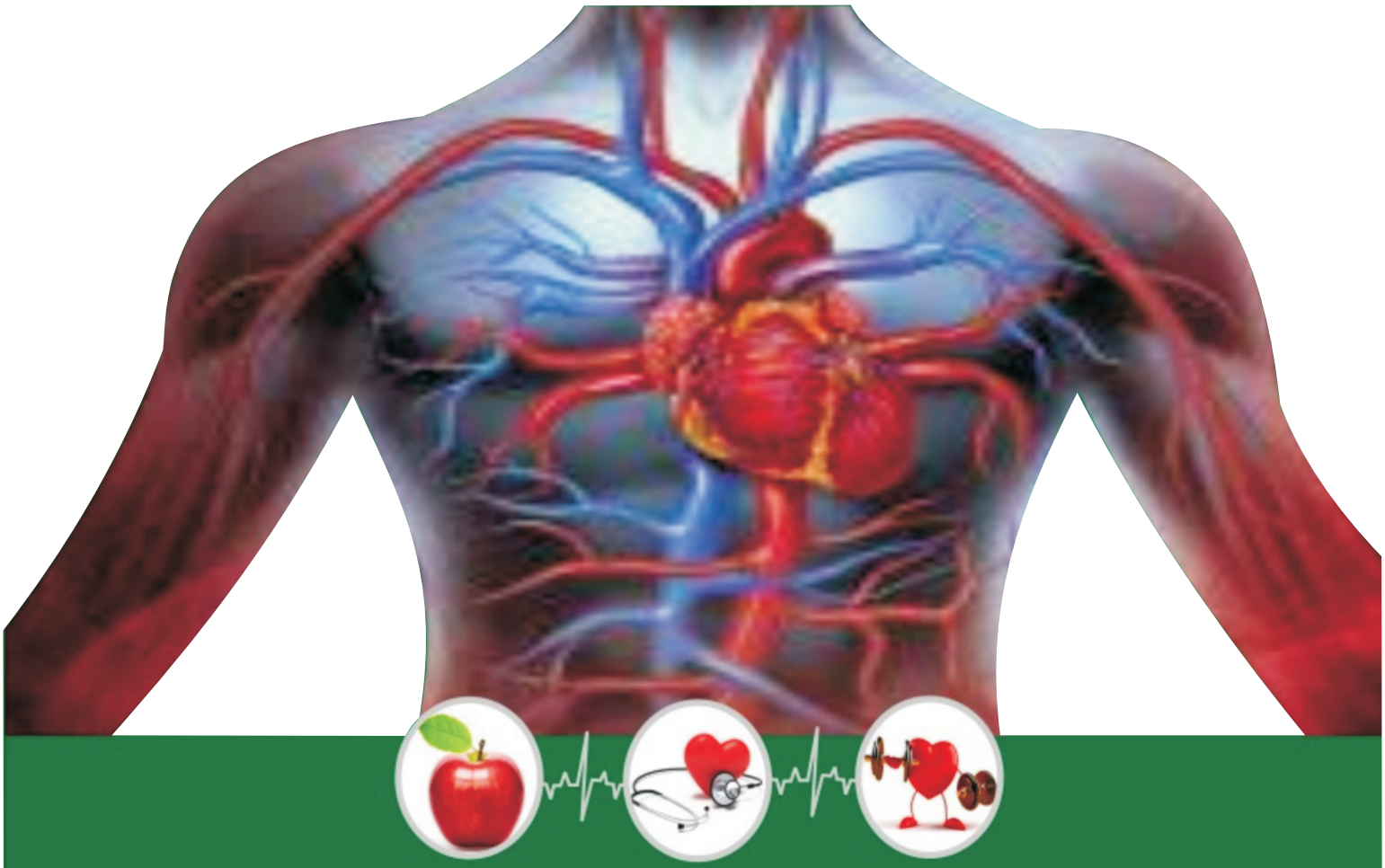
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ASSESSMENT OF NON-CLINICAL CONSTRAINTS TO ENDING PREVENTABLE DEATHS OF NEWBORNS AS PERCEIVED BY COMMUNITY HEALTH WORKERS IN NORTH EAST ZONE, NIGERIA.

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Abstract
The purpose of this study was to "assess non clinical constraints to ending preventable deaths of newborn as perceived by community health workers in North east zone, Nigeria". An ex-post facto research design was used to study 450 respondents drawn from three states of North east zone, Nigeria. A multistage sampling was used to draw the required sample. A questionnaire titled "questionnaire for community health workers of North east zone, Nigeria" was used to obtain information from the respondents. Data collected were analyzed using SPSS Version 25.0. Descriptive statistics of mean and standard deviation and inferential statistics of t-test and Analysis Of Variance (ANOVA) were used for all tests of significance. One research question was asked and one hypothesis was tested at 0.05 level of significance. Findings showed that, male and female community health workers in North East Zone, Nigeria did not differ significantly in their perception of the non-clinical constraints to ending preventable deaths of newborns (0.055).. It was concluded that male and female community health workers in north east zone, Nigeria were not different in their perceived non clinical constraints to ending preventable deaths of newborns. The researcher recommended that there is need to enact a policy prohibiting unhealthy practices that perpetuate non clinical constraints to ending preventable deaths of newborn babies in the zone.

Introduction
The Sustainable Development Goals (SDGs) are a collection of 17 global goals set by the United Nations General Assembly in 2015 for the year 2030. The SDGs are part of Resolution 70/1 of the United Nations General Assembly. The goals are broad-based and interdependent. The 17 sustainable development goals have a list of targets that are measured with indicators (United Nations Children's Funds, 2017).

The target 2 of the goal aims at ending preventable deaths of newborns and children under 5 years of age, with all countries aiming at reducing neonatal mortality to at least as low as 12 per 1000 live births and under-5 mortality to at least as low as 25 per 1000 live births (United Nations Children's Funds, 2017).

World Health Organization (WHO) (2017) stated that child mortality is the death of a child before the child's fifth birthday, measured as the under-5 child Mortality Rate (U5MR).WHO (2017) added that, globally, 9.2 million children die each year before their fifth birthday; more than 60% of these deaths are seen as being avoidable with low-cost measures such as continuous breastfeeding, vaccinations and improved nutrition. Therefore, among the progress indicators for measuring the achievement of SDG 3 target 2 is Neonatal mortality rate. One of the most

common preventable causes of infant mortality is smoking during pregnancy (Hall, Venkatesh & Greenberg, 2016). Many factors contribute to infant mortality, such as the mother's level of education, environmental conditions, political and medical infrastructure.

Low birth weight may be the leading cause of infant deaths, and it is greatly preventable. Although it is preventable, the solutions may not be the easiest, a combination of health care, education, environment, mental modification and public policy, influencing a culture supporting lifestyle (MacDorman, 2009). Preterm birth is the leading cause of newborn deaths worldwide. Reasons for this include teenage pregnancy, an increase in pregnant mothers over the age of thirty-five, an increase in the use of in-vitro fertilization which increases the risk of multiple births, obesity and diabetes. Also, women who do not have access to health care are less likely to visit a doctor, therefore increasing their risk of delivering prematurely (McNeil, 2012).

According to the National Center for Biotechnology (2011), thousands of infant deaths per year are classified as Sudden Infant Death Syndrome (SIDS). SIDS is the unexplained death, usually during sleep, of a seemingly healthy baby. Although the direct cause of SIDS remains unknown, many doctors believe that several factors put babies at an increased risk of SIDS, including babies sleeping on their stomachs, exposure to cigarette smoke in the womb or after birth, sleeping in bed with parents, premature birth, being a twin or triplet, being born to a teen mother, and also living in poverty settings. Although the cause is unknown and currently cannot be explained, doctors have concluded that SIDS is most likely to occur between 2 and 4 months and most deaths occur in the wintertime. Recommended precautions include ensuring that infants sleep on their backs, controlling the temperature of the bedroom, employing a crib without toys or excess bedding, and breastfeeding.

According to National Community Health Practitioners Registration Board of Nigeria (NCHPRBN) (2018), Community health workers (CHWs) are frontline public health and clinical workers who have a close understanding of the community they serve. This trusting relationship enables them to serve as a link between health/social services and the community to facilitate access to services and improve the quality and cultural competence of service delivery. Community health workers also build individual and community capacity by increasing health knowledge and self-sufficiency through a range of activities such as outreach services, community education, informal counselling, social support and advocacy. Community health workers are dedicated individuals who are purposely trained to function along a continuum ranging from individual and community development to service delivery and promoting community empowerment and social justice. They often help link people to needed health care information and services.

Research Question

Based on the purpose of this study, the research answered the following question:

1. Are there differences in the perception of male and female community health workers on non-clinical constraints to ending preventable deaths of newborns in the North-east zone, Nigeria?

Hypotheses

Based on the structured research question, this following hypothesis was formulated to guide the conduct of this study:

1. There is no significant difference in the perception of male and female community health workers on non-clinical constraints to ending preventable deaths of newborns in the Northeast zone, Nigeria.

Methodology

An ex-post facto (After the fact) research design was used in this study. This is because the information required for this study is already available to the respondents. The population of this study comprised 12,897 community health workers in Government owned Primary Health Care Centers across the Northeast zone of Nigeria (NCHPRBN, 2018). The total number of states in the zone is six (6) consisting of 114 LGAs in which Adamawa state has 21, Bauchi has 20, Borno has 27, Gombe has 11, Taraba has 17, Yobe has 17 LGAs respectively. The following is the breakdown for each of the states in North-Central Zone, Nigeria: Bauchi state has a total of 2,502 Community Health Workers; Gombe state has 1,738 Community Health workers; Borno state has 2,208 Community health Workers; Yobe state has 1,041 Community Health Workers; Adamawa state has 3,002 Community Health Workers; while Taraba state has 2,406 Community Health Workers.

Table 1: Population distribution and number of Primary Health Centers (PHCs) by state

S/N	State	CHO	CHEW	JCHEW	Total Community Health Workers	Total PHCs	Total LGAs
1.	Adamawa	138	1638	1226	3,002	429	21
2.	Bauchi	145	1227	1130	2,502	347	20
3.	Borno	128	901	1179	2,208	121	27
4.	Gombe	80	898	760	1,738	196	11
5.	Taraba	120	1526	760	2,406	266	17
6.	Yobe	36	456	549	1,041	68	17
	Total	**647**	**6,646**	**5,604**	**12,897**	**1,427**	**114**

Source: National Community Health Practitioners Registration Board of Nigeria (NCHPRBN, 2018), National Primary Health Care Development Agency (Bauchi zonal office, 2018).

The sample size for this study consists of four hundred and fifty (450) community health workers across eighteen (18) local government areas in three (3) selected States out of one hundred and fourteen (114) LGAs. (Gombe, Yobe and Adamawa States) from the North east Zone, Nigeria. The researcher used four hundred and fifty (450) community health workers as

respondents out of the entire population for effective generalization, using a multistage sampling technique. The instrument used for data collection is a researcher-developed questionnaire which is in a modified four points Likert's scale. The questionnaire is divided into five (5) sections. Section A contains five (5) items on demographic characteristics of the respondents. Section B contains ten (10) statements on perceived constraints (Non-clinical) of ending preventable deaths of newborns (poverty, insecurity, socio-cultural beliefs, malnutrition, infections, birth complications among others) among community health worker in North-east zone, Nigeria.

To score the respondents' responses, per statement raised 4-point modified Likert rating scale was used as follows:
Strongly Agreed (SA) - 4 points
Agreed (A) - 3 points
Disagreed (D) - 2 points
Strongly Disagree (SD) - 1 point

Therefore, the mean score of responses was accepted or said to be positive when it is 2.5 and above. While any mean score of response that goes less than 2.5 was not be accepted or was considered negative.

Results

The total numbers of 450 copies of questionnaire were administered to community health workers of North East Zone of Nigeria. But 434 copies were successfully completed and retrieved for the study amounting to 96.4% of the total copies of a questionnaire administered. The data collected were statistically analyzed and presented here.

Table 2: Mean score of responses of the community health workers on non-clinical constraints to ending preventable deaths of newborn babies.

SN	Item description	Mean	Std. Dev.
	1. Home delivery that usually attracts neonatal infections of newborn babies	3.1	0.76
	2. Cultural beliefs and practices that are harmful to newborn babies	3.1	0.80
	3. Socio-economic status of a family that gives a way to newborn death	3.0	0.73
	4.Lack of awareness on personal hygiene in handling newborn babies	3.0	0.78
	5. Low level of education of nursing mothers	3.0	0.74
	6. Exposure to air pollution that predisposes newborns to death	2.8	0.87
	7. Poor house ventilation that causes newborn babies to die	2.7	0.82
	8. Septic traditional practices of umbilical cord ligation that predispose newborns to infections leading to preventable deaths	3.0	0.85
	9. Use of traditional medication on newborn babies that lead to preventable deaths	3.0	0.83
	10. War and political unrest environment that contribute to poor pregnancy outcomes that lead to newborn death	2.8	0.93
	Aggregate mean	**2.97**	**0.549**

The non-clinical constraints which the respondents were of the view were part of the problems includes, home delivery that usually attracts neonatal infections of newborn babies, Cultural beliefs and practices that are harmful, socio-economic status of a family, lack of awareness on personal hygiene in handling newborn babies, low level of education of nursing mothers, exposure to air pollution that predisposes newborns to death and poor house's ventilation. Others which the respondents agreed were non-clinical constraints included septic traditional practices of umbilical cord ligation that predispose newborns to infections leading to preventable deaths, use of traditional medication on newborn babies and the war along with political unrest in the zone which contributes to poor pregnancy outcomes that lead to newborn death. The aggregate mean score of 2.97 with a standard deviation 0.549 for table revealed that the community health workers were unanimous in the listed non-clinical constraints contributed to the constraints to preventable deaths of newborn babies among the community health workers in the zone. The less strong item in the table is 2.7 and the strongest item is 3.1 respectively.

Hypothesis: There is no significant difference in the perception of male and female community health workers on non-clinical constraints to ending preventable deaths of newborns in North east zone, Nigeria.

Table 3: Two sampled t-test analysis on perceived non-clinical constraints to ending preventable death of newborns babies by male and female health workers in North East Zone

Gender	N	Mean	Std. Dev.	Std. Error	t	Df	p-value
Male	241	2.93	0.577	0.037	1.926	432	0.055
Female	193	3.03	0.507	0.036			

(Critical value of t=1.96, P > 0.05, H0 rejected)

The result for test of variability in the scores of the male and female community health workers in the table did not reveal significant difference. The observed t-value for the clinical constraints was 0.973 obtained at 432 degree of freedom, the p-value for the test was 0.331 ($p > 0.05$). For the non-clinical constraints, the observed t-value was 1.926 and the p-value was 0.055 ($p > 0.05$). These were clear indications of no significant different between the two groups. The null hypothesis that Perceived non clinical constraints to ending preventable deaths of newborns do not significantly differ between male and female community health workers in North east zone, Nigeria is therefore retained.

Discussions

This study assessed the perceived constraints to ending preventable deaths of the newborn as perceived by community health workers in North East Zone, Nigeria using the perceived non-clinical constraints to ending preventable deaths of infants as the indices for the investigation. One specific objective was investigated with a research question. The solution to the research question was validated with the null hypothesis. The objective and research question assessed the perceived non-clinical constraints to ending preventable deaths of newborns from the perspective of community health workers in the study zone. The findings revealed that male and female respondents almost held the same opinions on non-clinical constraints. These observed

mean differences showed that there were no major differences between male and female in the perceived non-clinical constraints to ending preventable deaths of newborns among community health workers in the zone. In the test of the related hypothesis, the two groups were not found to differ significantly on the constraints. The null hypothesis was therefore retained.

This finding is in line with the findings in a study conducted by Otiso and Odimegwu (2011) on neonatal mortality in Nigeria among health care workers in which male and female share similar responses on challenges of ending deaths of newborns. A study finding conducted by Akinyemi, Bamgboye and Ayeni (2015) in Nigeria on trends of neonatal mortality among rural health workers, their finding revealed that female was of the opinion that newborn deaths were highest among women whose prenatal care was provided by an unskilled attendant while the male was not of the opinion.

Conclusion

From the finding of the perceived non-clinical constraints to ending preventable deaths of the newborn as perceived by community health workers in North East Zone, the researcher concludes that:

Male and female community health workers in the North East Zone, Nigeria were not different in their perceived non-clinical constraints to ending preventable deaths of newborns.

Recommendations

Based on the conclusion, the following recommendations are made:

1. There is a need to enact a policy prohibiting unhealthy practices that perpetuate non-clinical constraints to ending preventable deaths of newborn babies in the zone.
2. There is a need for in-training among the Community Health workers and provision of supplies for community awareness in the zone on non-clinical constraints to ending preventable deaths of newborns.

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ATTITUDE TOWARDS MALARIA PREVENTION STRATEGIES AMONG REGISTERED ANTENATAL CARE PREGNANT WOMEN IN NORTH-EAST, ZONE, NIGERIA

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Abstract

This study assessed the attitude of malaria prevention strategies among registered antenatal care pregnant women in North-East, zone, Nigeria using ex-post facto research design. Multistage sampling technique consisting of simple random, stratified, proportionate and systematic sampling techniques were used to draw a sample from a population of 503,661 antenatal care (ANC) registered pregnant women from six (6) states in North-east zone, Nigeria. The sampled states were; Adamawa (80,578), Bauchi (140,345), Borno (100,345), Gombe (63,290), Taraba (54,785) and Yobe (64,321). Thus, a total of 1,200 pregnant women attending ANC formed the respondents. The instrument for data collection was a researcher-developed validated close-ended questionnaire. The instrument was tested using Cronbach Alpha and a reliability index of 0.80 was obtained from the pilot study result. The data collected was analysed using International Business Machine (IBM) Statistical Package of Social Science (SPSS) version 25.0. The descriptive statistics of mean scores and standard deviations were used to answer the research question. Inferential statistics of one sample t-test was used to test formulated null hypothesis. The finding of the study revealed that; pregnant women in North-East zone have positive attitude towards malaria prevention strategies (t = 11.487; p = 0.000). The conclusion drawn was that the registered ANC pregnant women have positive attitude to the adoption and use of malaria prevention strategies. Based on conclusion, it was recommended that, Health educators and health care workers should sustain the positive attitude of ANC registered pregnant women towards malaria prevention strategies and also, the women should be encouraged to use mosquito repellent lotion or cream and coil/dried billed of orange back/grass as repellents to prevent malaria during pregnancy.

