cultivate the habit of regular exercises. Another reason is lack of well designed fitness programme targeted at specific populations to help reduce the negative influence of those barriers.

Adoption of healthy life style has remained a serious challenge to greater proportion of the Nigerian population. There is every need to increase mobilization in the area of health promotion for improved health. The danger of physical inactivity portends the necessity for regular participation in physical exercise to promote heath. Okafor (2009) noted that participation in physical activity regularly even to the level of addiction is a positive behaviour.

Secondary school teachers, especially those in Udi education zone of Enugu State, Nigeria are expected to be free from risk behaviours especially as regards physical activities. Positive lifestyle contributes immensely not only to good health and increased productivity but to peace and longevity. It also reduces the exposure of the worker to certain preventable diseases of both communicable and non-communicable nature. Studies, (Steinberg, 2004; Lotrean, 2010) have revealed that health related risk behaviours are responsible for most leading causes of illnesses, disabilities and death. Coupled with this is the inability of the teachers to recognized their actions as capable of exposing them to certain preventable health problems. Such actions of the teachers could be neglecting physical activities. The perceived obvious implications of this risk behaviours regarding physical activity on global, regional and national development motivated the researcher to determine the physical activity risk behaviours of secondary school teachers in Udi education zone of Enugu State, Nigeria.

Udi education zone is one of the six educations zones in Enugu State, with 275 secondary schools. The zone is made up of two local government areas of Udi and Ezeagu with a population of 1225 teachers, of various length of teaching services in 55 public secondary schools in the zone. The two local government areas are rural in nature with hilly and undulating topography. One finds teachers of different categories in the zone who may be male or female, sharing different levels of teaching experiences. The study sought to determine the association between the variables of gender and location, and the risk behaviours regarding physical activity. Consequently, the study sought answers to three questions as follows:

1. What is the frequency of participation in physical activities by the teachers in Udi education zone?

2. What is the association between gender and physical activity risk behaviours of the teachers?

3. What is the association between teaching experience and physical activity risk behaviours of the teachers?

Two null hypotheses were postulated and tested at .05 level of significance.

1. There is no significant difference between male and female secondary school teachers Udi education zone, in their physical activity risk behaviours.

2. Teaching experiences will show no significant difference in the physical activity risk behaviours among secondary school teachers in Udi education zone, Enugu State.

**Methods**

The descriptive survey design was adopted for the study. The population for the study comprised of 1225 secondary school teachers in the 55 public grammar schools in the zone (PPSMB, 2012). Sampling was done in three stages. Stage one was clustering of the zone in into two. Each of the local government areas was regarded as a cluster. Second stage was purposive drawing of four schools each from each cluster. The purpose was to draw at least one school from each of the locations in each local government to select eight schools. The third and final stage was drawing of fifteen teachers from each of the eight schools using the systematic random sampling technique. Through this procedure, a total of 120 teachers were drawn to serve as sample for the study, representing 10 percent of the population. Instrument for data collection was Physical Activity Risk Behaviours Questionnaire (PARBQ), made up of 7 items and adapted from the Youth Risk Behaviours Survey (YRBS) Questionnaire of Centre for Disease Prevention and Control, USA, and presented in two sections of A and B. Section A elicited information on the respondents’ demographic background such as gender and teaching experiences. Section B contained five items with 4-response options of zero days; 1-3 days; 4-5 days and 6- 7 days. The validity of the instrument was established through the judgment of three experts in area of Health education and Exercise Physiology. The reliability was ascertained using the split half method. Twenty copies of the questionnaire were administered on secondary school teachers in Awgu education zone. Their responses were split into two halves and Cronbach Alpha employed to compute the correlation of the two sets of scores. The correlation co-efficient index value yielded 0.79. The instrument was therefore considered reliable.

Data collection was done by the researcher with the help of two research assistants. Copies of the questionnaire were administered and collected on the spot to ensure high return rate. The collected copies were inspected for completeness of information and 117 copies were duly completed and qualified for data analysis. Data were analyse using mean and standard deviation. The response options were assigned values of 4, 3, 2 and 1 according to the decreasing rate of risk. Mean scores of 3.50 – 4.00 were regarded as Always (A), 2.50 – 3.49 as often(O), 1.50 – 2.49 as Rarely(R) while 00-1.49 were interpreted as Never(N). The t-test and ANOVA statistics were employed to test the two null hypotheses p<.05.

**Results**

**Table 1. Frequency of the Teachers Participation in Physical Activities. N=117**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| S/N | Item Statement |  | SD | Dec. |
| 1. | Teachers’ daily participation in jogging activity | 2.46 | 0.88 | Rarely |
| 2. | Teachers daily participation in fitness exercises | 2.38 | 0.59 | Rarely |
| 3. | Teachers daily neglect of participation in physical exercise | 3.22 | 1.01 | Often |
| 4. | Teachers’ weekly participation in physical exercises. | 2.40 | 0.97 | Rarely |
| 5. | Teachers’ daily involvement in watching on television for hours. | 2.68 | 0.73 | Often |
|  | **Grand mean** | **2.63** | **0.84** | **Often** |

Data in Table 1 indicate that teachers participate in jogging (=2.46, SD=.88), fitness exercises (=2.38, SD=.59) and weekly exercises (=2.40, SD=.97) rarely. The Table further shows that the teachers often neglect participation in daily physical activities (=3.22, SD=1.01) and involve in watching TV daily (=2.68,SD=.73). Overall, the Table shows that the teachers often participate in physical activities (x=2.63, SD=.84).

**Table 2. Frequency of Teachers’ Participation in Physical Activities According to Gender.**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **S/N** | **Item Statement** | **Male n = 51** | | | **Female n = 66** | | |
|  |  |  | SD | Dec |  | SD | Dec |
| 3 | Teachers’ daily participation in jogging activity | 2.38 | 0.55 | R | 1.57 | 0.51 | R |
| 4. | Teachers’ daily participation in fitness exercises | 1.83 | 0.68 | R | `.95 | 0.71 | R |
| 5. | Teachers’ daily neglect of participation in physical exercises | 2.88 | 0.85 | O | 3.01 | 0.93 | O |
| 6. | Teachers’ weekly participation in physical exercises. | 2.52 | 0.77 | O | 2.47 | 0.89 | R |
| 7. | Teachers’ daily involvement in watching on television for hours. | 2.77 | 0.58 | O | 2.63 | 0.61 | O |
|  | **Grand Mean** | **2.48** | **0.69** | **R** | **2.33** | **0.73** | **R** |

Table 2 shows an overall mean of 2.48 for male and 2.33 for female teachers. This implies that teachers participate in physical activities rarely. The Table further shows that both male and female teachers participate in jogging daily, fitness exercises rarely. The Table also shows that male and female teachers often neglect daily participation in physical activities and involve in TV watching daily. Male teachers often participated in weekly exercises while female teachers did it rarely.

**Table 3.Frequency of Teachers’ Participation in Physical Activities According to Teaching Experiences**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **S/N** | **Item Statement** | **A = 38** | | | **C =34** | | | **B = 45** | | | | | |
|  |  |  | **SD** | **Dec** |  | **SD** | **Dec** | |  | **SD** | | **Dec** | |
| 3. | Teachers daily participation in jogging activity | 2.02 | 0.93 | Rarely | 2.00 | 0.88 |  | 2.10 | | | 0.80 | | Rarely |
| 4. | Teachers daily participation in fitness exercises | 2.41 | 0.55 | Rarely | 2.33 | 0.72 | R | 2.20 | | 0.64 | | Rarely | |
| 5. | Teachers daily neglect of participation in physical activity | 1.96 | 0.61 | Rarely | 2.07 | 0.66 | R | 2.14 | | 0.71 | | Rarely | |
| 6. | Teachers’ weekly participation in physical exercises | 2.54 | 0.79 | Often | 2.48 | 0.81 | R | 2.60 | | 0.73 | | Often | |
| 7. | Teachers’ daily involvement in watching television for hours | 3.51 | 0.74 | Always | 2.87 | 0.83 | O | 2.69 | | 0.76 | | Often | |
|  | **Grand Mean** | **2.43** | **0.72** | **Rarely** | **2.35** | **0.78** | **R** | **2.35** | | **0.73** | | **Rarely** | |

*A = 10yrs and below; B = 11 – 20yrs; C = 21 – 35yrs.*

Table 3 shows that teachers, irrespective of years of teaching experience participated in jogging, fitness exercises rarely and neglect participation in physical activities. The Table further shows that teachers, irrespective of years of teaching experiences participated in weekly physical exercises, while those with 10years and below and those between 21 and 35 years often involved in daily watching on TV. Only teachers with 10 and below years of experience were involved in watching TV daily.

**Table 4. Summary of t-test Statistics Testing the Differences in the Teachers’ Responses on Physical Activity Risk Behaviours Based on Gender.**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Variable** | **N** | **X** | **SD** | **df** | **t-cal** | **t-crit** | **P** | **Decision** |
| Male  Female | 51  66 | 2.48  2.33 | 0.69  0.73 | 115 | 3.52 | 1.960 | .05 | Reject |

Data in Table 4 revealed that the t-cal of 3.52 is greater than the t-critical table value of 1.960 at .05 level of significance. Consequently, the null hypothesis is rejected. This means that the teachers’ physical activity risk behaviours are dependent on Gender.

**Table 5. ANOVA Statistics Testing the Differences in the Teachers’ Responses on Physical Activity Risk Behaviours Based on Teaching Experiences.**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Variable** | **df** | **Sum of**  **Squares** | **Mean**  **Squares** | **F-cal** | **F-crit** | **p** | **Decision** |
| Between Groups | 2 | 0.0043 | 0.0022 | 0.00033 | 19.50 | .05 | Accept |
| Within  Groups | 114 | 77.24 | 0.6775 |  |  |  |  |
| Total | 115 | 77.24 |  |  |  |  |  |

Table 5 contains the data that tested the differences in the teachers’ responses of their involvement in physical activity risk behaviours according to teaching experiences. According the Table, the F-calculated value of 0.0033 is less than the F-table value of 19.50 at .05 level of significance. Therefore, the null hypothesis is accepted. This means that the teachers’ physical activity risk behaviours are not dependent on teaching experience.

**Discussion**

The study revealed interesting findings. It was evident from the data in Table 1 that the teachers often neglected participation in regular exercises. This development has far reaching implications for the body’s metabolic function and a serious disadvantage to body fitness. Coupled to this neglect is the finding that the teachers indulged in watching television for hours. The researcher expressed surprise at this finding because, the teachers are expected to have adopted exercise habit and join the current train of health promotion through exercise. Aniodo (2013) observed that physical activity was becoming a global pursuit as a strategy for health promotion. On the other hand, the finding confirmed the observation by Okafor (2001) the habit for not exercising had remained a neglected dimension of our life even among the educated class.

It is known that participation in physical activities up to about 30 minutes daily for 5-7 days results in acquisition of many health benefits. Prominent among these benefits are improved physical fitness, reduced risk of cardiovascular diseases and improved mental health (CDC, 2011, Harvard School of Public Health 2012, WHO, 2012). Therefore, the habit of neglecting regular physical activities among the teachers is feared to be capable of increasing the chances of cardiovascular diseases especially when the teachers are known to be involved in watching televisions for hours. Although watching television may be seen as a welcome recreation, it should be complemented with other active recreational activities. The finding that the teachers’ physical activity risk behaviours depended on gender appears interesting. Data in the table indicate that while the male teachers engage in exercises weekly, the female ones rarely do so. This is not a welcome development and should be reversed.

**Implications of the Study**

Physical activity is seen as a cardinal instrument for health promotion. Health promotion is one of the challenges facing the contemporary healthy world. Health promotion is the process of enabling people to increase control over and improve their health (WHO, 1986). The teacher is among the people that are expected to increase control over health for the purpose of improving health status by participating in physical activities.

Education is the instrument for achieving national objectives and perpetuating good legacies. The teacher is highly indispensable among the resources for achieving the aims of education and nation at any level. Consequently, it becomes very important that the teachers’ health status must be assured for the achievement of the onerous task. Studies have revealed that the standard of education of any nation is determined by the quality of the teachers (Rice, 2003; Nwabuisi, 2008).

Crisis of different dimensions and magnitude have afflicted many nations and regions of the world. The school and education process remains a veritable option for instilling the virtue of peace in the citizens. This is why it has become necessary now, that the health status of the teachers be enhanced and assured through health promotion, to enable them face and discharge their duties diligently. On the contrary when the teacher is known to be neglecting physical activities, the risk of developing cardiovascular diseases becomes increased. Ultimately, the development would reduce the fitness and the process of instilling the good virtues for lasting peace would be truncated and retarded.

**Conclusion and Recommendations**

Participation in regular physical activities is a neglected dimension among the teachers. This neglect exposes them to non-communicable diseases, such as diabetes, stroke, coronary heart diseases, obesity and cancer. It becomes obvious that the teachers’ health would be in a precarious condition and quality of teaching reduced, thereby truncating the processing of achieving lasting peace through education and school.

Consequently, it is recommended, that a well designed and targeted workplace health promotion programme be developed for the teachers.

**References**

Aniodo, D.A. (2013). Physical activity for health promotion: A tool for improving teacher quality. *Journal of World Council for Curriculum and Instruction (WCCI) 9(3) 119-124*.

Centre for Disease Control and Prevention (2011). *Physical activity and health.*

Ene, O.C. (2004).*Health, wellness and longevity.* Enugu. Cheston Agency.

Hobson, J.(2001). Learning from teachers. *Journal of Occupational Medicine 51(5), 297-298.*

Hornby, A.S. (2000). *Oxford advanced learners’ dictionary of current English*. Oxford.Oxford University Press.

Kent, M. (2006). *Oxford dictionary of Sports Science and Medicine.* Oxford. Oxford University Press.

Lotrean, L.M. Laza, V; Ionut, C; and Vries, H. (2010). Assessment of health risk behaviours and their interrelationship among young people from two counties of Romania. *Journal of Public Health (18). 403-11.*

Nwana, O.C. (1990). *Introduction to educational research.* Ibadan. Heinemann Educational Books (Nig) Ltd.

Okafor, R.U. (2009). 4-circle base triangular model in ageing and health education. *44th Inaugural Lecture of University of Nigeria. April, 17.*

Past Primary Schools Management Board (PPSMB) (2012). *Personnel records statistics.*

Steinberg, L. (2004). Risk taking in adolescence: What changes and why? *Annual New York Academy of Science. 10 (21), 51-58.*

Umeano, E.C. (1999). *A first course on educational psychology made brief*. Enugu. Magnet Bus Ent.

WHO (1986). Constitution of the World Health Organization. *Chronicle of WHO. 1,1.*

WHO (2012). *Global recommendation on physical activity and health.* World Health Organization.

Harvard School of Public Health (2012). *Nutritional benefits of physical activity.* Boston. Harvard School of Public Health.

**KNOWLEDGE OF MATERNAL MORTALITY AMONG WOMEN OF CHILDBEARING AGE IN NSUKKA HEALTH DISTRICT, ENUGU STATE**

**Jacinta, Ejiaka Ugbelu**

Department of Health and Physical Education

University of Nigeria, Nsukka

**Abstract**

*The purpose of the study was to determine the level of knowledge of maternal mortality among women of childbearing age (WCA) in Nsukka health district of Enugu state. Four research questions were posed and two hypotheses postulated .Descriptive survey research design was used for the study. The population was 3,600 from which a sample of 360 was draw for the study using multi stage sampling procedure. The research instrument used for the study was questionnaire administered to WCA .The research questions were analyzed using means and percentages while null hypotheses were tested using ANOVA. The result showed that WCA in Nsukka health district possessed high level of knowledge regarding all the dimensions of maternal mortality. WCA with secondary and tertiary education had high level knowledge while those with no formal and primary education had low and average level of knowledge in all the dimensions of maternal mortality. Also, the result indicated that independent variables of level of education and age had significant difference on the knowledge of all the dimensions of maternal mortality among WCA. The study recommended that seminars and workshops should be organized in health facilities, churches and town halls to enlighten women, provision of free and compulsory education for every female child to tertiary level, to enact laws prohibiting child marriages and to strengthen the free maternal health care policy.*

**Keywords**: Maternal Mortality, Knowledge, Women of Childbearing Age.

**Introduction**

Maternal mortality is a serious public health problem, especially in many African countries including Nigeria and Enugu State in particular. Maternal mortality rates in many countries have remained essentially a public health challenge. Worldwide over 500,000 women of childbearing age (WCA) die of complications related to pregnancy and childbirth each year (World Health Organization –WHO, 2007). Over 99 per cent of these deaths occur in developing countries such as Nigeria. Partnership for Transforming Health Systems-PATHS (2005) stated that every day, at least 1,450 WCA worldwide die from complications of pregnancy and childbirth. Majority of these deaths (almost 99%) occur in Asia and sub-sahara Africa and less than one per cent in the developed countries. Khalid (2006) stated that life time risk of maternal death is 1in 2,500 in developed country like America while in West Africa it is 1in 13.

Maternal death has been defined as the death of a woman while pregnant or within 42 days of delivery, miscarriage or termination of pregnancy, from any cause related or aggravated by pregnancy or its management, but not from accidental or incidental causes (Lewis & Drife, 2001). The complications of pregnancy may be experienced during pregnancy or delivery itself or may occur up to 42 days following childbirth. Maternal mortality in the context of this study refers to the death of a woman during pregnancy, in labour or first six weeks after delivery or termination of pregnancy from causes directly due to pregnancy or to conditions aggravated by pregnancy. Maternal deaths is subdivided into direct and indirect obstetric deaths (Lucas & Gilles, 2009).

Direct obstetric deaths results from obstetric complications of pregnancy, labour, or post partum period, from interventions, omissions, incorrect treatment, or from chains of events resulting from any of the above. They are usually due to one of the five major causes:- haemorrhage, sepsis, eclampsia, obstructed labour, and complications of unsafe abortion. Indirect obstetric deaths usually result from previously existing diseases or from diseases arising during pregnancy which were aggravated by the physiological effects of pregnancy. Examples of such diseases include HIV and AIDS, malaria, diabetes and anaemia. Maternal mortality has generated great concern among United Nations and international agencies as well as in developing countries like Nigeria (Onuzulike, 2006).

Nigeria’s maternal mortality rate continues at an unacceptable high rate despite numerous strategies devised by the Nigerian government and international partners to reduce it. Audu (2010) estimated that Nigeria maternal mortality ratio (MMR) is 1, 500 per 100, 000 live births. With this figure, Nigeria accounts for 10 per cent of the world’s maternal death. State Economic Empowerment and Development Strategy (SEEDS, 2004), Enugu State pointed that maternal mortality rate for south east zone of Nigeria was 286 per 100,000 live births and North West 1,549 per 100,000 live births in the year 2000. SEEDS also indicated that maternal mortality rates are twice higher in the rural settings compared with urban settings. This may be attributed to non-availability of skilled birth attendants and emergency obstetric services in the rural settings. Nigerian Demographic and Health survey-NDHS (2008), posited that Nigeria ranks second globally (next to India) in number of maternal deaths. Glew and Uguru (2005) reported an estimated maternal mortality ratio of 1,549/100,000 live births in Borno State and 1,732/100,000 in Bauchi State in the North Eastern region of Nigeria. This alarming situation of maternal deaths in the North East may not be too different from that of Enugu State.

Maternal mortality is high in Enugu State. This may be attributed to poor antenatal care practices, lack of access to and use of skilled birth attendants and a weak healthcare delivery system. NDHS (2003) put the MMR for Enugu State at 1,400/100,000 live births. This ugly situation is further aggravated by poverty, ignorance, which account for women’s inability to access evidence-based antenatal care and delivery services. Onyeneho and Okonofua (2004) stated that MMR is high in Enugu State, with figures ranging from 772-988/100,000 live births. Early in 2000, several reports indicated that maternal health in Enugu state was deplorable and that maternal mortality was more than 3000/100,000 live births in Nsukka Senatorial Zone of the state. Onah (2009) noted the high rate of pregnancy related complications in Nsukka senatorial zone and posited that childbearing activities are high in the zone, and this may be reason why maternal deaths are also high. These maternal deaths have some causes.

The five major causes of maternal deaths are haemorrhage, sepsis, obstructed labour, eclampsia and complications of unsafe abortion. Federal Ministry of Health (2007) outlined the causes of maternal death thus- severe anaemia in pregnancy, puerperal sepsis, obstructed labour, unsafe abortion, pregnancy induced hypertension, hepatitis, diabetes mellitus, malaria, HIV and AIDS. These conditions are worsened by poor antenatal care attendance, delivery in maternity homes without skilled nurses and midwives who can provide emergency obstetric services. Omoruyi (2010) also stated that five major causes of obstetric death are haemorrhage, infection, abortion, hypertensive diseases of pregnancy and obstructed labour. Haemorrhage refers to excessive bleeding through the vagina more than 500 meals during late pregnancy, delivery or after delivery. This accounts for about 23 per cent of maternal deaths (FMH, 2007). Hypertensive diseases of pregnancy occur in about 4 per cent of pregnancies, especially in the last stage of pregnancy (UNICEF - 2008). Hypertensive diseases include pre – eclampsia and eclampsia. The clinical manifestations are high blood pressure, protein in urine, Oedema, convulsion and coma. Obstructed labour always put the mother at risk of developing vesico – vagina fistula (VVF), recto – vaginal fistula (RVF), infection, rupture of the uterus, feto – maternal exhaustion and death. This contributes 11 per cent of maternal deaths (FMH - 2007).

Unsafe abortion is defined as the termination of unwanted pregnancy either by persons lacking the necessary skills or in an environment lacking the minimal standards, or both (Warrier & Shah, 2006). Abortion also means the death or expulsion of the fetus spontaneously or by induction, before the 24 weeks of pregnancy. Spontaneous abortion is the involuntary loss of the products of conception prior to 24 weeks of gestation. Most of these abortions occur in the first 12 weeks of the pregnancy. Complications of abortions include bleeding, infection, injury to female reproductive organs, infertility and or increased pregnancy wastage and injury to abdominal organs. Globally, it has been estimated that some 68, 000 woman die each year from complications of unsafe abortion and 5.3 million suffer disability (Ahman & Shah, 2002). Unsafe abortion accounts for 13 per cent of maternal deaths in Nigeria (WHO, 2005).

Puerperal sepsis is an infection of the genital tract following childbirth or abortion. It contributes about 17 per cent of maternal deaths (Kanyiabe, 2008). It can result from unsterile procedures during delivery such as the use of unclean hands by traditional birth attendants (TBAs) or use of dirty instruments. It can also result from prolonged labour when fetal membranes have ruptured and the woman has not delivered within 24 hours. This clinical feature of puerperal sepsis includes high grade fever, abdominal pains, vomiting, headache, loss of appetite, offensive vaginal discharge and coma. These types of deaths occur mostly in women of childbearing age.

Women of childbearing age (WCA) are referred to as women aged between 15-49 years. These are women within the reproductive age. Samuel (2010) defined WCA as women aged between 15-45 years. Some groups of WCA are more at risk than others. NDHS (2003) stated that adolescent women have higher risk of pregnancy related complications and thus constitute a high proportion of maternal mortality. This may be due to complications arising from unsafe abortion and lack of knowledge for prevention of maternal death due to under age. However, deaths of WCA during pregnancy and childbirth can be prevented.

In response to challenges of the high maternal mortality in the State, Enugu State government initiated a policy on free maternal and child health care in 2007. The policy was aimed at preventing maternal deaths during pregnancy and childbirth. Barnhart (1995) defined prevention as the act or practice of stopping something bad from happening. If WCA avail themselves to the free maternal health care services, complications can be detected early and efficient services provided to avert deaths. United Nations Children’s Fund-UNICEF (2008) posited that interventions for improving maternal health during pregnancy and childbirth should focus on quality and affordable antenatal care, skilled birth attendants, accessible emergency obstetric care and postnatal care. Prevention of maternal mortality should come from multi-faceted effort involving the community, government, international agencies, WCA and good spirited individuals. Okonofua (2008) identified four main interventions to reducing maternal mortality as family planning, antenatal care, skilled birth attendants and emergency obstetric care. Prevention of these regrettable deaths among WCA could be reduced by possession of adequate knowledge.

Knowledge is critical to man’s quality of life because everything we do depends on what we know and perceive. Therefore, there is need for possession of adequate knowledge by WCA regarding pregnancy and childbirth to avert this type of death. Denning (2000) defined knowledge as facts, information and skills acquired by a person through experience, association or education. Knowledge about how to take care of pregnant mothers, detect complications and tackle them has existed for centuries. This notwithstanding, millions of mothers continue to die from severe complications associated with pregnancy and childbirth probably because they lack the knowledge inherent in the effective management of pregnancy related problems (Jatua, 2000). Knowledge is used in this study to refer to the ability of WCA in Nsukka Health District to understand the concept, causes and possible preventive measures of maternal mortality.

Knowledge of MM among WCA can be influenced by certain socio-demographic variables. Such variables are age, level of education, location, occupation and parity. Also some cultural practices inherent in this district may be having adverse effects on the knowledge of women regarding causes of maternal death. Some of these practices are early marriages and early childbirths, sex preference and love for many children.

Nsukka Health District (NDH) is a typical rural settlement in Enugu State. WCA in this district are mostly peasant farmers, hawkers, petty traders and a very few civil servants. This indicates that these women are not gainfully employed. They lack adequate finance to eat balanced diet or seek timely medical assistance. Health facilities are few and are poorly equipped and staffed. The poor distribution of the health facilities together with the poor socio-economic status may be affecting the knowledge of WCA in NHD, hence the topic knowledge of maternal mortality among WCA in Nsukka health district.

Possession of adequate knowledge of maternal mortality will motivate WCA to desire quality maternal health care services to enable them stay healthy during pregnancy, childbirth and even throughout life. Adequate knowledge of causes of MM will enable them to book early for antenatal in a hospital with emergency obstetric care services, deliver in a standard hospital with skilled birth attendants, access postnatal care services after delivery, practice family planning and to report to hospital early for treatment of health problems. When these services are accessed, maternal deaths could be averted. Adequate knowledge of what can be done constitutes to avert maternal mortality or complications of pregnancies and child birth is capable of reducing the maternal and infant mortality thereby jeopardizing their lives and that of their unborn babies. Some of these WCA prefer to register in maternity homes with quacks who cannot handle emergency obstetric problems. Some WCA even reject family planning services for religious and cultural reasons to the detriment of their health. Since maternal mortality is high in Nsukka senatorial zone as pointed out by (Onah-2009), it is worthwhile to find out the level of knowledge possessed by WCA in Nsukka Health District regarding concept, causes and how to prevent maternal morality. Additionally, the study will examined the level of knowledge possessed by WCA based on the level of education and age.

The study determined the knowledge WCA in Nsukka Health District, Enugu State. Specifically, possessed regarding maternal mortality. The study answered the following questions.

1. What is the level of knowledge of concept of maternal mortality among WCA?
2. What is the level of knowledge of causes of maternal mortality among WCA?
3. What is the level of knowledge of preventive measure of maternal mortality among WCA?
4. What is the difference in the level of knowledge of maternal mortality by the women according to level of education.

**Hypotheses**

The study tested two null hypotheses at .05 level of significance.

1. There is no significant difference in the level of knowledge of maternal mortality by the women according to age (P<.05).
2. There is no significant difference in the level of knowledge of maternal mortality by the women according to level of education (P<.05).

**Methods**

The descriptive survey research design was employed for the study. Nwana (1986) opined that this design facilitates the description of situation in its present state and solicits information directly from the respondents. Frankfort – Nachmias (2006) stated that descriptive survey design is a research design used most predominantly in survey research as it facilitates the gathering of information about a longer population by collecting information from a segment of that very population from where generalization can be inferred. The population for the study consisted of registered WCA attending antenatal clinics in different health facilities in Nsukka Health District. The total population of registered WCA in Nsukka Health District was 3.600 (Nsukka Health District Board, 2010). The sample for the study consisted of 360 WCA representing 10 per cent of the study population. This sample size used was based on Nwanna’s (1991) rule of thumb which states that when the population is a few thousands, 10 per cent should be considered representative. The multi-stage sampling procedure was employed to draw the sample for the study. The procedure for sample selection involved three stages. In the first stage, stratified random sampling was used to stratify the health facilities in the three Local Government Areas that make up the district into predominantly urban and predominantly rural health facilities. The second stage involved the use of simple random sampling techniques of balloting without replacement to select four health facilities out of the five functional ones in each of the three LGAs. Two was selected from urban and two from rural health facilities. This resulted in selecting 12 health facilities for the study. In the third stage, sample random sampling of balloting without replacement was also used to select 30 women from each of the 12 health facilities that were sampled. The decision to select 30 respondents from each of the selected health facility was to meet up with the (10%) recommended by Nwana (1991).

The instrument for data collection was the researcher – designed questionnaire called knowledge of Maternal Mortality Questionnaire - KMMQ. It consisted of two sections A and B. Section A consisted of the bio – data of respondents while section B comprised of multiple choice questions that determined the knowledge of concept, causes and prevention of maternal mortality among WCA. The respondents were expected to choose from options A – D the one that correctly describes the statement or answers the question.

The validity of the research instrument was established by the judgment of three experts from the Department of Health and Physical Education, University of Nigeria, Nsukka. The instrument was administered to the respondents (WCA) in each health facility by the researcher and four research assistants (public health nurses). Split – half method was used to establish the reliability of the instrument. A reliability index of .60 was established using Spearman Rank – Order. Ogbazi and Okpala (1994) stated that in a reliability test, if the correlation co-efficient index obtained is up to .60 and above, the instrument is considered reliable. Since the reliability co-efficient index obtained was up to .60 and above, the instrument questionnaire was considered reliable for the present study. The instrument administered after filling by the respondents, were collected back by the researcher and her assistants in the spot. Means and percentages were used to analyze the research questions while ANOVA statistics was used to test the hypotheses.

**Results.**

The data collected are analyzed and presented in tables as they relate to research questions and hypotheses with brief interpretations.

**Table 1.**

**Level of knowledge of Concept of Maternal Mortality (KCOMM) Among WCA (n – 343)**

|  |  |  |
| --- | --- | --- |
|  | **N** |  |
| KCOMM | 343 | 64.02 |
| KCAMM | 343 | 64.02 |
| KPMM | 343 | 68.10 |

Data in Table 1 show a mean score of 64.02 per cent which fell between 60-80 per cent. This implies that level of KCOMM was high among WCA. The Table further shows the mean score of 65.48 per cent which fell between 60-79 per cent. This implies that level of KCAMM was high among WCA. Table 1 also shows the mean score of 68.10 per cent which fell between 60-79 per cent, indicating high level of KPMM among WCA.

**Table 2.**

**Level of Knowledge of Maternal Mortality by WCA according to level of education**

|  |
| --- |
| **Level of Education**  **Dimensions No formal Primary Secondary Tertiary**  **Of MM Education Education Education Education**  **(n=5)** **(n=61)**  (n=144)  (n= 133) |

KCOMM 36.00 47.21 65.83 70.83

KCAMM 28.00 49.09 65.14 74.44

KPMM 48.00 20.59 65.28 77.44

|  |
| --- |
|  |

Table 2 shows that the mean score of WCA with tertiary education (= 70.83%), secondary education (=65.83%), primary education ( = 47.21%) and no formal education ( =36%). This implies that WCA with tertiary and secondary education possessed high level of knowledge of concept of maternal mortality while WCA with primary education and no formal education possessed average and low level of knowledge of concept of maternal mortality respectively.

The table further shows that the mean score of WCA with tertiary education (=74.4%) secondary education (=65.14%), primary education (=49.09%) and no formal education (=28%). This implies that WCA with tertiary and secondary education possessed high level of knowledge regarding the causes of maternal mortality while WCA with primary and no formal education had average and low level knowledge of causes of maternal mortality respectively.

Table 2 also shows that the mean score of WCA with tertiary education (=77.44%), secondary education ( = 65. 28%), primary education (=20.59%) and no formal education (= 48.00%). This reveals that WCA with tertiary and secondary education possessed high level of knowledge of prevention of maternal mortality while WCA with no formal education and primary education had average and low level of knowledge prevention of maternal mortality.

**Table 3**

**One-way Analysis of variance (ANOVA) Testing the Null Hypothesis of No Significant Difference in the Level of Knowledge of Maternal Mortality by the Women according to Age**

|  |
| --- |
| Dimensions Sum Square DF Mean Squares F P.value  of MM between within between within value groupsgroupsgroups |

KCOMM 7280.279 166767.334 3 2426.7602 491.940 4.933 .002\*

KCAMM 4319.904 182976.723 339 1439.968 539.751 2.668 .048\*

KPMM 9052.112 204016.110 342 3017.371 601.817 5.014 .002\*

|  |
| --- |
| \*significant |

Table 3 shows the F-values and their corresponding p-values for KCOMM (F=4.933,P=value=.002< 0.05), KCAMM (F=2.668,=.048< .05) and KPMM (F=5.014, P-Value= .002< . 05) were less than .05 level of significant at 3 and 339 degrees of freedom. The null hypothesis of no significant difference is therefore rejected. Thus implies that WCA differed in their knowledge of various dimensions of maternal mortality according to age.

**Table 4**

**One-way ANOVA Testing the null Hypothesis of No Significant Difference in the Level of Knowledge of Maternal Mortality by the Women to Level of Education**

|  |
| --- |
| Dimensions Sum Square DF Mean Squares F p.  Of MM between within between within value value  groups groups groups groups |

KCOMM 27792.561 146255.252 3 9264.187 431.431 21.437 .000\*

KCAMM 32637.337 154658.290 339 10879.112 456.219 23.846 .000\*

KPMM 23612.768 189455.454 342 7870.923 558.866 14.084 .000\*

|  |
| --- |
| \*significant |

Table 4 shows that the F-values and their corresponding p-values for KCOMM (F=21.437,P=.000< . 05), KCAMM (F=23.846, P= .000 < .05) and KPMM (F=14, P= .000< . 05) which are less than .05 level of significant at 3 and 339 degrees of freedom. The null hypothesis of no significant difference is therefore rejected. This implies that WCA differed in their level of knowledge of various dimensions of maternal mortality according to their level of education.

**Discussion**

Results in Table 1 revealed that WCA in Nsukka Health District (NHD) possessed high level of knowledge of the various dimensions of maternal mortality. The finding was expected and therefore not surprising. This is because WCA might have been attending antenatal clinics where trained nurses and midwives taught effectively the rudiments of desirable maternal health practices. Embedded in these practices are to identify danger signs and symptoms during pregnancy, causes of maternal death and preventive measures. This finding is in consonance with that of Mgekem and Okon (2009) who reported that their respondents exhibited high level of knowledge, attitude and preventive practice towards pregnancy induced hypertension. Also educated women can read books, newspapers and even listen to radio and watch television from where information can be elicited on causes and prevention of maternal mortality.

Table 2 indicated that the level of knowledge of WCA with no formal education and primary education was low and average respectively in all the dimensions of maternal mortality while WCA in secondary and tertiary exhibited high level of knowledge and maternal mortality. This finding is not surprising but expected. This is due to the fact that WCA with high educational attainments are expected to exhibit adequate knowledge of maternal mortality. It is a well established fact that education empowers individual’s (WCA inclusive) intellectual capacity to understand some difficult concepts especially the practical ones. The finding agrees with that of NPSM (2003) which found that women without formal education had a risk of maternal mortality five times greater than that of educated women. Educated WCA may have gained some knowledge in maternal and reproductive health issues in their course of study which may have improved their knowledge of maternal mortality.

Table 3 showed that there was significant difference in the level of knowledge of all the dimensions of maternal mortality among WCA according to age. This implies that WCA of various age groups differed in their knowledge of all dimensions of maternal mortality. This finding was not surprising and therefore expected. There is a tendency for older WCA with several contacts with skilled birth attendants during their previous pregnancies may tend to possess high level of knowledge than the young WCA. This finding disagrees with that of Anandalashimy, Talwar, Buckshee and Hingoran (2002) who indicated that maternal mortality was 3-4 times higher among mothers of 35 years and above compared to mothers aged 20-24years and nearly three times higher than that of teenage mothers

Table 4 revealed that there was significant difference in the level of knowledge of all dimensions of maternal mortality among WCA according to level of education. This finding was not surprising, and thus expected. It is expected that WCA with higher educational attainment are expected to possess adequate knowledge of all the dimensions of maternal mortality compared with the non-educated ones. It is commonly said that education is power. WCA who were educated can attend awareness programmes, such as seminars and workshops to improve their level of knowledge of maternal mortality unlike the uneducated ones. This finding agrees with NDHS (1999) that reported that education is correlated with maternal mortality and that non utilization of maternal health care services is common among the illiterate mothers.

**Conclusions**

Based on the findings and discussion, the following conclusions were attained.

1. WCA possessed high level of knowledge of the concept, causes and prevention of maternal mortality.
2. The overall level of knowledge for various dimensions of maternal mortality for WCA with no formal and primary education were low while that of secondary and tertiary education were high.
3. Age and education had significant difference in the level of knowledge of WCA regarding various dimensions of maternal mortality.

**Recommendations**

On the basis of the findings and conclusions, the following recommendations were made.

1. Ministry of Education in conjunction with the Ministry of Health and Ministry of Women Affairs should organize seminars and workshops in health facilities, churches and town halls to enlighten women on causes and prevention of maternal death, especially during pregnancy and childbirth, and consequences of early marriages.
2. State government should provide free and compulsory education for every female child to enable them acquires education up to tertiary level so as to widen their scope in all spheres of life including maternal health issues.
3. To enact laws prohibiting child marriages and early childbearing and to strengthen free maternal health care services.

**References**

Ahman. E., & Shah, H. (2002). Unsafe abortion; worldwide estimates for 2000. Reproductive Health Matters 2000.10 (19); 13 – 17.

Audu, B.M. (2010. *Estimates of maternal mortality for 1995*: result of an in-depth Review, analysis, and estimation strategy, available at http:www.who.in/reproductive health/p- statement-on-maternal mortality estimates.

Barnhart, R.K (1995). *The world book Dictionary*. U.S.A World Book Inc.

Denning, S. *Definition of knowledge* available at [www.stevedenning.com/knowledge](http://www.stevedenning.com/knowledge) webstev dictionary.