Keywords: *Attitude, malaria, prevention, strategies, pregnant women.*

Introduction

Malaria in pregnancy (MiP) causes serious harmful effects to a woman and her foetuses such as maternal anaemia, spontaneous abortion, intrauterine growth retardation (IUGR), premature delivery and low birth weight (LBW) with an increased risk of neonatal death (Desail, Kuile, Nosten, McGready, Asamoa & Brabin, 2007). The World Health Organisation (WHO, 2015) recommended that pregnant women use long-lasting insecticidal treated nets (LLINs), intermittent preventive treatment in pregnancy (IPTp) with sulfadoxine-pyrimethamine (SP) and receive a prompt and effective diagnosis and treatment of malaria with a safe drug in order to prevent advance complications. Although malaria disease is preventable, it is one of the serious public health issue affecting humanity in developing countries, it is next to HIV/AIDS cause of

death as a result of infectious diseases in Africa (Nigeria Malaria Fact Sheet, 2011). According to Aguzie (2018), in sub-Saharan Africa pregnant women, their foetus and infants are at risk of malaria infection by *Plasmodium falcifirum* (*P. falciparum*) which significantly affects their wellbeing. The consequences of MiP includes; maternal anaemia, LBW, preterm labour, spontaneous abortion, neonatal and maternal mortalities (Roll Back Malaria (RBM), 2015; Aguzie, 2018).

In African malaria-endemic areas, each year, approximately 25 million women are pregnant Centre for Disease Control and Prevention (CDC), 2013; National Population Commission (NPC), 2013); National Demographic Health Survey (NDHS, 2013). Recognising the need to hasten progress in reducing the burden of malaria, WHO (2015), developed the Global Technical Strategy for Malaria (GTS) 2016-2030, which sets out a vision for accelerating advocacy plan, action and investment to defeat malaria by 2030 (WHO, 2015; Federal Ministry of Health (FMOH), 2014). Although malaria is preventable it is still not eliminated. In Nigeria, malaria is endemic with all year round transmission throughout the country making 76 per cent of the population living in high transmission areas and 24 per cent in low transmission areas. This means also that 97% of the population are at risk, while only 3% live in the mountains of the malaria-free highlands in southern Jos in Plateau State at an altitude ranging from 1,200 to 1,400 metres (WHO-World Malaria Report, 2018). According to a malaria indicator survey conducted by the National Malaria Elimination Programme in 2016, ownership of LLINs was 69 per cent, of which 37 per cent of the household slept under an LLIN the night before the survey. The survey results, in addition, showed that among women who attended ANC for their most recent pregnancies, only 37 per cent received two or more doses of SP (National Malaria Control Programme (NMCP), 2016; NPC, 2014; National Bureau of Statistics (NBS), 2012).

The attitude of women towards malaria prevention is an important factor in helping them overcome reoccurring illness transmitted by mosquitoes' female anopheles (*P. falciparum*) carrying malaria disease. In tropical Africa, Cameroun and Nigeria for example, communication campaigns have been organised on malaria prevention strategies for pregnant women so as to improve their attitude towards using various malaria prevention strategies. The outcome revealed that women participation in household decisions is an indicator of empowerment and egalitarian conjugal relationships and also, empowerment of all citizens to fight malaria.

However, basic indicators of individuals' attitudes do show improvement from 2011 to 2012, but the level improvement leaves to be desired and there is some evidence that the communications campaign has played a role in boosting Cameroonians' confidence in their ability to fight malaria (Cameroon Malaria Report, 2012). According to Lagoro and Christopher (2013), a study conducted in Uganda reported existing misconceptions about malaria as barriers to the positive attitude of pregnant women toward malaria prevention strategies.

During ANC the key interventions for the prevention of MiP include the administration of SP for Intermittent Preventive Treatment (IPT) during pregnancy under the direct supervision of skilled service providers, distribution of LLINs, and appropriate case management through prompt diagnosis and effective treatment with recommended drugs (Adamu, 2016). Equally, observations among pregnant women with employment had shown that there is a high level of

access to ANC and many of them could afford the service charges; and this invariably improves their attitude towards ANC programmes (Idris, Sambo & Ibrahim, 2013).

Statement of the Problem

Based on the observations, the authors found out that pregnant women are frequently reporting to hospitals and clinics with complaints of fever, headache, vomiting, abdominal discomfort and many more. In some instances, they are diagnosed with MiP. Consequently, many usually developed anaemia, LBW, spontaneous abortion and stillbirth delivery. Against this backdrop of persistent high maternal morbidity, pregnancy-related complications in Nigeria and consequential development attention by Governments and International Non-Governmental Organizations in North-East zone, it is imperative that a study is carried out to determine the attitudes of pregnant women towards malaria prevention strategies in North-east zone, Nigeria.

Purpose of the Study

The purpose of this study was to assess the attitude of malaria prevention strategies among pregnant women in the North-East zone of Nigeria.

Research Question

What is the attitude of malaria prevention strategies among registered ANC pregnant women in North-East, zone, Nigeria?

Research Hypothesis

The attitude towards malaria prevention strategies among registered ANC pregnant women in the North-East zone of Nigeria is not significant.

Methodology

This study assessed the attitude of registered antenatal care pregnant women towards malaria prevention strategies in the North-East zone of Nigeria. One thousand and two hundred (1200) copies of questionnaire were administered out of which one thousand and one hundred (1100) copies (110;91.7%), were found to be valid for the analysis. The IBM SPSS Version 25.0 was used to analyse the data obtained from the respondents. Descriptive statistics of mean and standard deviations were used to answer the research question on the attitude of malaria prevention strategies among registered antennal care pregnant women in the North-east zone, Nigeria. The inferential statistics of one sample t-test was used to test the hypothesis postulated for the study.

Results

Answer to Research Question

Table 1: Mean score of responses and standard deviations on the attitude of the registered antennal care pregnant women towards malaria prevention strategies.

S/N	Attitude towards preventable strategies	Mean	Std. Dev.
1.	I like using insecticides treated mosquito's nets to prevent malaria during pregnancy.	3.34	1.118
2.	I prefer using netted doors and windows to prevent ma laria during pregnancy.	2.84	1.123
3.	I prefer wearing long -sleeved clothes at night to prevent malaria during pregnancy.	2.55	1.070
4.	I like using mosquito repellent lotion or cream to prevent malaria strategy during pregnancy.	2.40	0.983
5.	I prefer burning coil/dried billed of orange back/grass as repellents to prevent malaria during pregnancy.	2.43	1.015
6.	I believe the disposal of household wastes is a measure to prevent malaria during pregnancy.	2.83	1.132
7.	I prefer clearing stagnant water within r esidences to prevent mosquito attack during pregnancy.	3.05	1.088
8.	I like clearing drainage system to prevent mosquito presence and bite during pregnancy.	2.95	1.056
Aggregate mean		**2.80**	**0.863**

Decision mean = 2.50

Table 1 reveals the attitudes of pregnant women to malaria prevention strategies. The information on the table reveals that item 1, 7, 8, 2, 6 and 3 with their respective mean scores and standard deviations were above decision mean of 2.50. This implies the respondents had positive attitudes to insecticides treated mosquito's nets (= 3.34 and SD=1.118), clearing stagnant water within residences (= 3.05 and SD=1.088), clearing drainage system to prevent mosquito (= 2.95 and SD=1.056), netted doors and windows (= 2.84 and SD=1.123), disposal of household wastes (= 2.83 and SD=1.132) and wearing long-sleeved clothes at night (= 2.55 and SD=1.070). The information on the table reveals that only item 4 and 5 with their respective mean scores and standard deviations were below decision mean of 2.50. This implies the respondents had poor attitudes to mosquito repellant lotion or cream as a malaria prevention strategy during pregnancy (= 2.43 and SD=1.015). They do not also regularly use mosquito coil/dried peel of orange/grass as mosquito repellents (= 2.40 and SD=0.983). On the aggregate, the table reveals that pregnant women in the study areas had a positive attitude to malaria prevention strategies (aggregate mean of 2.80 and SD=0.863 greater than decision mean of 2.50). This implies that pregnant women usually use insecticides treated mosquito's nets, netted doors and windows. They also wear long-sleeved clothes at night, dispose of household wastes, clear stagnant water within the residence and clean drainages as malaria prevention strategies.

Research Hypothesis: Registered antenatal care pregnant women attitude towards malaria prevention strategies is not significant in North-East zone of Nigeria.

Table 2: One sample t-test analysis on the registered antenatal care pregnant women's attitude toward malaria prevention strategies.

Variable	N	Mean	Std. Dev.	Std Error	Df	t-test	p-value
Attitude	1100	2.80	0.863	0.026	1099	11.487	0.000
Test mean	1100	2.50	0.000	0.000			

(t-critical = 1.960, p<0.05)

Table 2 shows the one sampled t-test results of the pregnant women's attitude towards malaria prevention strategies. The observed mean of 2.80 is significantly higher than the test means of 2.50. The table reveals that the observed p-value (0.000) is less than the 0.05 alpha level of significance ($p < 0.05$). The observed t-value for the test is 11.487, obtained at the 1099 df compared with the critical value of 1.960. These observations provided enough shreds of evidence to reject the null hypothesis. Therefore, the null hypothesis is rejected. This implies that pregnant women in the North-East zone had a significant positive attitude towards malaria prevention strategies.

Discussion

The findings of this study as shown in Table 2, revealed that the attitude of the registered antenatal care pregnant women in the study areas concerning malaria prevention strategies were positive with t-value 11.487 which was found to be greater than the t-critical of 1.960 at the degree of freedom of 1099 with $p< 0.000$. and SD=0. 863.

This implies that pregnant women in the study areas have a positive attitude to malaria prevention strategies. The findings of this study are in line with the studies of Isedeh (2011); 1riemenam, Dosunmu, Oyibo and Fagbenro-Beyioku (2011) that reveals pregnant women's have a positive attitude towards the use of ITNs. Similarly, Udu, Ochieng and Apat (2017) study on the level of adoption of malaria prevention strategies on pregnant women found that indoor residual spraying was effectively implemented and that respondents have a positive attitude toward this method of malaria.

This finding is consistent with Ikpeama, Ikpeama, Ikpeama and Ogwuegbu (2017), which revealed that the attitude of the respondents to IPTp-SP was positive. Pregnant women know that medical personnel and hospitals are ethical bound and would always want to ensure that prescribed therapy does not cause harm to pregnant mother and the child. This finding also supported Onaka, Hansen and Onuwujekwe (2012), who reported that pregnant women have a good attitude towards IPTp-SP because the treatment was administered by qualified health workers.

Meanwhile, Adebayo, Akinyemi and Cadmus (2015) found that majority, (60.0%) of the respondents had a poor attitude to ITNs in a study conducted in South-West Nigeria. More so, Adibe, Ayogu, Igboeli and Isah (2017), conducted a study in Nsukka, Nigeria and concluded that about 51% of the pregnant women studied had a negative attitude to malaria prevention and control. Thus, this study did not support Adibe *et al,* (2017) findings.

Conclusion

On the basis of the findings of this study conclude that this category of pregnant women also has a positive attitude to the adoption and use of some malaria prevention strategies except the use of mosquito repellent lotion or cream and coil/dried billed of orange back/grass as repellents.

Recommendations

Health educators and health care workers should sustain the positive attitude of ANC registered pregnant women towards malaria prevention strategies and also, the women should be encouraged to use mosquito repellent lotion or cream and coil/dried billed of orange back/grass as repellents to prevent malaria during pregnancy in North-east zone, Nigeria.

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FACTORS INFLUENCING MODE OF COURSE SELECTION AND ACADEMIC PERFORMANCE OF UNDERGRADUATE STUDENTS IN HUMAN KINETICS EDUCATION, UNIVERSITY OF ILORIN

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Abstract
The study examined factors influencing the mode of course selection and academic performance of undergraduate students in Human Kinetics, University of Ilorin. The descriptive research design of the survey method was adopted for the study. The number of inhabitants in the investigation was undergraduates in the University of Ilorin, Ilorin. Simple random stratified and proportionate sampling technique was utilized to select two hundred respondents (200) two postulated null hypotheses were tested using Pearson product-moment correlation (PPMC) at 0.05 alpha level.

The findings from the study revealed that;

i. there was a significant relationship between borrowed courses from other department and academic performance of students in Human Kinetics Education University of Ilorin with the calculated r-value is -0.143and 198 degrees of freedom with p-value of -0.143 > 0.05 alpha level.

ii. there was a significant relationship between accumulation of faculties or optional courses and academic performance of students in the Human Kinetics Education University of Ilorin with calculated r-value is 0.421and 198 degrees of freedom with p-value of 0.000 > than 0.05 alpha level.

It was recommended that borrowed courses and faculty courses should not be too much for the undergraduate students so as to enable them to register for their departmental courses. Some courses should be made elective so that only the students who have interest can register for it. Scheduling of courses by the school administration should meet the needs of the student to promote good performance in their academics.

Keywords: *Performance, Course Selection, Undergraduate, Academic.*

Introduction

Education assumes a fundamental job in the gaining of knowledge and skills. It helps the society fashion and model individuals to resolve well in their environment. An important aspect of education is academic performance. Academic performance alludes to how understudies manage their studies and how they adapt to or achieve various undertakings given to them by their instructors in a fixed time or scholastic year (Estes, 2015). Understanding the status and structure of physical education courses for certification nationally, and internationally is

imperative if strategies to improve the effectiveness of learning and teaching are to be investigated (Kerin, 2011).

There are various determinants of academic performance of the students. They include class involvement, class coursework, homework assignments, tests, assessments, and participation in rivalries or different occasions. The pressure of the parents and other people upon instructors and school overseers to improve academic performance has empowered schools to come up with advanced strategies. These include recommending additional classes for understudies, presenting compelling educating learning techniques and instructional methodologies, utilizing innovation, compensating understudies for good execution fills in as a rousing variable and when they accomplish low evaluations than they normally will in general work more to make enhancements (Hanson, 2010).

Awe (2007) described education as a process by which a young adult develops the ability, attitudes and other forms of behaviour which are of positive value to the general public wherein he lives. He added that education guarantees the procurement of information and aptitudes that empower individuals to increase their productivity and improve their quality of life. This increment in productivity likewise leads towards new wellsprings of acquiring which upgrades the financial development of a nation. The frames of mind of the students have the capacities to separate between what is fitting and what is inappropriate. Objective situated students more often than not have positive emotions with respect to their school encounters, they have the characteristics of control, steadiness, resourcefulness and they are enthusiastic readers and will, in general, dedicate less time to amusement and relaxation exercises. The students' enthusiastic readers and will, in general, dedicate less time to amusement and relaxation exercises towards learning and generating the desired academic outcomes (Garton, 2010).

Hanson (2010) stressed that scholarly ideas are made known to the understudies by the teachers within the classroom. Teachers have the main duty of completing the subject syllabus. Therefore, the classroom environment must be disciplined and well ordered. Within the classroom, the instructors and the understudies need to actualize the attributes of profound quality and morals. It is essential to advance shared comprehension, amiability, what's more, co-activity among the educators and understudies just as among fellow students.

The effectiveness in the administration of the study hall introduces efficient and effective administration of the exercise plans, instructional techniques, educating learning forms, etc. At the point when there is discipline and successful correspondence among people, at that point it would enable the understudies to adapt better and improve their scholarly exhibition.

Academic performance, however, refers to the act or process of performing the task of academic activities. It is the way and means through which students and teachers carry out their academic activities. However, in this research, the terms will be looked at in the perspective of the mode of course registration and their academic performance. Academic performance is the results of education: the degree to which an understudy, educator or foundation has accomplished their

instructive objectives. Scholastic accomplishment is normally estimated by assessments or persistent evaluation however there is no broad concession to how it is best tried or which angle is most important (Annie, 2006).

The quality of the students' execution stays at the top need for instructors. It is intended for having any kind of effect locally, territorially, broadly and all-inclusive. Teachers, coaches, and analysts have for quite some time been keen on investigating factors contributing successfully for nature of execution of students. These factors that affect students' nature of scholarly accomplishment inside and outside the school and these might be named as understudy factors, family factors, school factors and friend factors (Considine & Zappala, 2012).

Students are the most essential asset for any educational institute. The social and monetary advancement of the nation is legitimately connected with understudy scholastic performance. The students' performance (academic achievement) plays a significant job in creating quality alumni who will end up incredible pioneers and contribute to the manpower the country thus raising a country that is economically and socially stable (Taylor, 2015). Astin (2004) stated that student's execution is influenced by various factors, for example, learning capacities, gender, and race. Taylor (2015) reasoned that family pay level, going to full time, getting award assistance and finishing propelled level classes in secondary school having measurably noteworthy impacts on school constancy among first-generation college students. However, the present study aims to ascertain the influences of borrowed courses, accumulation of faculties, interest in course selection and tight schedule on Human Kinetics students' performance in the University of Ilorin, as no previous study has been conducted in this area.

Statement of the Problem

The researcher observed that most university understudies have numerous deterrents to survive and to achieve optimal academic performance. The researcher observed that mode of course selection as regard students' academic performance has created confusion in some of our tertiary institutions today and the University of Ilorin is not left out. Despite all the well-documented benefits of selecting courses both elective and required had some students to have the thought that registering elective courses is a time-wasting venture that has no impact on their G.P. Most students try to focus only on require and compulsory course and ignore the elective course. Some of the factors influencing the mode of course selection and academic performance may be traced to students' interest, accumulation of faculties or optional courses, the attitude of the lecturer-in-charge of the elective courses.

Awe (2007) stressed that the problem of Nigeria universities as it affects undergraduate students have increased over the years with increasing enrolment and poor funding while the University of Ilorin is not left out of these inadequacies. The absence of essential infrastructural offices and guardians financial status would thus legitimately influence educating and learning for the understudies and this would consider their evaluation level in school. This necessitates the needs why the researcher deems it fit to investigate factors influencing the mode of course selection and academic performance of undergraduate students in Human Kinetics Education, University of Ilorin.

Hypotheses

The following research hypotheses were tested for this study:

Ho1: There is no significant relationship between borrowed courses from other departments and academic performance of students in the Human Kinetics Education, University of Ilorin.

Ho2: There is no significant relationship between accumulation of faculties or optional courses and academic performance of students in the Human Kinetics Education, University of Ilorin.

Research Questions

The following research question was raised

1. What is the relationship between borrowed course from other department and academic performance.
2. What is the relationship between the accumulation of faculties or optional courses and academic performance of students in Human Kinetics Education, University of Ilorin.

Methodology

The descriptive research design of survey type was used. The population of the study comprised all undergraduate students in the Department of the Human Kinetics, Faculty of Education, University of Ilorin. The total population of the student in Human Kinetics Education is 515. Source; (Academic Support Service University of Ilorin 2018/2019 session).

Purposive sampling technique was used to select all the undergraduate students in the department. 200 respondents were sampled for the study. Purposive and using a stratified sampling technique.

The proportionate sampling technique was also used to fifty respondents from each level. The percentage of the respondents to be used as the sample was determined with sample proportionate to the size of each level (100, 200, 300 and 400), the method was adopted because each level doesn't have an equivalent number of students.

A multistage sampling procedure that consists of Random, stratified and proportionate sampling techniques was used to select 200 respondents for the study. The respondents were stratified into four strata. 100 level, 200 level, 300 level and 400 level. Proportionate sampling techniques were used to select 40% percentages of respondents across the level. Random sampling techniques were used to select 70 respondents from level 1, 60 respondents from level 2, 40 respondents from level 3 and 30 respondents from level 4.

The instrument used for the study was a researcher structured questionnaire consisting of two sections. Content and construct legitimacy of the instrument were ascertained with the assistance of two lecturers in the Department of Human Kinetics Education, Faculty of Education, University of Ilorin.

The reliability levels of the instruments were established through test re-test method using Pearson Product Moment Correlation (PPMC). A correlation coefficient of 0.85 was obtained. The instruments were administered by the researcher and three trained research assistants and prompt retrieved of the completion of the questionnaires was ensured for data analysis. The data collected were analysed using inferential statistics of Specurman Brown Ranking to analyzed the two research questions raised for the study while Pearson Product Moment Correlation (PPMC) was used to test the two formulated hypotheses set for the study at 0.05 alpha level.

Research Question 1: What is the relationship between borrowed courses from other departments and academic performance of students in the Human Kinetics Education, University of Ilorin?

Table 1: Mean and Rank Order of Borrowed Courses

S/N	borrowed courses and academic performance	Mean	Rank
1	The time to read for borrowed courses often affects the time for other departmental courses, it hence affects performance	2.80	1st
2	Borrowed courses syllabus is usually bulky, I perform low because I cannot read all before the exam.	2.63	2nd
3	My performance in borrowed courses is usually not encouraging.	2.31	3rd
4	Performance of students in borrowed courses is far better than a departmental course.	2.04	4th

Table 3 shows the mean and rank order to indicate whether borrowed courses from other department have any relationship on the scholastic execution of understudies in Human Kinetics Education University of Ilorin. The table shows that items 1 and 3 were ranked 1st and 2nd with a mean score of 2.80 and 2.65 and stated that "The time to read for borrowed courses often affects time for other departmental courses, it hence affects performance" and borrowed courses syllabus is usually bulky, I perform low because I cannot read all before exam respectively.

Items 4 and 2 with a mean score of 2.31 and 2.04 and states that "My performance in borrowed courses is usually not encouraging" and Performance of students in borrowed courses is far better than departmental course respectively were ranked 3rdand 4th. Since items 1 and 3 have mean scores over the mid-mean score of 2.50.Then it can be deduced that respondents attested that all the 1 and 3 items are significant. This implies that respondents attested that borrowed courses from other department had a relationship on the academic performance of students.

Research Question 2: What is the relationship between accumulation of faculties or optional courses and academic performance of students in the Human Kinetics Education, University of Ilorin?

Table 2: Mean and Rank Order of Accumulation of Faculties or Optional Courses

S/N	Accumulation of faculties or optional courses	Mean	Ranks
5	Registering for faculty courses allows for increment in my cumulative grade point accumulation.	3.26	1st
6	Too much faculty courses prevent me from reading departmental courses for examination.	2.57	2nd
8	By adding optional courses, my performance in test and examination is affected.	2.26	3rd
7	Faculty courses regardless of the numbers affect my academic performance.	2.14	4th

Table four shows the mean and rank order to indicate whether the accumulation of faculties or optional courses has any relationship on the academic performance of students in Human Kinetics Education University of Ilorin. The table shows that items 5and 6 were ranked 1st and 2ndwith mean score of 3.26 and 2.57 and stated that "Registering for faculty courses allows for increment in my cumulative grade point accumulation; it hence affects performance; Too much faculty courses prevents me from reading departmental courses for examination. Items 8 and 7 with a mean score of 2.26 and 2.14 and states that "By adding optional courses, my performance in test and examination is affected and "Faculty courses regardless of the numbers affect my academic performance" respectively were ranked 3rd and 4th. Since items5 and 6 have mean scores above the mid-mean score of 2.50, then it can be said that respondents attested that all the 5 and 6 items were significant.

Hypotheses Testing

Four null hypotheses were postulated and tested for this study. The hypotheses were tested using the Pearson product-moment correlation (PPMC).

Hypothesis One: There is no significant relationship between borrowed courses from other departments and academic performance of students in Human Kinetics Education, University of Ilorin.

Table 3: The Pearson's 'r' Showing Relationship Between Borrowed Courses from Other Department and Academic Performance of Students

Variables	N	Mean	SD	Df	Cal.r-value	P.value	Decision
Borrowed Courses	200	2.795	1.0134	198	-0.143*	0.43	**Hypothesis Accepted**
Academic Performance	200	3.055	.8577				

p0.05

Table seven indicates that the calculated r-value is -0.143and 198 degrees of freedom with the corresponding p-value of -0.143 which is less than 0.05 alpha level of significance. Since the significance value 0.43 is greater than 0.05 alpha level (0.430.05), the null hypothesis is therefore accepted. There is nosignificant relationship between borrowed courses from other department and academic performance of students in the Human Kinetics Education, University of Ilorin.

Hypothesis Two: There is no significant relationship between accumulation of faculties or optional courses and academic performance of students in Human Kinetics Education, University of Ilorin.

Table 4: The Pearson's 'r' Showing Relationship Between Borrowed Accumulation of Faculties or Optional Coursesand Academic Performance of Students.

Variables	N	Mean	SD	Df	Cal.r-value	P.value	Decision
Faculty Courses	200	3.2600	.6280	198	0.421*	0.000	**Rejected**
Academic Performance	200	3.0550	.8577				**Hypothesis**

*p0.05

Table 8 indicates that the calculated r-value is 0.421and 198 degrees of freedom with the corresponding p-value of 0.000which is less than 0.05 alpha level of significance. Since the significance value, 0.000 is less than 0.05 alpha level (0.000.05), the null hypothesis is therefore rejected. There is a significant relationship between accumulation of faculties or optional courses and academic performance of students in the Human Kinetics Education, University of Ilorin.

Discussion of the Findings

The analysis of eight items on the questionnaire in section B revealed that items such as the time to read for borrowed courses often affects the time for other departmental courses affects performance, and borrowed courses syllabus is usually bulky, I perform low because I cannot read all before the exam. These items were ranked first and second respectively. Educators, coaches, and specialists have for some time been keen on investigating factors contributing viably for nature of execution of students. These factors that affect students' quality of academic achievement are made inside and outside the school and these may be termed as student factors, family factors, school factors and peer factors (Taylor, 2015).

Registering for faculty courses allows for increment in the cumulative grade point accumulation, and too much faculty courses often prevent students from reading for departmental courses for examination are also ranked first and second to answer the research question two. For research question, three respondents attested that students often perform poorly in some courses because they don't have interest in them. And research question two was answered using mean rank order, items which affirmed that because there is a specific number of courses to be offered; students chose some courses against at will; Scheduling of courses whose syllabus is bulky in the afternoon affects students performance in tests and examinations, and the

location of the lecture hall affects attendance to the lecture, hence there is a low performance in such courses.

Hypothesis one which states that there is no significant relationship between borrowed courses from other department and academic performance of students in the Human Kinetics Education University of Ilorin was accepted. Udoh (2015) maintained that the academic performance of students is a phenomenon that has an educational, psychological and sociological connotation. Thus, students 'academic achievement cannot be completely accounted for by only one or two variables but a number of them. Since students' academic performance depends on several variables, performance could be enhanced through identifying and manipulating each of such variables.

Hypothesis two which stated that there is a significant relationship between accumulation of faculties or optional courses and academic performance of students in Human Kinetics Education University of Ilorin was rejected. A significant relationship was found between the accumulation of faculties or optional courses and academic performance of students in the Human Kinetics Education University of Ilorin.

Similarly, Ichado (2010) stated that parent's constant disagreement affects children emotionally and this could lead to poor academic performance. Taylor (2015) shows that child-rearing style (nature and control) and parental inclusion fundamentally anticipated academic results. In South Africa, (Udoh, 2015), reported that the family financial support, encouragement and follow up have a positive impact on students' performance as measured by their grade point average (GPA)

Conclusion

Based on the finding of this study, the following conclusion was drawn:

1. There was a significant relationship between borrowed courses from other department and academic performance of students in the Human Kinetics Education, University of Ilorin.
2. There was a significant relationship between accumulation of faculties or optional courses and academic performance of students in the Human Kinetics Education, University of Ilorin.

Recommendations

Based on the conclusion of this study; the following recommendations were made:

1. Enough time should be provided for the students to read for borrowed courses to enable them to prepare for other departmental courses to improve their academic performance.
2. Faculty courses should not be too much for the students to enable them to register for their department course.

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INFLUENCE OF REWARD AND PUNISHMENT TECHNIQUES ON TEACHING AND LEARNING IN PUBLIC SECONDARY SCHOOLS IN ZARIA LOCAL GOVERNMENT AREA OF KADUNA STATE

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Abstract
The study explored the influence of reward and punishment techniques on teaching and learning in public secondary schools in Zaria Local Government Area, Kaduna State. The study was carried out with the objectives to: investigate the opinions of inspectors, principals and teachers on the application of reward in public secondary schools in Zaria Local Government Area, Kaduna State; and explore the opinions of inspectors, principals and teachers on the application of punishment in public secondary schools in Zaria Local Government Area, Kaduna State. The study adopted descriptive survey research design. The population of the study comprised 32 inspectorate officials,48 principals and 1567 teachers from Zaria Local Government Area, Kaduna State. A sample size of 6 inspectors, 10 principals and 306 teachers were sampled, making the total of 322 respondents used in the study. The instrument titled "Classroom Management Techniques Questionnaire (CMTQ)" was used for data collection in the study. The reliability co-efficient of the instrument was determined using Cronbach Alpha statistics and a reliability coefficient of 0.87 was obtained. The data collected in the study was analysed using descriptive statistics of frequency, percentage, mean and standard deviation to answer the research questions, while Analysis of Variance (ANOVA) was used to test the hypotheses at 0.05 alpha level. Findings showed that poor application of reward hampers goal attainment among students in public secondary schools in Zaria Local Government Area, Kaduna State and application of punishment in public secondary schools in Zaria Local Government Area, Kaduna State was significantly different. Recommendations were made to include that the use of reward during classroom instruction should be regulated as this may be encouraging docility and defence to authority rather than originality and spontaneity of effort; and application of punishment during classroom instruction should be made a temporary drive as students always associate fear of pain with study, and it is not healthy to keep students under a permanent state of siege.

Keywords: Classroom, Management, Techniques, Reward, and Punishment.

Introduction

Right from creation, man has learned and been taught. Learning has always been accompanied by various techniques and mechanisms used by teachers. The two most important techniques are reward and punishment, which are a critical aspect of human life, especially in education. This paper aims to explore the application of reward and punishment as a tool for global

competitiveness in public secondary schools in Zaria Local Government Area, Kaduna State. The classroom is operational venues in schools where students or pupils are assembled under the auspices of a teacher (Hill & Hill, 1990). It is a room in a school where a group of students or children are taught lessons. The classroom is a room in a school where a group of students or children are taught lessons. Thus, the classroom should be well managed and maintained to bring about a healthy learning environment, relatively free from behavioural problems which goal should be to maintain a positive productive learning environment and quality performance. On the other hand, classroom management involves a positive classroom environment, appropriate standards of behaviour for students, effective management of daily routines and instructions, and engaging the students in classroom activities throughout the lessons to ensure quality secondary education.

The emphasis on classroom management is dependent on components such as an engaging curriculum, the teacher as a role model, students as responsible citizens, classroom management skills, robust instruction and working with resistance, conflict and stress. If any of these components are neglected, the whole process is compromised, leading to poor quality in education. Classroom management is the process of boosting the learning environment, physical interaction between teachers and students, student to student, parents and others, stimulating and motivating children to learn objectives, control and supervision throughout the school to facilitate and encourage cooperation in teaching and learning activities in the classroom smoothly, this, as a result, will improve the quality of students' performance (Wisetrinthong, Sirisuthi & Weangsamoot, 2012). Classroom management is an art and science with many observable features that result in smooth periods of learning, flexible enough to recognize what is needed and can keep control of the situation(s) that arise. Effective classroom management begins with mutual respect and interpersonal relationships and is vital to improve student achievement and teacher self-efficacy. It requires a commitment to students and their learning because a good and close relationship with students is the foundation upon which classroom culture is built (Osakwe, 2014).

The impact of rewards seems to go deeper than simply attaching a pleasant tone to an activity. The actual reward permits more freedom of action to the individual. Students have been known to meet the teacher's challenge and produce excellent work just because they expect teacher or parent approval or praise, or obtain good marks. An experiment by Hurlock in Ilegbusi (2013) on the effectiveness of these forms of rewards showed that school mathematics improved most under praise, less reproof, and least when the child was one of the ignored group. Although the results of such an isolated piece of research cannot be conclusive, since other motives besides praise and blame may have been aroused to strengthen or weaken connections. Similar studies have however tended to yield the same results. It is important to note that when rewards are to regulate learning what the rewards signify is much more important than the reward itself. Thus, for example, school marks, grades and material rewards are valued not so much for what they are, what they signify or represent. Rewards are valued for such learned motives as desires for prestige recognition, prestige exemptions from certain tasks.

There are two types of rewards- simple best and logical. Logical rewards are those that institute privileges such as first dismissed to recess, participation in a special event, student of the week, or very important person certificate. Simple best are those which a student can not touch but affirm appropriate behaviour. Some examples- are a simple smile, high five, pat on the back, encouragement and praise, and "warm fuzzy" notes. "Make praise the most consistent positive reinforcement technique you use. Start thinking now about all the opportunities you have each day to recognize students' success" (Canter, 1992).

Punishment can take various forms in classroom discipline programmes. Sometimes an event is presented whenever the student shows an undesired behaviour. A teacher may reprimand a student, for example, each time that the student leaves her seat without permission. In another form of punishment, the student may temporarily be removed to a less-reinforcing setting (for instance, by being sent to a time-out room for 10 minutes of seclusion) whenever she displays a negative behaviour (Kimberly in Osakwe, 2014). In a type of punishment known as response-cost, a student has rewards, tokens, privileges, or other positive reinforcers taken away whenever he or she engages in problematic behaviour. All example of response cost is a student who earns stickers for good classroom conduct having one sticker removed from her sticker chart for each episode of misbehaviour (Martens &Melter, 1990).

The use of punishment procedures to manage student behaviour is an issue of growing debate in school discipline, instructors should take care that all elements of a behaviour plan, including punishment procedures, fall within disciplinary guidelines. Parents, too, should be informed of any behaviour plan being put into place for their child and asked to sign off on it before that plan being implemented. Parents must approve behaviour plans if those plans contain punishment procedures such as the use of time out. The teacher monitors the effects of the behaviour plan because punishment procedures can in some cases lead to unintended negative effects on student performance and attitudes towards school, behaviour plans that include a punishment component should be closely monitored. Monitoring should include the collection of information both about whether the student's problem behaviour is improving under the plan and whether the child is showing any negative reaction to the behaviour plan itself (Cruickshank, Jenkins & Metcalf, 2009).

Punishment is the undesirable, painful or discomforting effect that results from misbehaviour (Savage, 1999). Punishment can be effective in stopping unwanted behaviour. However, research shows that the use of punishment may also have several undesirable side effects (Savage, 1999). According to Lakes (2004), controlling children in this manner hinders their development of self-esteem and self-identity. Controlling students may also reinforce the powerlessness they feel in adult environments and could stunt their growth toward equality,

which could further escalate violence and anti-social behaviour in secondary schools. However, Sawankwe (2007) opined that punishment is a controversial issue that demands the highest degree of professionalism and responsibility on the part of the teacher. The teacher must act on behalf of the parents, in the best interest of the student, who is being prepared to take up his/her place in society. Learners, therefore, need to learn that their freedom cannot be at the expense of others and that they will be held accountable for their actions. The paper however explored the Application of classroom management techniques (reward and punishment) as a tool for global competitiveness in public secondary schools in Zaria Local Government Area, Kaduna State.