Federal Ministry of Health, (2007). *The main causes of maternal deaths*. National Integrated maternal, Newborn and Child health strategy, Federal government of Nigeria.

Federal Ministry of Health (2007). The main causes of maternal deaths. National Integrated Maternal Newborn and Child Health Strategy, Federal Government of Nigeria.

Frankfort – Nachmias, C., & Nachmias, D, (2006). Research Methods in the social sciences. London. Hodder Arnold.

Glew, R.H & Uguru, V.E. (2005). *Factors contributing to maternal mortality in North Central Nigeria:* Afr J. Reproductive Health. 9(3): 27-40.

Jatau, A. A. (2000). *Strategies for improving safe motherhood in Nigeria by* 2010. Nigeria Journal of Health Education, 9, 282 – 294.

Kanyigbe, C. (2008). Determinants of post partom maternal mortality at Queen Elizabeth Hospital, Malawi: A case control study, 2001 – 2002 Afr. J. Rexod Health 12(3):35 – 45.

Khalid, S.K (2006). WHO analysis of causes of maternal death: a systematic review lancet. 367(9516): 1066-1074.

Lewis, G. & Drife, I. (2001). *Why mothers Die*. 1997-1999. The fifth report of the continental Enquires into maternal Deaths in the United Kingdom, London, RCOG Press.

Lucas, O.A & Gilles, H.M. (2009). *Short Textbook of Public Health Medicine for the Tropics* 4th Ed. London: Bank power.

Nigerian Demographic and Health Survey (2003). *Federal Republic of Nigeria*. and ORC Micro, calvertion, Maryland, U.S.A.

Nigerian Demographic and Health Survey (2004). *Federal Republic of Nigeria*, Abuja, Nigeria.

Nwana, O. C. (1991). Introduction of education research for student teachers. Ibadan: Heineman Educational Book Ltd.

Ogbazi, N., & Okpala, J. (1994). Writing research Reports. Guide for research in Educations, social sciences and Humanities. Owerri: Prime Time Series.

Okeibunor, J.C, Onyeneho, N.U, & Okonofua E.F. (2004). *Policy and programs for reducing maternal mortality* in Enugu State, Nigeria.

Okonofua, F.E. (2008). *Maternal mortality prevention in Africa* – need quality of care. African Journal of Reproductive Health 12 (3). 20-25.

Omoniyi, G. (2010). *Causes of maternal mortality in Nigeria*. Retrieved at http/www.nigerianoserverness.com on 21/11/2010

Onah, H.N. (2009). *Socio-cultural factors affecting maternal mortality in Nsukka senatorial zone of Enugu state*: Implications for safe motherhood initiative in Nigeria.

Onuzulike, M.N. (2006). *Issues in Health*. 3rd Ed. Owerri: Megasoft Publishers.

Partnership for Transforming Health system. (2005). *Facilitations guide training manual for nurses/midwives*, Federal Ministry of Health Abuja: Nigeria.

Samuel, E.S (2010). *Human sexuality and family Health Education*. Nsukka. Afro-Orbis Publishing Co. ltd.

State Economic Empowerment and Development Strategy – SEEDS (2004). *Enugu State Ministry of Health*. Strategy for Health 2008-2013.

United Nations Children’s Fund. (2008). *The Nigerian situation*, (2007). Retrieved from http/www.unicef.org/nigeria. On 23-11-2008.

Warriner, I. K., & Shah, H. (2006). Preventing unsafe abortion and its consequence: Priorities Research and Action – New York Guthmacher institute.

World Health Organisation (2007). *Maternal mortality in 2005*: estimates developed by WHO, UNICEF, UNFPA and the World Bank, Geneva: WHO.

World Health Organisation. (1996). *Safe motherhood initiate*. Assessed from http/www.safemotherhoodorg. on 24-11-2005.

World Health Organization (2005). Safe abortion, technical and policy guidance for health systems. Geneva: WHO.

**SEXUAL AND REPRODUCTIVE HEALTH ATTITUDE OF SECONDARY SCHOOL STUDENTS IN UDENU LOCAL GOVERNMENT AREA, ENUGU STATE**

**Dorathy C. Ngwu & E.U. Andrews**

Department of Health and Physical Education

University of Nigeria Nuskka

**Abstract**

*The paper found out the sexual and reproductive health attitude of secondary school student in Udenu Local Government Area, Enugu State. A self developed questionnaire was the instrument used for data collection. Descriptive survey research design was employed for the study. The population for the study consisted of 15, 364 students while multi-stage sampling procedure was used to draw a sample of 768 students used for the study. The research questions were answered using mean and standard deviation. The findings of the study revealed that secondary school students had positive attitudes towards sexual behaviour and safer sex. The study also revealed that there was no significant difference in the attitude of male and female, public and private secondary school students towards sexual behaviour and safer sex. The researcher recommended good family communication on sex matter encouragement of set values, supervision of films brought into the country, programmes that are aid in media houses and sex education at early ages.*

**Keywords**: Sexual Health, Reproductive health, Attitude, Secondary school students, Udenu.

**Introduction**

The environment in which young people grow and make decisions relating to sexual and reproductive health (SRH) is becoming more challenging than ever before. This is so for many obvious reasons. Today’s adolescents are being bombarded with erotic stimuli and messages though movies, music, novels and magazines. Basen Engquist and Parcel (1992) affirmed this and noted that adolescents from their earliest years watch television shows and movies that insist that “sex appeal” is a personal quality that people need to develop to the fullest. Hafiner (1999) opined that TV movies and music are not the only influence; the internet also provides the adolescents with seemingly unlimited access to information on sex as well as steady supply of people willing to talk about sex with them.

Specifically, as it relates to secondary school students who are also adolescents, Action Health Incorporate - AHI (2003) stated that, today’s adolescents live in a world that may give conflicting messages about what is expected of adolescents’ sexual activity. On the other hand, they are told to abstain or “just say no to sex” without knowing why, for how long or even knowing exactly how to go about it. In the same vein Ademola (2005) disclosed that some young people have poor understanding of reproductive process, while others harbour misconceptions such as beliefs that pregnancy cannot occur during first sexual episode, and that the use of contraceptive can cause infertility. Some of these misconceptions and beliefs may lead to abortion (AHI, 2003), elevated risks of sexual transmitted infections (STIs) (Aderibigbe & Aroage, 2008) and unwanted pregnancy (Ekanem, 2010). These preventable problems may have prompted the Guidelines for Comprehensive Sexuality Education (2003) in Nigeria to lament that more and more Nigerians are beginning to realize that if the problems of unwanted teenage pregnancy, STIs and sexual abuse are to be effectively addressed, it is important that people develop accurate, rational and responsible attitudes regarding issues concerning reproductive and sexual health. For these reasons, adolescents and indeed secondary school students find themselves in an environment of varied reproductive and sexual misconceptions and conflicting messages which are challenging. This study becomes necessary to find out the sexual and reproductive health attitude of those secondary school students in Udenu Local Government Area, Enugu State.

Reproductive health is now recognized as a crucial part of general health and central feature of human development. As such, National Conference of General Practitioners (1995) stated that, reproductive health covers the entire life span of an individual. The conference further stated that it is a reflection of health during childhood, adolescence and adulthood and therefore sets the stage for health beyond the reproductive years for both women and men and affects the health of next generation. Vaughar and Abouzahr (2000) associate reproductive health with prevention and treatment of diseases and supporting normal functions such as pregnancy and childbirth. Elaborating further, they stated that reproductive health has to do with reducing the adverse outcomes of pregnancy, including maternal deaths and disabilities, complications of abortion, miscarriages, births and neonatal deaths.

WHO (2008) defined reproductive health as a state of complete physical, mental and social wellbeing in all matters related to reproductive system, functions and processes. This implies that, people are able to have satisfying and safer sex life and they have the capability to reproduce and the freedom to decide if, when and how often to do so. Reproductive health components as summarized by Benagaino (1994) are responsible behaviour, available family planning services, effective maternal care and safe motherhood, effective control of reproductive tract infections, preventive and management of infertility, elimination of unsafe abortion, unwanted pregnancy, sexual abuse and prevention and treatment of malignancies of reproductive organs and sound adolescent health and sexuality. Effective reproductive health depends largely on the state of sexual health.

WHO (1975) described sexual health as the integration of the somatic, emotional, intellectual and social aspects of sexual being in ways that are positively enriching and which enhance personality, communication and love. Reproductive Health Matter – RHM (2001) described sexual health as having the freedom to choose how to express one’s sexuality (or how not to). The RHM report noted that sexual health also involves understanding one’s body, being comfortable with oneself and her sexual desires, having sexual relationships with others; learning to identify violent or abusive behaviours; doing away with them and learning to cope with aftermath effects of such relationships.

Centre for Disease Control and Prevention - CDCP (2010) stated that sexual health also encompasses problems of HIV and STIs, unwanted pregnancy and abortion, infertility, cancer resulting from STIs and sexual dysfunctions. These components are also embedded in reproductive health. Robinson, Bockting, Rosser, Miner and Coleman (2011) identified components of sexual health to include, talking about sex in relation to culture, sexual identity, sexual anatomy and body functioning, sexual health care, safe sex, body image, masturbation, fantasy, positive sexuality, intimacy, relationships and spirituality.

WHO (2008) noted that, while sexual health is often subsumed within reproductive health, it is in fact a wider term as sex does not always involve reproduction. Most policies of programmes on reproductive health are aimed at women of reproductive years. Yet older people and even young adolescents for example, require information that responds to their sexual health needs rather than to reproductive health. Some of these aspects of sexuality they explore are masturbation, fondling or caressing, oral sex, kissing and hugging. Adolescents including those in Udenu Local Government Area of Enugu State secondary schools also explore their sexuality and engage in sex without necessarily wishing to reproduce. People in the same – sex relationships may have specific sexual health needs that have nothing to do with reproduction. WHO (2008) further affirmed that health experts and experts in health related disciplines agreed that the two concepts are inseparable, reproductive and sexual health (RSH) and that they are integral component of any Nation’s Primary Health Care (PHC). Since the common concepts are many, this study is restricted to such components such as sexual behaviours and safer sex. These components which form the bedrock of the present study are highlighted below.

Sexual behaviour is the totality of normal and abnormal, conscious and unconscious, overt and covert sensations, thoughts, feelings and actions related to sexual organs and other erogenic zones, including masturbation, heterosexual and homosexual relations, sexual deviations, goals and techniques (Wolman, 1975). It is any physical activity that is connected with sex (Sally, 2000).

Safer sex, on the other hand entails that both partners should be aware of and practise sex safely to guide against sexually transmitted infections (Insel & Roth, 20006). They further stated that sexual activity has many potential consequences, including pregnancy, diseases and emotional changes in the relationship. They added that safer sexual behaviours mean discussing these consequences openly and honestly. Safer sex is not limited to safer sex behaviours. Its broad perspectives encompasses knowing one’s body, obtaining regular examinationfor sexually transmitted infections and cancer, and responding to physical changes with appropriate medical intervention, thus lowering the chances of HIV transmission (Rohison et al, 2011). Secondary school students’ attitude towards sexual behaviours is important.

Attitude is a way of thinking acting. Attitude according to Okafor (1991) is concerned with one’s feeling towards an object, person or thing. Obioha (2004) refers attitude as a state of readiness organized through experiences upon individual response to all objects and situations. Attitudes that are related to SRH are termed sexual and reproductive health attitude (SRHA). Sexual and reproductive health attitude in the present study refers to opinions, and feelings that secondary school students usually have towards sexual behaviour and safer sex. For example, sex education encourages young people to have sex, abortion should be personal private choice for a woman, condoms should not be made available to teenagers, access to pornography should not be restricted to adults and masturbation is a healthy expression of sexuality. In this study SRH attitude refers to beliefs and opinions favourable or unfavourable to secondary school students usually have towards sexual behaviours and safer sex. Their attitude towards these components of sexual and reproductive health may be influenced by some socio-demographic factors

There are some socio-demographic factors which may contribute to sexual and reproductive health attitude of secondary school students. Some of these factors include gender and school type. For instance, gender has been identified as a strong factor that influences sexual and reproductive health attitude among secondary school students. Adlecon (2005) indicated that more females than males had romantic relationships at early stage of their lives. He also stressed that males experience sex earlier than females.

Studies have also indicated that type of school have influence on sexual and reproductive health of students. Ajwon, Ola Leye, Faromoju and Ladipo (2006) who studied on sexual and reproductive attitudes among secondary school students in three states in North Eastern Nigeria found that students from boys’ schools were significantly more likely to have sexual intercourse (18%) than those from co-educational schools (14%) and girls’ only schools (2%)

Secondary school students are young person’s between the age of 11 – 18 years who possess the same characteristics as adolescents and these are used interchangeably in this study. They are characterized by rapid changes in physical growth, development of sexual characteristics and reproductive capability, psychological development of autonomy, independent identity and value systems, cognition moving from concrete to abstract thought, emotional moodiness , shifting from self – centeredness to empathy in relationship (WHO, 2003). Fox (2004) maintained that adolescents are most often excited by their sexual senses and also by imagination, as they become more interested in sex by pressure of constant sexual stimulation through thoughts or desire, erotic figures, pictures and films as well as physical contact such as caressing and kissing. The thrust of the present study was to find out the sexual and reproductive health attitude regarding sexual behaviour and safer sex of secondary school students in Udenu Local Government Area, Enugu State.

**Purpose of the Study**

The purpose of the study was to find out the sexual and reproductive health attitude of secondary school students in Udenu Local Government Area, Enugu State. Specifically, the study was set out to find out the:

1. attitude of secondary school students towards sexual behaviours;
2. attitude of secondary school students towards safer sex.

**Research Questions**

To guide this present study, the following research questions were posed.

1. What is the attitude of secondary school students towards sexual behaviours?
2. What is the attitude of secondary school students towards safer sex?

**Hypotheses**

The following null hypotheses were tested at .05 level of significance.

1. There is no significant difference in attitude of male and female secondary school students towards sexual behaviour.
2. There is no significant difference in attitude of public and private secondary school students towards safer sex.

**Methods**

The descriptive research design was used for the study. The population for the study comprised of 15,364 secondary school students from which a sample of 768 were used by multistage sampling procedure using appropriate sampling technique of each stage. The instrument for data collection was the researcher designed questionnaire. It consisted of two sections: A and B. Section A contained the personal data of the respondents, while section B dealt with their attitudes towards sexual behaviour and safer sex.

The instrument for data collection was the researcher – designed questionnaire which was called reproductive and sexual health attitude questionnaire – RSHAQ. The questionnaires were divided into two sections namely: Section A which consisted of two items demanding the biodata of the respondents. Section B comprised of 13 statements on attitude of secondary school students towards reproductive and sexual health. The four point scale measurement of attitude was used. The respondents were required to indicate the degree of agreement or disagreement as follows: Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD), with assigned values of 4, 3, 2, and 1, for positive items and 1, 2, 3, and 4 for negative items respectively.

The validity of the instrument was established by five expertsin the area of Health Education, University of Nigeria, Nsukka. For the reliability of the instrument, the inter – item correlation coefficient of items in section B of the instrument was established using Crombach Alpha Statistic. Crombach Alpha method according to Uzoagulu (1998) is utilized to establish the internal consistency of an instrument of polychotomously – scores items. To gain access to the respondents for data collection, a duly signed letter of introduction by the researcher was presented to the principals of the 16 secondary schools used for the study seeking permission to carry out the study reproductive and sexual health attitude of secondary school students in Udenu Local Government Area, Enugu State. Copies of the questionnaire were administered to the respondents in each of the secondary schools by the researcher and with the help of some teachers in school. The teachers were briefed on the modalities for administering the instrument. The completed copies of the instrument were collected from the respondents on the spot. This approach yielded a high return rate. In determining the attitude, means scores for each item or grand mean of each dimension was used to determine if the attitude is positive or negative. The criterion means value was accomplished by summing up four, three, two and one and dividing by four, thus: . This was used to answer the two research questions. The t – test statistic was used in testing the two null hypotheses at .05 level of significance.

**Results**

**Table1**

**Means Ratings of Students towards Sexual Behaviour (n = 763)**

|  |  |  |  |
| --- | --- | --- | --- |
| **S/No** | **Attitudinal Statements** |  | **SD** |
|  | **Attitudes Towards Sexual Behaviour** |  |  |
| 1 | Masturbation is healthy expression of sexuality | 3.56 | .69 |
| 2 | Caressing one’s genital encourage homo – sexuality | 2.30 | .97 |
| 3 | Sexual intercourse is the best sexual act | 2.32 | .99 |
| 4 | Anal intercourse should be encouraged | 2.96 | .90 |
| 5 | Masturbation prevents pregnancy | 2.82 | .87 |
| 6 | Oral sex can give people infection | 1.98 | .93 |
| 7 | Kissing can give people infection | 1.88 | .94 |
|  | **Overall Mean Score** | **2.55** | **.90** |

Data in Table 1 show that secondary school students had overall mean responses of 2.55 which was above the criterion mean of 2.50. This implies that the secondary school students had positive attitudes towards sexual behaviour. However, the Table also shows that students had mean responses above the criterion mean of 2.50 in the following items: masturbation is a healthy expression of sexuality” ( = 3.56), “Anal intercourse should be encouraged” ( = 2.96) and “masturbation prevents pregnancy” ( = 2.82 > 2.50). This implies that students demonstrated positive attitude towards these items. The Table further shows that students had mean responses which were below the criterion mean in the following items: “Caressing one’s genitals encourages homosexuality” ( = 2.30), “sexual intercourse is the best sexual act” ( = 2.32), “oral sex can give people infection ( = 1.98) and “kissing can give people infection” ( = 1.88). This implies that students’ attitude towards these items were negative. The standard deviations which range from .69 to 99 shows that the responses of the respondents were close to one another.

**Mean Ratings of Students Attitude towards Safer Sex (n = 763).**

|  |  |  |  |
| --- | --- | --- | --- |
| **S/No** | **Attitudinal Statements** |  | **SD** |
|  | **Attitudes Towards Safer Sex** |  |  |
| 1 | Multiple sex partners should be encouraged | 2.96 | .95 |
| 2 | It is better to wait until marriage before having sex | 1.95 | .95 |
| 3 | Condoms should be used by teenagers | 2.17 | .96 |
| 4 | Contraceptive is woman’s responsibility | 2.71 | .96 |
| 5 | Regular medical exam for STIs should be done by adolescents | 2.04 | .95 |
| 6 | Anal intercourse is safe | 2.91 | .92 |
|  | **Overall Mean Score** | **2.95** | **.95** |

Data in Table 2 shows that secondary school students had overall mean responses of 2.95 which was above the criterion mean value of 2.50. This means that the secondary school students had positive attitude towards safer sex. The Table further shows that the students had mean responses which were above the criterion mean in the following items: “multiple sex partners should be encouraged” ( = 2.69), “contraceptives is woman’s responsibility” ( = 2.71) and “Anal intercourse is safe ( = 2.91). This implies that the students demonstrated positive attitude towards these items. However, the Table further shows that the students had mean responses below the criterion mean of 2.50 in the following items: “it is better to wait until marriage before having sex” ( = 2.17), “condoms should be used by adolescents” ( = 2.17) and regular medical exams for STIs should be done by adolescents” ( = 2.04). This implies that the students’ attitude towards these items was negative.

**Table 3**

**Summary of T – test Analysis of No Significance Difference in Attitude of Secondary School Students Towards Sexual and Reproductive Health According to Gender**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **Gender** | | | | | |
|  |  | **Male (n = 380)** | | **Female (n = 383)** | |  |  |
|  |  | **M** | **SDM** | **E** | **SDF** | **t-cal** | **P-value** |
| **S/N** | **Attitudes** |  |  |  |  |  |  |
| 1 | Attitude towards sexual behaviour | 17.72 | 2.678 | 17.90 | 2.540 | -0.978 | 0.28 |
| 2 | Attitudes towards safer sex | 14.43 | 2.365 | 14.51 | 2.034 | -0.552 | 0.581 |

\*Significant

The Table 3 shows the calculated t-value with their corresponding P-values for students attitude towards sexual behaviour (t = 98, P = .28 > .05) and safer sex (t = 55, p = .58 > .05). Since the P-values were greater than .05 level of significance, the null hypothesis of no significance difference in the attitude of male and female students towards these items was accepted. This implies that the attitude of male and female students were the same.

**Table 4**

**Summary of t-Test Analysis of No Significance Difference in Attitude of Secondary School Students Towards Sexual and Reproductive Health Based on Public and Private Schools**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **School - Type** | | | | | |
|  |  | **Public (n =6381)** | | **Private (n = 382)** | |  |  |
|  |  |  | **SD** |  | **SD** | **t-cal** | **P-value** |
| **S/No** | **Attitudes** |  |  |  |  |  |  |
| 1 | Attitude towards sexual behaviours | 17.96 | 2.713 | 17.66 | 2.498 | 1.580 | .114 |
| 2 | Attitudes towards safer sex | 14.47 | 2.241 | 14.47 | 2.168 | .024 | .981 |

\*Significant

The Table 4 shows the calculated t-value with their corresponding p-value for students attitude towards sexual behaviour (t = 1.6, p = .11 > .05) and safer sex (t = .02, P = .98). Since the P-values were greater than .05 level of significance at 761 degrees of freedom, the null hypothesis of no significant difference in the attitude of students towards the two dimensions, sexual and reproductive health attitude of public and private school students was therefore accepted. This implies that the attitude of public and private students were the same.

**Discussion**

This study considered reproductive and sexual health attitude of secondary school students based on the components of sexual behaviour and safer sex. The finding in Table 1 shows that the overall attitude of secondary school students towards sexual behaviour was positive. This findings was anticipated and consequently not a surprise. According to Steeps (1995), sexual behaviours (from petting to oral sex, to sexual intercourse) of adolescents in middle schools revealed that 27 per cent reported having ever had vaginal intercourse, 26 per cent had been masturbated, 24 per cent had received oral sex and 4 per cent had ever engaged in anal intercourse. From personal observation and experience, the researcher notes that in Udenu Local Government Area, most youths avoided pre – marital sexual experiences for the fear of social punishment usually meted out to girls who lose their virginity before marriage. The implication of this finding is that most of the secondary school students in Udenu Local Government Area of Enugu State are not engaging in many sexual activities. This will reduce their early exposure to sexually transmitted infections and teenage pregnancies. Religious leaders should use their good offices to educate the young women and men about sexual behaviours that will protect their reproductive and sexual health.

The findings in Table 2 revealed that secondary school students attitude towards safer sex was positive. The result of the finding was surprising. It revealed that majority of the students possess positive attitude towards safer sex. This is in disagreement with Ezedum (2001) who found out that many students 53.5 per cent had never used condom during sexual intercourse, only 37.2 per cent ever used condom during their first sexual intercourse. This was also not in line with the result of my interaction and observation with the students. They stated that they either do not have a patent medicine store around their area or could not walk up the store around to buy condom due to shyness. This positive attitude will reduce the risk of STIs including HIV and AIDS among the students. This implies that sex education which will encourage safer sex activities such as use of condoms during sexual intercourse hugging, massage, rubbing of clothed bodies together, safe – stimulation by partners, fantasy and kissing with lips closed should be taught and included in the secondary school health education curriculum.

The findings in Table 3 showed that there was no significant difference in attitude of male and female secondary school students towards various dimensions of sexual behaviour and safer sex. The findings in Table 4 also showed that there were no significant difference in attitude of public and private secondary school students towards various dimensions of sexual behaviour and safer sex. These findings were expected and not surprising since male and female, public and private students have almost the same cultural values, age and educational levels.

**Conclusions**

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

1. The students had positive attitude towards sexual behaviour.
2. The students had positive attitude towards safer sex.
3. There was no significant difference in attitude of male and female students towards sexual and reproductive health.
4. There was no significant difference in attitude of public and private secondary school students towards sexual and reproductive health.

**Recommendations**

Based on the major findings, discussion and conclusions, thereof, it was recommended as follows

1. Parents should discuss sexual matters with their children, especially on the dangers of exhibiting harmful sexual behaviours.
2. Since sex is a powerful force, its true meaning has to be taught to teenagers both at home and in schools to enable them make wise decisions based on self-control and personal code of conduct that will encourage desirable attitudes.
3. Both parents and health educators should try as much as possible to set good examples for the adolescents to follow on sexual behaviours. This could be done by encouraging the development of a set of sexual moral values in teenagers and this will guide their sexual attitudes and behaviours.
4. Ministry of information should do more to supervise the type of films brought into the country and the programme that are aired from media houses and even internet.

**References**

Action Health Incorporated. (2003). *Comprehensive Sexuality Education*. Lagos: Find Print Limited.

Ademola, J. A. (2005). Benefits of Sexuality Education. Lagos. Retrieved March 4, 2006 From [*Ajajuwon@yahoo.com*](mailto:Ajajuwon@yahoo.com)*.*

Adelecon J.O. (2005). A study of sexual and reproductive knowledge, attitude and Behaviour among adolescent school children. Ibadan: Royal People Nigeria Limited.

Ademibigbe, S. A., & Arouge, M. O. (2008). Effect of health education on sexual behaviour of students of public secondary school in Illorine, Nigeria*. European Journal of Scientific Research*, 24 (1), 33 – 41.

Ajuwon, A.J., Olaleye, A., Faromoju, B.,& Ladipo, O. (2006). Sexual behaviour and experiences of sexual coercion among secondary school students in three States in North Eastern Nigeria. Retrieved April 28th 2008 from [*http://www.biomedcentral.com/1471-2458/6/310*](http://www.biomedcentral.com/1471-2458/6/310)

Basen – Engquist, K., & Parcel, G.S. (1992). Attitudes norms and self efficiency: A model of adolescents HIV – related sexual risk behaviour. *Health Education Quarterly*, 19 (12), 44 – 51.

Ekanem, I. B. (2010). The influence of school type in modifying sexual behaviour of secondary school adolescents

Fox, S. I. (2004). Human physiology (8thed). New York: McGraw Hill Company.

Frank, Fort – Nachimias, C., & Nachimias, D. (2006). *Research Methods in Social Sciences.* London: Hodder Arnold.

Haffner, D. W. (1999). The effect of media on sexual behaviour. *Newsweek Time*, USA Today.

Insel, P. M. & Roth W. T. (2006). Core Concepts in Health (10thed). New York: McGraw Hill Companies.

National conference of General practitioners. (1995). *Reproductive Health Approach.* India: New Delihi companies.

Nwanna, O.C. (1990). *Introduction to educational research.* Ibadan: Thomas Nelson company.

Nwanna, O. C. (1986). *Introduction to educational research.* Heinemann Educational Books Ltd.

Okafor, J. O. (1991). *A functional approach to health education.* Awka: Miks Unique Publishers Ltd.

Obioha, E. E. (2004). Attitude and perception of high school students in Onitsha metropolis towards cigarette smoking. In I. A. Nwazulike O. Bamgbes & O. A. Morokola (Eds). *Contemporary Issues and Research on Adolescents.* (pp. 56 - 68). Ibadan: Royal people Nigeria Limited.

PPSMB & STVSMB Obollo – Afor Zone

Robinson, B. B. E., Bockting, W. O., Rossa; B. R. S., Miner, M. & Coleman, E. (2011). The sexual health model: Application of a sexological approach to HIV prevention. *Health Education Research.* 17(1) 43 – 57. Sally, W. (2000). Oxford Advanced Learner’s Dictionary of Current English (6thed). Oxford: Oxford University, Press.

Uzogulu, A. E. (1998). Practical guide to writing research project reports in tertiary institutions. Enugu: Jolu Jacob’s classic publishers Limited.

Vaughan, J. P. & Abouzahr, (2000). Reproductive health: widening horizons. *Bulletin of the World Health Organization.* 78,(5)

WHO, (1975). Education and treatment in human sexuality: The training of health professionals. WHO Technical Report 572. WHO, Geneva, PP. 5 – 33.

Wolman, B. B. (1975). *Dictionary of Behavioural Science.* London: The Macmillan Press Ltd.

Reproductive Health Matter – RHM (2001). Images of sexuality and reproductive services. Meeting women’s needs. R.H.M 18, 22 – 23.

Center for disease control and prevention (2010). Treatment guideline for STD prevention.

WHO (2008). Reproductive Health Retrieved 30th 2011 from *htt://www/.who.int//topics/reproductive health/en/.*

**AVAILABILITY AND ADEQUACY OF CHILD HEALTH SERVICE IN**

**PRIMARY HEALTH CARE CENTRES IN**

**NSUKKA HEALTH DISTRICT OF ENUGU STATE**

**Regina A Onunze**

**Tr. Prof. E.S Samuel**

Department of Health and Physical Education

University of Nigeria Nsukka

&

**Kabiru, Musa**

Jigawa State College of Education,

**Abstract**

*The study was designed to determine the level of availability and adequacy of child health services in Primary Health Care centres in Nsukka Health District. In order to achieve the purpose of this study, four specifics objectives with corresponding research question were posed and two hypotheses postulated to guide the study. The study used the descriptive survey design with sample of 108 health providers. The instrument for data collection was questionnaire. Means and percentages were used to analyse the descriptive data, while chi-square and t-Test statistic were used to test the hypothesis. The major findings of the study were as follows: All the child health services were available in primary health care centres. All the child health services were adequate in primary health care centres. All the child health services were available in both urban and rural primary health care centres. All the child health services were adequate in both urban and rural primary health care centres. There was significant difference in the level of availability of growth monitoring, Nutritional services, curative services and immunization services according to mothers’ residential location. There was significant difference in the level of adequacy of growth monitoring, Nutritional services and immunization services according to mothers’ residential location. The researcher recommended that government should see that primary health centers are located equally in both urban and rural areas.*

**Keywords**: Availability, Adequacy, Child health services, Primary health care centre

**Introduction**

Availability of child health services (CHSs) is an effective measure to ensure improvement in child’s health, as is meant to reduce morbidity and mortality among children by providing preventive and curative services against the six major killer diseases or vaccine preventable diseases (VPDs) of children. These diseases are measles, malaria, whooping cough, polio, diarrhea and pneumonia. To improve the health of the children all the components of child health services should be available and adequate in primary health care (PHC) centres.

Stanfield (2004) noted that child health services is an integral part of primary health care which is concerned with provision of accessible integrated biopsychological health care services by the health care personnel. The author maintained that the health care personnel are accountable for addressing a large majority of personal health needs by developing a sustained partnership with patients and participating in the context of family and community. Onuzulike (2005) asserted that child health services are the total care and services rendered to children in order to maintain healthy living. Turmen(2006) described child health services (CHS) as the provision made to improve optimal growth and development in infancy and childhood through disease prevention, good nutrition and health supervision.

Child health services are meant to ensure as much as possible that every child lives and grows up in a healthy environment and receives adequate nourishment for healthy living. Child health services in this study refer to the efficient strategies provided by health workers in order to promote health of the child and prevent diseases, disabilities, and deaths through simple cost effective measures. These cost effective measures are immunization, Oral Rehydration Therapy (ORT), dietary supplements and promotion of exclusive breast feeding. To ensure effective child health services each primary health centre must provide all the components or activities of child health services. Obionu (2007) outlined certain activities to be provided for children within the primary health care centres. The activities include: immunization of all children against the six preventable diseases such as measles, poliomyelitis, whooping cough, tetanus and diphtheria and pertussis; growth monitoring and development using a standardized chart; health education for mothers or child health; using ORT in treating diarrhoea; and treatment of identified minor disease in the family. The author also mentioned other activities to be provided outside the primary health care centres. These activities include promotion of breast feeding in preventing malnutrition and diarrhoea in children; use of locally and culturally acceptable foods during weaning period; and outreach services which are planned and carried out. All the components of CHS are directed at the protection of ill health in children, promotion of their health and achievement of child health objectives.

The main objective of child health services is to prevent major causes of death, disability and diseases during childhood. Lucas and Gills (2006) stated that the objectives of CHS are to promote the health of children; ensure that they achieve the optimal growth and development both physical and mental; protect children from major hazards through specific measures (immunization, chemoprophylaxis, dietary supplement) and through improvement in the level of care provided by the mothers and the family; treat diseases and disorders with particular emphasis on early diagnosis. Bennette (2004) asserted that the objectives of child health services is to prevent the childhood killer diseases, save children from death due to rapid dehydration as a result of diarrhea, assess the nutritional status of children and give prompt attention to those malnourished and those having poliomyelitis, monitor the growth pattern of children especially the under-five children and encourage breast feeding. To achieve the objectives of child health services, such services must be available.

Availability of services is a factor for the accomplishment of CHs objectives. Availability simply means that something is there or present or is capable of being use or obtainable for use. Barlow and Proschan (2000) defined availability of a system as the probability that the system is operating at a specified time. Mason and Newcomb (2001) give a qualitative definition of availability as a measure of the degree of a system which is in the operable and committable state at the start of mission when the mission is called for at an unknown random point in time. Obionu (2007) defined Availability as the degree to which individuals are inhibited or facilitated in their ability to gain entry to and to receive care and services. Availability according to Kwast and Liff (2008) means having timely access to information. Availability, as used in the present study refers to the quantity and quality of child health services that are provided within the reach or utilized by members of the community.

Mechanic (1997) pointed out that availability of child health care services depends on the government policy on health planning, health financing, manpower, and accessibility in terms of nearness. For child health services to be assumed to be available in primary health care centres it must be adequately provided.

Adequacy is the quality of being able to meet a need satisfactorily. Rockvill (2006) describes adequacy as something that is good enough in quantity for a particular purpose. Similarly, Bennette (2005) defined adequacy as a state or condition of being sufficient as it is needed for a particular purpose. Adequacy of child health services is the availability of such CHS in a required quantity and quality (Addai, 2000). The author went further to state that adequacy of child health services has always been positively correlated to better outcome while reverse is the case in inadequacy of CHS. Adequate CHS will help to improve the health of the children. Park (2007) maintained that at primary health centres where child health services are inadequate there will be high infant mortality rate. WHO (2004) emphasized that childhood diseases are better eradicated when the available CHs meant for children are adequately provided. Its adequacy should include structure (equipment and personnel), process (diagnosis, training and knowledge, use of national case-management algorithm and supervision) and output (client’s satisfaction).

Lucas and Gilles (2006) asserted that for a child’s health services to assume adequacy in PHC centres, PHC facilities should be adequately equipped to the extent of providing immunization services and management of diarrhoea and other aspects of care expected of PHC centres, including management of acute respiratory infections (ARIs), a common problem in children in the region. The authors added that there should be quality supply of essential drugs, facilities for emergency care, and health care workers should have adequate training which should be also adequate in number and the use of the national case management algorithm. In this study adequacy of CHs refers to sufficient provision of child health services for community to utilize. This implies that mothers should be satisfied with what are provided to be used for their children’s health. Availability and adequacy of CHS are capable of being influenced by some factors.

The study considered location as factor that can influence the level of availability and adequacy of child health services in primary health care centres Nsukka Health District Enugu State. The study determined the availability and adequacy of child health services in PHC in Nsukka Health District, Enugu State. Specifically, the study was to find out the level of availability and adequacy of CHs in PHC in Nsukka Health District according to location. The study also postulated two hypotheses thus: There was no significant difference in the level of availability of CHS in PHC in Nsukka Health District according to location and there was no significant difference in the level of adequacy of CHS in PHC in Nsukka health district according to location.

**Methods**

To achieve the objective of this study, the descriptive survey design was employed. The study was conducted in Primary Health Centres in Nsukka Health District Enugu State. The population of the study comprised the health care providers in primary health centres who provide CHs. A sample of 108 health care providers were used for the study. The instrument used for data collection was the researcher structured questionnaire tagged “Availability and Adequacy of Child Health Services Questionnaire (AACHS - Q). The data derived from the AAUCHS-Q were based on a 2-point scale Yes or No for availability. Frequencies and percentages were used to interpret the data obtained. A percentage of 50 and above was considered available services and the reverse was the case when the percentage was below 50.

The columns on adequacy were based on 4 point scale. To categories adequacy into adequate and inadequate child health services the criterion group mean response value of 2.50 and above was considered adequate CHS while those with group mean response value below 2.50 was considered inadequate CHS. It was face validated by five lecturers from the Department Health and Physical Education University of Nigeria Nsukka. Using Cronbach Alpha method to determine the internal consistency of the instrument resulted in an index of .83.This was considered high enough for the study. Means, frequencies and percentages were used to answer the research questions while the null hypotheses were tested using t- test and Chi-square statistics.

**Results**

**Table 1**

**Availability of Child Health Services (n = 107)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S/N** |  | **Yes** | | **No** | |
|  |  | **F** | **%** | **f** | **%** |
| 1 | Growth monitoring (e.g., child weighing) | 90 | 84.1 | 17 | 15.9 |
| 2 | Nutritional services (e.g. vitamin A) | 103 | 96.3 | 4 | 3.7 |
| 3 | Curative services (e.g., treatment) | 107 | 100.0 | 0 | 0.0 |
| 4 | Oral rehydration therapy | 107 | 100.0 | 0 | 0.0 |
| 5 | Immunization (e.g., BCG, DPT, OPV) | 107 | 100.0 | 0 | 0.0 |
|  | **Overall Percentage** |  | **96.08** |  | **3.92** |

As indicated in Table 1, majority of the respondents indicated that the following child health services were available at the PHCs: Growth monitoring (84.1%), nutritional services (96.3%), curative services (100%), oral rehydration therapy (100%), and immunization services (100%).