Statement of the Problem

Managing a class full of students is one of the biggest challenges faced by teachers. As student often displays some unusual behaviour in the classroom, which include; noise-making, chewing gum, passing notes, using cell phones in class, cheating during examinations or test, copying or passing a different note during the lesson, jesting, sleeping during lessons, stealing, eating during lessons, fighting, rudeness to teachers, breaking school rules, distracting others and the likes. All these and even more could constitute management problems that require effective management techniques to handle them to achieve educational objectives. In such instances, the teacher may need to employ the use of reward and punishment to curb with students excesses and acknowledge or applause the well behaved among the students. If teachers do not have an effective management technique like reward and punishment, the students will not be able to be fully engaged in meaningful learning experiences and the quest for them to be able to fit into the global competition will remain in limbo. The paper however explored the Application of classroom management techniques (reward and punishment) as a tool for global competitiveness in public secondary schools in Zaria Local Government Area, Kaduna State.

Objectives of the Study

The paper is set to:

1. investigate the opinions of inspectors, principals and teachers on the application of reward in public secondary schools in Zaria Local Government Area, Kaduna State; and
2. explore the opinions of inspectors, principals and teachers on the application of punishment in public secondary schools in Zaria Local Government Area, Kaduna State.

Research Questions

The following research questions were raised and answered in the paper:

1. What are the opinions of inspectors, principals and teachers on the application of reward in public secondary schools in Zaria Local Government Area, Kaduna State?
2. What are the opinions of inspectors, principals and teachers on the application of punishment in public secondary schools in Zaria Local Government Area, Kaduna State?

Research Hypotheses

The following hypotheses were formulated and tested at 0.05 level of significance:

H01: There is no significant difference in the opinions of inspectors, principals and teachers on the application of reward in public secondary schools in Zaria Local Government Area, Kaduna State.

H02: There is no significant difference in the opinions of inspectors, principals and teachers on the application of punishment in public secondary schools in Zaria Local Government Area, Kaduna State.

Methodology

This study explored the application of classroom management techniques as a tool for global competitiveness in public secondary schools in Zaria Local Government Area, Kaduna State. The study adopted a descriptive survey research design. The population of the study comprised thirty-two (32) inspectorate officials, forty-eight (48) principals and one thousand five hundred and sixty-seven (1567) teachers in Zaria Local Government Area, Kaduna State (Ministry of Education, Science and Technology, Kaduna State, 2018). Using random sampling technique, the researcher used a sample size of six (6) inspectors, ten (10) principals and three hundred and six (306) teachers were sampled from Zaria Local Government Area, Kaduna State, making the total of three hundred and twenty-two (322) respondents used in the study. Classroom Management Techniques for global competitiveness Questionnaire (CMTGCQ)" was used for data collection in the study and face/content validity of the research instrument was determined by an expert in the field of Educational Administration and Planning. The reliability coefficient was determined using Cronbach Alpha statistics and a reliability coefficient of 0.87 was obtained. The statistical analysis such as descriptive statistics of frequency, percentage, the mean and standard deviation were used to answer the research questions, while Analysis of Variance (ANOVA) was used to test the hypotheses at 0.05 alpha level.

Results

Research Question One: What are the opinions of inspectors, principals and teachers on the application of reward in public secondary schools in Zaria Local Government Area, Kaduna State?

The data gathered from the inspectors, principals and teachers were analysed in order to provide answer to this research question. The summary of analysis made in respect to research question three is presented in table 1.

Table 1: Influence of Reward in Public Secondary Schools in Zaria Local Government Area, Kaduna State

SN	Item	Respondents	SA	A	U	D	SD	Mean	SD
1.	Reward allows students to see the results of their efforts instantly and in this school and makes them measure their performances in the class.	Inspectors	2	2	-	1	1	2.833	1.169
		Principals	4	2	2	-	2	3.740	1.074
		Teachers	62	152	8	45	39	3.091	1.144
2.	When a student benefits from any form of rewards she/he will certainly gain a strong feeling of confidence.	Inspectors	2	3	1	-	-	2.833	0.983
		Principals	3	4	1	2	-	2.391	1.059
		Teachers	9	179	55	12	51	3.290	1.234
3.	Teacher hardly rewards students excellent performance in this school.	Inspectors	-	2	-	2	2	2.333	1.366
		Principals	5	-	3	-	2	2.992	1.197
		Teachers	54	167	2	40	43	3.747	1.116
4.	Positive remarks encourage students to work harder.	Inspectors	4	-	2	-	-	2.700	1.549
		Principals	7	2	1	-	-	2.803	1.316
		Teachers	2	134	68	43	59	2.924	1.172
5.	There is strong link between reward and goal achievement in learning.	Inspectors	3	-	-	2	1	2.166	1.471
		Principals	6	-	2	-	2	2.941	1.229
		Teachers	37	137	13	53	66	3.075	1.147
6.	In this school, tangible reward like small gifts are practiced.	Inspectors	2	2	-	-	2	3.333	1.366
		Principals	-	4	3	-	3	3.953	1.354
		Teachers	36	129	2	48	91	4.902	1.100
7.	In this school, reward is given to students when their performances are outstanding.	Inspectors	4	-	-	2	-	3.333	1.032
		Principals	6	-	-	-	4	3.841	1.053
		Teachers	26	143	93	2	42	3.173	0.971
8.	Behaviour is established in the learning if it receives positive reward for a job well done.	Inspectors	-	3	-	1	2	2.900	1.224
		Principals	2	5	-	-	3	3.641	1.173
		Teachers	8	190	79	2	27	3.490	0.920
9.	In this school, intangible rewards are practiced	Inspectors	3	1	-	1	1	3.000	1.264
		Principals	3	3	-	2	2	2.731	1.159
		Teachers	31	159	6	82	28	3.274	0.996
10.	In this school, positive behaviour are reinforced by repeating them.	Inspectors	3	-	2	1	-	2.866	1.329
		Principals	3	4	-	-	3	3.790	1.251
		Teachers	23	119	79	30	55	3.081	1.226
				Average Mean				**3.17**	**1.19**

Table 1 shows the opinions of inspectors, principals and teachers on the application of reward in public secondary schools in Zaria Local Government Area, Kaduna State. The table showed that the average response mean of 3.17 which is higher than the rating mean of 3.0. However, the respondents were of the opinion that, their schools give tangible reward like small gifts to the students as this item attracted the highest response mean of 3.333 for the inspectors, 3.953 for the principals and 4.902 for the teachers. Detail shows that a total of 2 inspectors strongly agreed with item number 6, while 2 agreed as against 2 inspectors that strongly disagreed with item number 6 on the table. Also, a total of 4 principals agreed, against 3 that stayed undecided while 3 strongly disagreed. In like manner, 36 teachers strongly agreed with item number 6 and 129 agreed, against 2 that stayed undecided while 48agreed and 91 teachers that strongly disagreed with the item.

Research Question Two: What are the opinions of inspectors, principals and teachers on the application of punishment in public secondary schools in Zaria Local Government Area, Kaduna State?

The data gathered from the inspectors, principals and teachers were analysed in order to provide answer to this research question. The summary of analysis made in respect to research question four is presented in table 2.

Table 2: Influence of Punishment in Public Secondary Schools in Zaria Local Government Area, Kaduna State.

SN	Item	Respondents	SA	A	U	D	SD	Mean	SD
1.	Punishment must be commensurate with the offence.	Inspectors	-	2	-	4	-	2.000	1.549
		Principals	-	3	-	7	-	3.900	1.449
		Teachers	17	55	14	102	118	3.238	1.243
2.	For punishment to be effective, there must be prior explanation by the teacher.	Inspectors	1	1	-	-	1	3.833	0.983
		Principals	1	7	1	-	1	4.800	0.788
		Teachers	1	131	37	116	21	3.607	1.370
3.	In school rebellion can result from uncoordinated punishment.	Inspectors	1	7	1	-	1	2.833	0.788
		Principals	1	7	-	2	-	2.800	1.100
		Teachers	18	38	25	129	96	2.985	1.235
4.	Punishment must be applied to solve immediate problems in the classroom.	Inspectors	-	3	-	1	2	4.800	1.329
		Principals	-	5	-	2	3	4.100	1.316
		Teachers	8	160	58	18	62	4.254	1.001
5.	PTA must be in agreement with the school regarding punishment.	Inspectors	1	1	1	1	2	2.833	1.471
		Principals	1	2	2	2	3	2.700	1.337
		Teachers	2	134	72	46	52	4.980	1.113
6.	Punishment enhances goal achievement in the classroom.	Inspectors	-	-	1	2	3	1.833	0.752
		Principals	-	-	2	3	5	1.900	0.737
		Teachers	7	126	74	24	75	4.055	1.030
7.	In the school, punishments are not necessary to solve problems.	Inspectors	1	-	1	-	4	2.666	1.211
		Principals	1	-	2	1	6	2.400	1.074
		Teachers	8	127	47	48	76	4.905	1.179
8.	Agreed forms of punishment should be incorporated into school rules.	Inspectors	-	-	1	2	3	2.833	0.752
		Principals	1	-	2	2	5	2.300	1.159
		Teachers	19	90	29	45	123	3.722	1.208
9.	Punishment in schools must be done in the secret.	Inspectors	2	-	-	2	2	2.666	1.861
		Principals	2	-	1	4	3	2.300	1.567
		Teachers	2	151	45	57	51	4.967	1.197
10.	Punishment in schools must be done in the open.	Inspectors	3	-	-	1	2	3.333	1.861
		Principals	4	-	1	1	4	3.200	1.619
		Teachers	2	87	31	94	92	2.382	1.209
			Average Mean					**3.22**	**1.24**

Table2 shows the opinions of inspectors, principals and teachers on the application of punishment in public secondary schools in Zaria Local Government Area, Kaduna State. The table showed that the average response mean of 3.22 is higher than the rating mean of 3.0. However, the respondents were of the opinion that, punishment must be applied to solve immediate problems in the classroom as this item attracted the highest response mean of 4.800

for the inspectors, 4.100 for the principals and 4.254 for the teachers. Detail shows that a total of 3 inspectors agreed with item number 4, while only 1 agreed as against 2 inspectors that strongly disagreed with item number 4 on the table. Also, a total of 5 principals agreed, while 2 of the respondents agreed, against 3 that strongly disagreed. In like manner, 8 teachers strongly agreed with item number 4 and 160 that agreed, against 58 that stayed undecided while 18 disagreed and 62 teachers that strongly disagreed with the item.

Hypotheses Testing

The result of the hypotheses tested using Analysis of Variance (ANOVA) at 0.05 alpha level**.**

Hypothesis One: There is no significant difference in the opinions of inspectors, principals and teachers on the application of reward in public secondary schools in Zaria Local Government Area, Kaduna State.

The data gathered from the inspectors, principals and teachers on the application of reward in public secondary schools in Zaria Local Government Area, Kaduna State are analysed using Analysis of Variance (ANOVA). The summary of the hypothesis tested is presented in table 3:

Table 3: Summary of Analysis of Variance (ANOVA) Statistics on the Influence of Reward in Public Secondary Schools in Zaria Local Government Area, Kaduna State

Status	Sum of Squares	df	Mean Square	F-ratio	F-critical	Prob.
Between Groups	7.682	2	3.841	5.251	2.61	.004
Within Groups	275.041	320	.731			
Total	282.723	322				

Table 3 showed the f-ratio value of (5.251) at 320 degrees of freedom and at 0.05 alpha level. The critical value (2.61) is less than f-ratio value (5.251), the probability level of significant P(.004) is less than 0.05. The implication of this result is that significant difference exists in the opinions of inspectors, principals and teachers on the application of reward in public secondary schools in Zaria Local Government Area, Kaduna State. Consequently, the null hypothesis which says that there is no significant difference in the opinions of inspectors, principals and teachers on the application of reward in public secondary schools in Zaria Local Government Area, Kaduna State was thus rejected.

Hypothesis two: There is no significant difference in the opinions of inspectors, principals and teachers on the application of punishment in public secondary schools in Zaria Local Government Area, Kaduna State.

The data gathered from the inspectors, principals and teachers on the application of punishment in public secondary schools in Zaria Local Government Area, Kaduna State are

analysed using Analysis of Variance (ANOVA). The summary of the hypothesis tested is presented in table 4:

Table four: Summary of Analysis of Variance (ANOVA) Statistics in the Influence of Punishment in Public Secondary Schools in Zaria Local Government Area, Kaduna State.

Status	Sum of Squares	df	Mean Square	F-ratio	F-critical	Prob.
Between Groups	11355.652	2	677.826	13.732	3.15	.000
Within Groups	22409.775	320	49.361			
Total	23765	322				

Table 4 showed the f-ratio value of (13.732) at 320 degrees of freedom and at 0.05 alpha level. The critical value (3.15) is less than f-ratio value (13.732), the probability level of significance P(.000) is less than 0.05. The implication of this result is that significant difference exists in the opinions of inspectors, principals and teachers on the application of punishment in public secondary schools in Zaria Local Government Area, Kaduna State. Consequently, the null hypothesis which says that there is no significant difference in the opinions of inspectors, principals and teachers on the application of punishment in public secondary schools in Zaria Local Government Area, Kaduna State was thus rejected.

Summary of Findings

The following findings emerged given the hypotheses tested in the study:

1. The views of respondents varied on the application of reward in public secondary schools in Zaria Local Government Area, Kaduna State.
2. The opinions of respondents differ on the application of punishment in public secondary schools in Zaria Local Government Area, Kaduna State.

Discussions

The first finding of the study revealed that differences existed in the opinions of inspectors, principals and teachers on the application of reward in public secondary schools in Zaria Local Government Area, Kaduna State. Hence, hypothesis three which stated that there is no significant difference in the opinions of inspectors, principals and teachers on the application of reward in public secondary schools in Zaria Local Government Area, Kaduna State was rejected. The result of research question three also revealed that schools give tangible reward like small gifts to the students. This finding is in agreement with the finding of Inuwa in Lakes N.E (2004) that reward and motivation is most effective technique of classroom management.

The second finding of the study revealed that differences existed in the opinions of inspectors, principals and teachers on the application of punishment in public secondary schools in Zaria Local Government Area, Kaduna State. Hence, hypothesis four which stated that there is no significant difference in the opinions of inspectors, principals and teachers on the application of punishment in public secondary schools in Zaria Local Government Area, Kaduna State was rejected. The result of research question four also revealed that punishment must be applied to solve immediate problems in the classroom. This finding corroborated the finding of Mumtaz in (Osakwe, 2014) that teachers should state the rules clearly to students during teaching and learning and that teacher should be cooperative in the class in public and private schools.

Conclusion

The study concluded that poor application of reward hampers goal attainment among students in public secondary schools in Zaria Local Government Area, Kaduna State. Application of punishment in public secondary schools in Zaria Local Government Area, Kaduna State was significantly different.

Recommendation

The use of reward during classroom instruction should be regulated as this may be encouraging docility and defence to authority rather than originality and spontaneity of effort; and application of punishment during classroom instruction should be made a temporary drive as students always associate fear of pain with study, and it is not healthy to keep students under a permanent state of siege.

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PREVENTION OF INFERTILITY AMONG WOMEN OF CHILDBEARING AGE IN ILORIN SOUTH LOCAL GOVERNMENT AREA, KWARA STATE

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Abstract

The prevalence of infertility has been experiencing increments drastically nowadays. With many effects on individuals, families and the society health at large, infertility thus presents a great threat to public health. This study examined the prevention of infertility among women of childbearing age in Ilorin South Local Government Area, Kwara State. Specifically, this study examined if (i) the practice of safe sex (ii) nutritional intake and (iii) moderate exercise are prevention of infertility among women of childbearing age in Ilorin South Local Government Area, Kwara State.

The population comprised of all women of childbearing age in Ilorin South Local Government Area, Kwara State. Ilorin South Local Government Area had a total population of sixty-two thousand, six hundred and seventy-nine 62,679 women of reproductive age. A multi-stage sampling technique consisting of stratified, proportionate and accidental sampling techniques was used to select 387 respondents for the study. A validated and reliable questionnaire was used for data collection. A correlation coefficient "r" of .76 was obtained through split-half method using Cronbach Alpha. The demographic data of respondents was analysed using descriptive statistics of frequency count and percentage, percentile was used for answering the research questions while inferential statistics of chi-square (χ^2) was used to analyse the postulated null hypotheses at 0.05 alpha level.

The findings revealed that;

i. *The practice of safe sex is a prevention of infertility with the cal. $_{x}^{2}$ value of 1129.90 $_{x}$ the table $_{x}^{2}$ value of 16.92 at df 9 @ 0.05 alpha level;*
ii. *Nutritional intake is a prevention of infertility with the cal. $_{x}^{2}$ value of 630.80 $_{x}$ the table $_{x}^{2}$ value of 16.92 at df 9 @ 0.05 alpha level; and*
iii. *Moderate exercise is a prevention of infertility with the cal. $_{x}^{2}$ value of 780.01 $_{x}$ the table $_{x}^{2}$ value of 16.92 at df 9 @ 0.05 alpha level.*

The study concluded that the practice of safe sex, nutritional intake and moderate exercise are prevention of infertility among women of childbearing age in Ilorin South Local Government Area, Kwara State. It is, therefore, recommended that women of childbearing age should be encouraged to practice safe sex with their counterparts, consume food that will improve their fertility and engage in moderate exercise in order to enable them to preserve their fertility.