**Table 2**

**Adequacy of Child Health Services (n = 107)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Child health services** |  | **SD** | **Decision** |
| **S/N** | **Growth monitoring** |  |  |  |
| 1 | Child weighing | 3.13 | .702 | Adequate |
| 2 | Measurement of height | 2.68 | .987 | Adequate |
| 3 | Measurement of mid arm circumference | 2.62 | .968 | Adequate |
| 4 | Measurement of head-chest circumference | 2.03 | 1.023 | Inadequate |
|  | **Overall mean** | **2.62** | **0.92** |  |
|  | **Nutritional services** |  |  |  |
| 5 | Vitamin A supplement | 2.96 | .669 | Adequate |
| 6 | Micronutrient supplementation | 2.59 | .739 | Adequate |
| 7 | Education on exclusive breast feeding | 3.02 | .765 | Adequate |
| 8 | Education on weaning diet | 3.15 | .656 | Adequate |
|  | **Overall mean** | **2.93** | **0.71** |  |
|  | **Curative services** |  |  |  |
| 9 | Physical examination | 2.80 | .720 | Adequate |
| 10 | Laboratory examination | 1.60 | .899 | Inadequate |
| 11 | Treatment | 3.24 | .725 | Adequate |
| 12 | Referral | 2.76 | .698 | Adequate |
|  | **Overall mean** | **2.60** | **0.75** |  |
|  | **ORT** |  |  |  |
| 13 | Supply of oral rehydration sachet | 3.08 | .870 | Adequate |
| 14 | Education on use of salt sugar solution | 3.22 | .705 | Adequate |
| 15 | Education on continuous breast feeding and use of available home fluid | 3.49 | .635 | Adequate |
| 16 | Assessment of dehydration | 3.10 | .739 | Adequate |
|  | **Overall mean** | **3.22** | **0.74** |  |
|  | **Immunization services** |  |  |  |
| 17 | Identification of needed vaccine | 3.58 | .645 | Adequate |
| 18 | Documentation | 3.56 | .716 | Adequate |
| 19 | Conduct of immunization | 3.57 | .728 | Adequate |
| 20 | Education on immunization | 3.48 | .705 | Adequate |
|  | **Overall mean** | **3.55** | **0.70** |  |
|  | **Grand mean** | **2.98** | **0.77** | Adequate |

Table 2 shows the cluster mean score in adequacy of growth monitoring services (=2.62) which is greater than the criterion mean of 2.50. This implies that growth monitoring services were adequate. The table further shows that growth monitoring services had mean scores which were above the criterion mean of 2.50 except measurement of head-chest circumference (=2.03) which was below the criterion mean value. This also implies that growth monitoring services were adequate except measurement of head-chest circumference which was inadequate.

Table 2 indicated the mean value in adequacy of nutritional services in the following services: Vitamin A supplement (= 2.96), micronutrient supplementation (= 2.59), Education on Exclusive breast feeding (= 3.02) and education on weaning diet (= 2.15), which were greater than the criterion mean of 2.50. This means that the nutritional services were adequate.

Table 2 further shows the cluster mean value of curative services (=2.60) which was greater than the criterion mean value of 2.50.This implies that curative service was adequate. The table further reveals that all the items of curative services had mean response value which were greater than the criterion mean of 2.50 except laboratory examination (= 1.60) which was less than the criterion mean value. This implies that curative services were adequate except laboratory examination which was inadequate.

Table 2 shows cluster mean response valueof oral rehydration therapy (=2.93) which was above the criterion mean of 2.50.This implies that oral rehydration therapy was adequate. The Table also indicates that all the items of oral rehydration therapy had mean response values which are greater than the criterion mean value of 2.50 in the following services: Supply of oral rehydration sachet (= 3.08), Education on salt sugar solution (= 3.22), Education on continuous breast feeding and use of available home fluid during diarrhoea ( = 3.10). This implies that rehydration therapy was adequate.

Table 2 indicates the cluster mean response value in immunization services (=2.93) which was greater than the criterion mean value of 2.50. This implies that immunization services were adequate. The Table also reveals that mean response value which are above the criterion mean scores of 2.50 in the following services: identification of needed services (= 3.58) documentation (= 3.56), conduct of immunization (= 3.57) and education on immunization (= 3.48). This implies that immunization services were adequate.

**Table 3**

**Availability of Child Health Services in PHCs in Nsukka Health District According to Location.**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Items** | **Urban** | | | | **Rural** | | | |
|  |  | **Yes** | | **No** | | **Yes** | | **No** | |
|  | | **F** | **%** | **F** | **%** | **f** | **%** | **f** | **%** |
| Growth monitoring | | 48 | 92.3 | 4 | 7.7 | 42 | 76.4 | 13 | 23.6 |
|  | Nutritional services | 52 | 100.0 | 0 | .0 | 51 | 92.7 | 4 | 7.3 |
|  | Curative services | 52 | 100.0 | 0 | .0 | 55 | 100.0 | 0 | .0 |
|  | Oral rehydration therapy | 52 | 100.0 | 0 | .0 | 55 | 100.0 | 0 | .0 |
|  | Immunization | 52 | 100.0 | 0 | .0 | 55 | 100.0 | 0 | .0 |

As indicated in Table 3, all the urban and rural mothers indicated that curative service, oral rehydration therapy and immunization services were available while majority of the mothers of urban and rural PHCs indicated that growth monitoring (urban****= 92.2%, rural****= 76.4%) and nutritional services (urban****= 100%, rural****= 92.7%) were available.

**Table 4:**

**Adequacy of Child Health Services in PHCs in Nsukka Health District According to Location.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | **Urban (n = 52)** | | **Rural (n = 55)** | |
|  | **Child health services** |  | Decision |  | Decision |
|  | **Growth monitoring** |  |  |  |  |
| A | Child weighing | 3.38 | Adequate | 2.89 | Adequate |
| B | Measurement of height | 2.88 | Adequate | 2.49 | Inadequate |
| C | Measurement of mid-arm circumference | 2.67 | Adequate | 2.56 | Adequate |
| D | Measurementofheath-chest circumference | 2.13 | Adequate | 1.93 | Inadequate |
|  | **Overall mean score** | **2.77** | **Adequate** | **2.47** | **Inadequate** |
|  | **Nutritional services** |  |  |  |  |
| E | Vitamin A supplement | 3.06 | Adequate | 2.87 | Adequate |
| F | Micronutrient supplement | 2.73 | Adequate | 2.45 | Inadequate |
| G | Education on exclusive breast feeding | 3.15 | Adequate | 2.89 | Adequate |
| H | Education on weaning diet | 3.21 | Adequate | 3.09 | Adequate |
|  | **Overall mean** | **3.04** | **Adequate** | **2.83** | **Adequate** |
|  | **Curative services** |  |  |  |  |
| I | Physical examination | 2.79 | Adequate | 2.82 | Adequate |
| J | Laboratory examination | 1.60 | Adequate | 1.60 | Inadequate |
| K | Treatment | 3.33 | Adequate | 3.16 | Adequate |
| L | Referral | 2.63 | Adequate | 2.87 | Adequate |
|  | **Overall mean** | **2.59** | **Adequate** | **2.61** | **Adequate** |
|  | **Oral rehydration therapy** |  |  |  |  |
| N | Education on use of salt sugar solution | 3.19 | Adequate | 3.25 | Adequate |
| O | Education on continuous breast feeding and use of available home fluid | 3.62 | Adequate | 3.36 | Adequate |
| P | Assessment of dehydration | 3.02 | Adequate | 3.18 | Adequate |
|  | **Overall mean** | 3.20 | Adequate | 3.24 | Adequate |
|  | **Immunization** | **3.69** | **Adequate** | **3.47** | **Adequate** |
| Q | Identification of needed vaccine |  |  |  |  |
| R | Documentation | 3.71 | Adequate | 3.42 | Adequate |
| S | Conduct of immunization | 3.63 | Adequate | 3.51 | Adequate |
| T | Education on immunization | 3.75 | Adequate | 3.22 | Adequate |
|  | **Overall mean score** | **3.70** | **Adequate** | **3.41** | **Adequate** |
|  | **Grand mean scores** | **3.14** | **Adequate** | **2.96** | **Adequate** |

Table 4 shows the mean response value of the adequacy of growth monitoring services (****= 2.77) in urban PHCs which was above criterion mean of 2.50. This implies that growth monitoring services were adequate in urban PHCs. The table further shows the mean score in adequacy of growth monitoring (****= 2.47) in rural PHCs which was below the criterion mean of 2.50. This implies that growth monitoring services were inadequate in rural PHCs.

The Table again reveals that both urban and rural PHCs had adequate nutritional services (urban ****= 3.04, rural ****= 2.83), oral rehydration therapy (urban ****= 3.20, rural ****= 3.24) and immunization services (urban ****= 3.70, rural ****= 3.41) since their cluster mean value were above the criterion mean of 2.50.

**Table 5**

**Summary of Chi-square (χ2) Analysis Testing The Null Hypothesis of No Significance Difference in The Level of Availability of CHs in PHCs According to Location.**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **Urban (n=205)** | | **Rural (n= 153)** | | **χ2** |  |  |
| **S/N** | **CHs** | **Yes** | **No** | **Yes** | **No** | **value** | **Df** | **P-value** |
| 1 | Growth monitoring | 48(43.7) | 4(8.3) | 42(46.3) | 13(8.7) | 5.085 | 1 | 0.024 |
| 2 | Nutritional services | 52(50.1) | 0(1.9) | 51(52.9) | 4(2.1) | 3.929 | 1 | 0.047 |
| 3 | Curative services | 51(49.9) | 1(2.1) | 48(43.7) | 7(11.3) | 4.392 | 1 | 0.034 |
| 4 | Oral rehydration | 52(51.0) | 0(1.0) | 55(52.4) | 0(2.6) | 3.000 | 1 | 0.000 |
| 5 | Immunization services | 50(42.0) | 2(10) | 40(53.1) | 15(1.9) | 5.033 | 1 | 0.001 |

\*Figures in brackets are observed frequencies

Figures outside bracket are expected frequencies

Table 5 shows the χ2 calculated values with their corresponding p-values for the availability of CHS growth monitoring services (χ2= 5.085, p = 0.024 < 0.05), nutritional services (χ2= 3.929, p = 0 .047), curative services (χ2= 4.392, p = 0 .034), ORT (χ2= 3.000, p = 0 .000), and immunization services (χ2= 5.033, p = 0 .001), which are less than .05 level of significance. The null hypothesis of no significant difference was therefore rejected. This implies that availability of CHS differed according to location.

**Table 6**

**Summary of t-Test Analysis of No Significance Difference in Adequacy of CHs According to Location.**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **Urban (n=205)** | | **Rural (n= 153)** | |  |  |  |
| **S/N** | **CHs** |  | **SD** |  | **SD** | **t- cal** | **Df** | **P-value** |
|  | Growth monitoring | 11.08 | 2.663 | 9.87 | 3.139 | 2.134 | 105 | .035 |
| 2 | Nutritional services | 12.15 | 2.253 | 11.31 | 1.318 | 2.384 | 105 | .019 |
| 3 | Curative services | 10.35 | 1.691 | 10.45 | 1.476 | -354 | 105 | .724 |
| 4 | Oral rehydration | 12.81 | 2.000 | 12.98 | 1.821 | -471 | 105 | .638 |
| 5 | Immunization services | 14.79 | 2.003 | 13.62 | 2.392 | 2.736 | 105 | .007 |

Table 6 shows the calculated t-calculated value with their corresponding p-values for adequacy of CHs growth monitoring (t = 2.134, p = .035), nutritional services (t = 2.384, p = .019) and immunization services (t = 2.736, p = .007). Since their p-values were less than .05 level of significance at 105 degrees of freedom, the null hypothesis of no significant difference in adequacy of CHs was therefore rejected. This implies that adequacy of CHs differed according to location.

The Table again shows the calculated t-cal value with their corresponding p-values for adequacy of curative services (t = 3.54, p = .724) and oral rehydration therapy (t = - 471, p = .638) which are greater than .05 level of significance at 105 degrees of freedom. The null hypothesis of no significance difference in adequacy of these services is therefore accepted. This implies that adequacy of these services are the same according to location.

**Discussion**

Result in Table 1 revealed that child health services are available in Nsukka Health District. This finding is not surprising because WHO (2004) asserted that primary health care centres are being established in developing countries to provide accessible, affordable and available primary health care services to people, in accordance with the Alma Declaration of 1975 by the member nations of the World Health organization. This finding is in consonance with the finding of Rockvill (2009) who reported that their respondents exhibited high level of available immunization services, growth monitoring and nutritional services. This is also because government has taken health as one of the policy priorities. Hence, government should keep on with the programme.

Result in Table 2 shows that child health services were adequate in primary health centres in Nsukka. This findings was anticipated and therefore not a surprise because government has taken health as one of the policy priority. Lucas and Gills (2006) asserted that, for child health services to assume adequacy in PHC centres, PHC facilitates should be adequately equipped to the extent of providing immunization services , management of diarrhoea and management of acute respiratory infection (ARIS), which are common problems in children in the region. The author added that there should be quality supply of essential drugs facilities for emergency care and health care workers should have adequate training, adequate in number and should make use of the national case management algorithm. The findings is also in line with that of Obionu (2007) who reported that primary health care facilities were adequately equipped to the extent of providing immunization services and diarrhoea management

Result in Table 3 reveled that all the child health services were available in both urban and rural PHC centres. This finding is not surprising because experience shows that primary health centres are being established in developing countries and health workers are being trained and posted to rural health centres. This finding was in consonance with that of Rockvill (2009) who stated that child health services were available in primary health centres.

Table 4 revealed that growth monitoring was adequate in urban PHCs while inadequate in rural PHCs. This finding was not surprising because Addai (2000) in the study reported that high occurrence of infant mortality in rural areas is due to inequality of distribution of health facilities in developing countries. The author also stated that health care provider in rural areas neglect some of the aspects of components of child health services. The finding is in consonance with the finding of Sarode (2007) who reported the following: immunization services; Identification of needed vaccine, vaccination technique, documentation, EPI education, maintenance of cold chain and supply were excellent,preparation and care of vaccine was fair and client satisfaction was good; Nutrition services were excellent except micro nutrient supplement which was fair and Growth monitoring services were poor

Table 5 indicated that there was significant difference in the level of availability of CHs in PHCs according to location. This finding is surprising. This is because it is expected that there should be equal distribution of services in primary health centres in urban and rural centres. This finding disagrees with that of Bhatia and Cleland (2004). They reported that there was equality of distribution of health facilities in the developing countries and although health facilities were concentrated equally in urban and rural centres.

Table 6 revealed that there was significant difference in the level of adequacy of CHS – Growth monitoring, nutritional services and immunization services. This finding is not surprising because experience has shown that primary health centres are more equipped in urban than in rural areas and health workers prefer staying in urban centres to rural areas. This finding is in line with that of Bhatia and Cleland (2004). They reported that health centres in rural areas lacked essential drugs, basic laboratory and regular physicians. There was no significant difference in the level of adequacy of CHS— (Curative services and oral rehydration services) according to location. This finding was not expected and therefore a surprise because experience has it that health centres in rural areas are not well equipped. The finding disagrees with that of Onuzulike (2005) who reported that health workers are found to be more in urban than in rural centres.

**Conclusions**

Based on the findings and discussion of the study, the following conclusions were reached. Growth monitoring, nutritional services, curative services, oral rehydration therapy were available in PHC centres. All the child health services were adequate in PHC centres. All the CHS were available in both urban and rural PHCs. Child health services were adequate in both urban and rural PHCs except growth monitoring which was inadequate in rural PHCs. There was no significant difference in the level of availability of CHS in PHCs according to location. There was no significant difference in the level of adequacy of child health services-curative services and oral rehydration therapy according to location. There was significant difference in the level of adequate of CHS-growth monitoring, nutritional services and immunization services according to location.

**Recommendations**

Government should also see that the available health institutions in rural areas are well equipped to bridge the gap in the differences in availability of child health services according to location.

**References**

Addai, I. (2000). Determinants of use of maternal child health services in rural Ghana, *Journal of Biosocial Sciences* 32, 1 – 5.

Akinsola, H. A. (2004). *A – Z of community health and Social medicine and nursing practice*. Ibadan: 3 Am Communications.

Barlow, C. N. & Proschan, S. I. (2000). Maternal and child health services in Rural Nepal: *Health Policy and Planning* 15 (2) 223 – 229.

Bennette, J. F. (2005). Child health service. In C. O. Okeke (Ed), *Maternal and child health care* (pp 65 – 72). Owerri: CPL Publishing Company Ltd.

Bhatia, J. C. & Cleland, J. (2004). Determinants of maternal care in a region of South India. *Health Transition Review* 5 (2), 127 – 142

Davis, D. (1995). *Psychological theory*: Erickson. Havre Ford: Alan Clifton.

Frankfort – Nachmias, C. & Wachias, D (2006). *Research methods* in the social science. London: Hodder Amold.

Hetch, B. K, & Shiel, W. C. (2006). *Children’s health.* Health kids home page. Children health centre. Medicine net. Com.

Hornby, A. S. (2005). Oxford *advanced learners dictionary of current English*: Oxford University Press. Lucas A. O. & Gilles, H. M. (2000). *Short textbook of public health medicine for the tropics* (4th Ed) London: Book power.

Kwast, B. E. & Liff, J. M. (2008). Factors associated with maternal mortality in Addis Ababa Ethiopia. *International journal of epidemiology 17 (1): 115 – 121.*

Lucas A. O. & Gilles, H. M. (2006s). *Short textbook of public health medicine for the tropics* (4th Ed) London: Book power.

Mason, A. G. & New Comb, M. J. (2001). *Cisco secure internet security solution,* Cisco press.

Mechanic, P. (1977). *Medical sociology* (2nded) New York: The free press.

Nworgu, B,G (2OO6). *Educational research. Basic issues and methodology.* Ibadan:Wisdom publishers Ltd

Obionu, C. N. (2007). *Primary health care for developing countries.* Ezu books ltd (2nd Ed).

Onuzulike, N. M. (2005). *Health care delivery systems* (2nd Ed). Owerri: Mega soft publishers.

Park, K. (2007). Preventiv*e and social medicine* ((19th Ed). Jabalpur: M/S Banarsidas Bhanot.

Rockvill, T.C. (2006). *Utilization pattern of child health services.* Thana: Alexandria publication ltd.

Standfield, J. P. (2004). *Child survival in developing countries.* New York: Edward publication ltd (60) 85 – 90.

Turmen, T. (2006). Child health research: *A foundation for improving child health.* Cairo: WHO.

Williams, C. D. (2004). *Mother and child health:* Delivering the services. (3rd Ed) London: Oxford University Press.

World Health Organization, (2004). *Child and adolescent health and development unit.* Development of child health policy. Alexandria: Borg Al.

**CHILDHOOD DIARRHOEA MANAGEMENT PRACTICES OF MOTHERS IN EZEAGU LOCAL GOVERNMENT AREA OF ENUGU STATE, NIGERIA**

**Nwokike, Helen U.**

Department of Health and Physical Education

University of Nigeria, Nsukka

**Abstract**

*This paper was directed at finding out the management practices of childhood diarrhoea by mothers in Ezeagu Local Government Area (LGA) of Enugu State. Survey Research design was employed. The sample for the study consisted of 300 women, selected through multistage sampling techniques. The instrument for data collection was the researcher designed questionnaire. Direct approach was used to administer the questionnaire by the help of the research assistants. Percentages and chi-square statistic were used for answering the research questions and testing the null hypothesis respectively.The finding showed that majority of the mothers adopted most of the management practices of childhood diarrhoea. Level of education was not a significant factor in the management of diarrhea by mothers. Based on the findings, recommendations were made, among which include; The complications of diarrhoea particularly dehydration and malnutrition should be explained to the mothers so that they understand and take standard home management practices of diarrheoa, that is use of ORS, and also continuation of normal feeding more serious and the mass media should fashion out jingles to enlighten the public on the causes and prevention of diarrhoea.*

**Keywords**: Diarrhoea, Childhood diarrhoea, Management, Management practice, Mothers.

**Introduction**

High mortality rates for infants and children under the age of five continue to plague developing countries, despite worldwide efforts to improve overall child health levels. In particular, diarrhoeal disease accounts for nearly 20 per cent of all deaths and is also a significant cause of childhood morbidity (Gracey, 2009). Each year in the developing countries of Latin America and Africa, approximately five million children under five years of age die from acute diarrhea. Of the annual three million infant births in Nigeria, approximately 170,000 result in deaths that are mainly due to poor management of childhood diarrhoea (Lucas & Gilles, 2009).

Diarrhoea is the disturbance of the gastrointestinal tract comprising of changes in the intestinal motility and absorption, leading to the increase in the volume of stools and in their consistency. (Ballabriga, Hilpert & Isliker, 2000). An episode of diarrhoea is defined as a change in the consistency of the stool to being abnormally loose and increase in frequency of stool to more than normal for the age of the child. It is generally accepted that the passage of one watery stool or explosive stool or three to more loose stools in 24 hours after infancy is abnormal. Diarrhoea is a symptom of infection caused by a host bacterial, viral and parasitic organisms most of which can be spread through contaminated water. Most of these pathogens are transmitted by faeco-oral route. Spradley and Allender (1998) stated that the most common modes of transmission of diarrhoea are contaminated food and water, dirty feeding utensils (especially feeding bottles and teats) and the faecally contaminated fingers of the infants or the mother. Any diarrhoea that is associated with child is called childhood diarrhoea. Childhood diarrhoea, therefore, refers to any type of loose, watery stool that occurs more frequently than usual in a child. Adequate or high level knowledge of the concepts, signs and symptoms, modes of transmission of diarrhoea is capable of guaranteeing proper management practices of diarrhoea among children.

Management according to Osinem (2008) is the co-ordination of all the resources of an organization through the process of planning, organizing, directing and controlling in order to attain organizational objectives. Management as described by the Free Encyclopedia (2007) is the art and science of getting things done through others. Ekenedo (1994) noted that there was a relationship between knowledge and management practice of childhood diarrhoea adopted by mothers. She concluded that better life will not come from mere acquisition of knowledge but from its practice. Practice according to Sally (2004) is an established way of doing things, especially one that developed through experience and knowledge. When management relates to practice, it becomes management practice.

Management practice according to Bucher (1994) is the application of good health actions to ones daily living such as proper personal hygiene and nutrition. Management practice, therefore, refers to all the actions that are undertaken by mothers to avert childhood diarrhoea. World Health Organization (WHO) (1993) identified a number of management practices like breastfeeding, Oral Rehydration Therapy (ORT), weaning practices, use of plenty of water for hygiene, and use of clean water for drinking, hand washing, use of latrines, safe disposal of stools of young children and measles immunization. The adoption of these practices becomes necessary for the mothers in the issue of childhood diarrhoea.

Mothers according to Landy (1992) are the key persons and managers of the home. She asserted that people, especially mothers should possess adequate knowledge about their baby’s health and disease prevention. Mothers are recognized as very important persons for the smooth running of the family including supervision of their health. The management practice of adequate and quality childhood care could lead to healthiness of the child in terms of prevention of early childhood disease like diarrhoea.

The levels to which mothers adopt their management practice of childhood diarrhoea do not appear to have received adequate research attention. Since diarrhoea is found among children all over the country, it is therefore, worthwhile to study childhood diarrhoea management practices of mothers. The study, therefore, was an attempt to find out the childhood diarrhoea management practices of mothers in Ezeagu LGA of Enugu State. In order to accomplish this task, two research questions were posed.

1. What are the management practices of mothers regarding childhood diarrhoea in Ezeagu LGA of Enugu-State?
2. What are the differences in the diarrhoea management practices of mothers regarding childhood diarrhoea according to level of education?

**Hypothesis**

One null hypothesis was postulated and tested as .05 level of significance.

1. There is no significant difference in the management practices of childhood diarrhoea by mothers according to level of education.

**Methods**

The study adopted descriptive survey design. The population for the study comprised of 3000 registered mothers who attended Maternal and Child Health (MCH) clinics in Ezeagu Health centres. The sample size for the study was 300 mothers representing ten percent of the population.

In the first stage, stratified random sampling was used to stratify communities into three quarters that make up the Local Government Area. The second stage involved the use of simple random sampling technique of balloting without replacement to select two health districts. The two health districts have 25 existing MCH clinics. In the third stage, purposive random sampling technique of balloting without replacement was employed to select 12 mothers from each of the 25 MCH clinics. The decision to select 12 respondents from each selected MCH is to ensure equal representation of the mothers for the study. At the end of the sampling procedure 300 respondents were selected and utilized for the study.

The instrument used for data collection was the researcher – designed questionnaire whose face and content validity were validated through the criticism of three experts from the Department of Health and Physical education, University of Nigeria, Nsukka. The copies of the questionnaire were distributed to the respondents through the co-operation of two research assistants who were briefed on how to complete the instrument. The distributed copies of the questionnaire were collected on the spot. However 284 copies were returned. The completed copies were analyzed using mean and percentages. Chi-square statistic was used to test the null hypothesis at alpha level of 0.05.

**Results**

The findings of the study are hereby presented in the Tablesbelow according to the research questions and hypothesis.

**Table 1**

**Management Practices of Mothers Regarding Childhood Diarrhoea (N = 284)**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| S/N | Mothers practices | | Yes | | | | No | | | |
| f | % | | | f | | % | |
|  | | Do you give your baby only breast milk when he/she has diarrhoea? | 120 | | 42.3 | | | 164 | | 57.7 | |
|  | | Do you continue breast feeding especially when your baby has diarrhoea? | 252 | | 88.7 | | | 32 | | 11.3 | |
|  | | Do you prepare weaning food hygienically during diarrhoea episode? | 236 | | 83.1 | | | 48 | | 16.9 | |
|  | | Do you boil water used for making drinks for your children during diarrhoea? | 243 | | 85.6 | | | 41 | | 14.4 | |
|  | | Do you use boiled water in preparing oral rehydration solution (ORS)? | 215 | | 75.7 | | | 69 | | 24.3 | |
|  | | Do you allow a child who has diarrhoea to defecate in bushes or open spaces? | 101 | | 35.6 | | | 183 | | 64.4 | |
|  | | Do you promptly clean your baby who has defecated, washing the baby’s hands and also your hands especially during diarrhoea? | 257 | | 90.5 | | | 27 | | 9.5 | |
|  | | Do you mix oral rehydration solution (ORS) in the right proportion? | 209 | | 73.6 | | | 75 | | 26.4 | |
|  | | Do you wash your hands with soap and water before preparing ORS? | 216 | | 76.1 | | | 68 | | 23.9 | |
| 10. | | Do you give ORS as soon as diarrhoea starts | 205 | | | 72.2 | | 79 | | 27.8 | |
|  | |  |  |  | | |  | |  | |

Table 1 shows that majority of the mothers adopted prompt cleaning of baby who had defecated (90.5%), continuing breastfeeding especially when the baby had diarrhoea (88.7%), boiling water used in making drinks for their children during diarrhoea (85.6%) and preparing food hygienically during diarrhoea episode (83.1%). The table further shows that majority of the mothers washed hands with soap and water before preparing ORS (76.1%), used boiled water in preparing ORS (75.7%), mixed ORS in the right proportion (73.6%), and gave ORS as soon as diarrhoea starts (72.2%) whereas lower proportion of the mothers gave their babies only breast milk during diarrhoea episode (42.3%) and allowed their children who had diarrhoea to defecate in bushes or open spaces (35.6%).

**Table 2**

**Management Practices of Mothers’ Regarding Childhood Diarrhoea Based on Level of Education**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| S/N | Childhood Diarrhoea practices | Level of education | | | | | | | |
| No Formal N=66 | | Primary N=36 | | Secondary N=62 | | Tertiary N=120 | |
| Yes  % | No% | Yes % | No  % | Yes  % | No  % | Yes  % | No  % |
| 1 | Do you give your baby only breast milk when he/she has diarrhoea? | 10.6 | 12.7 | 6.0 | 6.7 | 9.9 | 12.0 | 15.8 | 26.4 |
| 2 | Do you continue breast feeding especially when your baby has diarrhoea? | 21.1 | 2.1 | 10.6 | 2.1 | 17.6 | 4.2 | 39.4 | 2.8 |
| 3 | Do you prepare weaning food hygienically during diarrhoea episode? | 20.8 | 2.5 | 10.9 | 1.8 | 16.2 | 5.6 | 35.2 | 7.0 |
| 4 | Do you boil water used for making drinks for your children during diarrhoea? | 21.1 | 2.1 | 10.6 | 2.1 | 17.3 | 4.6 | 36.6 | 5.6 |
| 5 | Do you use boiled water in preparing oral rehydration solution (ORS)? | 14.4 | 8.8 | 6.7 | 6.0 | 16.9 | 4.9 | 37.7 | 4.6 |
| 6 | Do you allow a child who has diarrhoea to defecate in bushes or open spaces? | 12.0 | 11.3 | 6.7 | 6.0 | 7.4 | 14.4 | 9.5 | 32.7 |
| 7 | Do you promptly clean your baby who has defecated, washing the baby’s hands and also your hands especially during diarrhoea? | 21.1 | 2.1 | 10.9 | 1.8 | 19.7 | 2.1 | 38.7 | 3.5 |
| 8 | Do you mix oral rehydration solution (ORS) in the right proportion? | 11.6 | 11.6 | 6.7 | 6.0 | 17.3 | 4.6 | 38.0 | 4.2 |
| 9 | Do you wash your hands with soap and water before preparing ORS? | 13.0 | 10.2 | 7.0 | 5.6 | 17.6 | 4.2 | 38.4 | 3.9 |
| 10 | Do you give ORS as soon as diarrhoea starts | 12.0 | 11.3 | 7.0 | 5.6 | 15.8 | 6.0 | 37.3 | 4.9 |
|  | **Overall %** | **15.77** | **7.47** | **8.31** | **4.37** | **15.57** | **6.26** | **32.66** | **9.56** |

Table 2 indicates that a slightly higher proportion of mothers’ with tertiary education practised giving their babies only breast milk during diarrhoea (15.8%) than mothers with no formal education (10.6%), secondary education (9.9%) and primary education (6.0%). The table further shows that a higher proportion of mothers with tertiary education (39.4%) than mothers with no formal education (21.1%), secondary education (17.6%) and primary education (10.9%) continued breast feeding their babies especially during diarrhoea while higher proportion of the mothers with tertiary education (35.2%) than those with no formal education (20.8%), secondary education (16.2%) and primary education (10.6%) prepared weaning food hygienically during diarrhoea episode.

The Table also indicates that a slightly higher proportion of mothers with tertiary education (36.6%) than those with no formal education (21.1%), secondary education (17.3%) and primary education (10.6%) boiled water used in making drinks for their children during diarrhoea. Similarly, a slightly higher proportion of mothers’ with tertiary education (37.7%) than those with secondary education (16.9%), no formal education (14.4%) and primary education (6.7%) practised using boiled water in preparing ORS.

The Table further reveals that slightly higher proportion of the mothers with no formal education (12.0%) than mothers with tertiary education (9.5%), secondary education (7.4%) and primary education (6.7%) allowed their children who had diarrhoea to defecate in bushes or open spaces. The Table also shows that a higher proportion of mothers’ with tertiary education (38.7%) than mothers with no formal education (21.1%), secondary education (19.7%) and primary education (10.9%) promptly cleaned their babies who had defecated during diarrhoea.

The Table again indicates that a slightly higher proportion of mothers with tertiary education (38%) than mothers with secondary education (17.3%), no formal education (11.6%) and primary education (6.7) mixed ORS in the right proportion. The table also reveals that a slightly higher proportion of mothers with tertiary education (38.4%) than mothers with secondary education (17.6%), no formal education (13%) and primary education (7%) washed their hands with soap and water before preparing ORS. The table further reveals that a slightly higher proportion of mothers with tertiary education (37.3%) than mothers with secondary education (15.8%), no formal education (12%) and primary education (7%) gave their babies ORS as soon as diarrhoea starts.

**Table 3**

**Summary of Chi-square (χ2) Analysis Testing the Null Hypothesis of no Significant Difference in the Management Practices of Mothers Regarding Childhood Diarrhoea According to Level of Education.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| S/N | Management practices  Of Childbearing Mothers | Level of education | | | | | | | | | | | |
| No formal N=66 | Primary N=36 | | secondary N=62 | | Tertiary N= 120 | | **χ** 2 – Cal Value | | df | p. value | |
| Yes No | | Yes No | | Yes No | | Yes No | |
|  |  | |  | |  | |
| 1 | Do you give your baby only breast milk when he/she has diarrhoea? | 27.9 38.1 | 15.2 20.8 | | 26.2 35.8 | | 50.7 69.3 | | 1.968\*\* | | 3 | | .579 |
| 2 | Do you continue breast feeding especially when your baby has diarrhoea? | 58.6 7.4 | 31.9 4.1 | | 55.0 7.0 | | 106.5 13.5 | | 7.959\* | | 3 | | .047 |
| 3 | Do you prepare weaning food hygienically during diarrhoea episode? | 54.8 11.2 | 27.9 6.1 | | 51.5 10.5 | | 99.7 20.3 | | 5.600\*\* | | 3 | | .133 |
| 4 | Do you boil water used for making drinks for your children during diarrhoea? | 56.5 9.5 | 30.8 5.2 | | 53.0 9.0 | | 102.7 17.3 | | 3.931\*\* | | 3 | | .269 |
| 5 | Do you boiled water used in preparing oral rehydration solution (ORS)? | 50.0 16.0 | 27.3 8.7 | | 46.9 15.1 | | 90.8 29.2 | | 28.832\* | | 3 | | .000 |
| 6 | Do you allow a child who has diarrhoea to defecate in bushes or open spaces? | 23.5 42.5 | 12.8 23.2 | | 22.0 40.0 | | 42.7 77.3 | | 20.998\* | | 3 | | .000 |
| 7 | Do you promptly clean your baby who has defecated, washing the baby’s hands and also your hands especially during diarrhoea? | 59.7 6.3 | 32.6 3.4 | | 56.1 5.9 | | 108.6 11.4 | | 1.011\*\* | | 3 | | .799 |
| 8 | Do you mix oral rehydration solution (ORS) in the right proportion? | 48.6 17.4 | 26.5 9.5 | | 45.6 16.4 | | 88.3 31.7 | | 44.495\* | | 3 | | .000 |
| 9 | Do you wash your hands with soap and water before preparing ORS? | 50.2 15.8 | 27.4 8.6 | | 47.2 14.8 | | 91.3 28.7 | | 37.905\* | | 3 | | .000 |
| 10 | Do you give ORS as soon as diarrhoea starts | 47.6 18.4 | 26.0 10.0 | | 44.8 17.2 | | 86.6 33.4 | | 34.591\* | | 3 | | .000 |
|  | **Overall y2** | **47.74.18.26** | **26.04 9.96** | | **44.83 17.17** | | **86.70 33.21** | | **18.729** | | **3** | | **1827** |

\*Significant

\*\* Not significant

Data in Table 3 shows the **χ**2 calculated value with their corresponding P-values which are greater than .05 level of significance in the following dimensions of management practices of diarrhoea at 3 degrees of freedom: Promptly cleaning a child who has defecated (χ2= 1.011, P=.799 > .05), giving baby only breast milk during diarrhoea episode (χ2= 1.968, P=.579 > .05), boiling water used in making drinks for children during diarrhoea (χ2= 3.931, P=.269 >.05) and preparing weaning food hygienically during diarrhoea episode (χ2= 5.600, P=.133 >.05). The null hypothesis of no significant difference was therefore accepted. This implies that level of education did not make any difference in the management practices of mothers regarding childhood diarrhoea.

The table further indicates that the **χ** 2 calculated values with their corresponding P-values which were greater than .05 level of significance in the following management practices of diarrhoea at 3 degrees of freedom: Continuing breastfeeding during diarrhoea (χ2= 7.959, P=.047), boiling water used in preparing ORS (χ2= 28.832, P=.000), allowing a child who has diarrhoea to defecate in the bushes or open spaces (χ2= 20.998, P=.000), mixing of ORS in the right proportion (χ2= 44.495, P=.000), washing of hands with soap and water before preparing ORS (χ2= 37.905, P=.000), and giving of ORS as soon as diarrhoea starts (χ2= 34.591, P=.000). The null hypothesis of no significant difference was therefore rejected. This implies that mothers differed in the adoption of these practices according to level of education.

**Discussion**

The findings in Table 1 revealed that majority of the mothers practised giving their babies other fluids apart from breast milk. This finding was expected because Hijleh (2003) found out in his study that average number of women used fluids like rice water, herbs, yoghurt, lemon and sugar solution, weak tea, starch with water and ORS. Martins et al (2006) also reported that majority of the mothers used tea and rice based beverages which include rice water and rice gruel to manage diarrhoea in their children. The table further showed that majority of the mothers adopted most of the individual management practices. The findings were anticipated and therefore not surprising because mothers including those who delivered of their babies at the maternity homes and several unregistered clinics sought post-natal care services which are rendered in the MCH clinics. This is in consonance with the findings of Ejima (2010) who reported that post-natal care services provided by MCH health workers at the ante-natal clinics were utilized by mothers. This is a welcome positive practice that should be encouraged to prevent children from dying of diarrhoea.

The result further showed that lower proportion of the mothers (35.6%) allowed their children to defeacate in bushes and open spaces during diarrhoea. This finding was anticipated because some of the mothers do not have toilets and they defecate in bushes. This is an unwholesome practice and should be discouraged to prevent the spread of diarrhoea and other diseases.

The result in Table 2 revealed that there was no difference in the management practices of mothers regarding childhood diarrhoea according to level of education. This finding was a surprise, because educational level of any given group of individual is expected to positively influence knowledge and practice of a given health-related behaviour. This finding did not agree with that of Strivasta and Ramsel (1996) which revealed that women who were educated did better in the management of childhood ailments (childhood diarrhoea inclusive) than their uneducated counterparts. The implication of this finding is that mothers who possess these levels of knowledge regarding all the dimensions of the management of childhood diarrhoea are most likely to have their children suffer or even die from childhood diarrhoea.

Table 3 reveals that level of education has no significant difference in the management practices of mothers with respect to giving baby only breast milk when he was diarrhoea, continuing breast feeding especially when the baby has diarrhoea, preparing weaning food hygienically during diarrhoea, using boiled water in preparing ORS and promptly cleaning a baby who has defecated especially during diarrhoea.. This finding was not anticipated and therefore a surprise. This is because mothers with high educational attainments are expected to exhibit adequate knowledge and practice of childhood ailments (childhood diarrhoea inclusive). It is believed that education stimulates and empowers an individual’s intellectual capacity to put into practice concepts more especially when such concepts are concretized or practicable. While there was significant difference in the management practices of mothers with respect to continuing breast feeding especially when baby has diarrhea, using boiled water in preparing ORS, allowing a child who has diarrhoea to defecate in bushes or open spaces, mixing ORS in the right proportion, washing hands with soap and water before preparing ORS and giving baby ORS as soon as diarrhoea starts according to level of education. The finding was expected because it agrees with the finding of Odusanya and Tayo (2001) who reported that education significantly influence the knowledge of childhood ailments. It also agrees with the finding of Burker (2006) who found out in their study that mothers with higher level of education were significantly more knowledgeable about the management of childhood diarrhoea. This is because education enables mothers to assess information about childhood diarrhoea.