Keywords: *Prevention, Infertility and Childbearing*

Introduction

Infertility is the inability of an organism to give birth to its young ones or reproduce by natural means. In humans, infertility may be identified as a woman who is unable to get pregnant as well as being unable to take a pregnancy to its full term or point of birth. Many biological, psychological, physiological and pathological factors are involved with infertility, including those that medical intervention can treat and those that health education can prevent. Estimation from 2007 suggested between 3-7 percent of all couples or women worldwide, have an unresolved problem of infertility (Markers & Toth, 2007).

Infertility differs across regions of the world and estimated to affect 8 -12 percent of couples worldwide. World Health Organisation (WHO) estimates that 60 – 80 million couples suffer from infertility i.e. about 8 – 10% of couples are facing some kind of fertility problems (WHO, 2011). Europe records an estimate of about 14% while United State of America estimates approximately 5 million people have fertility problems (Roupa, Polikandrioti, Sotiropoulou, Faros, Koulouri, Wozniak & Gourni, 2009).

Epidemiological surveys are more useful as they are based on a shorter time frame; however, very few such studies have ever been conducted in Nigeria. According to a survey of a representative sample of 1,075 ever-married women using a validated WHO protocol revealed a prevalence rate of 20% infertility in Ile-Ife, Southwest Nigeria. The survey showed a higher prevalence of infertility in the rural parts of the city than in the urban area (Adetoro & Ebomoyi, 2001).

Preventing infertility has been the less reviewed which makes it unknown and unexplored to many than its counterpart "treatment". There are many preventable causes of infertility with the topmost on the list being the one caused by sexually transmitted infections (STIs). Others include maternal age, environmental factors, weight changes, lifestyle among others. It is estimated that about 20% cases of infertility in United State of America is caused by STIs while about 80% in the regions of some developing countries are infertile because of STIs (WHO, 2007). Suggestions for health intervention were made on prevention of infertility as a result of STIs by Olooto, Amballi and Banjo (2012). They suggested abstention or abstinence from sex or a better option for those that practice polygamous, multiple sex partners and consistent and correct use of barrier contraceptive tools i.e. female or male condom. In their suggestions for lifestyle management, they include eating balanced and nutritious diet filled with the consumption of vegetables and fruits, maintaining a regular and moderate exercise, and maintaining a normal body weight (Olooto, et al, 2012).

Nigerian youths, especially the out-of-school have been reported to be one of the most at risk-groups for STIs, including Human Immuno Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS) as a result of high risk sexual behaviour, early marriage and sexual debut (Nigerian Demographic Health Survey (NDHS) (2003). Regardless of these obvious facts, the society is ill prepared and/or reluctant to handle sexual challenges due mainly to societal prejudices, religious and cultural barrier and hindrances. Ill prepared as they were in proper and adequate sexuality education, the youths lack skills and knowledge to protect themselves from

STIs and infertility as a result of risky sexual behaviours (Braby, 2003). STIs infection is evidenced to have a strong negative effect on fertility. For example, a 2002 United Nations report on fertility in sub-Saharan Africa reviewed eight population-based studies from six countries and found a 25% to 40% drop in fertility among HIV positive women compared with the general population. For every 1% of women of reproductive age infected with HIV, a country's overall birth rate fell by 0.4% (Panel on Treatment of HIV-Infected Pregnant Women and Prevention of Perinatal Transmission, 2010).

Globally, an estimated 580 million people experience infertility at some point in their reproductive lives, majority being as a result of previous STIs and pelvic inflammatory infections (Okonofua, Menakaya, Onemu, Omo-Aghoja & Bergstrom, 2005). Early exposure and introduction to sexuality education would significantly reduce this enormous disease burden. Although, infertility is not a lineal cause of mortality (Onemu & Ibeh, 2001), it is a significant cause of severe socio-psychological morbidity, most especially for women (Rutstein & Iqbal, 2004). Infertile women suffer physical and mental abuse, neglect, abandonment, economic deprivation and social ostracism; particularly in Africa, where the success of marriage is measured by the number of children.

Notwithstanding the high incidence of infertility in sub-Saharan Africa, several reports and publications have shown that people have wrong perception of the causes, risk factors and methods of treatment of STIs including HIV and infertility. As a result greater majority of people access treatment services in inappropriate and unauthorized places like: churches, herbal homes and exorcists and wrong orthodox places, which may not only be expensive and ineffective, but almost always destructive to health (Leonard, 2002).

Eating disorders also negatively affect menopause, fertility and maternal and foetal health. Women suffering from oligomenorrhoea and amenorrhoea have 58% chances of irregular menopause. Nearly 20.7% of infertile women have eating disorders e.g Pica eating, bilumia nervosa (Sharma, Biedenharn, Fedor & Agarwal, 2013). The vegetarian diet decreases luteinizing hormone (LH) values during the mid-cycle and the luteal phase of menstrual cycle. Estradiol (E2) and progesterones (P) values are also significantly lower during the luteal phase. In contrast, the non-vegetarian diet does not show significant reduction of LH, E2, and P values during any part of the menstrual cycle. The non-vegetarian diet maintains ovulatory cycles with no changes in cycle length or the length of the follicular phase. A dietary intervention study showed that transiting from a diet high in animal fat and protein to one that is high in vegetable fat and protein reduced circulating estrogen levels by more than 40% (Brinkman, Baglietto, Krishna, English, Severi, Morris, Hopper & Giles, 2010).

Kuhnlein and Egeland (2006) asserted that Vitamin A deficiency happens when body stores are depleted to the level that physiological functions are impaired. The main causes are inadequate intake of vitamin A rich foods and severe and repeated illnesses. Iron deficiency is usually prevalent in all groups in India, but adverse consequences are most common among pregnant women, preschool children and women of reproductive age. These nutrients play vital role in reproductive health (Kuhnlein & Egeland, 2006). A dietary score based on factors previously

associated with lower ovulatory disorder infertility such as higher consumption of monounsaturated rather than trans-fats, vegetable rather than animal protein sources, low glycemic carbohydrates, high fat dairy, multivitamins, and iron from plants and supplements; and other lifestyle information was prospectively related to the incidence of infertility.

The majority of infertility cases due to ovulation disorders may be preventable through modifications and changes of diet and lifestyle. Nutrients such as carbohydrates, proteins, fats, vit A, vit C, folic acid, vit B12, iron, zinc and selenium play an essential role in treatment of infertility with proper physical activity (Al-Azemi, Omu, Fatinikun, Mannazhath & Abraham, 2009; Chavarro, Rich-Edwards, Rosner & Willett, 2007; Pieczynska & Grajeta, 2015). Folic acid deficiency, extreme exercise and high perceived level of stress can also lead to infertility in women (Langley, 2014). Legumes and green leafy vegetables are considered to be rich in folate activity. Supplementation of iron and vitamins thrice a week can reduce the risk of infertility through affecting ovarian function.

Various factors affect fecundability and infertility. Some of these factors, such as age and genetics factors, cannot be changed unfortunately. However, there is definite evidence that replaceable factors like unhealthy diet, excessive alcohol, smoking and gaining weight, adversely affect reproductive health (Rossi, Abusief & Missmer, 2014). The fact that certain dietary ingredients are deemed responsible for male and female infertility makes it pertinent and important to study the effects of nutrition on infertility and reproductive health. Especially trans-fatty acids have adverse effects on male and female reproductive health, cause malformations in certain metabolic pathways and damage the metabolism of essential components of the reproductive system (Çekici & Akdevelioglu, 2018; Iqbal, 2014).

When other nutritional factors that may be responsible for infertility are evaluated; saturated fat, red meat, processed meats, fatty dairy products, sugar and sweeteners, alcohol and caffeine come to the forefront. In addition, the increased consumption of soy and soy products may increase the risk of infertility in male (Giahi, Mohammadmoradi, Javidan & Sadeghi, 2016). On the other hand, protective foods against infertility such as fish, poultry, fruits and vegetables and whole-grains reduces the risk of male and female infertility by a variety of mechanisms of action (Salas-Huetos, Bulló & Salas-Salvadó, 2017). While a high western style diet with high saturated fat, trans-fat and sugar is associated with a high risk of infertility whereas prudent diet that contains much more vegetables, fruits, grains and fish is associated with a low risk of infertility. The low-fat dairy products significantly heighten sperm concentration and progressive motility (Afeiche, Bridges, Williams & Gaskins, 2014).

When the effects of foods on the female fertility are appraised, citrus fruits reduces risk of endometriosis (Harris, Eke, Chavarro & Missmer, 2018), higher intake of whole grain is related to higher probability of live birth among women (Gaskins, Chiu, Williams, Keller & Toth, 2016), poultry consumption is positively associated with fertilization rates and it supports fecundability (Xia, Chiu, Williams, Gaskins & Toth, 2015). Notably, iron intake may be reduced if red meat intake is restricted; yet it has been shown that consuming iron supplements and non-heme iron from other sources may decrease the risk of ovulatory infertility (Chavarro, Rich-

Edwards, Rosner & Willet, 2006). Saturated fat content, which can be particularly high in red meat, has independently been linked to lower semen concentration in males (Attaman, Toth, Furtado, Campos, Hauser & Chavarro, 2012). Polyunsaturated fats, conversely, have been shown to give reproductive benefits in both men and women. A cross-sectional study of men showed that higher intake of omega-3 fatty acids was associated with significantly more advantageous sperm morphology (Attaman, et al, 2012). Women who consumed higher levels of omega-6, linoleic acid, and omega-3 had a higher incidence of pregnancy than those with lower intake of these nutrients (Moran, Tsagareli, Noakes & Norman, 2016).

According to the Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG) (2016), moderate exercise improves fertility, especially for people who are overweight or obese. It was further stated that to reduce the weight for individuals with obesity or overweight, target should be towards regular exercise and healthy diet. The importance of physical activity in the prevention of non-communicable diseases and chronic diseases such as cardiovascular disease cannot be overstressed in the present era of obesogenic environment. It is estimated that globally physical inactivity resulted in more than 5 million deaths in the year 2012, and the global physical inactivity related healthcare incurs costs exceeding 53 billion dollars in the year 2013 (Das & Horton, 2016; Andersen, Mota & Di-Pietro, 2016).

There is significant proof among the general population regarding the impact of physical activity in improving the quality of life; however, evidence relating to the effect of physical activity in improving fertility and the quality of life in infertile women is inadequate (Anderson, Nisenblat & Norman, 2010). Extant medical literature shows that moderately regular physical activity positively influences ovarian reserve and Assisted Reproductive Technologies outcomes in overweight and obese women (Rich-Edwards, Spiegelman, Garland, Hertzmark, Hunter & Colditz, 2002; Warren & Perlroth, 2001). It is not known whether moderate physical activity influences ovarian reserve in normal weight reproductive age women, and whether age has any influence on the physical activity related changes in ovarian reserve.

A study conducted by Donthu, Talla, Yalamanchali, Manne, Kothapalli and Medapati (2017) in India filled the known gap of effect of moderate exercise on ovarian reserve markers in the normal weight women of two reproductive age groups (below and above 30 years). The study revealed that moderate physical activity has a positive influence on the ovarian reserve profile in both the age groups of women examined. In the study conducted by Wise, Cramer, Hornstein, Ashby and Missmer (2011), moderate physical activity was found associated with a small increase in fecundability independent of BMI. Physical activity during assisted reproduction was associated with better implantation rates and live births (Kucuk, Doymaz & Urman, 2010). Some recent studies revealed that the impact of physical activity on ovarian reserve parameters was more evident in overweight and obese reproductive age women compared to normal weight reproductive age women (Rich-Edwards, et al, 2002; Surekha, Himabindu, Sriharibabu & Pandey, 2014). Irrespective of the mechanisms involved, all these studies posited a beneficial effect of regular physical activity on fertility outcomes (Donthu, et al, 2017).

Statement of the Problem

Infertility has been of public health concern in many developing nations, Nigeria has a developing nation also experiences this serious health problem. This health problem is not a glaring attribute that can be said about an individual without some important indicators in the community. These indicators may include the rate of divorces, numbers of children at a time, numbers of marriages, among others. Infertility most time play a role in divorce, loss of economic resources and the cancellation of rights to burial grounds.

Infertility is a serious threat to the institution of marriage and family stability. There are many grounds why some people do not become parents. Some are infertile, some do not want children, children can be socially unacceptable for others, alternative life goals are more important. In previous time childlessness was more common than today as ground for divorce. Infertility could be a common reason for the expulsion of the woman from the husband's house, with or without divorce. In fact, among the Ewe and Ashanti of Ghana, a man or woman who has no child is considered fully adult and after death buried with no full adult funeral rights. Separation and divorce may led to low self-esteem and isolation on the women.

Although men are not immune or exempted from the suffering associated with infertility, women appear to carry the principal burden as they are often blamed for non-conception and are more vulnerable to the negative social and economic consequences of attitudes and behaviour of neighbours, friend and relation which may lead to psychological problem for the infertile women. Generally infertile women experience negative social consequences which include marital instability, stigmatization and abuse. Infertility can have a deleterious effect on both psychological and sociological wellbeing. On this footing, the researcher examined the prevention of infertility among women of childbearing age in Ilorin South Local Government Area, Kwara state.

Research Questions

The following research questions were developed to guide the study:

1. Will the practice of safe sex prevent infertility among childbearing age women in Ilorin South Local Government Area, Kwara state?
2. Will nutritional intake prevent infertility among childbearing age women in Ilorin South Local Government Area, Kwara state?
3. Will moderate exercise prevent infertility among childbearing age women in Ilorin South Local Government Area, Kwara state?

Research Hypotheses

The following null research hypotheses were tested.

1. The practice of safe sex will not significantly prevent infertility among childbearing age women in Ilorin South Local Government Area, Kwara state.
2. Nutritional intake will not significantly prevent infertility among childbearing age women in Ilorin South Local Government Area, Kwara state.
3. Moderate exercise will not significantly prevent infertility among childbearing age women in Ilorin South Local Government Area, Kwara state.

Research Methodology

Descriptive research design of the survey type was employed for the study. Descriptive research involves logical collection of data for the purpose of describing existing condition. It also involves the explanation of observed phenomena in a concise form of individual characteristic of a group of people or event in the course of study. This design is also appropriate because it permits clear representation of (samples) of the target population.

The population for the study comprises all women of reproductive age (15-45years) in Ilorin South Local Government Area, Kwara State. Ilorin South Local Government Area had a total population of two hundred and nine thousand, two hundred and fifty one people (209,251), of which 105,645 were female, 62,679 were women of reproductive age (15-45 years) (National Population Commission, 2006). The sampling technique that was adopted for this study is a multi-stage sampling technique.

Stratified sampling technique was used to select 5 out of the 11 wards in the study area since it has already exist in a stratum. To enhance the resources for this study, the researcher sampled 5 out of 11 wards using simple ballot technique, to select the wards used. The researcher writes all wards name on small different sheet of paper, rapped it and placed it in a container. The researcher asked one of his research assistance to select five (5) wards that was used for the study out of the 11 wards. The five picked wards were used for the study.

Proportionate sampling technique was employed to select 1.5% (92 respondents from Balogun Fulani I, 83 respondents from Balogun Fulani III, 78 respondents from Okaka I, 59 respondents from Okaka II and 75 respondents from Akanbi I. In all, a sample size of three hundred and eighty seven (387) was selected for the study. The sample size is adequate enough because the total population of this study runs in ten thousands; Research Advisor (2006) asserted that for a population that runs in ten thousands, a sample size that is adequate enough for the study is between 380 and 383. Accidental sampling technique was used for the actual selection of the three hundred and eighty seven (387) respondents for the study. This enable the researcher to administer the research instrument at his conveniences.

The research instrument that was used in gathering and collecting data for this study was a researcher's structured questionnaire with Likert rating scale of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SA). The questionnaire contains two (2) segments: section A and B. Section A acquires demographic information of the respondents, while section B collects information on the prevention of infertility among women of childbearing age in Ilorin South Local Government Area, Kwara State respectively.

To ascertain the content and face validity of the instrument, copies of the questionnaire carefully constructed by the researcher were examined by three (3) other experts in the Department of Health Promotion and Environmental Health Education, University of Ilorin. Their suggestions and recommendations were imbibed to ensure the quality of the instrument. To determine the reliability of the instrument, the researcher adopted a split-half method. The instrument was administered to twenty (20) respondents outside the study area (Ilorin West LGA) once. The

scores of the even and odd of questionnaire administered were computed and correlated using Cronbach Alpha statistics. A reliability coefficient (r) of 0.76 that was obtained, this confirm that the research instrument is reliable.

The administration of the instrument (questionnaire) was carried out personally by the researcher with the help of two research assistants who were trained prior to the time of administration. The researcher was obligated to maintain professional integrity, unbiased and subjective quest for facts and knowledge. Data and information gathered from respondents were kept highly confidential and prompt retrieval of completely filled questionnaires was ensured to avoid loss. The data that was obtained during administration was sorted, coded and subjected to appropriate statistical analysis. Section A which contains the demographic data of respondents was analysed using descriptive statistics of frequency count and percentage, percentile analysis was used to answer the research questions while inferential statistics of chi-square ($\chi 2$) was used to analyse the postulated null hypotheses at 0.05 alpha level, using Statistical Package for Social Sciences (SPSS) version 23.0.

Results

Hypotheses Testing

Hypothesis One: The practice of safe sex will not significantly prevent infertility among childbearing age women in Ilorin South Local Government Area, Kwara state.