**Conclusions**

Based on the findings, the following conclusions were drawn.

1. Higher proportion of the mothers adopted various childhood diarrhoea management practices such as cleaning baby who defected, continuing breastfeeding during diarrhoea, boil water for drinking and preparing ORS, preparing food hygienically, wash hands, mix ORS very well and give ORS as soon as diarrhoea starts. Whereas lower proportion of mothers gave their babies only breast milk, and allowed their children who has diarrhoea to defecate in bushes and open spaces.
2. Level of education had no difference in the management practices of mothers regarding childhood diarrhoea.
3. There was no significant difference in the management practices of mothers regarding childhood diarrhoea with respect to promptly cleaning a baby after defecation especially during diarrhoea, giving baby only breast milk during diarrhoea, boiling water used in making drinks for children and preparing weaning food hygienically especially during diarrhoea according to level of education. There was significant difference in the management practices of mothers with respect to continuing breast feeding during diarrhoea episode, boiling water used in making ORS for their children during diarrhoea, allowing a child who has diarrhoea to defecate in bushes or open spaces, mixing ORS in the right proportion, washing hands with soap and water before preparing ORS and giving ORS as soon as diarrhoea starts according to level of education. This tests hypothesis eight.

**Recommendations**

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

1. The complications of diarrhoea particularly dehydration and malnutrition should be explained to the mothers so that they understand and take standard home management practice of diarrhoea, that is use of ORS, and also continuation of normal feeding more serious.
2. There should be sanitary inspectors for all rural communities; such a measure will help to improve the sanitary conditions of our rural communities.
3. The mass media should fashion out jingles to enlighten the public on the causes and prevention of diarrhoea.

**References**

Ballabriga, A, Hilpet H., & Ishiker H, (2000). Immunity of the infantile gastro-intestinal tract and implications of modern infant feeding. *Nestle Research News, Netherlands, Nestle Nutrition services:* 17-27.

Burker, C.T. (2006). Childhood morbidity, treatment – seeking behaviour and mortality in a cohort of young children in Rural Burkina Faso. *Tropical International Health* 8:190 – 196.

Ejima, S.U. (2010) *Correlates of utilization of maternal Health in Ankpa LGA of Kogi State.* Unpublished Doctoral Dissertation, University of Nigeria, Nsukka.

Gracey, M. (2009) *Nutritional effects and management of diarrhoea in infancy.* Acta Paediatr Suppl. 88:110-26.

Hijleh, S.M. (2003) *Mothers Knowledge, Attitude and Practices Regarding Diarrhoea Management in Al-Jib Village,* Palestine, 56pp.

Hurst, K. and Jaco, J.A (1997) *Primary Child Care for Health Workers.* Oxford University Press.

Landy, N.E. (1992). Approaches to treatment of childhood diarrhoea. *Dialogue on Diarrhoea issues,* 18, 2 March.

Lucas, A.O. & Gilles, H.M. (2009). *A new short textbook of preventive medicine for the tropics.* Ibadan: Bounty Press Limited.

Martins N.T. et al (2006) *Mortality in Severely Malnourished Children with diarrhea and use of a Standardized Management Protocol.* Lancet 353: 1919-22.

Nworgu, B.G. (2003). *Educational Measurement and evaluation:* Theory and practice, Nsukka: University Trust Publishers.

Odusanya P.S. & Tayo S. (2001) Management of Childhood diarrhoea at household level: a population based survey, Nigeria. *East African med. Journal* 71:561-565.

Osinem, E.C. (2008), *Managing agricultural education and training.* Resources, principles and methods. Nsukka. Belong books.

Sally, W. (2004). *Oxford advanced dictionary of current English* (6thed.) Oxford University Press.

Spradley, B.W & Allender, T.A., (1998), *Community Health nursing concepts and practice,* Philadelphia, Lippincott.

Strivasta, A.K & Ramsel, M.M (1996). Risk factors for gender differentials for death among children hospitalized with diarrhea in Bangladesh. *Journal of Health Popul. Nutr.* 18:51-56.

WHO (1993). *The management and prevention of diarrhoea.* Practical guidelines (3rded.) Geneva: WHO.

**NUTRITIONAL KNOWLEDGE OF PREGNANT WOMEN ATTENDING ANTENATAL CLINIC IN NSUKKA HEALTH DISTRICT, ENUGU STATE**

**Stella U. Ugwu** & **E.U. Andrews**

Department of Health and Physical Education

University of Nigeria Nsukka

**Abstract**

*The purpose of the study was to determine the nutritional knowledge of pregnant women attending antenatal clinic in Nsukka Health District (NHD). The study adopted the descriptive survey research design. The population for the study consisted of 3,600 pregnant women attending antenatal clinic while multi-stage sampling procedure was used to draw a sample of 360 pregnant women used for the study. A self developed questionnaire was the instrument used for data collection. Direct approach was used to administer the questionnaire with the help of some research assistants who were thoroughly briefed. The research questions were answered using means and percentages while the null hypotheses were tested using the ANOVA at 0.5 level of significance. The findings revealed that Pregnant women aged 31-40 years, and 21-50 years possessed high and average nutritional knowledge respectively while those aged 15-20 and 41-49 years possessed low knowledge. Pregnant women with tertiary and secondary education had high and average level of nutritional knowledge respectively while those women with non-formal and primary education had low level of nutritional knowledge. There was significant difference in nutritional knowledge of pregnant women according to age and level of education. Based on the findings and conclusions, the researcher recommended among others the improvement of health care delivery system through the strengthening of human resources capacities and qualities of interaction between pregnant women and health care workers by the government.*

**Keywords**: Nutrition, Knowledge, Pregnant Women, Antenatal care, Nsukka Health District

**Introduction**

Nutrition is an important factor in health maintenance and promotion. It is closely related to health and well-being, academic performance and productivity. Nutrition is very important in both preventive as well as curative health care and as a result there is the need to incorporate all the required nutrients in one’s diet. Adequate supply of food and proper nutritional habits are helpful for healthy living, normal growth and development of children, mothers and every other individual. Moronkola (2003) stressed the fact that apart from the importance of food to man, one should be concerned about one’s nutritional status because many chronic diseases like hypertension, liver problem, obesity, diabetes, nutritional anaemia are associated with nutritional intake. Many common symptoms and diseases can often be prevented or alleviated with better nutrition. United State Development Agency-USDA (2005) noted that deficiencies, excesses and imbalances in diet can produce negative impacts on health, which can lead to diseases such as scurvy, osteoporosis, obesity as well as psychological and behavioural problems. Moreover, USDA further stated that excessive ingestion of elements that have no apparent role in health may incur toxic and potentially lethal effects, depending on the dose.

Proper nutrition is synonymous to adequate nourishment. It ensures that cells and organisms obtain materials necessary to support life. Anazonwu (1981) described nutrition as the science of right feeding and use of food by the body for growth, maintenance and repair of worn-out tissues. Rickets (1999) described nutrition as the science of food, their nutrients and other substances in relation to health, their action and interaction by which organisms ingest, digest, transport, assimilate, absorb and utilize food substances. Abanobi (2005) described nutrition as the science of foods, the nutrients and other substances therein, their various actions, interactions and balance in relation to health and disease. According to Wardlaw and Smith (2011), nutrition includes the processes by which man ingest, digest, absorb, transports and excretes waste food substances. The present study refers to nutrition as the sum total of the processes by which human organism take in and utilize food substances for growth, repair and maintenance of the body.

Nutrients are substances in food that provide the body with energy for work, materials for growth, repair and maintenance of body tissues as well as for reproduction, protection of the body against diseases and regulation of body processes (Ene-Obong, 2001). Alade (2002) described nutrients as the constituents of food which must be supplied to the body in suitable amounts. He further outlined the nutrients to include carbohydrates, fats and oils, proteins, vitamins, minerals and water. Okoli (2009) also stated that nutrients are chemical components of foods which the body uses to build tissues, produce energy and keep healthy. Nutrients are conceptualized as the chemical components of food which when eaten and absorbed by the body produce energy, promote the growth and proper repair of body tissues and regulate body processes. Akinsola (2006) classified nutrients into five main types or classes as follows: carbohydrates, proteins, fats, minerals and vitamins. He maintained that, the body can only get required nutrients when one eats a diet which contains enough of each kind of these nutrients in adequate proportions. Adequate nutrition intake may be influenced by nutritional knowledge.

Knowledge is paramount to man’s quality of life because everything we do depends on what we know before we can practice it. WHO (1996) asserted that knowledge is prerequisite for any health action. Many disease conditions are to a large extent self-influenced by negative health practices due to lack of knowledge. Naumann (1997) defined knowledge as the accumulated facts, truths, principles and information to which the human mind has access. Knowledge is information that changes something or somebody either by becoming ground for actions or by making an individual capable of doing different or more effective action (Stuart &Achterbergh, 2004). Knowledge can be regarded as the information, understanding and skills that one gain through education or experience. In this study, knowledge is conceptualized as accumulated fact or information as well as understanding of person, thing or situation that is gained through experience or education. If knowledge is associated with nutrition, it is referred to as nutritional knowledge.

Nutritional knowledge can be described as a detailed familiarity with one’s nutritional requirements or demands which can be acquired through experience or education. Nutritional knowledge refers to the accumulation, understanding of nutritional facts such as concept of nutrition, nutrients, and sources of nutrients and functions of nutrients, how the body processes and uses nutrition for body building, supply of energy and other metabolic activities by pregnant women attending antenatal clinic (ANC) in Nsukka Health District. For instance, during antenatal clinics, nutrition education is given by nurses and midwives which involve listing of nutritious foods that the pregnant women should consume in other to meet up with their nutritional needs as well as that of the foetus.

Pregnant women require special attention especially with regard to nutritional requirements because a baby is developing inside her. The pregnant woman’s body is subject to greater demands to ensure foetal development as well as the growth, health and optimal functioning of the uterus, placenta and amniotic fluid. Okereke (2005) stated that there are numerous changes in the nutritional needs of a pregnant woman. The information concerning this nutritional need should be one among the packages made available to pregnant women attending antenatal clinic (ANC) in order to receive antenatal care. Antenatal care according to Akinsola (2006) refers to care given to pregnant women immediately after the pregnancy has been confirmed at about the third months. He further stated that the main aim of antenatal care is to prevent complications which may occur to the mother or the baby such as bleeding, discomfort, pain, anaemia, accident or infection, especially malaria.

According to Okereke (2010), antenatal care is the care given to a pregnant mother starting from the onset of pregnancy (or from the time her pregnancy was confirmed) until the onset of labour. Pregnant women are encouraged at this stage to attend antenatal clinic regularly so as to receive adequate care and also to obtain information on factors which may influence the outcome of their pregnancies. This study is therefore limited to determining the level of nutritional knowledge of pregnant women attending antenatal clinic in Nsukka Health District, Enugu State.

**Research Question**

Two research questions and two null hypotheses guided this study.

1. What is the level of nutritional knowledge of pregnant women according to age?

2. What is the level of nutritional knowledge of pregnant women according to level of education?

**Hypotheses**

1. There is no significant difference in the mean nutritional knowledge of pregnant women according to age.
2. There is no significant difference in the mean nutritional knowledge of pregnant women according to level of education.

**Methods**

The descriptive survey research design was employed in order to accomplish the purpose of this study. It gathers data at a particular point in time with the intention of describing the existing conditions. Frankfort-Nachmias and Nachias (2006) stated that descriptive survey design is a research design used most predominantly as it facilitates the gathering of information about a large population by collecting information from a portion of that very population from where generalization can be inferred.The population for this study consisted of registered pregnant women attending antenatal clinic in different health facilities in Nsukka Health District who booked between August 2013 and April 2014. The total population of these women was three thousand six hundred (3,600). (Nsukka Health District Board, 2014).

The sample for the study consisted of 360 pregnant women statistically determined using Yaro Yamane formula for a finite population. The multi-stage sampling procedure was employed to draw the sample for the study. The procedure involved three stages. In the first stage, stratified random sampling was used to stratify the health facilities located in the three L.G.As(Nsukka, Igbo-Etiti, Uzo-Uwani) that make up Nsukka Health District into predominantly urban and rural health facilities. The second stage involved the use of simple random sampling techniques of balloting without replacement to select four health facilities out of the five functional ones in each of the three Local Government Areas. Two was selected from urban and rural health facilities. This procedure provided a total of 12 health centres out of 15 functional ones located in Nsukka Health District. In another stage, purposive random sampling technique was employed to select 30 pregnant women from each of the 12 health facilities. This resulted in a sample of 360 pregnant women.

The instrument for data collection was the researcher-designed questionnaire which was called Nutritional Knowledge Questionnaire (NUKQ). The questionnaire was divided into two sections, Section A consisted of two items demanding the bio-data (age and level of education) of the respondents. Section B comprised of twenty four multiple choice questions for testing the respondents’ knowledge of the concept of balance diet, nutrients and sources of food nutrients, nutritional requirement during pregnancy and consequences of the deficiency of these vital nutrients. Five experts in the Department of Health and Physical Education, University of Nigeria Nsukka validated the instruments. Split-half method using Spearman rank order correlation formular was used to establish the internal consistency of NUKQ. A reliability coefficient index of .68 was obtained. This was considered high enough for the study. The distribution and collection of the questionnaire was facilitated by the assistance of instructed research assistance after permission was obtained from the officers’ in-charge of the respective health facilities. The completed copies of the instrument were collected from the respondents on the spot. This approach yielded a high return rate. Mean and percentages were the statistics employed to analyze the two research questions using Ashur’s (1977) criteria as modified by Okafor (1997). By this criterion, below 40 per cent score of the respondents was considered low level of knowledge; 40-59 per cent was considered average level, a score of 60-80 per cent was considered high level while above 80 per cent was considered very high level of knowledge. ANOVA statistics was used in testing the two null hypotheses at .05 level of significance.

**Results**

**Table 1**

**Level of Nutritional Knowledge of Pregnant Women According to Age (n-350)**

Age group % SD

15-20 years (n = 45) 33.70 13.981

21-30 years (n = 192) 45.70 22.738

31-40 years (n = 63) 69.71 17.019

41-49 years (n = 50) 34.67 12.862

**Grand mean (%) 46.90 22.814**

Table 1 shows that the mean score of women aged 31-40 years were 69.71% which falls between 60-80 per cent. This implies that women of this age group possessed high level of nutritional knowledge. The table further shows that the mean score of women aged 21-30 years (45.70%) which falls between 40-59 per cent indicating that women of this age group possessed average level of nutritional knowledge. The Table also shows that the mean score of women aged 41-49 years was 34.6 per cent which falls below 40 per cent and was slightly higher than those aged 15-20 years (=33.70) implying that women of these age groups possessed low level of nutritional knowledge.

**Table 2**

**Level of Nutritional Knowledge of Pregnant Women According Level of Education (n - 350).**

Level of education % SD D

Non-formal education 30.56 17.213Low

Primary education 29.52 10.700 Low

Secondary education 42.55 18.495 Low

Tertiary education 73.89 13.639 High

**Grand mean (%) 46.90 22.814**

Table 2 shows that the mean score of pregnant women with tertiary education (73.89%) falls between 60-80 percent. This implies that women of this age group possessed high level of nutritional knowledge. The table further shows that a mean score of women with secondary education *(*42.55%) which falls between 40-59 per cent indicating that women of this age group possessed average level of nutritional knowledge. The table also shows that the mean score of women with non-formal education (30.56%)and those with primary education (29.52%) falls below 40 percent. This implies that women of these age groups possessed low nutritional knowledge.

**Table 3**

**Result of One-Way Analysis of Variance (ANOVA) Testing the Null Hypothesis of No Significant Difference in the Mean Nutritional Knowledge of Pregnant Women According to Age (n = 350).**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Sum of squares** | **Df** | **Mean square** | **F** | **P-value** |
| Between Groups | 48369.922 | 3 | 16123.307 |  |  |
| Within Groups | 133276.904 | 346 | 385.193 | 41.858 | .000 |

\* Significant.

Table 3 shows that the calculated F-value and the corresponding P – value (F – value = 41.858, P – value = .000 < .05) is less than .05 level of significant at 3 and 346 degrees of freedom. The null hypothesis of no significant difference is therefore rejected. This implies that the nutritional knowledge of pregnant women differed according to age.

**Table 4**

**Result of One-Way Analysis of Variance (ANOVA) Testing the Hypothesis of No Significant Difference in the Mean Nutritional Knowledge of Pregnant Women According to Level of Education**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Sum of squares** | **Df** | **Mean square** | **F** | **P-value** |
| Between Groups | 98573.432 | 3 | 32857.811 |  |  |
| Within Groups | 83073.394 | 346 | 240.007 | 136.853 | .000 |

\* Significant.

Table 4 shows that the calculated F-value and the corresponding P – value(F – value =136.853, P – value = .000 < .05) is less than .05 level of Significant at 3 and 346 degrees of freedom. The null hypothesis of no significant difference is therefore rejected. This implies that the nutritional knowledge of pregnant women differed according to level of education.

**Discussion**

The findings in Table 1 revealed that the level of knowledge of pregnant women aged 41-49 years was slightly higher than those aged 15-20 years was low while the level of knowledge of those aged 21-30 years and 31-40 years was average and high respectively. The fact that, age group 15-20 years possessed low nutritional knowledge was expected and therefore not surprising, because experience has shown that age plays a significant role in acquisition of facts or knowledge. The women in this age group are vulnerable to eating fast foods so that even though they attend antenatal clinic, they may not be concerned with certain nutritional information and facts. This explains why some of them resorts to junks and non-nutrients foods such as clay. The finding is similar to that of Anderson and Campbell (1995). They reported that it seems unlikely that younger women would have a better knowledge of nutrition because they are less exposed to diet and health concepts which older womenare more concerned about. On the other hand, age 41-49 years possessed low nutritional knowledge. It is surprising and not expected. Age groups 41-49 years are expected to demonstrate very high level of knowledge due to the previous experiences gained while receiving antenatal care and feeding their children. This finding disagrees with the finding of Anderson and Campbell (1995) which indicated that older women are more concerned and have better knowledge of nutrition.

The finding in Table 2 revealed that the level of knowledge of pregnant women with non-formal education, and primary education was low. This finding is not surprising but expected. It is an established fact, that education is power. Practically, pregnant women, who were illiterates due to lack of education may not retain adequate nutritional knowledge concerning their nutritional demands. The implication of this finding is that these women might select foods which do not form adequate diet because there may be the temptation of selecting only carbohydrate food, thus not eating right. The finding is in consonance with that of Walraven et al (1997) which reported that low education level has indirect effects on the understanding of nutrition and food aspects as well as improvement of the socio-economic conditions. The result further showed that pregnant women with secondary and tertiary education possessed average and high nutritional knowledge respectively. This finding was not surprising but expected. This is due to the fact that women with high educational attainments are expected to exhibit adequate nutritional knowledge because of their exposure to nutritional information through communication media. This finding agrees with that of Marietta, Welshimer and Anderson (1999) which reported that educated people was more nutrition conscious to get better food choices and healthy eating.

The finding in Table 3 revealed that, there was significant difference in the nutritional knowledge of pregnant women according to age. This implies that pregnant women in the four age groups differed in their nutritional knowledge. This finding was expected and not surprising because these four age groups of pregnant women probably do not seem to have equal exposure and experiences regarding their nutritional demands. Age has been identified as a strong factor that can limit the ability of an individual to acquire nutritional knowledge. This is in line with Ejifugha (2003) who reported that age brings about maturity and maturity puts one in a position to rationalize, concretize, accept or reject concept, information, habit, attitude and practice. This finding conforms to that ofAgada-Amade (2004) who maintained that disparity in level of knowledge according to age could be attributed to the fact that older people give more attention to health and health related matters more than thoseless than 40 years.

The finding in Table 4 revealed that there was significant difference in the nutritional knowledge of pregnant women according to level of education. This implies that pregnant women in the four educational levels differed in their nutritional knowledge. This finding was expected and not surprising as it agrees with the view of Onyekwere, Samuel and Akwuba (2013) that educational level of a given group of individuals is expected to influence their knowledge of a given health concept or behavior. Sound education has the capacity to stimulate and empower an individual’s intellectual capacity to understand and appreciate concepts especially those bothering on their nutrition. This finding is in line with Islam and Ullah (2005) who reported that educational status had significant influence on knowledge and attitude of pregnant woman toward nutrition. However, this finding disagrees with the report that, there is no considerable difference between the nutritional knowledge of women who were illiterate, with those who attended primary and secondary education (Sharma & Sharma, 2012).

**Conclusions**

Based on the findings and discussion of the study the following conclusions were made:

1. Pregnant women aged 31-40 years and 21 to 30 years possessed high and average level of nutritional knowledge respectively while those aged 15-20 and 41-49 years had low nutritional knowledge.

2. Pregnant women with tertiary and secondary education had high and average level of nutritional knowledge respectively while those with non-formal and primary education had low level of nutritional knowledge

**Recommendations**

On the basis of the findings of the present study, the discussion and conclusion thereof, the following recommendations were made:

1. The government should intensify efforts to improve health care delivery system through strengthening human resources capacities and qualities of interaction between pregnant women and health care workers using different media.
2. The State Government in conjunction with the Ministry of Health Education information and Women Affairs, school authorities, Non-governmental Organizations (NGOs) and churches should embark on sensitization and public enlightenment campaigns in the area of Nutrition education both in schools and the general public.

**References**

Abanobi, O.C. (2005). *Health, Wellness and Illness States: Biological, Social, Cultural, Environmental, Nutritional, BehaviouralAnd Health Systems Factors*. Owerri: Opinion Research and Communications Inc in Collaboration with Abana Heart Publication.

Agada-Amade. Y. A. (2002). *Mental Health and National Insurance scheme in Community Mental Health Services in Nigeria: Problems and Prospects*. Maduguri: Wakil Publication.

Akinsola, H.A. (2006).*A-Z of Community Health in Medical Nursing and Health Education Practice*. Ibadan: College Press and Publishers Limited.

Alade, I. (2002). *Public Health Nutrition* (2nded). Illorin: Tosco Venture Press.

Anazonwu, B. J. N. (1981)”*Indigenous food and Nutritional Adequacy” (Symposium on Development of Indigenous Technology*) at Proda Enugu An unpublished Ph. D Thesis report University of Nigeria Nsukka.

Anderson, A. S. Campbell D.M. (1995). The Influence Dietary Advice on Nutrient Intake During Pregnancy*. British Journal of Nutritional*, 73, 163-177.

Ashur, S. S. (1997). An evaluation plan for the development and updating nutrition Education Curriculum at upper elementary and preparatory levels in Nutrition.IVNS/UNESCO.*International Conference in Nutrition Education,*10(2), 67-74.

Ejifugha, A.U., (2003).*Adolescent and adult health*.Owerri.Barloz publishers.

Ene-Obong, H.N. (2001*). Eating Right (A Nutrition Guide*).Calabar: The University of Calabar Press.

Fort-Nachmias, C. F. &Nachmias, D. (2006).*Research methods in the social sciences.* London: Hodder Arnold.

Islam, M. N. &Ullah M.O. (2005). Knowledge and attitude of uban pregnant woman of Bangledesh toward nutrition, health care practice and delivery place. *J. Medical Sci*, 5,116-119.

Marietta, A. B., Welshimer, S. L. & Anderson, C. L. (1999). Knowledge attitudes and behaviours of college students regarding the 1990 nutrition labelling education act food labels. *J. An.Diet.Assoc, 99,445-449.*

Moronkola, O.A. (2003*). Essays on Issues in Health*. Ibadan: Royal People (Nigeria) Ltd.

Naumann, C.N. (1997). *The structure of human in medical nursing and health education practice.*Ibadan: college press and publishers limited.

Okereke, P. (2005). *Principles and Practice of Maternal and Child Health Care*. Onitsha: Life Crown Publishers.

Okereke, P. (2010). *Reproductive health technology* Onitsha: Noble publishers.

Okoli, J. N. (2009). *Basic Nutrition and Diet Therapy*. Nsukka: University press.

Onyekwere, O. K., Samuel, E. S. &Akwuba, S. E. (2003). Knowledge of hypertension in pregnancy as a cause of maternal mortality among pregnant mothers in Owerri senatorial zone of Imo State, *Nigerian Journal of Health* promotion, 6 (1), 45-61.

Rickets, P. (1999), *Food guide for pregnant women( 5th Ed).* London: Oxford University press

Sharma, M. & Sharma, S*.* (2012). Knowledge, attitude and belief of pregnant woman towards safe motherhood in a rural Indian Setting.*Social Science Direction.*Accessed from <http://dx.doi.org> on25-7-14.

Stuart, T. H, &Acheterberg, C. (2004).*Nutrition Education and Communication Strategies for Different Groups and Setting.UNICEF*: Manila Philippines.

United States Development Agency.(2005). *Interpretation and the Uses of Dietary*. Washington. D.C: National Academics Press.

Walraven, G. E. L., Mkanje, R.J.B., Van Asten, H.A.G.H., Van Roosmalen, J., Van Dongen, P.W.J. & Dolmans, W.M.V. (1997). The Aetiology of Low Birth Weight in Rural Area of Tanzania.*Tropical Medicine and International Health, 2, 558-567.*

Wardlaw, G. M. & Smith, A.M. (2011).Contemporary Nutrition (8thed). New York:McGram-Hill International Edition (McGraw Hill)

WHO (1996).Safe Motherhood initiative.Assessed from <http://www>.Safemotherhood.organ.on 14/9/11.

**DEMOGRAPHIC PATTERN OF PHYSICAL ACTIVITY BEHAVIOURS AMONG IN-SCHOOL ADOLESCENTS IN JIGAWA STATE, NIGERIA**

**Tr. Professor E.S. Samuel, J.E. Umeifekwem,**

Department of Health and Physical Education,

University of Nigeria, Nsukka

**&**

**Kabiru, Musa** Ph.D

(Principal Lecturer)

Department of Physical and Health Education

Jigawa State College of Education, PMB 1002, Gumel, Nigeria

**Abstract**

*The demographic pattern of Physical activity behaviours among in-school adolescents in Jigawa State was investigated, the study utilized descriptive survey design. The population of the study consisted of 159,586 in-school adolescents in Jigawa state secondary Schools. A sample of 3,192 students representing 2 per cent of the population participated in the study and 2886 copies of the returned ISAHRBQ were used for analysis. A Multi-stage sampling procedure was adopted to draw the sample from the population. Three instruments were used for data collection. These were a 55-item In-School Adolescent Health Risk Behaviours Questionnaire referred to as ISAHRBQ which was adapted from the 2013- National Youth Risk Behaviour Survey Questionaire–YRBSQ-2013. Spearman Brown Prophecy Formula was employed to establish the reliability index of the ISAHRBQ. The reliability coefficients of 0.80 for ISAHRBQ was determined through Spearman Brown Prophecy statistic. Research questions were answered using mean and standard deviations. The null hypotheses were tested using t-test statistics and Analysis of Variance (ANOVA) at .05 level of significance. The Findings of the study revealed that there were significant differences (p > 0.05) in the mean score rating of in- school adolescents regarding physical activity behaviours according to age. There were significant differences(p > 0.05) in the mean scores of in- school adolescents regarding physical activity behaviours according to gender. Based on the findings of this study it was recommended that government should provide adequate sports facilities and equipment in schools.*

**Keywords**: Demographic, Pattern, Physical Activity, Behaviours, Adolescents.

**Introduction**

Physical exercises have some obvious health benefits. This is why participation in physical exercises has been prioritized among the three leading healthy lifestyle practices (Okafor, 2009). But according to Terzian and Moore (2009) recent data show that the transition to adolescence is associated with a dramatic decline in moderate to vigorous physical activity and that physical activity continue to decline between the ages of 14 to 18. Physical inactivity during adolescence is a great health concern, because teens are likely to maintain similar levels of physical activity into adulthood and because physical inactivity is associated with a host of negative health outcomes, including cardiovascular disease and obesity. Behaviour is characterized as sedentary if teenage children had not exercised vigorously for at least 20 minutes on any day in the past week, and nonparticipation in sports was characterized as having no involvement at all in team and individual sports or in sports lessons in the past year (Terzian & Moore, 2009).

Regular physical activity has been known to have tremendous benefits to the body. One of the benefits is that it improves mental and physical health. Unfortunately, people including adolescents neglect physical exercise, and this behaviour leads to physical inactivity which has been linked to many health problems such as cardiovascular diseases, stress, overweight and obesity among others (Phillip, 2010). Strong evidence shows that physical inactivity increases the risk of many adverse health conditions, including major non-communicable diseases such as coronary heart disease, type 2 diabetes, and breast and colon cancers, and shortens life expectancy (Lee, Shiroma, Lobelo, Puska, Blair & Katzmarzyk, 2012). National Institute of Health -NIH (2004) asserts that physically inactive youths with low levels of cardiovascular fitness, high percentage of body fat, and large amounts of visceral adipose tissue have unfavourable cardiovascular risk profiles which increase their risks of developing cardiovascular diseases later in life. Although physical activity can help prevent excessive weight gain, more than a third of all middle and high school students do not get the recommended 30 minutes of moderate physical activity on most days of the week (NIH, 2004). Regular exercise and participation in sports or physical education classes can have positive effects such as building and maintaining strong muscles and bones, controlling weight, and providing positive psychological benefits. In this study, physical inactivity refers to lack of participation in physical activities by in- school adolescents, or participating in physical activity that does not bring any health benefits to the health and fitness levels of adolescents. Therefore, the researcher intends to identify in-school adolescents who are physically inactive in this study so as to target and direct preventive strategies against the incidence.

To fully understand the trends of physical activity behaviour demographic pattern should be well studied. This is because the age for starting a particular behaviour may differ among adolescents. De Visser, Rissel, Smith, and Richter, (2006) who conducted a survey on socio -demographic correlates of selected health risk behaviours among Australian youth asserted that demographic pattern of health risk behaviours is common among adolescents aged 16 to 24. Blum et al (2000), WHO, (2003), Resnick et al (2004), and Springer et al (2006) had the same view in their respective studies conducted in various locations. Studies by Sychareum, Thomsen and Faxelid (2011) revealed that percentages for risky behaviours are higher in the older group for both boys and girls than the younger group. Although age groups have been implicated, and linked to some various risk behaviours, these variations may also involve gender.

Gender disparities are also linked to various risk behaviours such as physical inactivity. The extent to which adolescents engage in risk-taking behaviours can also be influenced by other factors such as gender. Research frequently highlights that males are more likely to be involved in risk-taking behaviours (Alexander, Somerfield, Ensminger, Kim & Johnson, 1992).

Adolescents as defined by WHO (2003) are regarded as the young ones within the age range of 10 – 19 years. According to Kaplan (2004) adolescents are young people between the ages of 10 – 24 years. In this study, adolescents refer to young boys and girls who are currently schooling, and they are within the age range of 10-19 years, transiting from childhood to adulthood. In – school adolescents refers to young boys and girls who are currently schooling, and they are within the age range of 10-19 years, transiting from childhood to adulthood.

Similarly, a South African National Youth Risk Behaviour Survey (2003) found that adolescent’s life has drastically changed in the 21st century with an increase in health compromising behaviours such as physical inactivity. Sychareum, Thomsen, and Faxelid (2011) and Terzian, Kristine, Andrews and Moore (2011) revealed that such risky behaviours might cause a threat to adolescents health later in life. Mungrulker, Whiteman, and Posner (2001) asserted that by the year 2010 there will be more adolescents (ages 10-19) alive in the world than ever before, who will constitute about 20 per cent of the world’s population with about 85 per cent of them in developing countries (Morhason-Bello, Oladokun, Enakpene, Fabamwo, Obisesan, & Ojengbede, 2008) and about 30 per cent of the total population in Nigeria (Muyibi, et al, 2010). Therefore, considering the above proportions of adolescents in the world, and in developing countries including Nigeria, attention should be given to this population group in order to protect them from the health challenges of physical inactivity.

Due to lack of documented data on adolescents’ physical activity behaviour in Jigawa State, this study specifically sought answer to the following questions:

1. What are the physical activity behaviours among in- school adolescents in Jigawa State according to age?
2. What are the physical activity behaviours among in- school adolescents in Jigawa State according to gender?

The following hypotheses were postulated and tested at .05 level of significance

1. There is no significant difference in the mean response scores regarding physical activity behaviour of in-school adolescents in Jigawa State according to age.
2. There is no significant difference in the mean response scores regarding physical activity behaviours of in-school adolescents in Jigawa State according to gender.

**Methods**

In order to achieve the purpose of the present study, a descriptive survey research design was adopted. According to Ali (1996) this design describes conditions or situations of what is being investigated as they exist in their natural settings. The population for the study consisted of all the in- school adolescents in government owned secondary schools in Jigawa State, whichnumbered 159,586 in 483 secondary schools. The sample for the study consisted of 3192 students drawn by using a multistage sampling procedure. This involved a proportionate stratified sampling technique.

In-School Adolescent Health Risk Behaviour Questionnaire structured by the researchers referred to as ISAHRBQ was used for data collection in the study. The ISAHRBQ questionnaire was adapted from the 2013 National Youth Risk Behaviour Survey Questionnaire (YRBSQ-2013). Therefore, some items of 2013 National YRBQ were selected and modified, while other items in the questionnaire were not included for some obvious reasons. First, some of these items were considered not relevant to the variables of the study. Secondly, some were not relevant to theNigerian background. Face validity of the instrument was established by five experts. The observations and comments of the experts were used for the production of the final copy of the questionnaire. Spearman Brown Prophecy Formula was used to determine the reliability of ISAHRBQ. Based on this, reliability coefficient of 0.80 for ISAHRBQ was obtained and it was considered high enough to be used for the study.

The researcher and his research assistants administered 3192 copies of ISAHRBQ to the subjects. A total of 3002 copies of the questionnaire were collected back from the respondents which was 94.04 per cent return rate.

The data were analyzed on an item-by-item basis. Four- point response options of ‘Always’, ‘Sometimes’, ‘Rarely’, and ‘Never’ which were weighted 4, 3, 2 and 1 respectively. Mean scores were used to answer the two research questions and real limit of numbers were applied to interpret the item by item as well as the cluster mean scores .Therefore, mean scores ranging between 1.00 – 1.99 were interpreted as ‘Never’, 2.00 – 2.49 were interpreted as ’Rarely’, mean scores between 2.50 – 3.49 were interpreted as ‘Sometimes’ while 3.50 – 4.00 were interpreted as ’Always’. ANOVA statistic was used to test hypothesis one and t-test was used to test hypothesis two. The results of the analyses were presented in the relevant tables. All the hypotheses postulated for the study were tested and decisions on the hypotheses were taken at .05 level of significance.

**Results**

**Table 1:Mean Scores Rating of Physical Activity Behaviour among In-school Adolescents According to Age (n=2886)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Age | | | | | | | | | | | | | | | | | | | |  | | | | |
| **Items** | **12 yrs & below**  **(n= 337)** | | **13 yrs**  **(n= 558)** | | **14 yrs**  **(n= 428)** | | | **15 yrs**  **(n= 605)** | | | | | | | **16 yrs**  **(n= 248)** | | **17 yrs**  **(n= 367)** | | | | **18 yrs**  **(n= 343)** | | | |
| **Physical activity Behaviours** |  | Dec |  | Dec | |  | Dec | |  | | Dec | |  | | | Dec | |  | Dec |  | | Dec | | |
| 24. physically active over 30 minutes per week | 2.29 | RL | 2.50 | ST | | 2.35 | RL | | 2.15 | | RL | | 2.10 | | | RL | | 1.88 | NE | 2.06 | | RL | | |
| 25. Exercise to strengthen muscles | 2.10 | RL | 2.19 | RL | | 2.10 | RL | | 1.92 | | NE | | 1.98 | | | NE | | 1.76 | NE | 1.83 | | NE | | |
| 26. watching TV | 2.09 | RL | 2.16 | RL | | 2.06 | RL | | 1.91 | | NE | | 2.00 | | | RL | | 1.74 | NE | 1.78 | | NE | | |
| 27. Play Video/ Computer games | 1.71 | NE | 1.81 | NE | | 1.68 | NE | | | 1.51 | | NE | | 1.44 | | NE | | 1.30 | NE | | 1.33 | | NE |
| 28. Attending PE classes | 2.09 | RL | 2.15 | RL | | 2.04 | RL | | | 1.89 | | NE | | 1.97 | | NE | | 1.71 | NE | | 1.72 | | NE |
| 29. Sports teams you play | 1.59 | NE | 1.71 | NE | | 1.57 | NE | | | 1.47 | | NE | | 1.41 | | NE | | 1.28 | NE | | 1.30 | | NE |
| **Cluster mean** | **1.98** | **NE** | **2.09** | **RL** | | **1.97** | **NE** | | | **1.81** | | **NE** | | **1.82** | | **NE** | | **1.61** | **NE** | | **1.67** | | **NE** |

**Keys :-** Always (AL) = 3.50 – 4.00 Sometimes (ST) = 2.50 – 3.49 Rarely (RL) = 2.00 – 2.49

Never (NE) = 1.00 – 1.99

Table 1 shows the cluster mean scores regarding physical activity behaviour according to age (13yrs - = 2.09 > 12yrs- = 1.98 > 14yrs- = 1.97 > 16yrs- = 1.82 > 15yrs -= 1.81 > 18yrs- = 1.67> 17yrs - =1.61) of in – school adolescents which fall between the mean of 2.00 – 2.49 for those aged 13yrs and 1.00 – 1.99 for those aged 12,14,15,16,17 and-18 years respectively. This implies that in- school adolescents aged 13 years rarely participated in physical activities, while those aged 12,14,15,16,17 and-18 years never participated in physical activities.This implies that they were physically inactive.