Table 1: Chi-square analysis showing the practice of safe sex as a prevention of infertility

S/N	ITEMS	SA (%)	A (%)	D (%)	SD (%)	Df	Cal. χ^2 Val.	Tab. χ^2Val.	Decision
1.	Abstinence from unprotected sex may have a positive effect on fertility of childbearing age women.	128 (33.1%)	223 (57.6%)	26 (6.7%)	10 (2.6%)				
2.	Shunning sex with multiple partners could help enhance fertility level.	115 (29.7%)	238 (61.5%)	27 (7.0%)	7 (1.8%)				
						9	1129.90	16.92	H_0 is rejected
3.	Regular sexuality related check-up could reduce the possibility of infertility among pregnant women.	108 (27.9%)	243 (62.8%)	28 (7.2%)	8 (2.1%)				
4.	The use of barrier contraceptives could limit the contracting rate of infections that cause infertility.	106 (27.4%)	251 (64.9%)	25 (6.5%)	5 (1.3%)				
	Total	**457**	**955**	**106**	**30**				

a = 0.05

Table 1 showed the result of the hypothesis which states that the practice of safe sex will not significantly prevent infertility among childbearing age women in Ilorin South Local

Government Area, Kwara state. The calculated chi-square value of 1129.90 is greater than chi-square table value of 16.92 (cal. χ^2 valχ^2 val). Hypothesis one is hereby rejected. This implies that the practice of safe sex significantly prevent infertility among childbearing age women in Ilorin South Local Government Area, Kwara state.

Hypothesis Two: Nutritional intake will not significantly prevent infertility among childbearing age women in Ilorin South Local Government Area, Kwara state.

Table 2: Chi-square analysis showing nutritional intake as a prevention of infertility

S/N	ITEMS	SA (%)	A (%)	D (%)	SD (%)	Df	Cal. χ^2 Val.	Tab. χ^2Val.	Decision
1.	Avoiding carbonated drinks could help with being more fertile.	183 (47.3%)	144 (37.2%)	42 (10.9%)	18 (4.7%)				
2.	High consumption of vegetables and fruits helps with regular flow of menstrual cycle and improve fertility.	143 (37.0%)	125 (32.3%)	67 (17.3%)	52 (13.4%)	9	630.80	16.92	H_0 is rejected
3.	Maintaining good body weight through balanced diet helps to be more fertile.	167 (43.2%)	148 (38.2%)	53 (13.7%)	19 (4.9%)				
4.	Maintaining a good eating habit among women of childbearing age improve fertility.	133 (34.4%)	133 (34.4%)	64 (16.5%)	57 (14.7%)				
	Total	**626**	**550**	**226**	**146**				

$\alpha = 0.05$

Table 2 showed the result of the hypothesis which states that nutritional intake will not significantly prevent infertility among childbearing age women in Ilorin South Local Government Area, Kwara state. The calculated chi-square value of 630.80 is greater than chi-square table value of 16.92 (cal. χ^2 val> χ^2 tab. val). Hypothesis two is hereby rejected. This implies that nutritional intake significantly prevent infertility among childbearing age women in Ilorin South Local Government Area, Kwara state.

Hypothesis Three: Moderate exercise will not significantly prevent infertility among childbearing age women in Ilorin South Local Government Area, Kwara state.

Table 3: Chi-square analysis showing moderate exercise as a prevention of infertility

S/N	ITEMS	SA (%)	A (%)	D (%)	SD (%)	Df	Cal. χ^2 Val.	Tab. χ^2Val.	Decision
1.	Moderate exercise enhances proper flow of menstrual blood and enhance fertility among women of childbearing age.	141 (36.4%)	194 (50.1%)	38 (9.8%)	14 (3.6%)				
2.	Moderate exercise improves the secretion of follicle-stimulating hormones and fertility level among reproductive age women.	143 (37.0%)	195 (50.4%)	39 (10.1%)	10 (2.6%)	9	780.01	16.92	H_0 is rejected
3.	Moderate exercise helps in regulating body weight and proper functioning of female reproductive system.	127 (32.8%)	201 (51.9%)	46 (11.9%)	13 (3.4%)				
4.	Moderate exercise helps in eradicating toxic from the body that can obstruct women reproductive tract.	141 (36.4%)	183 (47.3%)	45 (11.6%)	18 (4.7%)				
	Total	**552**	**773**	**168**	**55**				

$\alpha = 0.05$

Table 3 showed the result of the hypothesis which states that moderate exercise will not significantly prevent infertility among childbearing age women in Ilorin South Local Government Area, Kwara state. The calculated chi-square value of 780.01 is greater than chi-square table value of 16.92 (cal. χ^2 val$_>\chi^2$ tab. val). Hypothesis three is hereby rejected. This implies that moderate exercise significantly prevent infertility among childbearing age women in Ilorin South Local Government Area, Kwara state.

Discussion of Findings

In research question one, majority of the respondents were of the view that the practice of safe sex is a prevention of infertility among childbearing age women in Ilorin South Local Government Area, Kwara state. Consequently, hypothesis one was rejected, implying that the practice of safe sex significantly prevent infertility among childbearing age women in Ilorin South Local Government Area, Kwara state. The finding is in line with Olooto et al (2012) that suggest abstinence from sex or a better option of consistent and correct use of barrier contraceptive tools i.e. female or male condom for those that practice polygamous and multiple sex partners. This was proposed by them as health intervention on preventing infertility as a result of STIs (Olooto et al, 2012).

Also, in research question two, majority of the respondents were of the opinion that nutritional intake is a prevention of infertility among childbearing age women in Ilorin South Local Government Area, Kwara state. Accordingly, hypothesis two was rejected, implying that nutritional intake significantly prevent infertility among childbearing age women in Ilorin South Local Government Area, Kwara state. The study supports Pieczynska and Grajeta (2015)

who opined that majority of infertility cases due to ovulation disorders may be preventable through modifications of diet and lifestyle. Consequently, protective foods against infertility such as fish, poultry, fruits and vegetables and whole-grains reduce the risk of male and female infertility by various mechanisms of action (Salas-Huetos, et al, 2017).

In research question three, majority of the respondents were of the opinion that moderate exercise is a prevention of infertility among childbearing age women in Ilorin South Local Government Area, Kwara state. Similarly, hypothesis three was rejected, meaning that moderate exercise significantly prevent infertility among childbearing age women in Ilorin South Local Government Area, Kwara state. The study agrees with Chavarro, et al, (2007) that asserted that 30 min of vigorous exercise per day was found to be associated with a reduced risk of infertility. Moderate exercise improves fertility, particularly for people who are overweight or obese (RANZCOG, 2016).

Conclusion

Conclusively, the study discovered that:

1. The practice of safe sex will significantly prevent infertility among childbearing age women in Ilorin South Local Government Area, Kwara state.
2. Nutritional intake will significantly prevent infertility among childbearing age women in Ilorin South Local Government Area, Kwara state.
3. Moderate exercise will significantly prevent infertility among childbearing age women in Ilorin South Local Government Area, Kwara state.

Recommendations

Based on the findings of the study, the researcher made the following recommendations:

1. Women of childbearing age should be enjoined to practice safe sex with their counterparts in order to enable them to maintain their fertility and prevent themselves from sexually transmitted infections.
2. Proper nutritional intake of food that are prophylactic against infertility such as fish, poultry, fruits and vegetables and whole-grains should be encouraged among women of reproductive age.
3. Moderate exercise should be stepped-up as part of necessary preconception advocacy for women of reproductive age to increase their fertility.

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IMPACTS OF HEALTH EDUCATION IN THE PREVENTION OF THYPHOID FEVER AS PERCEIVED BY IJERO RESIDENTS IN EKITI STATE

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Abstract

Hand washing and environmental sanitation are of utmost importance and it is a tool for empowering the residents on the prevention of typhoid fever. This study therefore aimed at examining the impacts of health education in the prevention of typhoid fever as perceived by Ijero residents in Ekiti state. The objectives were to assess whether (i) hand washing is an impacts of health education in the prevention of typhoid fever; (ii) environmental sanitation is the impacts of health education in the prevention of typhoid fever as perceived by Ijero residents in Ekiti state, the research design adopted for the study was a descriptive research design of the survey type. The population two hundred and twenty one thousand four hundred and six (221,406) (National Population Council, 2006), comprises of all Ijero residents, Ekiti State. Four hundred and fifty five respondents were sampled for the study. The instrument used for the study was a researcher developed questionnaire titled impacts of Health Education in the prevention of typhoid Fever as perceived by Ijero residents in Ekiti state, which was validated by three experts in related field and tested for reliability. Test re-test method was used to obtain the reliability of the instrument. Pearson Product Moment Correlation was used to obtain a correlation coefficient result of r= 0.75. Inferential Statistics of Chi-square was used to test the data collected.

The findings of the study revealed that:
Hand washing as an impact of health education in the prevention of thyphoid fever because cal.^{2} Val. (207.03) > crit. Val. (16.92); Environmental sanitation is an impact of health education in the prevention of typhoid fever because cal.^{2} value (282.33) > crit. value (16.92); with 9 df at 0.05 alpha level.

This study concluded that hand washing environmental sanitation are significantly impact of health education in the prevention of typhoid fever. It was therefore recommended that health

educators should intensify efforts in the continuous skilled based health education programmes such as hand washing; embark on monthly environmental sanitation exercise.

Keywords: fever, health education, sanitation, hygiene, typhoid, prevention

Introduction

In Nigeria, typhoid fever remains a major disease because of factors such as increased urbanization, inadequate supply of potable water, regional movement of large numbers of immigrant workers, inadequate facilities for processing human waste and over-burdened healthcare delivery systems (Adagbada, Adesida, Nwaokorie, Niemogha & Coker, 2012). The disease is transmitted by the oral route from contaminated drinking water, milk and foods. Typhoid fever affects virtually all ages irrespective of genders. In endemic areas, the highest rate occurs in children aged 8-13 years. In a recent study from slums of Delhi, it was found that contrary to popular belief, the typhoid fever affects even children aged one to five years in which about 20-30% of cases were found among children below ten years (Krishna, Patil & Chandrasekhar, 2006). According to Indonesia Demographic and Health Survey (2002 –2003) report, the prevalence of typhoid fever in children under five years was 26% Also, Indonesia Demographic and Health Survey (2002 –2003). Profile health status of province south Sulawesi Indonesia report of Ministry of Health, Republic of Indonesia Centre for disease control and prevention (2014) reported the incidence of typhoid fever to be the second-highest cause of morbidity with 11,510 cases reported throughout 2001. Azman, Rudolph, Cummings and Lessler (2012) observed that most children with typhoid fever and diarrhoea were treated at home and taken to health units only when they developed life-threatening symptoms. Hashizume, Faruque, agatsuma, Hayashi and Armstrong (2010) asserted that in Afghanistan, one-quarter of children are suffering from typhoid and poor environmental health contributes substantially to childhood illnesses. A fever by itself can cause a child to feel unwell, tired and have a headache. Pyrexia about 38.50C may increase the incidence of convulsion and above 40.50C may cause delirium, coma and other neurological problems. The paucity of epidemiological data regarding invasive Salmonella disease in sub-Saharan Africa led the World Health Organization (WHO) to call for a continent-wide approach in generating more accurate disease incidence and antimicrobial susceptibility data in 2008 (World Health Organization, 2010). However, the true incidence of typhoid fever is difficult to evaluate in Nigeria because of the lack of a proper coordinated epidemiological surveillance system. Smith (2010) submitted that information on typhoid fever prevalence has been documented by several researchers in some states in Nigeria ranging from 0.071% in Oyo to 47.1% in Osun.

Tijani and Sabageh (2015) noted improved water quality and sanitation constitute ultimate solutions to this problem of typhoid fever. Vaccination in high-risk areas has been identified as a potential control strategy recommended by WHO for the short-to-intermediate term. Protection and purification of drinking water supply, improved basic sanitation and promotion of food hygiene are essential measures to interrupt transmission of typhoid fever. Health workers are instrumental for all health programmes and the general health education of the family of patients

and community at large, especially about signs and symptoms, treatment, control and prevention of typhoid fever. People get infected by ingestion of food or drinking water contaminated by stool or urine of typhoid fever patients and/ or by direct personal contact with infected patients and carriers. Handwashing with soap has been identified as one of the strong and most effective preventive measure against typhoid fever (World Health Organization, 2010). Other preventive measures include avoidance of drinking unsafe water, avoidance of Uncooked foods especially shellfish and cooked foods should be eaten when it is hot.

Fasoranti and Adeyeye (2015) noted Health Education been the first element of Primary Health Care is carried out by trained professionals that are saddled with the responsibilities of meeting the individuals, families and groups at ensuring that they are abreast of information regarding the causes, prevention and control of communicable diseases in which typhoid fever is one of them. Through Health Education, community members could have a good knowledge of environmental sanitation, the importance of hand-washing which are capable of preventing and controlling transmittable diseases. Sule, Ijadunola, Onayade, Fatusi, Soetan and Connell (2008) opined that health workers are in the forefronts of carrying out health education programmes, counselling and health promotion activities. Health Educators plays a crucial role in the development of a healthy, inclusive and equitable social, psychological and physical environment in the prevention and control of typhoid fever (World Health Organization, 2005). Health Education also encourages people on the need to live in a clean and hygienic environment, adopting a healthy lifestyle which can help in preventing and control diseases such as typhoid fever.

Fasoranti and Adeyeye (2015) further added that Health Educators enlightened people on the need to accept the best practices for the prevention and control of communicable diseases. These practices include regular and proper handwashing especially before and after a meal with soap and after the use of toilet and keeping one's environment clean among others. These are extended to the larger populace by the health educators through the use of media such as radio, newspapers, billboard and television. Community Health Workers (CHWs) as well as complement the efforts of the health educators of which they counsel individual, group and community members. They further educate community members on good hygiene practices and making sure that they protect water sources to avoid being contaminated of salmonella typhi which is the organism that causes typhoid fever (National Health Care Development Agency, 2011).

World Health Organization (2008) identified major needs for health education in Primary Health Care Services in the prevention and control of typhoid fever which includes improved health knowledge; improve decision-making; fight diseases; fight misconception; provide resources, and promote food hygiene. Moreover. Primary Health Care services include ensuring that the food is prepared in a hygienic condition; the food handlers are free from food-related infections such as typhoid fever; proper handwashing; nutritional counselling and the like to halt the spread of communicable diseases (National Primary Health Care Development Agency, 2013).

Environmental sanitation is an integral part of community health service in the prevention and control of typhoid fever. It is the science and art of preventing, controlling and abating physical, chemical, biological, psychosocial/ socio-cultural hazards in the environment that may adversely affect an individual and the entire environment. Sani and Nurudeen (2012) submitted that environmental sanitation is capable of promoting good health, providing clean water, and breaking the cycle of salmonella typhi. Environmental Health Officers (EHOs) are trained personnel that have acquired relevant knowledge, skills and technical know-how to initiate, execute and supervise environmental health programmes, activities and interventions related to sanitation (Federal Ministry of Environment, 2005).

Basic environmental conditions needed for healthy living include clean and safe water supply, sanitary disposal of human and industrial waste, protection of food from salmonella typhi– the organism (bacterial) causing typhoid fever. The EHOs achieve this through regular monthly sanitation exercise, provision and distribution of waste bins in the strategic places, collection of waste and sanitary disposal of wastes to prevent and control the diseases. They also educate people on the need to keep their environment clean as a clean environment is a collective effort of all. They promote good drainage culture and sewage disposal (Centers for Disease Control and Prevention, 2013).

Statement of the Problem

In 2010, the global estimate of typhoid fever caused by Salmonella enterica serovar Typhi (S. Typhi) was estimated to be 26.9 million cases with 217,000 deaths recorded. This estimate was adjusted for blood culture sensitivity based on a conservative assumption of 50% (Piarroux, Barrais, Faucher, Haus, Gaudart, Magloire & Raoult, 2011). However, only Egypt and South Africa contributed to this estimate for the African continent. A previous global estimate of the burden of typhoid fever indicated that south-central and east-central Asia had the highest incidences of typhoid fever with more than 100 cases per 100,000 people annually. Africa was estimated to have a medium incidence (10–100 cases per 100,000). The estimated number of typhoid fever cases in low- and middle-income countries in 2010 after adjusting for water-related risk was 11.9 million (95% confidence interval: 9.9–14.7) cases with 129,000 (75,000–208,000) deaths.

The researchers observed that typhoid fever among Ijero residents is caused majorly by contamination of water and poor environmental conditions and many of the residents are not aware that they could get help in the areas of health education about the infection, adequate water supply, hand washing and environmental sanitation from the health workers in the prevention of typhoid fever. It is also observed by the researchers that many Ijero residents suffer from diarrhea and vomiting which are not unconnected with typhoid fever that has led to serious health problems among Ijero residents.

It was also observed by the researchers that there was a high level of indiscriminate dumping of refuse and open defecation. According to United Nation International Children Emergency Fund UNICEF (2018) in Ekiti, about 1.8 million people representing over 60 per cent of the 2.7 million population still defecate openly which led to the spread of typhoid fever among Ijero residents in Ekiti State. Therefore, the researchers investigated the impacts of health education in the prevention of thyphoid fever as perceived by Ijero residents in Ekiti state.

Research Questions

The following questions were raised in this study:

1. Is there any impact of handwashing in the prevention of typhoid fever as perceived by Ijero residents in Ekiti State.?
2. Is there any impact of environmental sanitation in the prevention of typhoid fever as perceived by Ijero residents in Ekiti State.?

Research Hypotheses

The following hypotheses were formulated to guide the study:

$H0_1$. Hand washing has no significant impact on the prevention of typhoid fever as perceived by Ijero residents in Ekiti State.

$H0_2$. Environmental sanitation has no significant impact on the prevention of typhoid fever as perceived by Ijero residents in Ekiti State.