**Table 2**

**Mean Score Rating of Physical activity behaviours Among in- School Adolescents According to Gender (n= 2886)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Gender** | | | | | | |
| **Items** | **Male**  **(n= 1468)** | | | **Female**  **(n= 1418)** | | |
| **Physical Activity Behaviours** |  |  | **Dec** |  |  | **Dec** |
| 24. physically active over 30 min. per week | 2.56 |  | ST | 1.86 |  | NE |
| 25. Exercise to strengthen muscles | 2.33 |  | RL | 1.65 |  | NE |
| 26. watching TV | 2.30 |  | RL | 1.63 |  | NE |
| 27. Play Video/Computer games | 1.68 |  | NE | 1.44 |  | NE |
| 28. Attending PE classes | 2.27 |  | RL | 1.63 |  | NE |
| 29. Sports teams you play | 1.61 |  | NE | 1.38 |  | NE |
| **Cluster mean** | **2.12** |  | **RL** | **1.59** |  | NE |

**Keys :-** Always (AL) = 3.50 – 4.00 Sometimes (ST) = 2.50 – 3.49 Rarely (RL) = 2.00 – 2.49 Never (NE) = 1.00 – 1.99

Regarding physical activity related behaviours, Table 2 shows that the cluster mean scores of male and female (Male =**** = 2.12 > Female=**** = 1.59) in – school adolescents fall between 2.00 – 2.49 for male and 1.00 – 1.99 for female. This imply that male in – school adolescents participated in physical activities rarely, while the female counterparts never participated in physical activities.

**Table 3**

**One – way Analysis of Variance (ANOVA) Testing the Null Hypothesis of no Significant Difference in the Physical Activity Related Behaviours Among in- school Adolescents According to Age (n= 2886)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Variables**  **Age** | **Sources of Variance** | **Sum of Squares** | **Df** | **Mean Squares** | **F** | **P-value** |
| Physical Activity Related Behaviours | Between Group  Within Group | 2714.139  92483.045 | 6  2879 | 452.356  32.123 | 14.082 | .000\* |

\*Significant

Data in Table 3 show that F- values and their corresponding P-values for: physical activity behaviours (F= 14.08, P= .000) are significant since the P- values are less than .05 level of significance at 2879 degree of freedom. The null hypothesis of no significant difference in the exhibition of physical activity related behaviours among in- school adolescents according to age was rejected. This implies that physical activity related behaviours of in- school adolescents differed according to their Age.

**Table 4**

**Summary of t- Test Analysis Testing the Null Hypothesis of no Significant Difference in the Responses RegardingPhysical Activity Related Behaviours Among In- school Adolescents According to Gender (n= 2886)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Variable**  **Gender** | **N** |  | **SD** | **t- cal** | **Df** | **P- value** |
| Physical Act. Beh.  Male  Female | 1468  1418 | 12.75  9.58 | 5.211  5.828 | 15.401 | 2884 | .000\* |

**\*Significant**

**\*\*Not Significant**

Data in Table 4 show the t- cal value and the corresponding P- value for physical activity behaviours (t-cal = 15.40,P=.000). The P-value is less than .05 level of significance, we therefore, reject the null hypothesis of no significance difference in the Physical Activity related behaviours of in- school adolescents according to gender. This implies that Physical Activity related behaviours of male and female in- school adolescents regarding these behaviours are different.

**Discussion**

Table 1 revealed that in –school adolescents aged 13 years rarely participated in physical activities, while others (aged 12, 14,15,16,17 &18 years) never participated in physical activities. This finding was not expected and it is surprising, because, Healthy People (2010) show that adolescents are endowed with tremendous physical energy, which should be expended through physical activities and proper organization of sports competition in secondary schools. Unfortunately, from researchers experience adolescents in the study area are faced with the problem of inadequate sports facilities and equipment in various schools and physical education teachers are also inadequate. The finding of never participated in physical activities in the present study is consistent with the finding of Bester and Schnell (2004) who reported that many adolescents never participated in sports and exercises, and they increasingly turn in to sedentary lifestyles. This finding is also in agreement with the finding of Racette, Deusinger,Strube, Highstein and Deusinger (2005) who found that participation in vigorous aerobic and strengthening activities declined progressively between the ages of 12 and 21 and that of Terzian and More (2009) who revealed that the transition to adolescence is associated with a dramatic decline in moderate to vigorous physical activity and that physical activity continue to decline between the ages of 14 to 18years.

The Table 2 indicates that male in –school adolescents participated in physical activity rarely, while their female counterparts never participated in physical activities. This finding was not expected and therefore surprising, because Healthy people (2010) indicated that adolescents are endowed with tremendous physical energy, which should be expended through physical activities, through the participation in physical education classes and proper organization of sports competition in secondary schools. Unfortunately, from researcher’s experience adolescents in the study area are faced with the problem of inadequate sports facilities and equipment in various schools as well as inadequate and committed number of physical education teachers is also inadequate. The finding of never participated in physical activities in the present study is consistent with the finding of Al-Hazzaa1, Abahussain, Al-Sobayel, Qahwaji and Musaiger (2011) who found that a high proportion of Saudi adolescent males and females were not physically active.

Findings in Table 3 indicated a significant difference in physical activity behaviours (F-cal 14.082,P=000) of in- school adolescents according to age. These results were expected and not surprising, because adolescents’ behaviours change with age due to their developmental characteristics and life challenges. These findings are corroborated by the findings of South African National Youth Risk Behaviour Survey - (SANYRBS, 2003) who found that there was statistically significant difference in all the six HRBs including physical activity behaviours according to age groups.

Findings in Table 4 indicated that a significant gender difference was found in physical activity behaviours of in- school adolescents. This finding was expected and not surprising, because naturally adolescents differ in their developmental characteristics as well as in behaviours, and males are known to be more masculine and risk takers than females. This is corroborated by the findings of South African National Youth Risk Behaviour Survey - (SANYRBS, 2003) who found that there was statistically significant difference in HRBs including physical activity behaviours according to gender.

**Conclusion**

Based on the findings and the discussion of the study it was concluded that in – school adolescents of various ages (12, 14, 15, 16, 17 & 18) were physically inactive and never exhibited physical activity behaviours, while 13yrs exhibited physical activity behaviours rarely. Male and female in – school adolescents never exhibited physical activity behaviours, but females were more physically inactive than their males counterparts. There were significant differences in the mean scores of in- school adolescents regarding physical activity behaviours according to age and gender.

**Recommendations**

On the basis of the findings of the present study, the discussions, and conclusions thereof, the following recommendations were made: The study recommended to the Jigawa State Ministry of Education in collaboration with State Universal Education Board (SUBEB) should provide adequate physical education teachers and enough sporting equipment and facilities in all schools. Furthermore, the Ministry of Education under the auspices of Agency for Mass Education should educate parents on the importance of physical exercises to health and longevity of the children, through various for a.

**References**

Al-Hazzaa, H.M; Abuhussain, N.A; Al –Sobayel, H.I, Qahwaji, D.M & Musaiger, A.O. (2011). Physical activity, sedentary behaviour and dietary habits among Saudi adolescents relative to age, gender and region. *International Journal of Behavioural Nurition and Phyusical Activity*, 8 (140),1479-5868.

Ali, A. (1996). Fundamentals of research in education .Akwa Mcks publishers, Nig.

Bester,G. & Schnell, N.D.(2004). Endogenous factors that relate to the eating habits of adolescents. *South African Journal of Educatio, 24,* (3),189-193.

Blum, R.W., Beuhring, T., Shew, M.L., Bearings, L.H., Sieving, R.E., & Resinick, M.D. (2000). The effects of race/ ethnicity, income, and family structure on adolescent risk behaviours. *American Journal of Public Health*, 90 (12), 1897-1884.

De visser, R.O., Rissel, C.E, Smith, A.M & Richter, J. (2006). Sociademorgraphic correlates of selected health risk behaviours in a representative sample of Australian Jung people, *International Journal of Behavioural Medicine*, 13 (2), 153-162.

Healthy People (2010). Health and human services prevention strategies. U.S. Department of Health and Human services: Washington DC, 20201.

Kaplan, P.S. (2004). Adolescence. Boston: Houghton Mifflin Company.

Lee, I.M., Shiroma, E.J., Lobelo, F., Puska, P., Blaiv., S.N. & Katzmarzyk, P.T. (2012). *Effect of physical inactivity on major non – communicable diseases worldwide: An analysis of burden of disease and life expectancy*. [www.press](http://www.press). Thelancet.com/physical activity. Retrieved August 27th, 2012.

Morhason-Bello, I.O., Oladokun, A., Enakpene, C.A.,Fabamwo, A.O.,Obisesan, K.A., & Ojengbede, O.A. (2008). Sexual behaviour of in-school adolescents in Ibadan, South-West Nigeria, *Africa Journal of repeoductive health*, 12(2), 89-97.

Mungrulkar, L.; Whiteman, C.V., & Posner, M. (2001). Lifeskill approach to child and adolescents healthy development. Washington. Pan American Health organization.

Muyibi, A.S. Ajayi, I.C., Irabor, A.E., Ladipo, M.A. (2010). Relationship between adolescents family function with socio-demographic characteristics and behaviour risk factors in a primary care facility, *African Journal of Primary Healthcare and family medicine,* 2(1).

National Institute of Health – NHI. (2004). Understanding Mechanic of health risk behaviour change in children and adolescents. Retrieved from [www.nih.gov.february10th2012](http://www.nih.gov.february10th2012).

Okafor, R.U. (2009). 4 – Circle base triangular model in ageing and health education. 44th Inaugural lecturer of university of Nigeria, Nsukka. April 17th.

Phillip, S. (2010). *A guide to Man’s and Women’s Health*. U.S.A.:Rose Dog Books.

Racette, S.B., Deusinger,S.S., Strube, M.j., Highstein, G.R. and Deusinger, R.H. (2005). Weight changes exercise and dietary patterns during freshman and sophomore years of college, *Journal of American College Health*, 53(6), 245-251.

Resnick, M.D., Ireland, M. & Borowsky, F. (2004). Youth violence perpetration: What protects?, what predicts? Findings longitudinal study of adolescent health, *Journal of Adolescent Health*, 35, 424. El – 424 e10.

South African National Youth Risk Behaviour Survey - SANYRBS. (2003). The First South African Youth Risk Behaviour Survey-2002. Cape Town. *South Africa Medical Research Council.* Report prepared for the South African National Department of Health.

Springer, A.E, Selwyn, B.J. & Kelder, S.H. (2006). A descriptive study of youth risk behaviours in urban rural secondary schools students in El Salvador, *Biomed,* 6(3). 1000-1186.

Sychareum, V., Thomsen, S., & Faxelid, E. (2011). Concurrent multiple health risk behaviours among adolescents in Luangnamtha Province, Lao PDR, *BMC Public Health.* 11 (36),doi:10.1186/1471-2458.

Terzian, M. & Moore, K.A. (2009). Physical inactivity in U.S. adolescents: Family, neighborhood, andindividual factors.Child trends, *Research Brief,* Retrieved from [www.childtrends.org.20thJanuary,2013](http://www.childtrends.org.20thJanuary,2013).

Terzian, M.A., Kristine Andrews, K.M. & Moore, K.A. (2011). Preventing Multiple Risky Behaviour among Adolescents: Seven strategies. Childs trend , Retrieved from [www.childstrend.org](http://www.childstrend.org). December 27th 2012.

World Health Organization (1989). The Health of Youth: facts for action, Youth and reproductive health. Geneva: WHO.

World Health Organization (1998). Primary prevention of mental neurological and psychosocial disorders: Geneva, WHO.

WHO (2003). Global status report on alcohol. Geneva.WHO.

Youth Risk Behaviour Surveillance Survey Questionnaire (2013). 2013 National Youth Risk Behaviour Survey. USA. Retrieved from http//: [www.cdc.gov/mmwr/preview/mmwrhtml/ rr6201a1-htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/%20rr6201a1-htm).

**FORMS, RISK FACTORS, AND MEASURES OF SEXUAL HARASSMENT REDUCTION AMONG SECONDARY SCHOOL STUDENTS IN OBOLLO,**

**UDENU LOCAL GOVERNMENT AREA OF ENUGU STATE**

**Samuel I. C. Dibia** & **Godfery C. Nji** Ph.D

Department of Health and Physical Education

University of Nigeria, Nsukka

**Abstract**

*This study determined the forms, risk factors of sexual harassment and measures of sexual harassment reduction among secondary school students in Obollo, Udenu LGA of Enugu State. Three research questions guided the study. A descriptive survey design was adopted for the study. The study was carried out in in Obollo Girls’ Secondary School, and Obollo Boys’ Secondary School, Udenu Local Government Area of Enugu State. Population for the study consisted of all the students in the school estimated at two thousand and eighty one (Obollo Girls=954; Obollo Boys’= 1127). Sample for the study was 276, made up of one 138 males and 138 females. Purposive random sampling was used to select 46 respondents (23 males & 23 females) from the six levels (JSS 1-3 & SS 1-3). A questionnaire, well structured by the researchers was developed and used for the study. The questionnaire comprises of three sections (A & B). Section A comprised of personal information on the gender, section B was nine item statements on forms of sexual harassment and efforts towards its prevention. The questionnaire was face validated by three experts in the department of Health and Physical Education. The data generated from the instrument were analyzed and presented using descriptive statistics of frequency and percentages. Furthermore, percentages using Okafor (1997) criteria for describing level of knowledge was adopted to determine the level of various forms of sexual harassment. In this regard, a proportion of 20 per cent or less was considered ‘very low’; 21-39 per cent ‘low’; 40-59 per cent ‘moderate’; 60-79 per cent ‘high’; and 80 per cent and above ‘very high’ level of sexual harassment. The study found out that secondary school students (58%) have moderate mean level of various forms of sexual harassment and low (35.2 %) mean risk factors associated with sexual harassment.*

**Introduction**

Sexual harassment is a public health issue that is endemic in secondary schools and workplaces all over the globe. Almost 80 per cent of students in secondary schools report experiencing sexual harassment at school (Young, Allen & Ashbaker, 2004). At the primary school level it is exhibited differently and thus it may be overlooked. In fact, sexual harassment has become so commonplace that many accept it as something everyone puts up with. However, sexual harassment is unacceptable, causing personal pain and embarrassment, creating a negative school environment, and feeding into more violent behaviours. It is important for teachers, parents, and students to gain an understanding of what sexual harassment actually is, how to respond to it, and how to prevent it.

Sexual harassment is typically defined as a form of unwanted or unwelcome sexual attention, and is considered a form of gender-based violence (McMaster, Connolly & Pepler, 2002). Sexual harassment among secondary school students encompasses acts that are sufficiently severe, persistent, or pervasive to limit a student’s ability to participate in or benefit from an education program or activity, or that create a hostile or abusive educational environment (Gruber & Fineran, 2007). Such harassment can take physical forms such as a pulling at clothing, rubbing up against another person, or grabbing/pinching, as well as verbal forms such as sexual comments, jeers, rumor spreading, or sexual jokes. Sexual harassment is a construct that invites controversy because of the wide variation in how it is defined by researchers in the field. As O’Donohue has recently concluded, definitions of sexual harassment agree on only one semantic issue: that sexual harassment is improper behaviour that has a sexual dimension (O’Donohue, Downs, & Yeater, 2009). A universally accepted definition of sexual harassment has been difficult to generate because of the diverse legal, sociological, feminist, and psychological perspectives from which the issue has been examined. In the current study, we use a behavioural–psychological definition of sexual harassment as unwanted sexual attention. This definition is behavioural in the sense that specific behaviours constituting harassment are defined, and also psychological because the target’s perception or interpretation of behaviour is salient.

Sexual harassment is unwanted and unwelcome sexual behaviour. Physical behaviours may include touching that is uncomfortable, embarrassing, and/or offensive (such as unwanted groping, pinching, or patting). Sexual harassment is not limited, however, to physical acts. Using crude or sexually inappropriate language can be considered sexual harassment if it creates an uncomfortable environment for someone else. Sexual harassment may also include offensive jokes, comments, greetings, verbal teasing, or inappropriate name-calling, such as “Hey, babe,” “Hot stuff,” or “Big hips/boobs” (Young et al, 2004). Students often sexually harass others by calling them “fag,” “homo,” or other degrading terms that refer to sexual orientation. Additional types of sexual harassment include students starting or spreading sexual rumors, writing sexual graffiti on bathroom walls, sending crude e-mails or letters, and displaying sexual drawings or pornography. A person in a position of power may request sexual favours in return for a starting position on a school team, a higher grade, or access to a popular club or peer group. Individuals who experience sexual harassment feel fearful, intimidated, manipulated, and overpowered (Larkin & Popaleni, 1994).

Identifying sexual harassment is not always easy. A boy may jokingly snap a girl’s bra, or a girl may teasingly tug at a boy’s pants, and then claim, “I was just teasing” or “I thought they liked it.” Even though sexual harassment may not have been the motive, if the target finds the behaviour uncomfortable, embarrassing, or threatening, there is a problem. It is the perception of the individual who is being harassed, not that of the harasser, that weighs most heavily in deciding if harassment has occurred. It is important to consider the individual’s age and the context of the situation when identifying sexual harassment. For example, if kindergartners are playing kissing tag and there is a sense of fun and enjoyment for all students, the game is not sexual harassment. If a teacher hugs an injured child, this is most likely not sexual harassment. If, however, the child perceives the touch as uncomfortable or the touching happens repeatedly, it may be sexual harassment. Similarly, if junior secondary students are flirting and the interaction is good natured without a sense of threat or intimidation, the flirting is probably not sexual harassment.

Sexual harassment has been recognized for many years as being a problem in the secondary schools, workplace, university campuses, and military settings, where studies show that about two in five women and one in six men report at least one incident in the past two years (Street, Gradus & Stafford , 2007). Although sexual harassment is gender based by nature, women experience it differently from men. Women are more likely to report being objectified, put down, or treated differently because of their gender (Lindberg, Grabe & Hyde, 2007), whereas men experience vulgar and homophobic comments, presumably to enforce traditional gender role stereotypes (McMaster et al, 2002). Most students also experience some forms of sexual harassment during secondary school, either occasionally or often, with girls experiencing more frequent and severe forms than boys (Young et al, 2004). Even when the timeframe of questions about unwanted sexual behaviours and harassment is narrowed from ‘‘ever’’ (i.e., lifetime prevalence) to the past 2 weeks, 15 per cent of secondary school students report being subjected to unwanted and personally upsetting sexual harassment (Walsh, Duffy & Gallagher-Duffy, 2007).

Despite awareness of the frequency of sexual harassment, there is little available research on the forms of harassment experienced by adolescent boys and girls or how it may affect them differently over time. Although an atmosphere of sexual harassment is unhealthy and alienating, further study is needed to determine the effects of such acts on girls’ and boys’ interpersonal adjustment, especially over time. In the only longitudinal study of this issue, sexual harassment among grade 8 students predicted adjustment problems three years later (Goldstein, Malanchuk & Davis-Kean, 2007). Younger girls and boys who associated with deviant peers were more likely to be the victims of sexual harassment. Moreover, girls who reached pubertal development earlier were at increased risk for sexual harassment, most likely because of inappropriate attention by others (Wolfe, Jaffe & Crooks, 2006).

It is apparent that some forms of sexual harassment occur in our secondary schools. These forms are associated with some risk factors. It is expedient to carry out this study because virtually of the reviewed literature most were from developed countries; and there is need to ascertain the state of the problem in our immediate environment. In other to fulfill this, the study determined the forms and the risk factors of sexual harassment, and also provided the measures of sexual harassment reduction among secondary school students in Obollo in Udenu Local Government State.

**Research Questions**

1. What are the forms of sexual harassment that occur among secondary school students in Obollo?
2. What are the risk factors associated with sexual harassment among secondary school students in Obollo?
3. What are the measures of sexual harassment reduction among secondary school students in Obollo?

**Methods**

A descriptive survey design was adopted for the study. Best and Khan (2003) recommends this design pointing out that it enables one to capture all pertinent aspects of a situation while employing a group as a unit of the study and investigation. This design sought to obtain information that described existing phenomenon by asking individuals about their perceptions, attitudes, behaviour or values. The study was carried out in Obollo Girls’ Secondary School, and Obollo Boys’ Secondary School, Udenu Local Government Area of Enugu State. Population for the study consisted of all the students in the school estimated at two thousand and eighty one (Obollo Girls=954; Obollo Boys’= 1127). Sample for the study was 276, made up of one 138 males and 138 females. Purposive random sampling was used to select 46 respondents (23 males & 23 females) from the six levels (JSS 1-3 & SS 1-3). A questionnaire, well structured by the researchers was developed and used for the study. The questionnaire, “Sexual Harassment Questionnaire**”** was administered face to face to the students with the help of form mistresses and masters and some corps members. This was achieved because letter of introduction was submitted to the Principals of the schools prior to questionnaire administration. The questionnaire was developed from literature reviewed, and used to collect data from the respondents. The questionnaire comprises of three sections (A, B & C). Section A comprised of forms of sexual harassment, section B was six item statements on risk factors associated with sexual harassment while section C covered the measures of preventing and reducing sexual harassment. The questionnaire was face validated by three experts in the Department of Health and Physical Education. The data generated from the instrument was analyzed using SPSS. Data analyzed were presented using descriptive statistics of frequencies and percentages. Furthermore, percentages using Okafor (1997) criteria for describing level of knowledge was adopted to determine the level of various forms of sexual harassment. In this regard, a proportion of 20 per cent or less was considered ‘very low’; 21-39 per cent ‘low’; 40-59 per cent ‘moderate’; 60-79 per cent ‘high’; and 80 per cent and above ‘very high’ level of sexual harassment.

**Results**

**Table 1**

**Forms of sexual harassment (n=276)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S/N** | **Forms of Sexual Harassment** | **Present**  **f %** | | **Absent**  **f %** | | **Decision** |
| 1 | Someone made sexual comments, jokes, gestures, or looks at me | 198 | 71.7 | 78 | 28.3 | High |
| 2 | Someone touched, grabbed or pinched me in a sexual way | 176 | 63.8 | 100 | 36.2 | High |
| 3 | Someone brushed up against me in a sexual way | 79 | 35.1 | 197 | 64.9 | Low |
| 4 | Someone spread sexual rumors about me | 125 | 45.3 | 151 | 54.7 | Moderate |
| 5 | Someone called me a ‘‘gay’’, ‘‘fag’’, ‘‘dyke’’, ‘‘lezzie’’, ‘‘queer’’ or similar terms | 81 | 29.3 | 195 | 70.7 | Low |
| 6 | Someone pulled at my clothing in a sexual way | 209 | 75.7 | 67 | 24.3 | High |
| 7 | Someone showed, gave, or left me sexual pictures, facebook, messages, or notes | 253 | 91.7 | 23 | 8.3 | Very high |
| 8 | Someone made comments about or rated the parts of my body that makes me a boy or girl | 143 | 51.8 | 133 | 48.2 | Moderate |
|  | **Total (mean %)** |  | **58** |  | **42** | Moderate |

Findings in Table 1 show that more than half of the secondary school students (58%) had moderate mean level of various forms of sexual harassment. Approximately ninety two per cent of the students reported being shown, given or left with sexual pictures, photographs, messages or notes. Sexual pulling of cloths was reported at 75.7 per cent while sexual comments, passes and looks (71.7%) were highly reported. Moderate forms of sexual harassment were reported about comments made about or rated the parts of my body that makes me a boy or girl and spreading sexual rumors (45.3%).

**Table 2**

**Risk factors associated with sexual harassment (n=276)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| S/N | Risk factors associated with sexual harassment | Present  f % | | Absent  f % | | Decision |
| 1 | Suicidal thoughts | 54 | 19.6 | 222 | 80.4 | Very low |
| 2 | Self-harm | 87 | 31.5 | 189 | 68.5 | Low |
| 3 | Maladaptive dieting | 131 | 47.5 | 145 | 52.5 | Moderate |
| 4 | Early dating | 90 | 32.6 | 186 | 67.4 | Low |
| 5 | Substance use | 45 | 16.3 | 231 | 83.7 | Very low |
| 6 | Unsafe at school | 176 | 63.8 | 100 | 36.2 | High |
|  | **Total** |  | **35.2** |  | 64.8 | Low |

Table 2 shows moderate mean risk factors associated with sexual harassment (35.2%) by secondary school students in Obollo. Table 2 indicates the priority risk factors that show high risk were being unsafe at school (63.8%). Maladaptive dieting (47.5) show a moderate risk while early dating and self harm were reported low risk factors at 32.6 and 31.5 per cent respectively.

**Table 3**

**Measures of sexual harassment reduction in schools (n= 276)**

|  |  |  |  |
| --- | --- | --- | --- |
| S/N | Measures of sexual harassment reduction in schools | f | % |
| 1 | Designating a person students can talk to | 108 | 39.1 |
| 2 | Providing online resources (Chat groups) | 61 | 22.1 |
| 3 | Holding in-class discussions | 85 | 30.8 |
| 4 | Allowing students to anonymously report problems | 157 | 56.9 |
| 5 | Enforcing sexual harassment policies and punishing harassers | 141 | 51.1 |
|  | **Total (mean %)** |  | **40.0** |

Allowing students to anonymously report problems was moderately recommended (56.9%) alongside enforcing sexual harassment policies and punishing harassers (51.1%). Holding in-class discussions was also reported by 30.8 per cent of the respondents.

**Discussion**

Sexual harassment is part of everyday life in secondary schools. High level of sexual comments, gestures and looks was expected. Hill and Kearl (2011) hold the view that sexual comments are the easiest and commonest of all forms of sexual harassment. Findings on physical harassment in forms of touching and grabbing were highly reported at 63.8 per cent. Gruber and Fineran (2007) stated in their report on the impact of bullying and sexual harassment on middle and secondary school girls is consistent with this finding.

The prevalence of sexual harassment in forms of spreading sexual rumours and calling names like gay (homo) was surprising to the researchers because it is rarely reported. Among students who were sexually harassed, about 45.3 per cent reported the incident of being rumoured about sexually while 29.3 per cent of the students said they were called by names like gay, homo, dyke, etc. Sexual harassment by pictures, Facebook, Watsapp or notes affected majority (91.7%) of the students. This is in consonance with Bhat (2008) finding. Interestingly, many of the students who were sexually harassed through cyberspace were also harassed in person in one form or the other.

Findings in Table 2 indicated that harassers and the harassed have high risk factors of no safety in school (63.8%) and moderate risk of maladaptive behaviour (47.5%). These findings were surprising. The findings suggest that prevention efforts need to address risk factors and ways to avoid them. Fineran and Bolen (2006) reported suicidal thoughts and self-harm higher in schools. This is at variance with this finding as suicidal thoughts were reported very low. The setting might be the reason for this variation because cultural norms in Obollo negate suicide.

Findings in Table 3 showed that allowing students to anonymously report problems was moderately (56.9%) reported. This report was expected because observation show that students are more willing to report problems anonymously to avoid victimization from teachers. Hill and Kearl (2011) asserted that this measure is very important for the schools must train their staff and faculty to recognize and respond to sexual harassment, to know how to help students who come to them and to know their obligations if they witness sexual harassment.

Slightly more than half (51.1%) of secondary school students in Obollo reported sexual harassment policies and punishing harassers as a measure of sexual harassment reduction. The submission of Gardin and Hammerstron (2005) was consistent with the view that schools must enact a policy to checkmate sexual harassment. According to them, schools that do not have a sexual harassment policy must create one, and all schools should make sure that the policy is publicized and enforced. School should notify parents of the policy and give them advice on how to discuss the implications of the policy with the students. Many students want this kind of information posted on the schools website and taught to them in workshops and in-class discussions. Students also want to see policies enforced and harassers punished and in anonymous way to report harassers (Hill & Kearl, 2011). Among other reported measures of sexual harassment reduction, holding in-class discussions (30.8%) was reported. This is in line with the assertions of Wolfe, Jaffe and Crooks (2006). Schools must ensure that students are aware and educated about what sexual harassment is; what their rights are; and how to respond if they experience or witness sexual harassment.

**Conclusion**

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

1. Secondary school students (58%) have moderate mean level of various forms of sexual harassment.
2. Secondary school students (35.2 %) have low mean risk factors associated with sexual harassment.
3. There was a moderate mean (40%) measure of sexual harassment reduction in schools.

**Recommendations**

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

1. **Promulgation of Sexual harassment policies in schools.** Each school should have a written policy against sexual discrimination, including behaviours associated with sexual harassment. Each school policy must be made public. The policy should define sexual harassment, clearly state that it is inappropriate, and then identify a procedure for investigating complaints. Although schools typically designate one person who is trained to investigate claims of sexual harassment, it is preferable to assign two people, a male and a female, to accommodate students’ possible discomfort with sexual harassment reporting harassment to an adult of the opposite gender.
2. **Investigating reports.** When a student reports harassment, it is important to take the complaint seriously. Legal problems arise when school personnel are aware of an incident of sexual harassment but do not effectively respond. Investigation of claims should follow school policy. Maintaining objectivity and fairness during the investigation communicates respect for all students. Students are more likely to report sexual harassment when they believe teachers care about them and are trustworthy. The students should be assured that he or she will be protected from retaliation. Even if a student chooses not to file a complaint, school administrators must maintain the confidentiality of the student and address the issue.
3. **Constructive consequences.** Although the tendency is to focus on punishment for offenders, implementing a zero-tolerance policy does not address the needs of students who harass. Responding effectively and constructively to offending behaviour poses a challenge to school adults. Harassers must face the negative consequences of their action, even if their intentions were to joke or tease. It is important to move the harasser through the negative consequences or punishment phase and into the constructive phase of generating options for alternative, more acceptable behaviour. These students need to learn positive social skills and have opportunities to practice them in a supportive learning environment.
4. **Training.** Even though developing and posting this policy are appropriate first steps, independently they are ineffective in decreasing harassing behaviours. The policy must be supported by school administrators, teachers, and other school staff who understand their important role in decreasing sexual harassment. All school staff should receive training to help them identify and respond appropriately to sexual harassment and in their role in creating supportive and respectful school environments. For example, adults should not tell sexual jokes or make inappropriate sexual references and innuendos. They should avoid gender stereotyping. When adults model respectful behaviour, students are likely to follow their example.
5. **Preventing Sexual Harassment.** Preventing sexual harassment must be an ongoing priority. Training that occurs over time, across settings, and includes the entire faculty, staff, and administrative personnel will be more effective than a one-time session of training for the teachers. Classes covering civil rights, diversity, or tolerance can include the topic of sexual harassment, and provide opportunities for ongoing discussion about respectful behaviour. In addition to integrating this topic with existing coursework, specific materials about sexual harassment should be available for classroom use. Although a short video clip about sexual harassment may be appropriate to start a discussion, a video in isolation is not as effective as a discussion in changing students’ attitudes and behaviours.

**References**

Ashbaugh, L., & Cornell, D. (2008). Sexual harassment and bullying behaviours in sixth graders. *Journal ofSchool Violence, 7*, 21–38.

Best, J.W., & Khan, J.V. (2003). *Research in education* (7th ed). India, New Deihi: Prentice Hall

Bhat, C. S. (2008). Cyber bullying: Overview and strategies for school counselors, guidance officers, and all school personnel. *Australian Journal of Guidance &Counseling, 18*(1), 53–66

Card, N.A., Isaacs, J., & Hodges, E.V. (2008). Multiple contextual levels of risk for peer victimization: A review with implications for prevention and intervention efforts. In: Miller TW, ed. *School Violence and Primary Prevention*. Oregon: Springer, 125–54.

Fineran, S., & Bolen, R. M. (2006). Risk factors for peer sexual harassment in schools. *Journal of Interpersonal Violence, 21*(9), 1169–90.

Gådin, K. G., & Hammarström, A. (2005). A possible contributor to the higher degree of girls reporting psychological symptoms compared with boys in grade nine. *European Journal of Public Health, 15*(4), 380–85.

Goldstein, S.E., Malanchuk, O., & Davis-Kean, P.E. (2007). Risk factors of sexual harassment by peers: A longitudinal investigation of African American and European American adolescents. *Journal Research of Adolescence*, 17, 285–300.

Gruber, J. E., & Fineran, S. (2007). The impact of bullying and sexual harassment on middle and high school girls. *Violence against Women, 13*(6), 627–643.

Lindberg, S.M., Grabe, S., & Hyde, J.S. (2007). Gender, pubertal development, and peer sexual harassment predict objectified body consciousness in early adolescence. *Journal Research of Adolescence,* 17:723–42.

McMaster, L.E, Connolly, J., & Pepler, D. (2002). Peer to peer sexual harassment in early adolescence: A developmental perspective. *Developmental Psychopathology*, 14, 91–105.

O’Donohue, W., Downs, K., & Yeater, E.A. (2009). Sexual harassment: A review of the literature. *Aggression and Violent Behaviour, 3,* 111–128

Okafor, R.U. (1997). Sexual knowledge and sources of sexual information of secondary school students in Anambra State, Nigeria. *Health and Movement Education Journal,* 1(1), 9-19

Street, A.E., Gradus, J.L., & Stafford, J. (2007). Gender differences in experiences of sexual harassment: Data from a male-dominated environment. *Journal of Consultancy in Clinical Psychology,* 75, 464–474.

Walsh, M., Duffy, J., & Gallagher-Duffy, J. (2007). A more accurate approach to measuring the prevalence of sexual harassment among high school students. *Canadian Journal of Behavioural Science,* 39, 110–118.

Wolfe, D.A., Jaffe, P., & Crooks, C.C. (2006). *Adolescent risk behaviours: Why teens experiment and strategies to keep them safe*. New Haven, CT: Yale University Press.

Young, E.L., Allen, M., & Ashbaker,B.Y*. (2004). Sexual harassment.* National Association of School Psychologists, 4340 East West Highway, Suite 402, Bethesda, MD 20814—(301) 657-0270.

**STIs AND HIV AND AIDS SERVICES NEEDS OF**

**ADOLESCENTS IN ENUGU STATE OF NIGERIA**

**Amelia Ngozi Odo, & Tr. Prof. E.S. Samuel**

Department of Health and Physical Education

University of Nigeria, Nsukka

**Abstract**

*The purpose of the study was to investigate Sexually Transmitted Infections (STIs), and HIV and AIDS services needs of adolescents in Enugu State. Three specific objectives with the three corresponding research questions were formulated and two hypotheses were postulated to guide the study. The survey research design was adopted for the study. The population for the study was all adolescent girls in Enugu State. Multi-stage sampling procedure was employed to select 400 adolescents using Yaro Yamen formula for sample size. The instruments for data collection were researcher’s designed questionnaire and focus group discussion guide. The validity of the instruments and reliability of the questionnaire were established, and a reliability coefficient of 0.7 was deemed reliable. Means and standard deviations were used for data analysis. The t-Test and analysis of variance were used to test the hypotheses at .05 level of significance. The findings of the study revealed that all STIs and HIV and AIDS services are important needs of adolescents. There was no significant difference in the mean responses of the adolescents based on gender while there was significant difference in the means responses with level of education. Scheffe’s test analysis indicated that the difference was between tertiary and secondary education. It was concluded that adolescents in Enugu State need STIs and HIV and AIDS services regardless of their gender and that educational level of attainment influenced adolescents’ responses on their STIs and HIV and AIDS needs. Based on the findings, it was recommended that adequate sexuality information and education should be provided in schools and communities through youth organizations to enlighten every adolescents irrespective of educational qualification, how to protect, prevent and manage STIs and HIV and AIDS.*

**Keywords**: STIs, HIV, AIDS, Services, Needs, Adolescents.

**Introduction**

Sexually Transmitted Infections (STIs), HIV and AIDS among adolescents have become a serious health challenge globally especially in developing countries. Each year, globally, an estimate of 333 million new cases of curable STIs occur with the highest rates among 20-24 year old, followed by 15-19 year olds most of which occur in developing countries (WHO, 2015). Moreover, UNFPA (2008) recorded that one in 20 adolescents contracts a sexually transmitted disease each year, and half of all cases of HIV infection take place among people under age 25. It has also been reported that 1,000,000 conceptions and 350,000 sexually transmitted infections (STIs) occur each day among adolescents, about 50 per cent of the conceptions were unplanned and about 25 per cent were definitely unwanted, resulting in about 150,000 induced abortions and 500 deaths every day.

STIs generally are diseases transmitted from an infected person to another through sexual contact (Samuel, 2010, Ogundele, 2004). This definition implies that one can contact STIs through unprotected sexual contact with the infected person. Sexually Transmitted Infections connote all disease or infections that can be spread through sexual contact. Such diseases include but not limited to the following: gonorrhoea, Chlamydia, candidiasis, herpes genitalis, syphilis, trichomoniasis, chancroid, genital warts and Human Immuno-deficiency virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS). Though, they are called STIs there are other ways through which some of these diseases could be spread. Other modes of transmission generally include, through infected blood transfusion or transfusion of unsafe blood, use of unsterile injection needles, and razors and through mother to child transmission, especially in the case of HIV and AIDS.

HIV means Human Immuno-deficiency virus. It is a virus that causes Acquired Immune Deficiency Syndrome (AIDS). Ajali and Inya-Agha (2006) stated that HIV weakens the immune system by destroying lymphocytes, a type of white blood cell that wards off infection. When the immune system has been weakened by HIV, the actual disease, AIDS sets in. The authors further stated that AIDS is actually not a single disease, but a collection of infections and malignancies that occur if infection is by Human Immunodeficiency Virus (HIV). Some STIs can be treated if detected early, while some can only be managed. Untreated STIs can lead to pelvic inflammatory disease, adverse pregnancy out-come, cervical cancer, infertility, among others (Naidoo, Wand, Abbia & Ramjee, 2014). Prevention and management of STIs and HIV and AIDS are therefore, necessary among all including adolescents.

Adolescents are young people transiting from childhood to adulthood. They are young ones between the ages of 10-19 years (UN, 2008). According to Onuzulike (2007), an adolescent is a young boy or girl in the process of developing from child into adult and spans between ages of 13 and 18 years. Kaplen (2004) opined that adolescents are young people between the ages of 11 and 24 years. Adolescent as used in this paper refers to a person within the developmental stage of transition from childhood to adulthood, between the ages of 10 and 24 years, who may be in school or out-of-school. This is due to the fact that in some people, development starts early and they attain full development early while some start late and attain full development late. Moreover, an individual’s actual maturity may not correspond to the chronological age and young people within this age range are faced with many reproductive health challenges due to their developmental characteristics which include physical, emotional, social, and intellectual characteristics.

Adolescents, including adolescents in Enugu State, are exposed to unhealthy sexual behaviours such as unsafe sex, rape, and multiple sexual partners. These behaviours predispose them to many sexual and reproductive health problems including STIs and HIV and AIDS. These problems could be prevented through quality services aimed at prevention and treatment of STIs and HIV and AIDS. Prevention of HIV infection could be achieved through HIV testing, effective sex education, use of condoms, media campaigns and public awareness, prevention of mother-to-child transmission of HIV, identifying most-at-risk groups and strengthening prevention programmes among them. Avert International (2012) opined that the high HIV prevalence reported among high-risk groups like adolescents, as well as their link to the general population should place these individuals at the centre of HIV prevention programmes. STIs and HIV and AIDS prevention and management programmes should address adolescents’ services needs.

Enugu State is one of the thirty-six States of Nigeria. It is located in the South-Eastern zone of Nigeria. Enugu State is made up of seventeen Local Government Areas (LGAs), some of which are commercial areas that attract visitors who come for one business transaction or the other. Adolescents in these areas take advantage of this to engage in hawking and commercial sex working. These expose them to unsafe sex, thus predisposing them to STIs, including HIV and AIDS. Moreover, some cultures in Enugu State promote harmful practices such as female genital mutilation and sexual violence against women including adolescents which also promotes the transmission of STIs and HIV and AIDS. It is, therefore, against this backdrop that this study was directed at answering three questions thus:

1. What are the STIs and HIV and AIDS services needs of adolescents in Enugu State?
2. What are the STIs and HIV and AIDS services needs of adolescents in Enugu State based on gender?
3. What are the STIs and HIV and AIDS services needs of adolescents in Enugu State based level of education?

In addition, the study tested the following null hypotheses at .05 level of significance.

1. There is no significant difference in the mean responses of adolescents regarding the STIs and HIV and AIDS services needs based on gender.
2. There is no significant difference in the mean responses of adolescents regarding the STIs and HIV and AIDS services needs based on level of education.

**Methods**

The survey research design was adopted for the study. The population of the study consisted of all adolescents in Enugu State. The Yaro Yamen formular for sample size was employed to arrive at a sample size of 400 adolescents. The multi-stage sampling procedure was employed to select 400 adolescents. The instruments for data collection were researcher’s designed STIs and HIV and AIDS Services Needs Questionnaire (SHASNeQ) and Focus Group Discussion Guide (FGDG). These instruments were validated by three experts from the Department of Health and Physical Education, University of Nigeria, Nsukka. The reliability of the SHASNeQ was established using split-half method and Cronbach Alpha statistic. A reliability coefficient of .70 was obtained and this was considered high enough. Anaekwe (2007) asserted that when a reliability coefficient is .67 and above, it is reliable. The copies of the questionnaire were distributed to the respondents in the communities that were selected through Youth Organizations in churches and schools. Focus group discussions were conducted at Local Government level. The ten LGAs that were used for the study had one focus group discussion each. Data collected with SHASNeQ were analyzed using means and standard deviations, while data from focus group discussions were thematically analyzed. The t-Test and ANOVA statistics were used to test the null hypothesis at .05 level of significance.

**Results**

**Table 1**

**STIs and HIV and AIDS services needs of adolescents (n=381)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S/N** | **Items** | **X** | **SD** | **Decision** |
| 1 | Sexually Transmitted Infections counseling services | 3.46 | .895 | Important |
| 2 | STls screening services at youth centers | 3.26 | .881 | Important |
| 3 | HIV voluntary counseling and testing (VCT) services | 3.40 | .895 | Important |
| 4 | Information on the preventive measures of STIs and HIV and AIDS | 3.68 | .650 | Very Important |
| 5 | Free treatment services for STls | 2.17 | .840 | Important |
| 6 | Free treatment services for STls | 2.17 | .840 | Important |
| 7 | Free screening services | 3.35 | .737 | Important |
|  | Average Mean | 3.35 | .737 | Important |

Table 1 shows that the average mean response value of 3.33 is greater than the criterion mean value of 2.50. This implies that adolescents rated STIs, and HIV and AIDS need services as important needs. The table also reveals that only information on the preventive measures of STIs and HIV and AIDS ( = 3.68) was rated as very important, while others: sexually transmitted infection counseling services (3.46), STIs screening services at youth centers (3.26) HIV voluntary counseling and testing (VCT), (3.40), free treatment services for STIs (3.17), and separate antiretroviral therapy (ART) services (3.35) were regarded as important services needs by the adolescents. The table also shows that the standard deviations range from .650 to .895, indicating that the responses of the respondents are not close to one another.

**Table 2**

**STIs and HIV and AIDS Services Needs of Adolescents Based on Gender (n=381)**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **S/N** | **Items** | **X** | **Males**  **SD** | **(n=123)**  **Decision** | **X** | **Females**  **SD** | **(n=258)**  **Decision** |
| 1 | Sexually Transmitted Infections (STIs) counseling services | 3.63 | 682 | Very important | 3.38 | .971 | Important |
| 2 | STls screening services at youth centers | 3.41 | .767 | Important | 3.17 | .921 | Important |
| 3 | HIV voluntary counseling and testing (VCT) services | 3.56 | .715 | Very Important | 3.33 | .939 | Important |
| 4 | Information on the preventive measures of STls and HIV and AIDS | 3.74 | .625 | Very Important | 3.66 | .661 | Very Important |
| 5 | Free treatment services for STls | 3.33 | .721 | Important | 3.09 | .882 | Important |
| 6 | Separate Anti-Retroviral Therapy (ART) services | 3.08 | .775 | Important | 2.98 | .853 | Important |
| 7 | Free screening services | 3.36 | .737 | Important | 3.34 | .738 | Important |
|  | Average Mean | **3.44** | **.717** | **Important** | **3.28** | **.852** | **Important** |

Data in Table 2 show that the average mean response value of male adolescents is slightly higher that of female adolescents (males = 3.44> females 3.28), indicating that STIs and HIV and AIDS services needs are important needs of adolescents. The table also shows that while males regarded the following items: sexually transmitted infections (STIs) counseling services (3.62), HIV voluntary counseling and testing (VCT) services (3.56), and information on the preventive measures of STIs and HIV and AIDS (3.74) as very important services needs, female adolescents were of the view that only information on the preventive measures of STIs and HIV and AIDS (3.66) is very important need. However, both male and female adolescents indicated that important needs are STIs screening services at youth centres (males=3.41> females 3.17), free treatment services for STIs (males = 3.33> females 3.09), separate ART services (males = 3.08> females 2.98) and free screening services (males = 3.36> females 3.34). The standard deviations for males range from .625 to .775 and from .661 to .971 for females. These imply that the responses of both males and females are not close to one another.

**Table 3**

**STIs and HIV and AIDS Services Needs of Adolescents Based on Level of Education (n=381)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | |  | **Pri Primary Education Secondary Education. Tertiary educatio** | | | | | | | | | | | | | |
|  | |  | **(n = 2) (n = 119) (n = 260)** | | | | | | | | | | | | | |
| **S/N** | | **Items** | **X** | | **SD** | **Dec.** | | **X** | | **SD** | | **Dec.** | **X** | | **SD** | **Dec.** |
| 1 | Sexually transmitted infections counseling services | | | 2.50 | 2.121 | Important | 2.95 | | 1.186 | | Important | | 3.69 | .589 | | **Very**  Important | |
| **2** | STIs screening services at youth center | | | 2.50 | 2.121 | Important | 2.88 | | 1.043 | | Important | | 3.42 | .728 | | Important | |
| **3** | HIV voluntary counseling & testing (VCT) | | | 2.50 | 2.121 | Important | 2.87 | | 1.089 | | Important | | 3.65 | .611 | | Very importtant | |
| 4 | Information on the preventive measures of STIs and HIV and AIDS | | | 4.00 | .000 | Very Important | 3.67 | | .678 | | Very Important | | 3.68 | .640 | | Very Important | |
| 5 | Free STIs treatments services | | | 2.50 | 2.121 | Important | 2.98 | | .974 | | Important | | 3.26 | .746 | | Important | |
| 6 | Separate Anti-  Retroviral therapy  (ART) services | | | 3.00 | 1.414 | Important | 2.98 | | .974 | | Important | | 3.10 | .746 | | Important | |
| 7 | Free screening services | | | 4.00 | .000 | Very Important | 3.40 | | 7.40 | | Important | | 3.32 | .736 | | Important | |
|  | **Average Mean** | | | **3.00** | **1.414** | **Important** | **3.10** | | **.955** | | **Important** | | **3.45** | **.685 rtant** | | **Important** | |

   Table 3 show that the average means response value of respondents with tertiary education (3.45) is slightly higher than those with secondary (3.10) and primary (3.00) education. The average mean response value are above the criterion mean value of 2.50, indicating that STIs and HIV and AIDS services needs of adolescents are important. The table further reveals that all the respondents indicated that the item: information on the preventive measures of STIs and HIV and AIDs (primary = 4.00> tertiary = 3.68> secondary = 3.67) is a very important need. STIs counseling services (tertiary = 3.69> secondary = 2.95> primary = 2.50) and HIV voluntary counseling and testing (tertiary = 3.65> secondary = 2.87> primary = 2.50) were regarded as very important services needs by respondents with tertiary education, and important services needs by those respondents with secondary and primary education. Free screening services (primary = 4.00> secondary = 3.40> tertiary =3.32) was regarded as very important need by respondents with primary education, while those with secondary and tertiary education indicated that this was an important STIs and HIV and AIDS services need. Important services needs for all the respondents include STIs screening service at youth centres (tertiary = 3.42> secondary = 2.88> primary = 2.50), free STIs treatment services (tertiary =3.26> secondary = 2.98> primary = 2.50), and separate ART services (tertiary = 3.10> primary = 3.00> secondary = 2.98). The table also shows that their standard deviations range from .000 to 2.121. This implies that the responses of the respondents are far apart.

**Table 4**

**Summary of t-Test Analysis testing the Null Hypothesis of No Significant Difference in the STIs and HIV and AIDS Services Needs of Adolescents Based on Gender.**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Item** | **Gender** | **n** | **X** | **SD** | **t-cal** | **df** | **P-Value** | **Decision** |
| STIs and HIV and AIDS Services needs | Male | 123 | 24.11 | 3.209 |  |  |  |  |
|  |  |  |  | 2.864 | 379 | .004 | Significant |
| Female | 258 | 22.94 | 3.976 |  |  |  |  |

Table 4 shows the t-calculated value of 2.864 and corresponding P-value of .004. Since the P-value is less than .05 level of significance at 379 degrees of freedom, the null hypothesis of no significance difference is therefore rejected. This implies that male and female adolescents’ services needs differed.

**Table 5**

**Summary of Analysis of Variance Testing the Null Hypothesis of No Significant Difference in the STIs and HIV and AIDS Services Needs of Adolescents Based on Level of Education.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Item** | **Source of Variance** | **Sum of squares** | **df** | **Mean squares** | **F-value** | **P-value** |
| STIs and HIV and AIDS Services Needs | Between Groups | 536.937 | 2 | 268.469 | 20.720 | .000 |
| Within Groups | 4897.635 | 378 | 12.957 |  |  |
| **Total** | **5434.572** | **380** |  |  |  |

Table 5 shows the calculated F-value of 20.720 and the P-value of .000. It shows that the P-value is less than .05 level of significance at 2 and 378 degrees of freedom. Therefore, the null hypothesis is rejected. This implies that there was significant difference in the STIs and HIV and AIDS services needs between male and female adolescents. Scheffe’s test is further presented in Table 6 to show where the significance lies.

**Table 6**

**Scheffe’s Post-Hoc. Analysis of Group Mean Scores Based on Level of Education on the STIs and HIV and AIDS Services Needs of Adolescents.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Dependent Variable** | **(I) Level of education** | **(J) Level of Education** | **Mean Difference (1-J)** | **P-value** |
| STIs and HIV and AIDS services Needs | Primary education | Secondary education | -.588 | .974 |
|  |  | Tertiary education | -3.127 | .474 |
|  | Secondary education | Primary education | .588 | .974 |
|  |  | Tertiary education | -2.539\* | .000 |
|  | Tertiary education | Primary education | 3.127 | .474 |
|  |  | Secondary education | 2.539\* | .000 |

\*The mean difference is significant at the .05 level.

Table 6 shows the mean difference from the paired mean comparisons for the three levels of education (primary, secondary and tertiary education) with their corresponding p-values. From the Scheffe’s table, the paired means indicates a significant difference between tertiary and secondary education (F = -2.539, P-value = .000).

**Discussion**

The findings of the study showed that adolescents in Enugu State rated STIs and HIV and AIDS services needs as important needs. The finding was not surprising because of the fact that adolescents are sexually active and most of them engage in unprotected sex which can result to STIs and HIV and AIDS. It is therefore, obvious that adolescents need to be provided with services that will protect them, prevent and manage STIs and HIV and AIDS. This finding is in line with Kamau (2006) assertion that adolescents need sexual and reproductive health services like voluntary counseling and testing services, STIs screening services and information about prevention of HIV and AIDS, STIs and unwanted pregnancy. Responding during focus group discussion, one of the participants said “these services are important to us and should be made affordable since most of us are still dependants”.

Results of the study showed that both male and female adolescents indicated that STIs and HIV and AIDS services are important needs of adolescents and there was also no significant difference in their mean responses. The finding was surprising because of the inherent cultural differences in gender roles especially concerning sexual issues. The finding disagreed with that of Erulka, Onoka, and Phiri (2005) who found out that girls were more particular about sexual and reproductive health services and where they get the services. However, in a conversation during the FGD, majority of the male participants were of the opinion that contraceptives should not be distributed openly to adolescents. One of them said “it is a personal issue and should be confidential as far as the person is not married”. This implies that the distribution of condom and other contraceptives to adolescents are not needed unless, this is done privately. The argument was that if distributed openly, it will further label them as “sexually immoral”.

The study also revealed that adolescents irrespective of level of education indicated that all the listed STIs and HIV and AIDS services were important needs of adolescents. These findings were due to the fact that every adolescent despite educational qualifications experiences the same developmental changes and is also faced with sexual and other reproductive health challenges, which could be effectively managed with the provision of these reproductive health services such as STIs and HIV and AIDS services. Level of education can, however, influence one’s perception and utilization of reproductive health services, but that does not mean that the services are not needed by the individual. There were also no educational disparities in the responses of the participants of the FGD but there was significant difference in the STIs and HIV and AIDS services needs of adolescents with primary, secondary and tertiary education. Table 6 showed that the difference was with tertiary and secondary education. This finding was expected because education increases ones level of knowledge which affects one’s decision. This is in line with the findings of Azuh (2011) that the higher the level of education, the more likely one gets to use health care services. The difference might also be as a result of the fact that adolescents with tertiary and secondary education may have been more exposed to literature or studies related to sexuality education and prevention and management of STIs and HIV and AIDS.

**Conclusions**

Based on the findings and discussions, it was concluded that:

1. Adolescents in Enugu State rated STIs and HIV and AIDS services as important needs.
2. There was no significant difference in the STIs and HIV and AIDS services needs of adolescents based on gender.
3. There was significant difference in the STIs and HIV and AIDS services needs of adolescents based on level of education. The difference was between tertiary and secondary education.

**Recommendations**

Based on the conclusions, the following recommendations were made:

1. Adolescents should be provided with adequate STIs and HIV and AIDS services to meet their needs.
2. Adequate sexuality information and education should be provided in schools and communities through youth organizations to enlighten every adolescents irrespective of educational qualification, how to protect, prevent and manage STIs and HIV and AIDS.

**References**

Ajali, U. & Inya-Agha, S. (2006). *HIV and AIDS: Scientific, health and social aspects.* Enugu: Rhyce Kerex Publishers.

Anaekwe, M.C.(2007). *Basic research methods and statistics in education and social sciences.* Onitsha: Sofie Publicity and Printing Limited.

Avert International. (2012). HIV and AIDS prevalence. Retrieved 18th January, 2013 from <http://www.avertinternational.org/>

Azuh, D. (2011). Socio-demographic factors influencing health prrogramme usage by pregnant mothers in Nigeria: implication for policy action. Retrieved 2nd May 2015 from <http://www.uaps2011.priceton.edu/papers/110940>

Erulkar, A.S., Onoka, C.J., & Phiri, A. (2005). Characteristics of youth-friendly reproductive health services most important to adolescents in Kenya and Zimbabwe. *African Journal of Reproductive Health, 9(3).*

Kamau, A.W. (2006). Factors that influence access and utilization of preventive reproductive health services by in-school adolescents in Kenya. Retrieved 4th February, 2013 from pub.uni-bielefeld.de/publication/2305119.

Kaplen, P.S. (2004). *Adolescence*. Boston: Houghton Mifflin Company.

Naidoo, S., Wand, H., Abbia, N.A. & Ramjee, G. (2014). High prevalence and incidence of STIs among women living in Kwazulu-Natal, South Africa. *AIDS Research and Therapy*. Retrieved 22nd April, 2015 from <http://www.aidsresearchtherapy.com/content/11/1/31>

Nworgu, B.G. (2006). *Educational research. Basic issues and methodology.* Ibadan: Wisdom Publisher Ltd.

Ogunleye, A.C. (2013). Adolescents’ reproductive health right and economic development in Nigeria. *Global Advanced Research Journal of Educational Research.* Retrieved 30th April, 2015 from <http://www.garj.org/garjerr/index.htm>

Onuzulike, N.M. (2007). *Contemporary health matters*. Owerri: Con publishers.

Samuel, E.S. (2010). *Human sexuality and family health education*. Nsukka: Afro-Orbis Publishing Co. Ltd.

UN (2008). Definition of adolescent. Retrieved 17th February, 2015 from <http://www.undesadspd.org/youth.aspx>

UNFPA (2008). Reproductive health of women. Retrieved 30th April, 2015 from <http://www.unfpa.org>

WHO (2015). Maternal, newborn, child and adolescent health. Retrieved 30th April, 2015 from <http://www.who.int/maternal_child_adolescent/topics/maternal/reproductive_health/en/>

**PATTERNS OF UNSAFE SEXUAL ATTITUDE AND PRACTICES AMONG STUDENTS OF TERTIARY INSTITUTIONS IN NASARAWA STATE NIGERIA**

**Gabi Sunday Tsibi**

Department of General Studies,

Nasarawa State Polytechnic, Lafia

and

**Tr. Prof. E.S. Samuel** Ph.D

Department of Health and Physical Education,

University of Nigeria, Nsukka

**Abstract**

***The purpose of the study was to find out the patterns of unsafe sexual attitude and practices among students of tertiary institutions in Nasarawa state. To achieve the purpose of this study, four specific objectives with corresponding research questions were posed and four null hypotheses postulated. Descriptive survey research design was used for the study. The population for the study was 27,879 students while multi-stage sampling procedure was used to draw a sample of 696 students for the study. The instruments used for the data collection was the 25 item researcher design questionnaire called unsafe sexual attitudes and practices questionnaire (PUSAPQ) and the focus group discussion guide(FGD). The research questions were answered using means and percentages while null hypotheses were tested using the t-Tests, and Chi-square statistics. The following results were obtained: The students exhibited negative attitudes towards unsafe sex ( =2.45 < 2.50) while overall 24.9% practiced unsafe sex. Both male and female students indicated negative attitude towards unsafe sex with male slightly higher than female students (male  = 2.49 > female 2.38). Male practiced unsafe sex more than female counterparts (male = 29.9% > female = 27.5%). Based on the findings and conclusions the researcher recommended intensification of campaign against unsafe sexual attitudes and practices, youth empowerment programmes, incorporation of comprehensive sexuality education in general studies courses in all the tertiary institutions in the state.***

**Keywords**: Pattern, Unsafe sex, Attitude, Practices, Students

**Introduction**

The globe is awash with expressions of increasing concerns about a world under threat of diseases, especially, communicable diseases of sexuality through unsafe sexual attitudes and practices. The continued decimation of population through afflictions and spread of diseases appears to compete favourably with continued flow of natural disasters and wars (Campbell, 2009). According to Park (2010) unsafe sexual attitudes and practices have reportedly reached alarming prevalence in several countries especially sub-Sahara Africa.

Globally, excluding HIV/AIDS there are about 333 million new cases of sexually transmitted infections (STIs) per year (Afsar, Mahmood, Kaddir, Barrey &Bilgramir, 2005) United Population Fund (UNPF) (2007) reported that young people world-wide are at the centre of HIV/AIDS epidemic in terms of rate of infection and vulnerability.

Laksaman (2003) opined that students of Nigerian tertiary institutions seem to continue to engage more in unsafe sex practices such as pre-marital sex, homosexuality, having multiple sexual partners and abortion more than ever before, perhaps because of their liberal sexual attitudes. In a study by Obi (2011) among students of four universities in eastern Nigeria it was revealed that most respondents were sexually active and engaged in high risk sex such as casual sex, same sex, multiple sexual partners, and sex in exchange for money or favour. A study by Centre for Diseases Control (2008) reported that student’s used of alcohol and drugs are on the increase and likelihood of high-risk sexual behaviours when they are drunk and high seem to be prevalent. College students are less likely to use safe sex techniques such as condom, or may use it incorrectly or inconsistently, because, substance use can impair judgment and lead students to make high-risk decisions.

Also Kabir et al (2007) and Simolu (2007) reported in their respective studies that there is a high rate of unsafe sexual attitudes among students of tertiary institutions despite knowledge of HIV/AIDS with male more.

In their study in South Africa Shumba etal, (2011) reported that male students had higher level of unsafe sexual attitudes than female, while in Nigeria, Obi (2011) and Uche (2011) reported that female are higher and that female without family support often engage in prostitution to support themselves in paying fees and other necessities.

In the area of study through experience and observation, students of tertiary institutions who are no more under the close supervision of parents easily fall prey to youthful exuberances. Some organize parties, social nights involving taking of alcohol and smoking, watching of pornographic movies, wearing of mini dresses, mostly by female students which expose sensitive parts of their body. These practices of students may imply that they may be involved in unsafe sexual attitudes and practices. Unsafe sexual practices often lead to consequences like unwanted pregnancies, unsafe and illegal abortions, HIV and other sexually transmitted infections. Therefore, it becomes necessary to study the unsafe sexual attitude and practices of the students to provide a base line data in their institutions.

Hornby (2007) viewed unsafe sex as sexual activity engaged in without precautions to protect against STIs. Slaymaker, Walker, Zabia and Collumbien (2005) defined unsafe sex as sexual act between a susceptible person and partner who has a STI without taking preventive measures against it. They further stated that unsafe sex occurs if a susceptible person has sex with at least one partner who has an STI, without taking measures to prevent infection. Therefore, unsafe sexual attitudes by students of tertiary institutions shall refer to the actions in which students experience and express their sexuality without adopting necessary precautionary measures to avoid contracting STIs/HIV, abortions, unintended pregnancies and emotional stress.

Erens, McManus, Field, Korovessis, Johnson, Fenton, and Wellings (2001) highlighted examples of unsafe sexual attitudes such as sexual permissiveness, unfaithfulness with sexual partner, lack of mutual respect and appreciation for sexual partner’s opinion, negative opinion of HIV blood test before sex (sero-positive status), negative opinion of STIs diagnoses, injection of non-prescribed drugs before sex and opinion of having abortion when pregnant. UNAIDS’ (2007) country report on Nigeria indicated that unsafe sexual attitudes are becoming more in institutions of learning. The report further mentioned that the consequences of this quagmire are very terrible.

Hornby (2007) defined practice as action not ideas. It is a way of doing something that is the usual or expected way in a particular organization. It could be habit or custom, something done regularly. Practices that are related to sexuality are known as sexual practices. Sexual practice therefore shall be referred to as consensual or non-consensual sexual activities engaged by students of tertiary institutions.

In several studies USAIDS (2007) and Euguellesse and Tamire (2007) reported high prevalence of unsafe sexual practices among university students such as multiple sexual partners, casual sex and inconsistent use of condoms. Also having relationship with sex hawkers and campus prostitution.

According to Hornby (2007) pattern is a regular way in which something happens or is done. Cowie (1990) refers to patterns as the various forms that something may take. Similarly, Farlex (2008) stated that patterns have to do with any act of conventional principles and expectations that are binding on any person who is a member of a particular group.There are several types of patterns. Pridemore, Andrew and Spivak (2003) classified patterns into three demographic, temporal and spatial patterns. Demographic pattern is a cogent parameter to understand human activity and behavior including unsafe sexual attitudes and practices. According to Maris (1981) and Stillion (1985) demographic pattern refers to variables of age, gender, level of education, marital status, occupation, socio-economic and health status. In the present study demographic variables of gender (male and female) on unsafe sexual attitudes and practices among students of Nasarawa state tertiary institutions shall be examined.

Nasarawa State has (6) tertiary institutions that are controlled by the state. They are College of Education, Akwanga; College of Agriculture, Lafia; Nasarawa State Polytechnic, Lafia; School of Nursing and Midwifery, Lafia; School of Health Technology, Keffi and Nasarawa State University, Keffi.

**Statement of the Problem**

The youths can be characterized as the most active segment of the population of any society. Youths are the bedrock on which the society is anchored, and often regarded to as leaders of tomorrow (Uche, 2011). College entrance marks a time of significant change in the life of young adults and offers greatly expanded opportunities for self governance and choice of career. The above calls for a study such as this among the youths in the state tertiary institutions in order to proffer solutions.

**Purpose of the Study**

The purpose of the present study was to find out the demographic patterns (gender) of unsafe sexual attitudes and practices among tertiary institution students in Nasarawa State. Specifically, this study sought to find out:

1. unsafe sexual attitudes among students;
2. unsafe sexual practices among students;
3. demographic pattern of unsafe sexual attitudes of students among male and female;
4. unsafe sexual practices of male and female students.

**Hypotheses**

Two null hypotheses were tested at .05 level of significance at appropriate degrees of freedom.

1. There is no significant difference in the pattern of unsafe sexual attitudes according to gender.
2. There is no significant difference in the pattern of unsafe sexual practices of students according to gender.

**Methods**

In order to accomplish the purpose of this study, the descriptive survey research design was adopted.The population for the study consisted of all the students in tertiary institutions in the state (state owned) numbering twenty seven thousand eight hundred and seventy nine (27,879) (Dept of Higher Education, 2013). The sample for the study consisted of 836 subjects representing three percent of the total population of tertiary institution students of Nasarawa State. In order to select tertiary institutions to be used as sample for the study, the multi - stage sampling procedure was adopted which involves 5 stages;

In the first stage, the only state university was selected. In the second stage 2 institutions were selected from the 5 remaining institutions through random sampling technique. In the third stage, one faculty was selected and 2 schools in the university and colleges respectively through random sampling without replacement. The fourth stage 2 departments were selected from the faculty and also 2 each from the schools selected bringing the number to 6 selected departments and lastly the fifth stage disproportionate sampling technique was applied to select the 836 students used for the study.

Two instruments were used for data collection. They were the researcher designed 26 items questionnaire known as Patterns of Unsafe Sexual Attitudes and Practices Questionnaire (PUSAPQ) and 17 item Focus Group Discussion Guide also known as (FGDG). The reliability coefficient of the items using the Kudder-Richardson K-R20 formula was used to establish the internal consistency of the instrument which consists of dichotomously scored items. The obtained reliability index was .68, therefore, the PUSAPQ was considered reliable for the study by experts. The administration of the instrument was undertaken by the researcher and three research assistants. All the copies of the questionnaire were collected on the spot with a return rate of 89.7% (696 copies).

**Method of Data Analysis**

The data analysis was based on item by item to indicate responses based on frequencies and percentages of various cadres of respondents mean and standard deviation for attitudinal items. Frequencies and percentages were used to establish the unsafe sexual practices of students. The t-Test statistic was used to test hypothesis one, while Chi-square statistic was used to test null hypothesis two. All hypotheses were tested at .05 level of significance.

**Results**

**Table 1**

**Mean Score Rating of Students in Tertiary Institutions in Nasarawa State (n = 696)**

|  |
| --- |
| Attitudinal Items  SD Decision |
| 1. Sexual intercourse should be reserved for married couples only3.03 1.05 Positive  2. Condom use hinders sexual pleasure 2.48 .97 Negative  3. Keeping a sexual partner who meets my financial needs is very good 2.31 1.10 Negative  4. Use of condom is unreliable 2.53 1.04 Positive  5. Culturally females are coerced to unsafe sex 2.66 1.09 Positive  6. Keeping many sexual partners to choose the best among them is  very reasonable 2.14 1.04 Negative  7. Nude adverts on television and magazines may predispose youths to  unsafe sex 2.93 1.06 Positive  8. Alcohol should be used to stimulate sexual urge before sex 1.95 .94 Negative  9. I may not resist sex without condom 2.39 1.07 Negative  10. Having sugar daddies/mummies as sexual partners is very pleasurable 1.90 1.01 Negative  11. Watching blue and pornographic films encourage unsafe sex 2.88 1.15 Positive  12. Having premarital sex is okay 2.03 1.00 Negative  **Grand mean2.45 1.04 Negative** |

Results in Table 1 show that the grand mean score (= 2.45) of students was below the criterion mean of 2.50. This implies that students exhibited negative attitudes towards unsafe sex (= 2.45 < 2.50; SD = 1.04).

**Table 2**

**Frequency and Percentages of Unsafe Sexual Practices Prevalent among Students in Tertiary Institutions in Nasarawa State (n = 696)**

|  |
| --- |
| Yes No  Items f % f % |
| 1. I keep multiple sexual partners20128.9 495 71.1  2. I drink alcohol to stimulate libido before sex 123 17.7 573 82.3  3. I use to inject non-prescribed drugs before having sex 81 11.6 615 88.4  4. I engage in casual sex with students because they are safe 126 18.1 570 81.9  5. I use condoms when having sex 175 25.1 521 74.9  6. I engage in unsafe sexual intercourse with prostitute 97 13.9 599 86.1  7. I do not use condom consistently when having sex 273 39.2 423 60.8  8. I engage in casual sex with a regular partner 364 52.3 332 47.7  9. I always engage in homosexuality 87 12.5 609 87.5  10. I engage in selling sex 80 11.5 616 88.5  11. I consent to sex to receive favour/gifts 163 23.4 533 76.6  12. I cannot resist having sex because of the urge 223 32.0 473 68.0  13. I engage in unsafe sex without condom if my partner insists 267 38.4 429 61.6  **Overall % Average 24.9 75.1** |

Table 2 shows that overall 24.9 per cent of students practiced unsafe sex. Furthermore, the table shows that 28.9 per cent of students “kept multiple sexual partners”, 25.1 per cent “used condom during casual sex”, 39.2 per cent of the students “did not use condom consistently when having sex”, 52.3 per cent “engaged in casual sex with a regular partner” while 23.4 per cent “consented to sex in order to receive favour/gifts”. The table further shows that 32.0 per cent of the students “could not resist having sex because of the urge” while 38.4 per cent “engaged in sex without condom if their partners insisted”.

**Table 3**

**Mean Score Rating of Unsafe Sexual Attitudes among Students in Tertiary Institutions in Nasarawa State Based on Gender (n = 696)**

|  |
| --- |
| Gender  Male Female  (n = 346)(n = 350)  Attitudinal Items  SD Dec. SD Dec. |
| 1. Sexual intercourse should be reserved for married couples only 3.15 1.03 +ve 2.91 1.06 +ve  2. Condom use hinders sexual pleasure 2.60 1.03 +ve 2.37 .89 -ve  3. Keeping a sexual partner who meets my financial needs is very good 2.20 1.06 -ve 2.42 1.13 -ve  4. Use of condom is unreliable 2.57 1.10 +ve 2.49 .98 -ve  5. Culturally females are coerced to unsafe sex 2.64 1.08 +ve 2.68 1.09 +ve  6 . Keeping many sexual partners to choose the best among them is very reasonable 2.32 1.11 -ve 1.96 .95 -ve  7. Nude adverts on television and magazines may predispose youths to unsafe sex 2.96 1.05 +ve 2.90 1.08 ve  8. Alcohol should be used to stimulate sexual urge before sex 2.01 1.03 -ve 1.88 .83 -ve  9. I may not resist sex without condom 2.47 1.08 -ve 2.31 1.06 -ve  10. Having sugar daddies/mummies as sexual partners is very pleasurable 1.96 1.02 -ve 1.85 .99 -ve  11. Watching blue and pornographic films encourages unsafe sex 2.89 1.17 +ve 2.86 1.14 +ve  12. Having premarital sex is okay 2.12 1.08 -ve 1.95 .90 +ve  **Overall mean 2.49 1.07 -ve 2.38 1.01 -ve** |

Results in Table 3 show that the overall attitudinal mean score of male students (= 2.49; SD = 1.07) was slightly higher than that of female students (= 2.38; SD = 1.01) on attitudes towards unsafe sex, and they were below the criterion mean of 2.50, indicating negative attitude for both sexes.

**Table 4**

**Frequency and Percentages of Unsafe Sexual Practices Prevalent among Students in Tertiary Institutions in Nasarawa State Based on Gender (n = 696)**

|  |
| --- |
| Gender  Male Female  (n =346)(n = 350)  Yes No Yes No  Items f % f % f % f % |
| 1. I keep multiple sexual partners 89 25.7 257 74.3 112 32.0 238 68.0  2. I drink alcohol to stimulate libido before sex 54 15.6 292 84.4 69 19.7 281 80.3  3. I use to inject non-prescribed drugs before having sex 54 15.6 292 88.4 27 7.7 323 92.3  4. I engage in casual sex with students because they are safe 93 26.9 253 73.1 33 9.4 317 90.6  5. I use condoms when having sex 275 79.5 71 20.5 246 70.3 104 29.7  6. I engage in unsafe sexual intercourse with prostitute 58 16.8 288 83.2 39 11.1 311 88.9  7. I do not use condom consistently when having sex 136 39.3 210 60.7 137 39.1 213 60.9  8. I engage in casual sex with a regular partner 177 51.2 169 48.8 187 53.4 163 46.6  9. I always engage in homosexuality 58 16.8 288 83.2 29 8.3 321 91.7  10. I engage in selling sex 39 11.3 307 88.7 41 11.7 309 88.3  11. I consent to sex to receive favour/gifts 73 21.1 273 78.9 90 25.7 260 74.3  12. I cannot resist having sex because of the urge 124 32.0 222 64.2 99 28.3 251 71.7  13. I engage in unsafe sex without condom if my partner insists 126 36.4 220 63.6 141 40.3 209 59.7  **Overall % Average 29.9 70.1 27.5 72.5** |

Table 4 shows that overall, male students practiced unsafe sex more than female students (male = 29.9% > female = 27.5%).

**Hypothesis one**

There is no significant difference (p <.05) in the pattern of unsafe sexual attitudes of students according to gender. Data testing this hypothesis are contained in Table 5.

**Table 5: Summary of t-Test Analysis of No Significant Difference in the Pattern of Unsafe Sexual Attitudes of Students According to Gender (n = 696)**

|  |
| --- |
| Gender  Male Female  (n = 346)(n = 350)  S/N Attitudinal Items  SD SD df t-cal P-value |
| 1. Sexual intercourse should be reserved for married couples only 3.15 1.028 2.91 1.059 694 3.091 002\*  8. Condom use hinders sexual pleasure 2.60 1.032 2.37 0.891 694 3.184 .002\*  2. Keeping a sexual partner who meets my financial needs is  very good 2.20 1.057 2.42 1.132 694 -2.622 .009\*  3. Use of condom is unreliable 2.57 1.102 2.49 0.980 694 0.913 .361\*  4. Culturally females are coerced to unsafe sex 2.64 1.085 2.68 1.097 694 -0.499 .618\*  5. Keeping many sexual partners to choose the best among them is  very reasonable 2.32 1.110 1.96 0.946 694 4.579 000\*\*  6 Nude adverts on television and magazines may predispose  youths to unsafe sex 2.96 1.045 2.90 1.087 694 0.808 420\*\*  7. Alcohol should be used to stimulate sexual urge before sex 2.01 1.034 1.88 0.830 694 1.853 .064\*  8. I may not resist sex without condom 2.47 1.082 2.31 1.055 694 1.935 .053\*  9. Having sugar daddies/mummies as sexual partners is  very pleasurable 1.96 1.021 1.85 0.998 694 1.487 .137\*  10.Watching blue and pornographic films encourage unsafe sex 2.89 1.167 2.86 1.142 694 0.312 .755\*  11. Having premarital sex is okay 2.12 1.084 1.95 0.904 694 2.209 028\*\*  **Overall 2.49 1.071 2.38 1.010 1.438 .204** |

\*Significant

\*\* Not significant

Table 5 indicates the t-calculated values with their corresponding P-values for students’ unsafe sexual attitudes. Since the overall P-value (P = .20) is greater than .05 level of significance, the null hypothesis of no significant difference in the temporal pattern of unsafe sexual attitudes of students according to gender is, therefore, accepted. This implies that students’ pattern of unsafe sexual attitudes are the same regardless of gender.

77

**Hypothesis two**

There is no significant difference (p <.05) in the pattern of unsafe sexual practices of students according to gender. Data testing this hypothesis are contained in Table 6.