Methodology

The research design adopted for the study was a descriptive research design of the survey type. The population comprises of all Ijero residents Two hundred and twenty-one thousand four hundred and six (221,406) (National Population Council, 2006), Ekiti State. Four hundred and fifty-five (455) respondents were sampled for the study. Multi-stage sampling technique was used for the study through stratified sampling, random sampling technique and purposive sampling technique. The instrument used for the study was a researcher-developed questionnaire titled impacts of Health Education in the prevention of typhoid Fever as perceived by Ijero residents in Ekiti state which was validated by three experts in the related field and tested for reliability. Test re-test method was used to obtain the reliability of the instrument. Pearson Product Moment Correlation was used to obtain a correlation coefficient result of r= 0.75. The instrument was administered by the researcher and two trained research assistants. Inferential Statistics of Chi-square was used to test the three research hypotheses set for the study at 0.05 alpha level, using Statistical Package for Social Science (SPSS) version 20.0.

Result of the Finding

Table 1: Chi-square analysis showing hand washing as an impacts of health education in the prevention of thyphoid fever as perceived by ijero residents in ekiti state.

S/N	Items	SA	A	D	SD	Row Total	Cal	Df	Crit. Value	Remarks
1.	Hand washing is part of the impact of health educators in the prevention of typhoid fever among Ijero residents, Ekiti State.	198 (43.5%)	151 (33.2%)	28 (6.2%)	78 (17.1%)	455				
2.	health educators informed me that typhoid fever is cause by salmonella typhi	121 (26.6%)	70 (15.4%)	81 (17.8%)	183 40.2%)	455				
3.	health educators informed me that typhoid fever spread rapidly in through eating with hand stained by human faeces and dirt.	103 (22.6%)	73 (16.0%)	56 (12.3%)	223 (49.0%)	455	207.03	9	16.92	Rejected
4.	The information provided by the health educators on the prevention of typhoid fever gets to me at the right time	136 (29.9%)	54 (11.9%)	56 (12.3%)	209 (45.9%)	455				
		558	348	221	693	1820				

0.05 alpha level

Ho

Table 1 above, showed that 349 (76.7%), 191 (42%), 176 (38.6) and 190 (41.8%) of the respondents were of the opinion that Health education is part of the impact of health educators in the prevention of typhoid fever among as perceived by Ijero residents, Ekiti State.

The findings from the analysis in table 1 showed the calculated Chi-square (χ^2) value of 207.03 against the table value of 16.92 at 0.05 alpha level with degree of freedom 9. Since the calculated χ^2value of 207.03 is greater than the table value of 16.92, thus, the null hypothesis was rejected, which means hand washing is an impact of health educators in the prevention of typhoid fever among as perceived Ijero residents, Ekiti State.

Table 2: Chi-square Analysis Showing Environmental Sanitation as an impact of health educators in the prevention of typhoid fever as perceived among Ijero residents, Ekiti State.

S/N	Items	SA	A	D	SD	Row Total	Cal ^{2}	Df	Crit. Value	Remarks
5.	Environmental sanitation is an impact of health workers in the prevention and control of typhoid fever among Ijero residents, Ekiti State.	75 (16.5%)	173 (38.0%	169 (37.1%)	38 (8.4%)	455				
6.	health workers provides adequate dustbins and trunks for the collection of domestic waste in your area	75 (16.5%)	173 (38.0%)	169 (37.1%)	38 (8.4%)	455				
7.	Health workers coordinate and monitors the collection the domestic waste as at when due	84 (18.5%)	177 (38.9%)	151 (33.2%)	43 (9.5%)	455	282.33 Ho Rejected	9	16.92	
8.	The domestic waste collected by the health are properly disposed	50 (11.0%)	204 (44.8%)	157 (34.5%)	44 (9.7%)	455				
	Column Total	284	727	646	163	1820				

at 0.05 alpha level

Table 2 above, showed that 248 (54.5%), 248 (54.5%), 261 (57.4%) and 254 (55.8%) of the respondents believed that Environmental sanitation is an impact of the health educator in the prevention of typhoid fever as perceived among Ijero residents, Ekiti State. The findings from the analysis in table 2 showed the calculated Chi-square ($\chi 2$) value of 282.33 against the table value of 16.92 at 0.05 alpha level with a degree of freedom 9. Since the calculated $\chi 2$value of 282.33 is greater than the table value of 16.92, thus, the null hypothesis was rejected, which means Environmental Sanitation as an impact of health educators in the prevention of typhoid fever as perceived among Ijero residents, Ekiti State.

Discussion of findings

The study examined the impact of health educators in the prevention of typhoid fever as perceived among Ijero residents, Ekiti State. Hypothesis one indicated that handwashing as an impact of health educators in the prevention of typhoid fever as perceived among Ijero residents, Ekiti State. This implies hand washing is key to the prevention of typhoid fever as perceived among Ijero residents, Ekiti State. Fasoranti and Adeyeye (2015) reported that Health Educators

enlightened the residents on the need to accept the best practices for the prevention and control typhoid fever, these practices include regular and proper hand wash especially before and after a meal with soap and after the use of the toilet, keeping one's environment clean, These are extended to the larger residents by the health educators through the use of media such as radio, newspapers, journals, and television.

Adagbada, Adesida, Nwaokorie, Niemogha, and Coker (2012) also noted that most important areas of control of typhoid fever are education, not only for new cases but also ongoing cases, continuing education for all community members. Changing human behaviour by education can be a very effective way to reduce of infection of typhoid fever. Many efforts could be done for healthy people, such as supervision on the hygiene of food and drink, for example, boiling the water and cooking the food for a long time until S. typhi is killed, serving the food in hot condition, especially in the public places with the condition that usually is unhealthy, health education for a healthy person in the community, washing hands before a meal, providing the places for washing hands using clean water in public service and restaurants.

Hypothesis two indicated that environmental sanitation as an impact in the prevention of typhoid fever as perceived among Ijero residents, Ekiti State. This implies environmental sanitation is key to the prevention of typhoid fever among Ijero residents, Ekiti State. (Centers for Disease Control and Prevention, 2013) noted that basic environmental conditions needed for healthy living include clean and safe water supply, sanitary disposal of human and industrial waste, and protection of food from salmonella typhi– the organism (bacterial) causing typhoid fever. The Environmental Health Officers achieve this through regular monthly sanitation exercise, provision and distribution of waste bins in the strategic places, collection of waste and sanitary disposal of wastes to prevent and control the diseases. They also educate people on the need to keep their environment clean as a clean environment is a collective effort of all. They promote good drainage culture and sewage disposal which in turn prevent the spread of typhoid fever. Sani and Nurudeen (2012) also reiterate that environmental sanitation envisages promotion of good health, providing clean water, breaking the cycle of salmonella typhi. The people are endangered whenever there is typhoid fever outbreak through environmental pathways such as the air they breathe, the water they drink, the soil used for planting are infected.

Conclusion

The study concludes that:

(i) Hand washing as an impact of health educators in the prevention of typhoid fever as perceived among Ijero residents, Ekiti State.

(ii) Environmental Sanitation as an impact of health educators in the prevention of typhoid fever as perceived among Ijero residents, Ekiti State.

Recommendations

Based on the findings of the study, it was recommended that:

1. Health educators should intensify effort on the continuous skilled based health education programmes such as hand washing on the prevention and control of typhoid fever. The

relevant authorities in the Primary Health Care Services should mandate monthly environmental sanitation exercise, adequate provision of waste bins in the

2. strategic places and ensure that the waste collected is properly disposed at when due.

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INFLUENCE OF TASTE AND MEDIA ON THE CHOICE OF FOOD AMONG UNDERGRADUATE STUDENTS OF KWARA STATE UNIVERSITY, KWARA STATE, NIGERIA

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Abstract
The study investigated the factors that influenced the choice of food among Kwara state university undergraduate students. Two (2) research questions and hypotheses were formulated and answered. A sample of 100 respondents was selected using simple random sampling techniques. A questionnaire was used to collect data, it was validated by two expert and was tested for reliability using test retest method. The reliability of the instrument showed a reliable of 0.67 co-efficient alpha. Chi-square test was used to analyzed the two hypotheses using a co-efficient of 0.05 alpha. Finding revealed that there is significant relationship between taste, media and choice of food among Kwara state university undergraduate students were enchanted by the advertisement on televisions, billboard movies, product packaging, flavour, aroma, appearance, smell and texture, of foods without considering the nutritional contents of food. It was recommended that students should be encourage to learn nutrition at early stage, parents should provide healthy, adequate and nutritious food to their children, government should inspect nutritional contents of all the processed food before being advertised to students to consume.

Keywords: *Taste, Media, Choice of Food, Undergraduate Students*

Introduction

People used to say "man is what he eats" which means people's expectation of the quality of food we consume and the type of food we choose. The need for food is a basic need with a simple goal and a clear seemingly straight forward solution of how to satisfy (Mela, 2000). Food is one of the tools for survival in life because eating is one of the activities of daily living. According to Drummond and Lisa (2007), eating is fun, enjoying and satisfying, especially when eating with other people whose company we like. When and after eating, people feel satisfied both emotional and physical. What concerns most about the choice of food people choose is the nutrients in it. Nutrients are the nourishing substance in food that provide energy and promote the growth and maintenance of body (Drummond & Lisa 2007). Khosroshahi (2010) defined nutrients as chemicals found in food that are essential to human growth and functions. Khosroshahi (2010) stated that there are six classes of nutrients, namely carbohydrates, proteins, fats, vitamins, salt and water. All the six classes have a certain function that targets a different body part and together ensure the state of overall health.

A healthy diet must contain all the classes of food in the right proportion. A healthy diet is the amount and variety of food are adequate to provide the body with all the required nutrient in adequate proportion. No single nutrient is inherently good or bad, but the proportion in which it

is provided in the diet is most important. In another word, no single food is enough except the breast milk for newborn and a variety of food is needed in the diet. The frequency with which they are part of the diet is what makes it healthy or unhealthy. Nutrition is important, the enjoyment of food is essential (Rachael, Ines, Carmen, Jeitjesnel and Petra, 2007). Nutrients such as carbohydrates, proteins and fats are called macronutrients because they are needed in a large amount. Most energy needed for basic functioning and physical activities comes from this class. Examples of carbohydrate include starchy foods such as rice, yam and cassava. Proteins include beans, meat, egg, fish and fats include oils such as vegetables, groundnut and palm. Other nutrients such as vitamins, minerals and water are also needed by the body but not in larger quantity as carbohydrates, proteins and fats. Vitamins assists in building and maintaining healthy bones, muscles and tissues while the regulation of fluids and production of energy, health of the bones and blood is assisted by minerals. Water is also very important because it is extremely important for human survival. 66% of body weight is made of water. It assists in the regulation of nerve impulses, excretion of waste products and muscle contraction. It can be consumed in the solid form from fruits and vegetables and liquid from juices and soups. Body functions are carried out properly when 8-10 glasses of water daily were taken (Khosroshahi, 2010).

Nowadays, people eat what they get without minding the nutrition content of such food. Food choice and selection is an important aspect of nutrition. Food selection is an important consumer behaviour with many long term consequences to the individual in form of health and longevity and to the society in the form of health cost (Sameer, Michael & Debra, 2009). This connotes that food selection and choice that is. selection of balanced diet will promote healthy living of human being. Food choice decisions are different from food consumption decision. The former determines what we eat (soup or salad) while the later determines how much we eat (half of the bowl or all of it) (Brian, 2014). Researches have shown that different factors are influencing the choice of nutrition chosen by people. Brian (2014) stated the factors that guide food choice as taste preference, sensory attributes, cost, availability, convenience, cognitive restraint and cultural familiarity. Fitzgerald, Henry, Kelly and Nixon, (1998) identified eight key factors influencing food consumption as food preference, school influence, food advertisement, lifestyle characteristics, healthy eating perception, family environment, peer influence, choice and control.

In all the factors that are influencing food choice identified in different pieces of literature (Drummond & Lisa, 2007), taste is one of the most common and important factors. Taste is the sum of sensory stimulation that is produced by the ingestion of food and not only taste but also smell, appearance and texture of food.

Drummond and Lisa (2007) identified flavour as an attribute of food that influences its appearance, smell, taste, feel in the mouth, texture, temperature and even the sound when it is chewed. Drummond and Lisa (2007) proceeded that flavour is a combination of all five senses: taste, smell, touch, sight and sound. Taste comes from 10, 000 taste buds cluster of cells that resemble the section of an orange. Taste bud found on the tongue, cheeks, throat and roof of the

mouth house 60-100 receptor cells each. The body regenerates taste buds about every three days. These taste cells bind food molecules dissolved in saliva and alert the brain to interpret them. The tongue has different regions that are specialized in particular taste sensations such as the tip detects the sweet, other regions specialise in the detection of bitter, sour and salty (Drummond & Lisa, 2007).

One of the other factors that researchers found out to be important in influencing the choice of nutrition in the food industry and the media. The food companies decide what food to produce and where to sell them. They use advertising, product labelling and displays, the information provided by their service department and websites to sell their products. Daily, the media (television, newspapers, magazines and radios) also portray food in many ways. The media reports frequent on new studies related to food nutrition and health topics (Drummond & Lisa, 2007). This study is, therefore, to assess the influence of taste and media on the choice of food among Kwara state university undergraduate students.

Research Questions

1. Would taste influence the choice of food among Kwara state university undergraduate students?
2. Would media influence the choice of food among Kwara state university undergraduate students?

Research Hypotheses

1. There is no significant influence of taste on the choice of food among Kwara state university undergraduate students.
2. There is no significant influence of media on choice of food among Kwara state university undergraduate students.

Methodology

Descriptive survey design was used. The population of this study is the total undergraduate students in Kwara state university, Malete, Kwara state was 22,000. A total number of 100 students were selected as a sample. Two students' halls of residence were selected from male halls of residence and two from female halls of residence. Simple random sampling was used to select 75 students from each student's hall of residence making 300 students in total. Questionnaire was used as instrument and it was titled Factors influenced Food Choice Questionnaire (FFCQ). It has two sections (section A and B). Section A illicit the demographic data while section B contained questions to illicit response. Four point adapted Likert rating scale was used rated as SA, A, D, SD. Two (2) experts from Department of Health Promotion and Health Education, University of Ilorin vetted the questionnaire. Test re-test was used to determine the reliability of the instrument. Reliability co-efficient of 0.67 was obtained. chi-square contingency was used to test the hypotheses at 0.5 alpha level of significance.

Results

Hypothesis One: There is no significant influence of taste on choice of food among Kwara state university undergraduate students

Table 1: Taste influence on food choice

	SA	A	D	SD	TOTAL	DF	CAL X^2	TABLE VALUE	REMARK
When buying takeaway food from canteen I always add additional salt to it	35	24	24	17	100				
When taking pap or tea, I normally add large quantity of sugar to make it sweet	22	42	19	17	100	9	65.22	16.92	REJECTED
I always buy processed food juice than raw fruit	24	54	15	7	100				
Before buying beverages, I always check the sugar Content.	22	53	5	20	100				
Total	103	173	63	61	400				

Table 1 above shows that the calculated chi square value is 65.22 which is greater than table value 16.92 at degree of freedom of 9 at 0.05 alpha level of significance. Null hypothesis is thereby rejected. Therefore, there is significant influence of taste on the choice of food among undergraduate students of Kwara state university

Hypothesis Two: There is no significant influence of media on choice of food among Kwara state university undergraduate students

Table 2; Media influence on choice of food

	SA	A	D	SD	TOTAL	DF	CAL X^2	TABLE VALUE	REMARK
I always buy food product that are advertise by the road side.	46	42	2	10	100				
I do buy processed food stuff instead of buying raw food and process it by myself	58	36	2	4	100	06	132.74	12.59	REJECTED
I prefer buying frozen chicken to the one prepare by myself	38	56	5	1	100				
Total	142	134	9	15	30				

Table 2 above shows that the calculated value is 132.74 which is greater than table value 12.59 at degree of freedom of 6 at 0.05 alpha level of significance. The hypothesis is thereby rejected. Therefore, there is significant influence of media on choice of food among undergraduate students of Kwara state university.

Discussion

Null hypothesis 1 which stated that there is no significant influence of taste on choice of food among Kwara state university undergraduate students was rejected. This implies that taste influenced the choice of food among the students. According to Mela (2000) stated that taste is one of the critical determinants of food choice. Lin (2011) stated that taste preference is a factor that guide food choice.

Null hypothesis 2 which stated that there is no significant influence of media on choice of food among Kwara state university undergraduate students was rejected. This implies that media influenced the choice of food among Kwara state university undergraduate students. Lin (2011) indicated that students were influenced by information such as ads, parents, friends and magazine when choosing food to eat. Fitzgerald et al (2008) identified food advertisement among factors that influence food consumption.

Conclusion

From the data gathered, it can be concluded that taste and media influenced the choice of food among undergraduate students of Kwara state university. Students were enchanted by the advertisement on billboards, televisions, movies, product packaging and flavor, aroma, appearance, smell and texture of food without considering the nutritional contents of what they were consuming.

Recommendations

1. Students should be encouraged to select food base on nutrition. School management should make home economics a general elective course content for the students to have nutritional knowledge.
2. Parents should be careful in kind of food they give to their children when going school. They should be provided with healthy, adequate and nutritious food.
3. Since media is one of the factors that influence food choice, Government agencies such as NAFDAC and SON should inspect all the processed food, their nutritional contents before being advertised for people's consumption.

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UTILIZATION OF TEACHING METHODS USED IN TEACHING OF PHYSICAL EDUCATION SUBJECT IN SECONDARY SCHOOLS IN NIGERIA

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Abstract
The purpose of this study was to assess the utilization of Teaching methods use in Teaching of Physical Education subject in Nigeria. To achieve this purpose, purposive sampling technique was used to select the samples from the Six {6} Geo- political zones of the country. The respondents consisted of Public and Private Secondary schools. The population for the study was all secondary schools of Fifty Four thousand Five hundred and twenty- one (54,521) with sample size of Six hundred and Fifty six (656). The head of Physical Education subject administered a structured questionnaire. The data collected were statistically analyzed by using descriptive statistics of mean (x) and standard deviation (sd) to analyze bio- data variable and to answer research question: while inferential statistics of One Sample t- test was used to test the hypothesis. The finding from the study showed that all the teaching methods are used by Physical Education teachers to teach Physical Education subject in secondary schools in Nigeria with T-Cal of 3.010 and P- Val of 0.009. The result showed that all the teaching methods are used in teaching Physical Education subject in secondary schools in Nigeria. The researcher recommended that teachers are expected to be constantly varying their teaching methods most especially demonstration/ Practical methods in line with learners' ages and experiences as to understand what learned in and out of the classroom.