**Table 6: Summary of Chi-square Analysis of No Significant Difference in the Pattern of Unsafe Sexual Practices of Students According to Gender**

|  |
| --- |
| **Gender**  **Male Female**  (n = 346)(n = 350)  Items Yes No Yes No **2 –Cal** P-value \*Dec. |
| **Unsafe Sexual Practices O (E) O (E) O (E) O (E)**  1. I keep multiple sexual partners 89 (99.9) 257 (246.1) 112 (101.1) 238 (248.9) 3.338 .068 \*  2. I drink alcohol to stimulate libido before sex 54 (61.1) 292 (284.9) 69 (61.9) 281 (288.1) 2.018 .155 \*  3. I use to inject non-prescribed drugs before having sex 54 (40.3) 292 (305.7) 27 (40.7) 323 (309.3) 10.540 .001 \*\*  4. I engage in casual sex with students because they are safe 93 (62.6) 253 (283.4) 33 (63.4) 317 (286.6) 35.736 .000 \*\*  5. I use condoms when having sex 275 (259.1) 71 (87.0) 246 (262.0) 104 (88.0) 7.814 .005 \*\*  6. I engage in unsafe sexual intercourse with prostitute 58 (48.2) 288 (297.8) 39 (48.8) 311 (301.2) 4.582 .032 \*\*  7. I do not use condom consistently when having sex 136 (135.7) 210 (210.3) 137 (137.3) 213 (212.7) .002 .965 \*  8. I engage in casual sex with a regular partner 177 (181.0) 169 (165.0) 187 (183.0) 163 (167.0) .360 .548 \*  9. I always engage in homosexuality 58 (43.2) 288 (302.8) 29 (43.8) 321 (306.2) 11.432 .001 \*\*  10. I engage in selling sex 39 (39.8) 307 (306.2) 41 (40.2) 309 (309.8) .034 .855 \*  11. I consent to sex to receive favour/gifts 73 (81.0) 273 (265.0) 90 (82.0) 260 (268.0) 2.067 .151 \*  12. I cannot resist having sex because of the urge 124 (110.9) 222 (235.1) 99 (112.1) 251 (237.9) 4.558 .033 \*\*  13. I engage in unsafe sex without condom if my partner insists 126 (132.7) 220 (213.3) 141 (134.3) 209 (215.7) 1.102 .294 \*  **Overall 6.429 .239 \*\*** |

Table 6 shows the overall **2** calculated value with its corresponding P-value for students’ unsafe sexual practices (**2** = 6.429, P = .239). Since the overall P-value (P = .239) is greater than .05 level of significance, the null hypothesis of no significance difference in the pattern of unsafe sexual practices of students according to gender is, therefore, accepted. This implies that students’ pattern of unsafe sexual practices are the same regardless of gender.

**Discussion**

Data in Table 1 indicated that students exhibited negative attitude towards unsafe sex. This findings is a surprise and unexpected. The findings of Laksama (2003), Park, (2010) and UNAIDS (2007) disagreed with this finding; they reported that unsafe sexual attitude was in the increase among students of various universities and colleges around the country. These disagreements may also be attributed to socially desirable responses (SDR).

Data in Table 2 revealed that 24.9 per cent of students in tertiary institution practiced unsafe sex. This finding was not surprising, because the FGD data gathered indicated these practices are more prevalent among young females attracted to older and wealthy males. Also, they may not have the power to negotiate for safer sex, because they are easily deceived or paid in return for sexual gratification offered.

The findings of Table 3 indicated male and female demonstrated negative attitudes towards unsafe sex with males slightly higher than females. This finding is surprising and unexpected because several researchers (Kabir et al., 2007; Simolu, 2005) reported a considerably high prevalence of unsafe sexual attitudes among their subjects. ` Ogundana, (2002) asserted that in Nigeria most socio-cultural and religious groups epitomized that male usually play dominant role on sexual issues.This finding was expected and not surprising because the finding lent support to that of Adaramaja et al (2010) who reported that in Nigeria, many students in universities are adolescents; evidence show high involvement in risky sexual attitudes such as keeping of multiple sexual partners, coercive attitudes, resisting of condom usage, use of alcohol and substance abuse. The finding of Shumba, (2011) indicated that university students exhibit unfaithfulness despite high level of knowledge of STIs and HIV/AIDS both young men and women still maintain concurrent sexual relationship. Opinion from various FGD lent support to the findings that some students never use condom, watching of pornographic and blue movies, and access to sexual websites.

Data on Table 4 indicated that male students practiced unsafe sex more than the female students (male = 29.9% > female 27.5%). This is not surprising as several findings revealed that males practiced more unsafe sexual activities than females. The findings of Odimegwu (2005) showed that males display more liberal sexual activities than their female counterparts.

**Conclusions**

Based on the findings and discussions of the study, the following conclusions were reached.

1. Tertiary institution students exhibited negative attitudes towards unsafe sex.
2. Students practiced unsafe sex
3. All gender, groups of institutions students exhibited negative attitudes towards unsafe sex.
4. Males more than females practiced unsafe sex.

**Recommendations**

Based on the findings, discussions and conclusions of the study, the following recommendations were made:

1. All stakeholders in the tertiary institutions should be actively involved in funding campaigns against unsafe sexual attitudes and practices among youths. This can be implemented via youth empowerment programmes, health seminars, peer group education on healthy sexual lifestyles and adoption of safe sex, formation of HIV/AIDS clubs in the higher institutions of learning. These approaches may in turn have positive effects on the students and probably stimulate adoption of safe sex attitude and practices.
2. A comprehensive family and sexuality education programme should be developed, incorporated in tertiary institutions’ curricula. Its implementation should be carried out by experts in Public Health, Health Education and other allied professions.
3. Authorities of tertiary institutions in the state should adopt and enforce dress codes that discourage nudity or body flaunting, which is predominant among female students. Also, cases of sexual coercion should be reported to appropriate authority.

**References**

**Adaramaja, S.R., Ademubi, O.S., Alabi, Y.L., Adeola O.E and Olarewaju (2010) Influence of Demographic factors on the Lifestyles of Tertiary Institutions students in Kwara State: Educational media and Counseling Interventions in *Research Journal of Applied social sciences 5(2): 73-77***

Afsar, H.A., Mohamood , A.A., Kadir, M.M., Barney, M., & Bilgrami, J. (2008). *African Journal of Reproductive Health, 9 (2),* 125 – 140.

Allport, G.W. (1995), Attitudes. In C. Murchison (Ed). *Hand book on social Psychology.* Massachusset: Clark Unity Press.

Campbell S. (2001) *Sexual Behaviour in Sub-Saharan Africa. New York: Princeton Hall.*

Cowie, A.P. (ed.). (1990). *Oxford Advanced Learner’s Dictionaryof CurrentEnglish*. Oxford: Oxford University Press.

Euguellesse and Tamire (2007) Determinants of Safer Sex Behaviours among College Students. Acta Didactica Napocensia 2 (1).

Erens, B., McManus, S., Field, J., Korovessis, C., Johnson, A., Fenton, K., & Wellings, K. (2011). *National survey of sexual attitudes and lifestyles II (Natsal II): Technical Report.*

Farlex I. (2008) *The American Heritage Dictionary* Published by Houghton Mifflen company at http://medical –dictionary. the freedictionary.com/adolescent> adolescent</a/retrived 10th march 2010.

Hornby, A.S. (2005). *Oxford Advanced Learner’s Dictionary of current English (7thed.).* Oxford: Oxford University press.

Kabir, M., Kabir, A.S., Ilyasu, Z., & Abubakar, I.S. (2004). Sexual Behaviours among students in Tertiary Institution in Kano, Northern Nigeria. *Journal of Community Medicine and Primary Health care,* 16 (2), 17 – 22.

Laksaman, T. (2003). Predictors of sexual behaviours and attitudes. *Perspective in Psychology Spring 26,* 34.

Maris, R.W. (1981). *Pathways to Suicide*. London: The John Hopkris University Press.

**Obi, O (2011) Sexual Risk behaviour Among Undergraduates students in Enugu State: *in Journal of Obstetric and Gyneacology 25(6): 592-5***

Park, K. (2009). *Preventive and Social Medicine.* India: Barnasidas Bhanot Publishers.

Pridemore, W.A., Andrew, I., & Spivak, M.A. (2003). Patterns of suicide mortality in Russia. *Suicide and life-threatening Behaviour, 23*, 123-150.

**Shumba, A., Maptumo J. & Chademana (2011) The prevalence of concurrent sexual Partnerships among students in Institutions of Higher Education in *Zimbabwe in Journal of Human Ecology 34(1): 53-65***

Slaymaker, E., Walker, N., Zaba, B., & Collumbien, M. (2005). *Unsafe sex: Comparative Quantification of Health Risks. Journal of Sex Research, 23*, 502-526.

Stillion, J.W (1985). *Death and the Sexes* London: Hemisphere Publishing corporation.

Stoyles, G.J. (2002) Keeping one step ahead TANDEM, *an assessment and intervention programme for parents of adolescent and risk problem behavior*. D. Philosophy Department of psychology university of Nolongon (online) <http://www.google.com/search>li=en & ie=utf(Accessed 12-09-2010)

Simolu, A, M, (2007). Evaluation of sexual behaviour, barriers to condom use and its actual use by university students in Nigeria. AIDS Care 17 (4), 457 – 465.

Uche, N.O. (2011). *Social Dynamics of African states:Issues and prospects* (Ed.) Nsukka: Rek. Publishers.

UNAIDS Country Report 2007

UNAIDS/WHO (2002). AIDS epidemic update. Geneva. Retrieved from http//www.thebody.com/unaids/update1201/contents.html on April 21, 2011.

United Nation Population Fund (2007). *Generation of change: Young people and culture-state of world population.* New York: UNFPA.

United Nations (2007). *World Youth Report. Young people’s transition to adulthood: Journal of Social and Personal Relationships, 15,* 147-159.

**KNOWLEDGE AND PERCEPTION OF HEALTH PROMOTION AMONG HEALTH EDUCATORS IN NIGERIAN HIGHER INSTITUTIONS**

**Ekenedo, Golda O.**

Department of Human Kinetics and Health Education

University of Port Harcourt

&

**Iwuagwu, Tochi Emmanuel**

Department of Health and Physical Education

University of Nigeria, Nsukka

**Abstract**

*This study was embarked upon to find out the knowledge and perception of health promotion (HP) among health educators in higher institutions in Nigeria. The study adopted the descriptive survey research design, and four research questions and two null hypotheses guided the study. Simple random sampling technique was used to select fifty one (51) health educators that were used for the study. Researcher-designed valid and reliable questionnaire was used for data collection. Percentages were used to answer the research questions, while chi-square (x2) statistic was used to test the null hypotheses at .05 alpha level. The results indicate that health educators in higher institutions in Nigeria possessed average level of knowledge (50.5%) and perception (44.3%) regarding HP. Health Educators that have 5-10years work experience (64.4%) had higher level of knowledge than those with <5years (48.1%) and above 10years (47.3%). Health Educators that have above 10years work experience (52.5%) had higher perception about HP than those that have 5-10years (39.8%) and <5years (37.5%). There was no significant difference in the level of knowledge and perception of health promotion by health educators based on work experience. Based on the findings and conclusions, the study recommended among others that Government in collaboration with line ministries, private sectors, NGOs and other stakeholders should sponsor intensive training/workshop on health promotion for health educators at various levels of education so as to improve their knowledge and equip them to play the required role in making health promotion adequately functional in the country and achieving desired goals.*

**Keywords**: Knowledge, Perception, Health, Promotion, Health educators

**Introduction**

Health promotion (HP) is a multidisciplinary field that relies on education and targeted interventions to help change behaviours and environments in ways that are conducive to health. Health promotion is based on the premise that individuals are responsible for their own health. As a concept and set of practical strategies, it remains an essential guide in addressing the major health challenges faced by developing and developed nations, including communicable and non-communicable diseases and issues related to human development and health (Public Health Agency, 2009). Health promotion activities are geared towards all those activities that are designed to improve the health status of individuals and communities as well as worksite and schools.

The charter for Health Promotion was issued in the year 1986 by World Health Organization-WHO initiative, and it was the first international conference called the Ottawa charter for health promotion held in Canada on 21st November, 1986 (Federal Ministry of Health [FMOH], 2007). Over 7 global conferences have been held so far, and Kenya is the only African country that has hosted Health Promotion global conference (WHO, 2013). Health promotion was defined by the World Health Organization Bangkok Charter as "the process of enabling people to increase control over their health and its determinants, and thereby improve their health" (WHO, 2005).

Nigeria joined the rest of the world in adopting this global strategy with the lunch of the National Health Promotion Policy and the Implementation Guidelines in 2006. The FMOH in that policy called on educational institutions to facilitate the incorporation of health promotion into school curriculum and teachings as well as promote human resource development in health promotion (FMOH, 2006). The need for a trained and competent workforce, which has the necessary knowledge, skills and abilities in translating policy objectives and current research knowledge into effective action, is a key component of the capacity needed by nations to promote the health of their populations (Wise, 2003; Barry, 2008). Urgent and sustained action is, therefore, required to strengthen the capacity of academic health promotion (International Union of Health Promotion and Education (IUHPE) & Canadian Consortium for Health Promotion Research, 2007). This is based on the understanding of the critical role the acadamia has in the development of manpower for health promotion. Hence, Ekenedo and Ezedum (2013) stressed the need for Nigeria to encourage the development of health promotion programmes in higher institutions as this would facilitate quick and massive training of health promotion professionals.

Although, over the years health promotion has emerged as an academic discipline, unfortunately, most institutions of higher learning in the country are yet to establish health promotion as a course of study. This situation is worrisome considering the fact that the first department of health promotion was established since 2009 at the College Hospital Ibadan in partnership with WHO which trained the needed manpower to run the programme. Most health educators in higher institutions of learning were not prepared in the task of teaching Health Promotion since no such course existed in universities curriculum in Nigeria. This means that they may not be able to incorporate health promotion into their teaching as directed in the National Health Promotion Policy. An additional concern is that as awareness on the concept of Health Promotion gradually grows in Nigeria among health professionals, divergent perceptions of health promotion and its practice seems to persists.

Adequate knowledge of health promotion among health educators assists in broadening the narrow focus of health education and in training manpower for health promotion practice. Knowledge is the ability to recall or recognize something such as a concept, principle or custom (Kalua, 2009). Knowledge can be acquired through formal setting either by the help of someone or alone. Health Educators should possess adequate knowledge of health promotion, so that they could sensitize others and help them to improve their health through employment of strategies and interventions that assists in achieving optimal health. This is more so for health educators in institutions of higher learning who are entrusted with the responsibility of training health educators and health promoters at the lower educational levels as well as other health promotion settings.

It is logical that one can only give from what is in one’s possession. Observations and experiences have revealed that the basic sensitization about health promotion in various levels of professional training was not accompanied with practical exposure to HP activities and implementation guidelines and strategies. However, there is no published study that has sought to find out the knowledge of health promotion possessed by health educators in Nigeria. In view of the above, the need arose to find out if health educators in higher institutions in Nigeria possessed adequate knowledge and perception of HP. This was the crux of the study. Following from this, four research questions were posed, and two hypotheses were postulated to guide the study.

**Research Questions**

Four research questions guided the study.

1. What is the level of knowledge of health promotion among Nigerian health educators?
2. What is the perception about health promotion among Nigerian health educators?
3. What is the level of knowledge of health promotion among Nigerian health educators based on work experience?
4. What is the perception about health promotion among Nigerian health educators based on work experience?

**Hypotheses**

Two null hypotheses were postulated and tested at .05 alpha level.

1. There is no significant difference in the level of knowledge of health promotion possessed by health educators based on work experience.
2. There is no significant difference in the perception about health promotion among health educators based on work experience.

**Methods**

This study adopted the descriptive survey research design. The population for the study comprised health educators in higher institutions in Nigeria. The sample for the study consisted of fifty one (51) health educators from various higher institutions in Nigeria who attended a health promotion conference. All the attendees were included in the study. Researcher-designed and validated 23-item questionnaire served as the instrument for data collection. The reliability of the instrument was established using test re-test method. Person Product Moment Correlation was used in analyzing the data. A correlation coefficient of 0.81 was obtained and adjudged reliable for embarking on the study. Data collected with the instrument were analyzed using percentages for the purpose of answering the research questions, while chi-square (x2) statistic was used to test the null hypotheses at .05 level of significance.

In determining the level of knowledge of health promotion, Ashur’s (1977) modified version by Okafor (1997) was utilized. By these criteria, below 20 per cent score of the respondents who indicated correct responses in any aspect of the variables being investigated was considered very low level of knowledge, a score of 20- 39 per cent was considered low level of knowledge, a score of 40-59 per cent was considered average level of knowledge, a score of 60-80 per cent was considered high level of knowledge, and a score above 80 per cent was considered very high level of knowledge.

**Results**

**Table 1**: **Health Educators’ Knowledge of Health Promotion (n = 70).**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S/n** | **Knowledge of health promotion** | **Correct Ans**  **f %** | | **Wrong Ans**  **f %** | | **Dec.** |
| 1. | Health promotion is a WHO initiative | 59 | 84.3 | 11 | 15.7 | VHK |
| 2. | The charter for health promotion was issued in 1986 | 39 | 55.7 | 31 | 44.3 | AK |
| 3. | The first global conference on HP was hosted by Canada | 26 | 37.1 | 44 | 62.9 | LK |
| 4. | More than 7 global HP conferences have been held from inception till date | 7 | 10.0 | 63 | 90.0 | VLK |
| 5. | Kenya is the only African country that has hosted global HP conference | 9 | 12.9 | 61 | 87.1 | VLK |
| 6. | Nigeria has a national policy on health promotion | 60 | 85.7 | 10 | 14.3 | VHK |
| 7. | HP policy document was launched in Nigeria in 2006 | 25 | 35.7 | 45 | 64.3 | LK |
| 8. | HP is the process of enabling people to increase control over and improve their health | 39 | 55.7 | 31 | 44.3 | AK |
| 9. | HP key strategies | 12 | 17.1 | 58 | 82.9 | VLK |
| 10. | Major settings for health promotion | 44 | 62.9 | 26 | 37.1 | HK |
| 11. | HP has evolved as a professional discipline across the world.  **Overall percentage** | 69 | 98.6  **50.5** | 1 | 1.4  **49.5** | VHK  **AK** |

**Key:** **VLK** = very low knowledge = below 20 **LK** = low knowledge = 20 – 39%

**AK** = average knowledge = 40 – 59% **HK** = high knowledge = 60 – 80%

**VHK** = very high knowledge = 81% and above **Ans** = Answer

Table 1 shows that the overall percentage of health educators’ level of knowledge of health promotion was 50.5 per cent. This implies that health educators in higher institutions in Nigeria possessed average level of knowledge of HP. The table further shows that the respondents’ level of knowledge of HP indices such as health promotion is a WHO initiative (84.3%), Nigeria has a national policy on health promotion (85.7%), and HP has evolved as a professional discipline across the world (98.6%) were very high. In the table also, major settings for health promotion (62.9%) was high; the charter for health promotion was issued in the year 1986 (55.7%), and HP is the process of enabling people to increase control over and improve their health (55.7%) were average. The table also revealed that the first conference on HP was hosted by Canada (37.7%), and HP document was launched in Nigeria in year 2006 (35.7%) were low. Furthermore, responses on the items: more than 7 HP global conferences have been held from inception till date (10%), Kenya is the only African country that has hosted HP global conference (12.9%), and HP key strategies (17.1%) were very low.

**Table 2: Nigerian Health Educators’ Perception of Health Promotion (n=70)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S/n** | **Perception about HP** | **Correct Ans**  **f %** | | **Wrong Ans**  **f %** | |
|  | Medical personnel are the only ones qualified to practice health promotion | 3 | 4.3 | 67 | 95.7 |
|  | HP can be practiced by individuals from diverse sectors apart from health | 61 | 87.1 | 9 | 12.9 |
|  | HP is the same as disease prevention | 31 | 44.3 | 39 | 55.7 |
|  | Health education and health promotion are the same | 29 | 41.4 | 41 | 58.6 |
|  | **Overall percentage** |  | **44.3** |  | **55.7** |

Table 2 shows that the overall percentage of health educators’ perception about health promotion was 44.3 per cent. This implies that health educators in higher institutions in Nigeria had a moderate perception of health promotion. The table further shows that the respondents had more true perception on HP can be practiced by individuals from diverse sectors apart from health (87.1%) than the other items in the table.

**Table 3: Health Educators’ Knowledge of Health Promotion based on Work Experience (n = 70).**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **S/n** | **Knowledge of health promotion** | **< 5 years (n=28)** | | | **5 – 10 years (n=12)** | | | **Above 10 yrs (n=1)** | | |
| **f** | **%** | **D** | **f** | **%** | **D** | **F** | **%** | **D** |
|  | Health promotion is a WHO initiative | 22 | 78.6 | HK | 12 | 100 | VHK | 25 | 83.3 | VHK |
|  | The charter for health promotion was issued in 1986 | 13 | 46.4 | AK | 9 | 75.0 | HK | 17 | 56.7 | AK |
|  | The first global conference on HP was hosted by Canada | 10 | 35.7 | LK | 8 | 66.7 | HK | 8 | 26.7 | LK |
|  | More than 7 global HP conferences have been held from inception till date | 2 | 7.1 | VLK | 3 | 25.0 | LK | 2 | 6.7 | VLK |
|  | Kenya is the only African country that has hosted global HP conference | 4 | 14.3 | VLK | 2 | 16.7 | VLK | 3 | 10.0 | VLK |
|  | Nigeria has a national policy on health promotion | 24 | 85.7 | VHK | 11 | 91.7 | VHK | 25 | 83.3 | VHK |
|  | HP policy document was launched in Nigeria in 2006 | 7 | 25.0 | LK | 8 | 66.7 | HK | 10 | 33.3 | LK |
|  | HP is the process of enabling people to increase control over and improve their health | 14 | 50.0 | AK | 9 | 75.0 | HK | 16 | 53.3 | AK |
|  | HP key strategies | 5 | 17.9 | VLK | 2 | 16.7 | VLK | 5 | 16.7 | VLK |
|  | Major settings for health promotion | 19 | 67.9 | HK | 9 | 75.0 | HK | 16 | 53.3 | AK |
|  | HP has evolved as a professional discipline across the world. | 28 | 100.0 | VHK | 12 | 100.0 | VHK | 29 | 96.7 | VHK |
|  | **Overall percentage** |  | **48.1** | **AK** |  | **64.4** | **HK** |  | **47.3** | **AK** |
|  |  |  |  |  |  |  |  |  |  |

Table 3 shows that the overall percentage of health educators affirmed that health educators that have 5 – 10 years work experience (64.4 %) had higher level of knowledge of health promotion more than those that had < 5 years (48.1 %) and above 10 years (47.3 %) experience that had average level of knowledge. The table further shows that irrespective of the health educators’ work experience, they had very high level of knowledge on Nigeria has a national policy on HP, and HP has evolved as a professional discipline across the world. Furthermore, irrespective of the health educators’ work experience; they had very low level of knowledge about Kenya being the only African country that has hosted HP global conference and HP key strategies.

**Table 4: Health Educators’ Perception of Health Promotion based on Work Experience (n=70)**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| S/N | Perception about health Promotion | **< 5 years (n=28)** | | **5-10 years (n=12)** | | **Above 10yrs (n=1)** | |
| f | % | f | % | f | % |
|  | Medical personnel are the only ones qualified to practice health promotion | 0 | .0 | 2 | 16.7 | 1 | 3.3 |
|  | HP can be practiced by individuals from diverse sectors apart from health | 24 | 85.7 | 10 | 83.3 | 27 | 90.0 |
|  | HP is the same as disease prevention | 10 | 35.7 | 4 | 33.3 | 17 | 56.7 |
|  | Health education and promotion are the same | 8 | 28.6 | 3 | 25.0 | 18 | 60.0 |
|  | **Overall percentage** |  | **37.5** |  | **39.6** |  | **52.5** |

Table 4 shows that the overall percentage affirmed that health educators that have above 10 years work experience (52.5%) had higher perception about health promotion than those that have 5 – 10 years (39.6%) and < 5 (37.5%) work experience. The table further shows that irrespective of the health educators’ work experience, they had more true perception on HP can be practiced by individuals from diverse sectors apart from health, and HP is the same as disease prevention.

**Table 5: Summary Of Chi-Square (χ2) Analysis of No Significant Difference in the Level of Knowledge of Health Promotion among Health Educators in Nigeria Based on Work Experience.**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **< 5 years (n=28)** | | **5 – 10 years (n=12)** | | **Above 10 yrs (n=30)** | |  |  |  |
|  | **CA** | **WA** | **CA** | **WA** | **CA** | **WA** | χ2**-cal** | **df** | **P-value** |
| **Knowledge of HP** | **O E** | **O E** | **O E** | **O E** | **O E** | **O E** |  |  |  |
| Health promotion is a WHO initiative | 22 23.6 | 6 4.4 | 12 10.1 | 0 1.9 | 25 25.3 | 5 4.7 | 2.948 | 2 | .229\*\* |
| The charter for health promotion was issued in 1986 | 13 15.6 | 15 12.4 | 9 6.7 | 3 5.3 | 17 16.7 | 13 13.3 | 2.798 | 2 | .247\*\* |
| The first global conference on HP was hosted by Canada | 10 10.4 | 18 17.6 | 8 4.5 | 4 7.5 | 8 11.1 | 22 18.9 | 5.915 | 2 | .052\*\* |
| More than 7 global HP conferences have been held from inception till date | 2 2.8 | 26 25.2 | 3 1.2 | 9 10.8 | 2 3.0 | 28 27.0 | 3.624 | 2 | .163\*\* |
| Kenya is the only African country that has hosted global HP conference | 4 3.6 | 24 24.4 | 2 1.5 | 10 10.5 | 3 3.9 | 27 26.1 | .425 | 2 | .809\*\* |
| Nigeria has a national policy on health promotion | 24 24.0 | 4 4.0 | 11 10.3 | 1 1.7 | 25 25.7 | 5 4.3 | .486 | 2 | .784\*\* |
| HP policy document was launched in Nigeria in 2006 | 7 10.0 | 21 18.0 | 8 4.3 | 4 7.7 | 10 10.7 | 20 19.3 | 6.481 | 2 | .039\* |
| HP is the process of enabling people to increase control over and improve their health | 14 15.6 | 14 12.4 | 9 6.7 | 3 5.3 | 16 16.7 | 14 13.3 | 2.248 | 2 | .325\*\* |
| HP key strategies | 5 4.8 | 23 23.2 | 2 2.1 | 10 9.9 | 5 5.1 | 25 24.9 | .017 | 2 | .992\*\* |
| Major settings for health promotion | 19 17.6 | 9 10.4 | 9 7.5 | 3 4.5 | 16 18.9 | 14 11.1 | 2.223 | 2 | .329\*\* |
| HP has evolved as a professional discipline across the world.  **Overall χ2** | 28 27.6 | 0 .4 | 12 11.8 | 0 .2 | 29 29.6 | 1 .4 | 1.353  **2.593** | 2  **2** | .508\*\*  **.407\*\*** |

Table 5 shows the overall chi-square value with the corresponding p-value for hypothesis of no significant difference in the knowledge of HP among health educators in Nigeria based on work experience (**χ2** = 2.593, P = .407 > .05). Since the p-value was greater than .05 level of significance at 2 degree of freedom, the null hypothesis of no significant difference was therefore not rejected. This implies that no significant difference existed in the knowledge of HP among health educators in Nigeria based on work experience.

**Table 6: Summary Of Chi-Square (χ2) Analysis of No Significant Difference in the Perception of Health Promotion among Health Educators in Nigeria Based on Work Experience.**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **< 5 years (n=28)** | | **5 – 10 years (n=12)** | | **Above 10 yrs (n=30)** | | |  |  |  |
|  | **True** | **False** | **True** | **False** | **True** | **False** | | χ2**-cal** | **df** | **p-value** |
| **Perception of HP** | **O E** | **O E** | **O E** | **O E** | **O E** | **O E** | |  |  |  |
| Health promotion is a WHO initiative | 0 1.2 | 28 26.8 | 2 .5 | 10 11.5 | 1 1.3 | 29 28.7 | | 5.804 | 2 | .055\*\* |
| The charter for health promotion was issued in 1986 | 24 24.4 | 4 3.6 | 10 10.5 | 2 1.5 | 27 26.1 | 3 3.9 | | .425 | 2 | .809\*\* |
| The first global conference on HP was hosted by Canada | 1012.4 | 18 15.6 | 4 5.3 | 8 6.7 | 17 13.3 | | 13 16.7 | 3.281 | 2 | .194\*\* |
| HP has evolved as a professional discipline across the world.  **Overall χ2** | 8 11.6 | 20 16.4 | 3 5.0 | 9 7.0 | 18 12.4 | 12 17.7 | | 7.506  **4.254** | 2  **2** | .023\*  **.270\*\*** |

Table 6 shows the overall chi-square value with the corresponding p-value for hypothesis of no significant difference in the perception about HP among health educators in Nigeria based on work experience (**χ2** = 4.254, P = .270 > .05). Since the p-value was greater than .05 level of significance of 2 degree of freedom, the null hypothesis of no significant difference was therefore not rejected. This implies that no significant difference existed in the perception about HP among health educators in Nigeria based on work experience.

**Discussion**

The findings of this study as shown in table 1 revealed that health educators in Nigerian institutions of higher learning had moderate level of knowledge (50.5%) of health promotion. This finding was unexpected and therefore surprising. It shows the unpreparedness of the health educators to carry out manpower development as expected of them in the National Health Promotion Policy. The implication is that even if HP is made a separate discipline in higher institutions, health educators in those institutions will not be adequately qualified to teach it. However, the finding that they possess very high knowledge (98.6%) on health promotion being a professional discipline across the world may indicate that they would readily accept the idea of developing health promotion as an academic discipline in higher institutions of learning across the country. The finding that was in line with the revelations of Federal Ministry of Health (2007) that the charter for Health Promotion was issued in the year 1986 by World Health Organization-WHO initiative, and it was the first international conference called the Ottawa charter for health promotion held in Canada on 21st November, 1986; and WHO (2013) that over 7 global conferences have been held so far, and Kenya is the only African country that has hosted Health Promotion global conference.

The health educators’ perception of health promotion was moderately right (44.3%) as shown in table 2. This is not good enough especially the fact that majority of the respondents as shown in the table had wrong perceptions about who is qualified to practice health promotion. It is difficult to trust somebody with wrong perception of a concept to successfully educate or train others on it. Even though there was no significant difference in the health promotion perception by the respondents with regards to work experience (χ2 = 2.593, P = .407 > .05), data in table 3 indicates that health educators with 5-10 years had more true perception than the others. The finding was in line with the suggestion of International Union of Health Promotion and Education (IUHPE) & Canadian Consortium for Health Promotion Research (2007) that urgent and sustained action is, therefore, required to strengthen the capacity of academic health promotion. Also, the hypothesis shows that there was no significant difference in their perceptions of HP with regards to work experience. What this means is that the need for improved knowledge and perception of HP cuts across all levels of work experience.

**Conclusions**

Based on the findings of the study, the researchers concluded that health educators in Nigerian higher institutions had average knowledge and perception about health promotion. Health. All health educators in higher institutions in Nigeria irrespective of years of experience need training in HP to prepare them to adequately handle academic health promotion.

**Recommendations**

Based on the findings, discussion and conclusions drawn, the following recommendations were made:

1. Government in collaboration with line ministries, private sectors, NGOs and other stakeholders should sponsor intensive training/workshop on health promotion for health educators at various levels of education so as to improve their knowledge and equip them to play the required role in making health promotion adequately functional in the country and achieving desired goals.
2. Health promotion should be offered in academic institutions as a separate programme or in combination with health education to assist in better achieving its objectives. Therefore, programme planners and policy makers should also incorporate it fully into health curriculum in all levels of health institutes.

**References**

Akubue, P.I. (2009). *Health checks and health promotion:A personal guide to a long active life.* Nimo;Nigeria: Rex Charles & Patrick Limited.

Ashur, S.S. (1977). An evaluation plan for the development and updating of nutrition curriculum of the upper elementary and preparatory levels in Jordan. VES, UNESCO. *International Conference on Nutrition Education, 207 (2), 67-74.*

Barry, M. M. (2008). Capacity Building for the future of health promotion. *International Journal of Health Promotion and Education, 15,*(4), 56-58.

Ekenedo, G. O. & Ezedum, E. C. (2013). Need for development of competencies for health promotion practice in Nigeria. *Academic Research International, 4, (6), 240 – 248.*

Federal Ministry of Health-FMOH (2007). *National guidelines for implementing health promotion and education programmes*. Abuja:FMOH.

International Union for Health Promotion and Education and Canadian Consortium for Health Promotion Research (2007). *Shaping the future of health promotion: Prioritiesfor action*. Paris: International Union for Health Promotion and Education.

Kalua, F. (2009). *The relationship between knowledge, attitude and practices of caregivers and food hygiene in Day Care Centres (unpublished master of Tech. dissertation).* Pretoria Technikon College, Pretoria.

Okafor, R.U. (1997). Sexual knowledge and sources of sexual information on secondary school students in Anambra State. *Journal of Nigerian Health and Movement Education, 1 (1), 9-19.*

Wise, M. (2003). The health promotion workforce and workforce development. *Health Promotion Journal of Australia, 14,*(1), 4-5.

WHO.(2005). *The Bangkok charter for health promotion in a globalized world.* Geneva, Switzerland: WHO Publications.

WHO.(2013). *The Ottawa charter for health promotion.* Retrieved from http://www.whi.int/healthpromotion/milestones-Health-promotion.

**ENTREPRENEURSHIP DEVELOPMENT AS A STRATEGY**

**FOR SUSTAINABLE LIVELIHOOD AND HEALTH PROMOTION**

**Cosmas Uchenna, Ugwu**

Department of Health and Physical Education

University of Nigeria, Nsukka

**Abstract**

*This paper presents the interaction between entrepreneurship, sustainable livelihood and health promotion; strategies for sustainable livelihood and health promotion and importance of entrepreneurship to health and survival. The study applied five steps of health promotion strategies in achieving sustainable livelihood. It was recommended, among others, that concerned bodies and authorities such as the national and state legislatures should develop a comprehensive national policy on entrepreneurship education and sustainable livelihood which will provide educational, economic, regulatory, health and financial support for human survival, healthy living and health promotion.*

**Keywords**: Entrepreneurship, Sustainable Livelihood, Health Promotion, Strategies

**Introduction**

Entrepreneurship, sustainable livelihood and health promotion are intricately related in that health promotion depends to an acceptable extent, on sustainable livelihood and entrepreneurship development. This realization requires that the populace know, understand, appreciate and develop skills in becoming entrepreneurs for survival, healthy living and health promotion in the families and society at large. Entrepreneurship has been the focus of many studies in recent times. For instance, Hisrich, Michael and Shepherd (2005) defined entrepreneurship as the process of creating something different with value by devoting the necessary time and effort; assuming the accompanying financial, psychological and social risk; and receiving the resultant rewards of monetary and personal satisfaction. This satisfaction as applied in this context may include healthy lifestyle, sustainable livelihood and health promotion.

The above authors further highlighted some principles of entrepreneurship which are applicable to all facets of human life to include: devotion of time and efforts in the determination, pursuance and achievement of goals in life. It was in view of this principle that Nwaoga (2011) described entrepreneurship as the right and ability to set one’s own goals and realizing them as much as possible through one’s effort, using one’s factors. Other principles as noted by these authors include: derivation of materials and personal satisfactions due to attainment of the set goals and objectives; determination of mission and vision of life due to clarity of goals of life; determination of better ways of doing things so as to facilitate achievement of set goals and objectives; and wealth creation and self-reliance for self-determination and self-esteem. In a more comprehensive definition, Entrepreneurship Centre for Miami University of Ohio (2003) presented entrepreneurship as a process of identifying, developing and bringing a vision to life. The centre emphasized that the vision may be an innovative idea, an opportunity or simply a better way to do something.

The above definitions have helped to expand the scope of entrepreneurship to include all areas of human endavours such as politics, engineering, medicine, health, academia, social welfare and health promotion. From the investment perspectives, Gana (2001) described entrepreneurship as the willingness and ability of an individual to seek out investment opportunities in an environment and be able to establish and run an enterprise successfully based on the identified opportunities. In terms of wealth creation, Hisrich and Peter (2002) conceived entrepreneurship as a dynamic process of creating incremental wealth. As used in the present paper, entrepreneurship is a process of creating investment opportunities, running an enterprise and focusing on wealth creation for the purpose of earning a living. From the above definitions, it can be deduced that an individual who seeks out investment opportunities, runs an enterprise and focuses on wealth creation is known as an entrepreneur.

Recently, the concept of entrepreneur has attracted a good number of research attentions. A lot of authors hold different views in defining entrepreneur. For instance, Thomas and Kilmann, (2004) described an entrepreneur as an individual who surveys his or her potential business environment, identifies opportunities to improve them, marshal resources and acts to maximize operational opportunities. In different perspective, Emmanuel (2011) describes an entrepreneur as someone who sees a gap or a need in his or her immediate environment and brings resources together to meet such needs for rewards. In the quest to survive, individuals engage in different activities and are classified based on such activity. Examples of such clarifications include: entrepreneur, intrapreneur, cyberpreneur, hobbypreneur, co-entrepreneur, managerpreneur, politipreneur, sportpreneur, familipreneur, homepreneur, womanpreneur, entertainmentpreneur, youthpreneur, engineerpreneur, acadapreneur, pastorpreneur (Emmanuel, 2011). This paper therefore focuses on the interaction between entrepreneurship, sustainable livelihood and health promotion; strategies for sustainable livelihood and health promotion; and importance of entrepreneurship to health and survival

**Interaction between Entrepreneurship, Sustainable Livelihood and Health Promotion**

Entrepreneurship is necessary because of the rewards as well as roles it plays in business and human survival (Ezeibe & Edafiogho, 2014). The interaction between entrepreneurship, sustainable livelihood and health promotion portrays that entrepreneurship development paves ways for skill acquisition, investment opportunities, business ideas, human development, among others, which are the basics for sustainable livelihood resulting in healthy living and health promotion. Mamman (2010) maintained that the concept of entrepreneurship is not limited to business rather it is relevant and applicable to entire life of mankind.

Sustainable livelihood is an attempt to go beyond the conventional definitions and approaches to poverty eradication focusing on the various factors and processes which either constrain or enhance poor people’s ability to make a living in an economically, ecologically, and socially sustainable manner (Blaikie, Cannon, Davis &Wisner, 2004). Livelihood is defined as a set of activities, involving securing water, food, medicine, shelter, clothing and the capacity to working either individually or as a group by using endowments (both human and material) for meeting the requirements of the self and household on a sustainable basis with dignity (Sally, 2011). Sustainable livelihood leads to health promotion which is achieved through entrepreneurship development.

**Strategies for Sustainable Livelihood and Health Promotion**

The success of every health promotion activity depends on the use of appropriate strategy. Berman, Snyder, Kozier and Erb (2007) referred to strategy as planning which is deliberate, systematic process that involves decision making and problem solving. Marlsand, Colvin, Mears and Kates, (2010) see strategy as collaborative effort and plan of action for change. The above definitions highlighted the attributes of strategy as deliberate plan, decision making, collaborative effort and problem solving. When the attribute is directed towards improvement, restoration, maintenance and rehabilitation of situations, or challenges relating to health, it is referred to as health promotion strategy. Park (2007) had earlier added that the purpose of health promotion strategy is to match limited resources with the problems, to eliminate waste and to develop the best course of action or change. To further buttress this point, Green and Kreuter (2005) asserted that in health education, practitioners and experts emphasized that good health is achieved through a system of using planned activities to bring about an improvement in knowledge, positive attitude and practices that would enable individuals to make informed choices concerning their health. This approach is applied in entrepreneurship development, as it reflects in the rewards and importance proposed by the proponents of entrepreneurship as a standard approach to sustainable livelihood and healthy living.

To make these strategies work, there is need to adopt health promotion approach. Health promotion is defined by Green and Kreuter (2005) as any planned combination of educational, political, regulatory and organizational supports for actions and conditions of living conducive to the health of individuals, groups and communities. The five strategies of health promotion as identified in Ottawa Charter were adopted to achieve entrepreneurship development and sustainable livelihood in this study. The strategies are summarized below:

1. Building Healthy Public Policies: In the area of entrepreneurship development, there is no known existing healthy public policy dealing on different aspects of entrepreneurship opportunities, skills and development. Therefore, there is need to articulate a holistic and comprehensive policy which understands the complex nature of the entrepreneurship opportunities and provides educational, political, regulatory, health and organizational support for the propagation of sustainable livelihood and entrepreneurship development.
2. Creating Acceptable Supportive Change: Since entrepreneurship development is based on knowledge, defined attitude, desirable practice, and skill acquisitions, the government and non-governmental agencies should show great concern in order to provide the enabling resources for effective entrepreneurship development.
3. Strengthening Family and Community Action: Mobilization of individuals, families and communities for action through mass education, creating regulatory instrument for enforcement of entrepreneurship experiences, development, knowledge and supporting programs and action that promote health and livelihood.
4. Developing Personal Skill: These can be achieved through both formal and informal means. Through formal means by integrating entrepreneurship programmes at all levels of education (primary, secondary and tertiary), and bringing the knowledge as close as possible to where people live and work. Through informal means by encouraging the parents to emphasize the need for being an entrepreneur before their children at homes.
5. Reorienting Health Services: The Nigerian health services before now had focused more on curative and neglected to a large extent the preventive and promotive activities. The concept of entrepreneurship development which is a proactive activity to orient the populace on the need to become entrepreneurs and self-employed is more of health promotion.

Building Healthy Public Policies

Creating Acceptable Supportive Change

Strengthening Family and Community action

Developing Personal Skills

Reorienting Health Services

Sustainable Livelihood

Health Promotion

Entrepreneurship Development

Reorienting health services

***Figure 1:*** *Schematic Representation of Health Promotion Strategies for achieving entrepreneurship development and sustainable livelihood (Ilo& Mbama, 2012).*

**Importance of Entrepreneurship to Health and Survival**

Literature evidence has shown that entrepreneurship is an important aspect to human health and survival. For instance, Manu-Nelson and Thongo (2003) emphasized that entrepreneurship has a lot of rewards and importance to human health and survival. The authors summarized the rewards of entrepreneurship as follows:

* Self-actualization/ fulfillment
* Sense of freedom and independence
* Provides benefits and jobs (investors, suppliers, bankers, subcontractors, work force, and customers).
* Economic goods (products/ services, incomes for workers and profits for shareholders).
* Independence – being one’s own boss
* Economic power.
* Profit maximization
* A satisfying way of life
* Opportunity for servicing one’s community and society
* Protection of business and property
* Optimal utilization of one’s life.

Manu-Nelson and Thongo (2003) further highlighted some of the importance of entrepreneurship to include:

* Employment creation: Entrepreneurs create employment for themselves and others. They are employers and hence assist in solving the unemployment problems in society.
* Promotion and utilization of local resources: Another area in which entrepreneurship has contributed significantly to developing economies is in the use of local resources. When entrepreneurs utilize local resources, the values for these resources increase.
* Decentralization and diversification of businesses: Entrepreneurs are able to identify business opportunities and locate these businesses in suitable areas, including rural communities.
* Promotion of technology: By being creative, entrepreneurs are able to contribute to the utilization and development of technology
* Capital formation: Entrepreneurship increases capital formation and investment

In addition, Emmanuel (2011) observed other importance of entrepreneurship to include:

* Promotion of entrepreneurial cultures: By projecting successful images, entrepreneurs become models that can be copied by young people
* Equitable distribution of income and wealth: Entrepreneurship also ensures equitable distribution of income and wealth in the economy through its existence in every part of the country.
* Interdependence of businesses: Another contribution of entrepreneurship to the economic development of a nation is the propagation of independence among businesses. Since no business is an island, enterprises relate to one another through either buying or selling to different businesses and competing with many others(Ezeibe & Edafiogho, 2014).
* Conservative of foreign exchange: Entrepreneurship also plays a significant role in the Nigerian economy in the area of foreign exchange conservation. With rapid development of small and medium-scale business since the indigenization Decree 1972, importation of certain essential items has drastically reduced and local production of such items have been on the increase (Ezeibe & Edafiogho, 2014). Through import substitution, Nigeria has been able to conserve her foreign exchange, which in turn has boosted the country’s Gross National Income (GNI).
* Maintenance of competition: Entrepreneurship also maintains competition in the economy.

**Conclusion**

Based on the foregoing, it is obvious that there is a strong link between entrepreneurship development, sustainable livelihood and health promotion. Entrepreneurship exposes individual to different areas of specialization for sustainable livelihood which eventually results to healthy living and health promotion. Entrepreneurship development could be properly introduced at all levels of development and education through appropriate means or strategy. Five stages of health promotion strategies were applied for the achievement of sustainable livelihood and entrepreneurship development.

**Recommendations**

Based on the conclusion of the study, the following recommendations were made:

* Concerned bodies and authorities such as the national and state legislatures should develop a comprehensive national policy on entrepreneurship education and sustainable livelihood which will provide educational, economic, regulatory, health and financial support for human survival, healthy living and health promotion.
* Curriculum planners at all levels of education (primary, secondary and tertiary) should integrate entrepreneurship development education into all subjects, courses, lessons and programmes of school in such a manner that entrepreneurship sensitization becomes one of the competences acquired when one comes in contact with the educational system at all levels using up-to-date tools in the study of entrepreneurship.
* Government, ministries and concerned non-governmental organizations should undertake radical awareness creation amongst the populace on the need for entrepreneurship development as a tool for sustainable livelihood and health promotion
* Routine workshops, seminars, and conferences as well as training and retraining of teachers should be properly organized to enable them acquire the needed competences in impacting on their students, the knowledge, attitude and skills for becoming entrepreneurs.

**References**

Berman, A., Snyder, S., Kozier, B. & Erb. G. (2007). *Fundamentals of Nursing (8thed.)*. New Jersey: Pearson Prentice Hall

Blaikie, P., Cannon, T., Davis, I., &Wisner, B. (2004).*At Risk: Natural Hazards, People’s Vulnerability, and Disasters*. New York, NY: Routledge

Entrepreneurship Centre for Miami University of Ohio. (2003). *Concept of Entrepreneurship.* Entrepreneurship Centre for Miami University of Ohio.

Emmanuel, C.L. (2011). *Entrepreneurship: A Conceptual Approach*. Lagos: Pumark Nigeria Limited.

Ezeibe, A.B.C. & Edafiogho, D.O.C. (2014). *Entrepreneurship Development and Business Management*. Enugu: Grand-Heritage Global Communications

Gana, J.S. (2001). Entrepreneurship. Kaduna: Jofegan Associates

Green, L.W. & Kreuter, M.W. (2005). *Health Programme Planning: An Educational and Ecological Approach (4thed.)*. Boston: McGraw-Hill.

Hisrich, R.D. & Peter, M.P. (2002). *Entrepreneurship (5thed.)*. Singapore: McGraw-Hill Higher Education.

Hisrich, R.D., Michael, P.P., & Shepherd, D.A. (2005). *Entrepreneurship (International Ed.)*. Boston: McGraw-Hill

Ilo, C.I. & Mbama, I. (2012). Environmental Education as a Strategy for Sustainable Development and Health Promotion in Nigeria; *Nigerian Journal of Health Education.* 16(1): 49-61

Mamman, A. (2010). *Entrepreneurship development and poverty alleviation in Nigeria*. Kaduna: Joyce Graphic Printers and Publishers.

Manu, G., Nelson, R. & Thongo, P. (2003). *Know about Business Entrepreneurship Education in Schools and Technical Vocational Training Institution*. A Publication of International Training Centre of the ILO. Tarin

Marlsand, D., Colvin, P.L., Mears, S.C., & Kates, S.L. (2010). How to optimize patients for geriatric fracture surgery. *Osteop Int.*; 21:535-546

Nwaoga, C.T. (2011). *Evaluation of Business Opportunity in Introduction to Entrepreneurship*. A Publication of Centre for Entrepreneurship and Development Research, University of Nigeria, Nsukka. Timex Enterprises

Park, K. (2007). *Preventive and Social Medicine (20thed.)*. Jabalpur: Banarsidas Bhanot.

Thomas, K.W. & Kilmann, R.H. (2004). *Thomas-Kilmann Conflict Mode Instrument*. Sterling Forest, NY: Xicom, Inc.

**EXAMINING THE ROLES OF AGE AND GENDER ON ATTITUDE OF ANAMCO WORKERS TOWARDS OCCUPATIONAL HEALTH HAZARDS**

**Dorothy I. Ugwu,** Ph.D.

Department of Health and Physical Education

University of Nigeria Nsukka

**Abstract**

*The study examined the role of age and gender on workers of Anambra Motor Manufacturing Company (ANAMCO), Enugu, Nigeria towards occupational health hazards. Two null hypotheses were tested at 0.05 level of significance. The population for the study consisted of 521 workers of ANAMCO. The instrument used for the study was Attitude of Workers Towards Occupational health Hazards Questionnaire (AWTOHHQ). This was designed by the researcher. Stratified sampling technique was used to draw sample for the study. Mean, standard deviation and student t-test were used for data analysis. Results revealed that the older workers had unfavourable attitude while the younger workers had favourable attitude towards their workplace hazards. Result also showed that both the male and female workers had favourable attitude towards occupational health hazards. There were significant differences in the attitudes of the older and younger workers, male and female workers towards their hazardous workplace. The older workers showed significantly less unfavourable attitude (t = -3.886, df = 475, P = .002) than the younger workers, while the female workers showed more favourable attitude (t = -3.028, df = 475, P = .003) toward occupational health hazards than the males. It was therefore recommended that intervention geared towards improving works’ knowledge towards occupational health hazards be adopted such as, workshops, seminars, training, re-training, and conferences.*

**Introduction**

The deteriorating conditions of workplace health and safety, as well as the emergence of new regulations and international standards regarding industrial establishments have driven organizations to improve their safety performance. This has resulted to several researchers exploring the area of work environment both in the developed and developing countries. Jadab (2012) had contended that studies in this area are aimed at improving occupational safety and health management on construction sites and use of substances for production, particularly to reduce the number of occupational health hazards encountered by workers.

In developed countries, organizations have extensively shifted from a reactive to a proactive approach towards safety (Malek, Adel, Amel & James, 2010). The situation is different in the developing countries for according to Jadab (2012), inspite of a plethora of legislation at national and international levels and despite various safety mechanisms and devices that have been suggested for use to effect safety of workers, workers still perform their duties under an unsafe working conditions. Supporting this observation, the National Policy of safety, Health and Environment at Workplace- NPSHEW (2012) reported that workers in the developing countries such as Nigeria, lack adequate information and knowledge on the hazards associated with the substances and equipment used for production. This situation poses a potential health problem to the workers, creating a genuine interest to protect the workers against the hazards of their jobs since it has been observed that the place of workers is crucial in the process of production (Aluyu & Shehu, 2006).

Hazards refer to all chemicals, or physical conditions that have the potentials to cause damage or harm if not controlled (Jadab, 2012). Occupational health is the protection of the bodies and minds of people from illness resulting from materials, processes, or procedures used in the workplace (Hughes & Ferrett, 2008). It aims at promoting and maintaining at the highest degree of physical, mental, and social wellbeing of workers in all occupations by preventing departures from health, controlling risks, and the adoption of work to people and people to their work (International Labour Organization –ILO, 2001). The concept of occupational health hazard is, therefore, derived from the fact that workers are at special risks of injury, disease and health impairment arising from exposures to chemicals, or physical conditions that have the potentials to cause damage in the organizational settings (Okwulehie, 1997).

Occupational health hazards have been classified by World Health Organization- WHO (2007) in terms of mechanical hazards; ergonomically poor working conditions; biological hazards; physical factors; social hazards; reproductive hazards and allergenic agents; chemical agents and psychological stress. Some research evidence exists about the prevalence of hazards in Nigeria industries. For instance, Adaoye, Bedibele, Onakpoya and Omotoye (2011) observed that Nigerian workers encounter humidity, repetitive tasks, explosion hazards, and physical workload in the course of production.

Omolulu (1997) found excessive heat, excessive cold noisy environment, harmful dusts and spores toxic chemical exposures, and lighting radiation among Nigerian industries. Bonde and Givercman (2010) in a study of Nigerian work conditions, revealed that workers in Nigerian industries are exposed to thermal radiation, hot noisy environments, presence of dust, fames, oils, grease and other chemicals, improperly designed tools and machinery and poor psycho-social environments .

Studies (Vyas, Das & Mehta, 2011) have shown that exposure to hazards results to varied nature of health complaints such as injury, pain, respiratory symptoms, cancers, eye related problems and skin problems, stress and psychosomatic disorders. Sorock et – al (2004) had reported musculoskeletal discomforts at a higher injury risk. Examining the predisposing factors for hazards encountered in the workplace, NPSHEW (2012) reported that the factors are not only breach of safety norms by workers, or carelessness on the part of workers; sometimes, hazards occur due to the failure of control, which is the responsibility of management. Thus the shift of the focus on the hazards occurrence has been driven by the awareness that organization, managerial and human factors such as attitude and workers demographic factors rather than purely technical failures are prime cause of hazards in the organizational settings.

The present study examined the attitude of workers towards occupational health hazards. To have an attitude towards occupational health hazards means a tendency to have a work role orientation characterized by approval or disapproval concerning hazardous workplace (Ford & Tetrick, 2011). Attitude means the evaluation of other people, events, issues and material things with some degrees of favour or disfavour (Moghaddam, 2009). When a worker has favourable or positive attitude towards occupational health hazards, it means that the worker is comfortable, feeling free and unconcerned about the hazards of his/her workplace. On the other hand, a worker who has unfavourable or negative attitude, feels disturbed, uncomfortable, and is concerned about the hazards of his or her workplace.

The theory of Cognitive Dissonance (CD) postulated by Leon Festinger (1996) explained attitude in relation to workers’ hazards encounter in the workplace. The theory posits that attitude predicts behavior and that where attitude and behavior are not related, cognitive dissonance results. Cognitive dissonance refers to an individual’s motivation to reduce the discomfort caused by two inconsistent thoughts, feelings and emotions. The tenet of this theory therefore, becomes important to this study because attitude equipped workers with the tendency to make their thoughts consistent in evaluating issues events and materials in their workplace with some degrees of favour or disfavour.

The study examined the demographic variables of age and gender with regard to workers’ attitude toward occupational health hazards. This clarified the thoughts, feelings, and emotions of older and younger; male and female workers towards hazards of the workplace. Mital and Ghahramani, 2011) had earlier classified workers’ age in terms of younger and older workers. They classified younger workers as those within the age range of 19-45, while older workers are those within the age range of 46-65. This study adapted the above classification. Thus, the younger workers were those within the age range of 20-45, while the older workers were those within the age range of 46-65. This classification was based on the fact that ANAMCO Company employs workers that are up to 20 years and above and retires their workers at the age of 65.

Examining the age of workers in relation to workplace hazards, Vyas, Das, and Mehta (2011) observed that the relative risk factors for hazards occurrence are encountered more among the older workers than the younger workers, indicating that older workers had more favourable attitude towards workplace hazards than the younger workers. In a similar study, Vedovato and Monteiro (2014) result contradicted the above finding by reporting that 95.7 per cent of the younger workers encountered accidents and sustained injuries within a specified period of 5 years, while 35.3 per cent of the older workers sustained injuries within the period. Cappeletto and Marler (2003) and Marguart (2003) had earlier observed that the older workers who had attended sufficient programmes and had gained enough experiences reported unfavourable attitude towards their workplace hazards more than the younger workers.

Regarding the issue of gender, Vyas, Das and Mehta (2011) and Vedeovaho and Monteiro (2014) found from their respective studies that males had more favourable attitude than females towards occupational health hazards. On the contrary, Keyserlin (2012), Harrison (2012) and Donald and Young (2012) observed from their various studies that females had more favourable attitude towards their workplace hazards than the males. Some studies conducted by researchers, using Nigerian sample, yielded conflicting results. For instant, Aliyu and Shehu (2006) studied the attitude of workers regarding their workplace hazards. The result showed that females had more favourable attitude towards occupational hazards than males. Contradictorily, Adeoye, Bedibele, Onakpoya and Odotoya (2014) observed from a similar study that both Nigerian males and females had favourable attitudes towards their workplace hazards.

Considering the inconsistency in the above reviewed studies and bearing in mind that workers who have favourable attitude towards hazards in their workplace are most likely to encounter hazards in the course of performing their jobs, it becomes necessary that study was carried out in this area. Study in this area helps in improving the attitude of workers towards workplace hazards. The study therefore, examined the role, which is the degree to which age and gender is involved in influencing the attitude of workers of Anambra Motor Manufacturing Company (ANAMCO) towards occupational health hazards. The study examined the attitude of the younger and older; male and female workers towards occupational health hazards. It was hypothesized that there are no statistically significant differences in the attitudes of the younger and older; male and female workers towards occupational health hazards (P<.05).

**Methods**

The research design adopted for the study was the descriptive survey design. The study was carried out in Anambra Motor Manufacturing Company (ANAMCO), which situates in Enugu State, Nigeria. ANAMCO assembles cars and fabricates car spare parts and uses some chemicals that are hazardous to health of workers. Hazards associated with the nature of their job include physical hazards, mechanical hazards, ergonomically poor working conditions, psychological stress, social conditions, reproductive hazards and allergenic agents. The workers’ exposure to these hazards formed the bases for the choice of the company for the study.

The population for the study consisted of all the 521 workers of ANAMCO, Enugu. Out of this number, 199 of the workers were older workers while 322 of them were younger workers. A total number of 106 of the workers were females, while 415 of them were male workers.

The sample for the study was 261 workers selected by means of stratified sampling technique. Available data on the number of workers per section allowed stratification of sampling proportionately by sections. In other words, workers were selected from the eight sections that make up the company in proportion of 1:2 of the number of workers in each section. The sections are” administrative with 46 workers, mechanical 152, assemblage 142, health unit 62, security 43, bursary 38, catering 18 and laundry 20 workers.

The instrument used for the study was a structured 10-item questionnaire which was designed to measure the attitude of workers regarding occupational hazards. The instrument consisted of two sections. Section A comprised demographic variables of age and gender, while section B comprised 10-item instrument that measured workers’ attitude towards occupational hazards. Respondents were requested to indicate their degree of agreement/disagreement with the attitudinal statements, with the response format ranging from Strongly Agree (SA) = 5; Agree (A) = 4; Undecided (U) = 3; Disagree (D) = 2 and Strongly Disagree (SD) = 1, for items 1,3,5,7 and 9, that were positively worded. The other five items (2,4,6,8 and 10) were negatively worded with reverse scores: SA = 1; A = 2; U = 3; D = 4 and SD = 5.

The instrument was validated by three lecturers in University of Nigeria, Nsukka who critically examined the instrument in terms of appropriateness and suitability to the purpose of the study. The face validity of the instrument was determined through the judgement of these three experts. In order to establish the reliability of the instrument, 96 copies of the instrument were administered to workers of Emenite Nigeria Ltd, Enugu. The data were analyzed using Product Moment Correlation coefficient, which determined the split-half reliability of the instrument. The split-half reliability of .85 was obtained. This was corrected with Spearman-Brown formular, = .92, to estimate the validity of the instrument.

In order to facilitate the distribution of the questionnaire, the researcher raised an introductory letter to the General Manager Personnel unit of the organization. A total number of 261 copies of the questionnaire were distributed to the workers and this was done through the eight sectional heads of the company. The instrument was distributed as follows: administrative 23, mechanical 76, assemblage 71, health unit 30, security 23, bursary 19, catering 9 and laundry 10. The time allotted for the filling of the questionnaire was thirty minutes and these were filled and collected on the spot. A hundred percent return rate was achieved with 221 copies correctly filled. This yielded a return rate of 86.73 percent.

Means, Standard Deviations and Student t-test were used to analyze data on attitude of workers regarding occupational hazards. The research questions were answered using mean and standard deviation, using criterion mean of 3.00. The criterion mean was determined thus 5+4+31+1  Following from this, all the mean scores that were within the limits of 3.00 and above indicated favourable attitude while mean scores that were below 3.00 showed unfavourable attitude regarding occupational hazards. The hypotheses were tested using student t-test at .05 level of significance.

**Results**

**Table 1**

**Difference in the Attitude of Older and Younger, Male and Female Workers regarding Occupational Health Hazards**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S/N** | **Components of Attitude** | **Older Workers**  **(N = 199)**  1 **SD1** | **Younger workers**  **(N = 322)**  2 **SD2** | **Male**  **(N = 415)**  1 **SD1** | **Female**  **(N = 106)**  2 **SD2** |
| 1. | I hate working on vibration machine because of the adverse effect it has on workers | 2.16 .917 | 2.30 .942 | 3.93 .879 | 3.18 .884 |
| 2. | I like working in this company because the work environment is not stressful to me | 2.47 .855 | 3.92 .972 | 2.52 1.041 | 2.77 .986 |
| 3. | Chemical hazards make me feel uncomfortable each time I remember going to work | 2.03 .977 | 2.64 .063 | 3.31 .991 | 3.67 .639 |
| 4. | I feel that the management is doing their best to improve on social relationship among workers in this organization | 2.03 .964 | 2.40 .902 | 2.61 1.058 | 2.81 .946 |
| 5. | I do not like working in this industry because of the biological hazards prevalent in it | 2.99 .888 | 3.12 .832 | 3.24 .856 | 2.91 .943 |
| 6. | I enjoy the equipment I work with in this company because they are well maintained and up-to-date. | 2.97 .847 | 2.98 .848 | 3.35 1.025 | 3.70 .695 |
| 7. | I do not like working in this company because the work environment is too hot for my comfort | 3.53 .882 | 3.59 .833 | 3.11 .908 | 2.90 .912 |
| 8. | I feel safe weaning the protective devices in my workplace | 3.09 1.046 | 3.27 1.005 | 3.05 1.013 | 3.42 .882 |
| 9. | Some of the materials used for production in this company make me sick | 3.08 .879 | 3.27 .884 | 2.98 .941 | 3.85 .850 |
| 10 | I do not feel that any material used for production in this company can render a person impotent | 3.19 1.069 | 3.28 .930 | 2.62 1.038 | 3.67 .927 |
|  | **Overall mean** | **2.75** | **3.08** | **3.07** | **3.29** |

Table 1 indicated that the older workers reported an overall mean response of 2.75, which falls within the limits of below 3.00, showing that the older workers had unfavourable attitude towards their workplace hazards. On the other hand the younger workers had an overall mean score of 3.08 which falls within the limits of 3.00 and above, indicating that the younger workers had favourable attitude towards occupational health hazards.

Data on gender showed that the male workers had an overall mean response of 3.07, while the female workers had an overall mean response of 3.29. These response fall within the limits of 3.00 and above, indicating that both the male and female ANAMCO workers had favourable attitude towards occupational health hazards.

**Table 2**

**Summary of t-test on the Attitude of Older and Younger Workers Towards Occupational Health Hazards**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **S/N** | **Components of Attitude** | **Older workers**  **(N = 199)**  1 SDI | **Younger workers**  **(N = 322)**  2 SD2 | **t- cal** | **Df** | **P. Value** |  |
| 1. | I hate working on vibration machine because of the adverse effect it has on workers | 2.16 .917 | 2.30 .942 | -2.891 | 475 | .004 | S |
| 2. | I like working in this company because the work environment is not stressful to me | 2.47 .853 | 3.92 .972 | -2.127 | 475 | .047 | S |
| 3. | Chemical hazards make me feel uncomfortable each time I remember going to work | 2.03 .977 | 2.64 .1063 | -2.274 | 475 | .014 | S |
| 4. | I feel that the management is doing their best to improve on social relationship among workers in this organization | 2.03 .964 | 2.40 .902 | -3.124 | 475 | .002 | S |
| 5. | I do not like working in this industry because of the biological hazards prevalent in it | 2.99 .888 | 3.12 .832 | -2.030 | 475 | .043 | S |
| 6. | I enjoy the equipment I work with in this company because they are well maintained and up-to-date. | 2.97 .847 | 2.98 .848 | -1.588 | 475 | .113 | NS |
| 7. | I do not like working in this company because the work environment is too hot for my comfort | 3.53 .882 | 3.59 .833 | .554 | 475 | .580 | NS |
| 8. | I feel safe weaning the protective devices in my workplace | 3.09 1.046 | 3.27 1.005 | -1.496 | 475 | .135 | NS |
| 9. | Some of the materials used for production in this company make me sick | 3.08 .879 | 3.27 .884 | 1.811 | 475 | .071 | NS |
| 10. | I do not feel that any material used for production in this company can render a person impotent | 3.19 1.069 | 3.28 .930 | -.735 | 475 | .463 | N |
|  | **Overall mean** | **2.75** | **3.08** | **-3.886** | **475** | **.002** | **S** |

**NS** = Not Significant and **S** = Significant

Table 2 showed that the younger ANAMCO workers reported significantly more favourable attitude towards occupational health hazards than the older workers (t = -3.886, df = 475, P = .002). Therefore, the null hypothesis of no significant difference in the older and younger workers’ attitude towards occupational health hazards was not accepted. The table indicated that while five items of the questionnaire items tested showed no significant differences, there were significant differences in the other five items. There were significant differences (t = -2.891, df = 475, P = .004) on “ I hate working on vibration machine”; (t = -3.127, df=475, P = .047) on “I like working in this company because the work environment is not stressful”; (t = -2.474, df = 475, P = .014) on “chemical hazards make me feel uncomfortable”; (t = -3.124, df=475, P=.002) on “ I feel that the management is doing their best to improve on social relationship among workers. Furthermore, there was significant difference (t = -2.030, df = 475, P = .043) on “I do not like working in this industry because of the biological hazards prevalent in it.

**Table 3**

**Difference in the Attitude of male and Female Workers towards Occupational Health Hazards**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **S/N** | **Components of Attitude** | **Male**  **(N = 415)**  1 SDI | **Female**  **(N =** 106)  2 **SD2** | **t- cal** | **Df** | **P. Value** | **Dec** |
| 1. | I hate working on vibration machine because of the adverse effect it has on workers | 3.93 .879 | 3.18 .884 | -1.811 | 475 | .033 | S |
| 2. | I like working in this company because the work environment is not stressful to me | 2.52 1.041 | 2.77 .986 | -2.103 | 475 | .036 | S |
| 3. | Chemical hazards make me feel uncomfortable each time I remember going to work | 3.31 .991 | 3.67 .639 | -4.800 | 475 | .000 | S |
| 4. | I feel that the management is doing their best to improve on social relationship among workers in this organization | 2.61 1.058 | 2.81 .946 | -2.078 | 475 | .038 | S |
| 5. | I do not like working in this industry because of the biological hazards prevalent in it | 3.24 .856 | 2.91 .943 | -4.313 | 475 | .000 | S |
| 6. | I enjoy the equipment I work with in this company because they are well maintained and up-to-date. | 3.35 1.025 | 3.70 .695 | -4.420 | 475 | .000 | S |
| 7. | I do not like working in this company because the work environment is too hot for my comfort | 3.11 .908 | 2.90 .912 | -2.554 | 475 | .011 | S |
| 8. | I feel safe weaning the protective devices in my workplace | 3.05 1.013 | 3.42 .882 | -4.183 | 475 | .000 | S |
| 9. | Some of the materials used for production in this company make me sick | 2.98 .941 | 3.85 .850 | -882 | 475 | .378 | NS |
| 10. | I do not feel that any material used for production in this company can render a person impotent | 2.62 1.038 | 3.67 .927 | -558 | 475 | .577 | NS |
|  | Overall mean | 3.07 | 3.29 | -3.028 | 475 | .003 | S |

**NS = Not Significant and S = Significant**

Table 3 indicated that the female ANAMCO workers should significantly more favourable attitude towards occupational health hazards than the male workers (t = -3.028, df = 475, P= .003). Therefore, the null hypothesis of no significant difference in the male and female workers’ attitude towards occupational health hazards was not accepted as stated. The table revealed that only two items in the response across the questionnaire items tested were not significant. All other items of the questionnaire were significant. There were significant differences (t= 1.811, df 475, p = .033) on “I hate working on vibration machine”; (t = -2.103, df = 475, P = .036) on “ I like working in this company because the work environments is not stressful to me”, (t = -4.800, df = 475, P = .000) on “ chemical hazards make me feel uncomfortable”, (t = -2.078, df = 475, P = .038) on “ I feel that the management is doing their best to improve on social relationship among workers”; (t = -4.313, df = 475, P = .000) on “I do not like working in this industry because of the biological hazards prevalent in it”; (t = - 4.420, df = 475, P = .000) on “ I enjoy the equipment I work with in this company because they are well maintained”, (t = -2.554, df = 475, P = .011) on “ I do not like working in this company because the work environment is too hot for my comfort” and (t = -4.183, df = 475, P = .000) on “I feel safe wearing the protective devices in my workplace”.

**Discussion**

The finding revealed that the older workers had unfavourable attitude while the younger workers had favourable attitude toward their workplace hazards. This finding has debunked the earlier observation by Adeoye, Bedibele and Onakpoya and Omotoya (2011), which showed that Nigerian workers, irrespective of demographic factors, reported favourable attitudes towards their workplace hazards. Similarly; the finding in Table 2 showed that the younger workers showed significantly, more favourable attitude than the older workers is consistent with the earlier results of Cappelletto and Marler (2003) and Marguart (2003), which showed that the older workers, through sufficient involvement in programmes had gained enough experience about the hazards of their jobs, thus they reported unfavourable attitude more than the younger workers. The present finding is at variance with the findings of Vyas, Das and Mehta (2011) and Vedovato and Monteiro (2014), which showed that the older workers encountered more hazards in the workplace than the younger workers as a result of their favourable attitude towards their workplace hazards.

A possible explanation to this result is based on the fact that most of the older workers of ANAMCO have worked in the company for a longer time than the younger workers. As such, they have mastered the hazards of their workplace and may have known or experienced the various health consequences of such hazards. The younger workers who may be relatively new in the job, may not have known much about the health effects of their jobs, hence, their display of favourable attitude towards the dangers of their occupations. In addition, for the fact that the older workers have limited alternative job opportunities due to economic depression, which results in high rate of unemployment, they are more likely to take their jobs seriously. They are also more likely to adopt and apply all available measures to protect themselves from the hazards of their jobs than the younger workers, since according to the theory of Cognitive Dissonance by Leon Festinger (1996), workers’ attitudes predict their behaviours.

Regarding the issue of gender, the finding in Table 1 indicated that both male and female ANAMCO workers had favourable attitude towards their workplace hazards. The result has supported the earlier finding by Omolulu (1997) and Bonde (2013), which showed that Nigerian workers encountered varied forms of hazards in their workplace. It then implies that workers favourable attitude to their work environment predispose them to hazards encountered in their jobs. However, the result in Table 3 which showed that the female ANAMCO workers reported significantly more favourable attitude then the male workers. This result is in line with the findings of Keyserlin (2012), Harrison (2012) and Donald and Young (2012). They observed from their various studies that females had more favourable attitude towards their workplace hazards than males. On the other hand, the present result is at variance with the findings of Vyas, Das and Mehta (2011) and vedovato and Monteiro (2114), which reported respectively, that males had more favourable attitude towards occupational health hazards than the females.

The reasons for these findings could be that Nigerian workers are not well informed about the hazards of their workplace and as such lack full knowledge of the dangers associated with their work environment. Hence they feel free, less concerned, comfortable and undisturbed about their hazardous work environment. Furthermore, the female workers may have shown significantly more favourable attitude because in ANAMCO Company, females work majorly, as administrative workers. As such, they do not encounter much hazards in the course of performing their duties as the males. The males work as automobile engineers, they are the mechanics that have real encounter with machines, chemicals and other dangerous substances used in assembling cars. Following from this, the males may have higher rate of occupational health hazards encounter compared to the females. For instance, Vyas, Das and Mehta (2011) reported that automobile engineers adopted different working postures and are exposed to poor psychosocial environments, repetitive work and respiratory complaints. The male workers of ANAMCO Company may have experienced some of these health problems and have developed displeasure or less favourable attitude towards their workplace hazards.

**Conclusion**

The study examined the role of age and gender on ANAMCO workers’ attitude towards occupational health hazards. Findings indicated that the older workers had unfavourable attitudes while the younger workers had favourable attitude towards their workplace hazards. The study also revealed that both the male and female workers had favourable attitude towards their workplace health hazards. The result showed that there were significant differences in the attitudes of the older and younger, male and female workers towards occupational health hazards, indicating that the younger workers had more favourable attitude than the older workers and that the female workers had more favourable attitude than the male workers towards occupational health hazards.

It then implies that the younger, male and female workers of ANAMCO Company are not well informed about the dangers of their occupations. It also means that the entire workers and management of ANAMCO Company require more information about the hazards of their workplace.

**Recommendations**

It is therefore, recommended that;

1. Intervention geared towards improving workers’ knowledge towards occupational health hazards be adopted. These can be done in the form of workshops, seminars, training, re-training and conferences.
2. New workers should be given proper orientation regarding the hazardous nature of their workplace. The orientation programme should be designed in such a way that it will help the new workers in developing desirable attitude towards their workplace hazards.
3. The management should pay adequate attention to the enforcement of rules and regulations guiding health safety in the workplace. This will help workers in improving their attitudes towards occupational health hazards.

**References**

Adeoye, A.O., Bedibele, C.O., Onakpoya, O.H. and Omotoye, E.C. (2011). Awareness and utilization of protective eye devices among welders in a South Western Nigeria Community. *Annals of African Medicine, 10* (4), 29-49.

Aliyu, A.A., & Shehu, A.U. (2006). Occupational hazards and safety measure among stone quarry workers in Northern Nigeria. *Nigerian Medical Medicine, 50* (2), 42-47.

Bande, J.P., & Givercman, A. (2010). Occupational hazards to male fecundity. *Reproduction Medicine Review, 4* (3), 59-78.

Cappelletto, F., Merler, E. (2003). Risk perception and risk communication among Italian exposed to asbestos of Wittenoom. In A. Grieco, S, Lavicoli and G. Berlingnet (eds.).  *Contribution to the history of occupational and environmental prevention* (pp.277-304). Amsterdam: Elsevier Science.

Donald, J., & Young, S. ?(2012). Managing Safety: an attitudinal-based approach to improving safety in organizations. *Leadership and Organizational Development Journal, 17,* 13-20.

Festinger, C.P.I. (1996). *A theory of cognitive dissonance:* Stanford, C.A. Standard University Press.

Ford, C. & Tetrick A.P. (2011). Occupational health and safety analysis. *Journal of Applied Psychology, 70,* 281-290.

Harrison, J. (2002). Occupational safety and health in the United Kingdom: Securing future workplace health and wellbeing. *Industrial Health, 50*, 261-266.

Hughes, G.A., & Ferrett, S. (2008). Health and Safety at Work. *Occupational Health Psychology, 5*  278-308.

*International Labour Organization* (2001). Norms in Occupational health context. ILO Publication.

Jadab, K.E. (2012). Occupational health hazards and management for industrial workers. *Odisha Review, 01, 64-98.*

Keyserlim, W.M. (2012). Workplace risk factors and occupational musculoskeletal disorders. *American Industrial Health Perspective,* 112 (51), 676-689.

Malek, M., Adel, E., Amal, E., & James, S. (2010). The correlation between safety practices in construction and occupational health. *Management Science and Engineering, 4(3)*, 01-09.

Marguart H. (2003). Assessing reasonable worst-case full shift exposure levels from data of variable quality. *Applied Occupational and Environmental Hygiene, 16* (2), 210-217.

Mitel, A., & Ghahramani, B. (2011). The injury, a profile of a large telecommunication company: a statistical summary, *Ergonomics, 37,* 1591-1601.

Moghaddam, F.M. (2009). *Social psychology: Exploring universals across culture.* New York: W.H. Freeman and Company.

National Policy on Safety, Health and Environment at Workplace. http://www.dgpasli.nic.in/infol.htm. Accessed March 2, 2012.

Okwulehie, P. (1997). Conceptual issues in health and hazards in Nigeria, in F. Adewumi & F. Omolulu (eds.) *. Death by Installment: Occupational health and hazards in Nigeria*  (pp. 125-150). Ibadan: Emmi Press.

Omolulu, F. (1997). *Death by installment: Occupational health and hazards in Nigeria.* Ibadan: W.H. Freedom and Company.

Sorock, G., Lombardi, D., Hauser, R., Eiesen, E., Herrick R., & Mittleman, M. (2004). Case-Crossover study of transient risk factors for transitional acute hand injury. *Occupational Environment Medicine, 61,*  305-311.

Vedovalo, T.G., & Monteiro, I. (2014). Health conditions and factors related to the work ability of teachers. *Industrial Health, 52,*  121-128.

Vyas, H., Das, S, & Mehta, S. (2011). Occupational hyiries in automobile repair workers. *Industrial Health 49,* 642-651.

World Health Organization (2007). Protection of the human environment. Extracts from health and environment in sustainable development. Geneva: WHO Publications.