Keywords: Physical Education, Teaching methods, Geo- Political zones.

Introduction

Teaching method is a formidable tool in facilitating learning of diverse skills as being a sustainable national development in education sector to achieve desired goal (Oliva,2004). This implies that teachers have tremendous potentials to transmit values, knowledge and beliefs to students in a school setting through teaching method used. The quality of physical education is hinged in many variables of which include having qualified teachers to teach the subject, ability of such teachers to meaningfully interpret the stated objectives, provision of infrastructure, teachers having the right communicative skills and able to deliver the lesson within the time stipulated (National Teachers Institute, 2012). Ibrahim (2019) observed that as education plays a fundamental role in National development, so the teachers play in the success of any education system if only the right approach and tool is used. Teachers are resources for objectives at practical level in the classroom, where several methods of teaching are utilized to actualize the educational goals. Failure to use of any of the varying methods of teaching may seems to be an issue to have physical education curriculum not actualized.

Longstreet and Shane (2010) noted the curriculum is based on its standard format that covers performance objectives, students and teachers' activities, learning materials and suggested

evaluation procedures. Since teaching and learning does not take place in a vacuum, teaching methods gives meaning to a plan subject curriculum as also to extracurricular activities. This explains that both teacher and students exchange ideas in the classroom and on the field as they involve in applying the knowledge acquired. Teaching method are categorized into four (4) broad types of which are:

i. Teacher centered methods
ii. Learner-centered methods
iii. Content-focused methods
iv. Interactive/participative methods

In the first type, the teacher is made to be a master of subject matter where he is looked upon by the learners as an expert while learners are passive only to receive knowledge from the teacher; the example of such is lecture method. The second type is where both the teacher and learners serve as instructor. The knowledge comes from both sides as two way traffic. In the word of (Saylor, 2004), that teacher plays a dual role as teacher and as a learner, where teacher becomes a resource rather than authority. Example of such is Discussion method.

The content-focused method is the third type, here both teacher and learners fits into the content taught are regarded as very important. Example of such is the program learning approach. The last type is the interactive/participative method which explains that this method is borrowed from the previous three other methods without necessary laying emphasis unduly on the learner, the content or the teacher. The method requires a participatory understanding of varied domains and factor, (Ibrahim, 2019). Specifically, other teaching methods that can be used in the cause of class room instruction is governed by certain criteria includes:- Buzz, Brainstorm, Role play, Study Assignment, Tutorial and seminar methods. However various teaching methods applied by teacher give opportunity to get more understanding on the subject. Teaching methods used by teachers in secondary schools in Nigeria has become so diversified that depend largely on how competent and interested teachers are as before now, many qualified teachers were assigned to teach physical education and of course not all were capable of teaching due to lack of interest in the subject. The difficulties in teaching contents of each subject were adequate and appropriate teaching method is not used hinders student's knowledge acquisition. (Williams 2017) made it clear that where attitudes of teacher is not varying their method of teaching gives no encouragement to the students picking interest in learning further physical education as a subject, and in achieving the implementation of the curriculum. Oyeyemi (2015) affirmed that there are three key factors that aid school system, namely teachers attitude in the use of appropriate teaching method, teaching aids and the curriculum. Furthermore, Oyeyemi (2015) stated that good structured curriculum in place with no appropriate teaching method in use, implementation and acquisition of knowledge by learners becomes difficult. Thus, the study *assess the utilization of Teaching methods use in teaching of Physical Education subject in Nigeria.*

Research Question

What are the Teaching methods use in teaching of Physical Education subject in secondary schools in Nigeria?

Research Hypothesis

Teaching methods are not significantly use in teaching of Physical Education subject in secondary schools in Nigeria.

Method

Descriptive survey design was adopted for this study. The population of the study was fifty four thousand five hundred and twenty one (54,521) (Nigeria Digest Education Statistics, FME 2014-2016) report. The sample size for this study was Six hundred and fifty six (656). Multistage sampling technique was employed.

i. Stratified sampling technique was used to put all the states into their existing zones.

ii. Simple random sampling was used to select two states from each Geo-political zone to have equal representation and without bias. This process was done by requesting a research assistance to write the names of the states in each Geo-political zones which was put in their respective boxes and another research assistance was asked to pick two states from each of the boxes. Cluster sampling technique was used to group the schools into their ownership of public and private.

iii. Proportionate sampling technique was used to pick at 3.7% of schools in their strata from the schools selected in the states.

iv. Purposive sampling techniques were used to distribute the instrument to selected schools only in the state capital and head of physical Education subject responded to items in the instrument for each school.

Table 1; Procedure showing sample size selection at 3.7%.

SN	Geo-Political Zone	Selected States in the 6 Geo-Political Zones.	Number of Public & Private Schools	Public Schools Selected.	% Selected in Public Schools.	Private Schools Selected	% Selected in Private Schools.
1	NORTHWEST	Jigawa	743	583	22	160	6
		Kaduna	1651	740	27	911	34
2	NORTHEAST	Adamawa	921	722	27	199	7
		Bauchi	1704	783	29	921	34
3	NORTHCENTRAL	Benue	2043	1038	38	1005	37
		Nassarawa	1161	664	25	497	18
4	SOUTHWEST	Lagos	5130	579	21	446	165
		Ekiti	702	374	14	328	12
5	SOUTHEAST	Abia	1071	397	15	675	25
		Anambra	1568	514	19	1054	39
6	SOUTHSOUTH	Bayelsa	460	316	12	144	5
		Akwa Ibom	659	477	18	182	7
	TOTAL		**17702**	**6865**	**267**	**10837**	**389**
	Total Sample				**267+389 = 656**		

Federal Ministry of Education, 2016

Utilization of teaching methods in teaching Physical Education subject in Nigeria. (UTMUTPESN), was the instrument developed by the researcher to collect data for the study. It has with thirty six (36) items of closed ended, five (5) point likert scale of SA,A,U,D and SD. The instrument was validated by five lecturers in the department of Human Kinetics and Health Education that was used for the research work. The instrument was administered by the researcher and research assistants who were briefed on how to administer it and it was collected back. A total of six hundred and fifty six (656) copies were given out in all the selected schools.

Inferential statistics of one sample test to analyze the postulated hypothesis set for the study at 0.05 alpha level of significance to either reject or uphold hypothesis.

Table2: Mean Score of response on the utilization of teaching methods use in teaching Physical Education subject in secondary schools in Nigeria.

S/N	Items	Mean	SD.
1	Most Physical Education Teachers adopt Lecture method in teaching Physical Education in secondary schools.	3.6895	0.5412
2	Demonstration method is use by Physical Education teachers in teaching Physical Education subject in secondary schools.	4.1273	0.6187
3	Interactive method is use by teachers in teaching Physical Education subject in your schools.	3.8184	0.5567
4	Practical demonstration method of teaching is use in the teaching of Physical Education subject.	4.1324	0.614
6	Group method is the best teaching method by Physical Education teachers in your school.	3.3818	0.5155
6	The Instructional teaching method is use by Physical Education teachers in your schools.	4.2153	0.5413
	Aggregate mean	**3.8941**	

Constant mean= 3.5

Table2: showed the teaching methods utilized in the teaching of Physical Education subject in secondary schools in Nigeria. The aggregate mean of response 3.894 was found to be higher than the decision mean of 3.5. To answer the research question above, since the aggregate mean is higher than the constant mean, it can be concluded that all the teaching methods were utilized in the teaching of physical Education subject in secondary schools in Nigeria. However, the method most frequently use in the teaching of Physical Education are as follows: Lecture method (3.6895), Demonstration method (4.1273), Interactive method (3.8184), Practical demonstration method (4.1324), Group method (3.3818) Instructional teaching method (4.215).

Table3: One sample t-test analysis utilization of teaching methods use in Physical Education subject in Secondary Schools in Nigeria.

Variables	Mean	Std. Deviation	t-value	df	P-value
Aggregate mean	4.2000	.60222	3.010	650	0.009
Constant mean	3.5	0.00			

t (650) = 1.972, P value < 0.05

Table 3 result explained that the P-value of 0.99 is less than that of 0.55 level of significance. That t-value of 3.010 is greater than t-critical of 1.972 at degree of freedom 650 using one tailed significant level. Therefore, the null hypothesis which states "Teaching methods are not significantly use in teaching of Physical Education subject in secondary schools in Nigeria is hereby rejected.

Discussion

The finding of this study revealed that utilization of teaching methods use are significant in teaching Physical Education subject in secondary schools in Nigeria. This finding collaborates with Smith (2014) that the extent to which teacher use learner entered teaching learning approaches where learners are involved in learning enhances effective learning. It is further stated that teacher centered, lecture question and answer, wrote learning as well as teacher learner interaction dominate among other methods teacher use in teaching their subject.(Doyle and Robson 2013) was of the view that varying teaching methods aids in addressing more than one sense, and the more sense addressed the better the learning outcome. Ibrahim (2019), noted that interactions among and between the teacher and learners arouse learners interest in addition to motivation it brings as it required participatory understanding of varied domains. Teaching resources equally support students learning and have been found significantly to increase students achievement (Bitner & Bitner, 2012). All these cater for learners individual differences and address different learning styles. It is also noted that learners learn best concept when they are taught by varying different methods of teaching and by using concrete resources because resources help to make abstract content concrete (Schwille, Robert and Scriven, 2014). Resources promote perception and enhance understanding. They help to reinforce the spoken words, aid memory, retention through involvement of many senses: repetition through a different medium, motivate and arouse learners interest through interactions (Maduna, 2014).

Conclusion

The study established that all the teaching methods are use in teaching of Physical Education subject in secondary schools in Nigeria.

Recommendations

Based on the finding of the study, it is recommended that teachers are expected to be constantly varying their teaching methods most especially demonstration/ Practical methods in line with

learners' ages and their experiences as to enable them easily understand what learned in and out of the classroom.

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APPRAISAL OF THE INFLUENCE OF FEDERATION OF INTERNATIONAL FOOTBALL ASSOCIATION (FIFA) ORGANIZED COMPETITIONS ON THE ATTAINMENT OF UPE AND THE ATTAINMENT OF THE MILLENNIUM DEVELOPMENT GOALS IN NIGERIA

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Abstract
Appraisal of influence of FIFA Organized Competitions on the attainment of Millennium Development Goals in Nigeria, FIFA organized programs for development and peace efforts catalyze global partnership and increase networking among governments, donors, NGOs and sport organizations worldwide. Ex-post facto research design was used for this study. To achieve this purpose, a total of 285 respondents were used for the study. A stratified random sampling technique was used. In this technique; the six (6) geo-political zones in Nigeria were used. Experts in the field of Physical and Health Education vetted the questionnaire in order to determine its face and content validity. The final draft of the questionnaire was administered on the respondents. The data collected were statistically analyzed using Descriptive statistics of frequency, means and standard deviation to determine the average responses of the respondents, The Chi-square statistical technique was used to test the influence of the FIFA organized competitions. The findings indicates that FIFA organized competitions has no significant influence on the eradication of poverty and hunger in Nigeria, FIFA organized competitions has no significant influence on achieving the objective of universal primary education of the Millennium Development Goals. It was therefore concluded that There is no significant influence of FIFA Organized Competitions on the achievement of universal primary education in Nigeria. It was recommended that there is a need to develop more infrastructural facilities for FIFA organized competitions in the Nigeria as this would pave ways for hosting the games.

Introduction

FIFA (Federation International de Football) has been the governing body of world Football since 1904. It has grown from a small European-based organization into a body with a membership of almost 200 nations. The growth and the place of FIFA within the world order of trans-national organizations and worldwide cultural politics have been brought under scrutiny by scholars (Ogi, 2002). Drawing from previous facts and observations of the politics of FIFA and its related football confederations, and the unique structure and personalities that run the world's most popular game, the aims and importance of organized competitions as expressed by most national Federations and multinational organizations are a matter of concern. Fredline and Faulkner (2002). For instance, state that in many respects, until the Second World War, there was considerable ambiguity over precisely who rules the World of Football. When FIFA came into being in 1904, its seven (7) founding members were France, Sweden, Belgium, Denmark, Switzerland, Spain and the Netherlands. Therefore, having known the interdependence of

various institutions and organizations and a brief development in football and the similarities in the goal and political agenda of these institutions, It is not very clear whether FIFA organized competitions had any influence in the attainment of Millennium Development Goals. This study appraises the influence of FIFA Organized competitions in the Attainment of the millennium Development Goals and if United Nations achieved its Millennium Development Goals in Africa and in Nigeria in particular through FIFA organized competitions as a strategic means. Promotion of Gender Equality and Empower Women Increasing access for women and girls to physical education and sport helps them build confidence, self-esteem and leadership skills, and a stronger social integration. Involving girls in sport activities alongside with boys can help overcome prejudice that often contribute to social vulnerability of women and girls in a given society.

Statement of the Problem

Countries and cities spend so much money to participate, host and organize FIFA competitions (Antonakis, 2006).The pride, glory and the opportunity to showcase to the world the host countries culture and cities, there are the perceptions and belief that such events create an economic windfall (Matheson & Baade, 2004), This may be the case for developed nations, the prize for hosting FIFA organized competitions in developing nations is far from being sustainable (Rojek & Running 2010; Anotonakis, 2006; Levermore & Baacom, 2008). They further opine that host countries have to shoulder the constructions of modern stadia, hotels, built roads networks and other forms of infrastructure necessary to host global competition. These facilities are not maintained after the sports competitions (Venkateswarlu, 2008). According to Matheson and Baade (2004), the constructions of these state of the art stadia are not sustainable, as ticket revenues alone are not able to make up for the cost of yearly maintenance during or after competition. Some of the problems encountered during the implementation of the program include lack of political will from the government, mismanagement of funds, low women participation in the program, lack of transferable skills from the coaches, participants and volunteers and inability to bring about the much desired peace as entrenched in the development goals.(Venkateswarlu, 2008, Matheson and Baade, 2004).

It is not very clear whether such benefit exists in Africa and Nigeria in particular. Although much has been reported about the challenges faced by developing countries in organizing football competition, the case of South Africa and the world cup in 2010 was faced with so many bribery and corruption allegations coming up after the 2010 world cup (Levermore and Beacom, Ogi, 2002; Venkateswarlu; 2008). Preuss (2009) listed a number of objectives South Africa had in mind; putting the country on the map, showcasing the region, promoting the political system, creating new trading partners, attracting investment, urban renewal including housing and infrastructure and building a legacy of sport infrastructure. Building a legacy was successful since South Africa won the hosting right of Africa Cup of Nations in 2013.

In view of the fact that FIFA aligned with the achievement of the eight Millennium Development Goals by the year 2015, the researcher was motivated to assess football game as a tool for peace building and sustainable development in Nigerian politics**.**

Objective

FIFA organized programs for development and peace efforts catalyze global partnership and increase networking among governments, donors, NGOs and sport organizations worldwide.

Hypothesis testing: There is no significant influence of FIFA Organized Competitions on the achievement of universal primary education in Nigeria.

Methodology:

Ex-post facto research design was used. Kerlinger, (1995), stated that this method is the best tool to use in descriptive research involving current events or conditions. The population for this study consisted of all staff members of Nigeria Football Federation (NFF), State Football Association (FA) Secretaries in the 36 States of the Federation and F.C.T, Abuja. It also included all staff members working in the MDGs offices in the 36 states of the federation and F.C.T Abuja, totaling two thousand and eighteen (2018) staff members, (NFF, 2017, State F.As, 2017; MDGs, 2015). On the basis of the study, a total of 285 respondents were used for the study as shown below:

Table 1: Sample Respondents for the Study

	Organization	Respondents
1	States F.A s	16 officials X 10 states = 160 respondents
2	Nigeria Football Federation (NFF)	25 officials = 25 respondents
3	Millennium Development Goals office	10 officials X 10 States = 100 respondents
		Total = 285

* NFF = 25 officials, MDGs = 100 Officials and State FAs = 160 officials = 285 Respondents

In order to ensure equal chances for the respondents to be represented in the study, a stratified random sampling technique was used. In this technique, the six (6) geo-political zones in Nigeria were used. They are: North Central (NC) North East (NE) North West (NW) South East (SE) South West (SW) South South (SS).The dip, pick, recorded and returned method was used. The state F.A's were written on pieces of papers differently and drop in a box/bag and the research assistants picked one at a time and the researcher will record and will have the pieces of paper refolded and returned into the box/bag on each occasion a state F.A was picked until the two state F.A.s required for each zone are achieved. This is to keep the same number for all the selection process, (Thomas & Nelson, 2007).Purposive sampling techniques was applied for Nigeria Football Federation (NFF) as such; twenty five (25) officials was purposively selected according to their status. At the State levels sixteen Football Association (FA) officials was purposively sampled from each State. From the Millennium Development Goals offices ten (10) officials were randomly sampled from each state. The table below is the summary of the sampled respondents.

Table 2: Revealed Sample states from the six (6) geo political Zone for the study.

North Central	North East	North West	South East	South West	South South
Plateau	Taraba	Kano	Imo	Ogun	Rivers
Nasarawa	Bauchi	Kaduna	Abia	Ondo	Cross Rivers

Note: *1 geo-political zone would be used for pilot study (North Central).
*10 States would be used for the main study.

The instrument for this study was the Questionnaire which was self-developed by the researcher into the following sections: A: Bio data, B: Key for respondents feelings, C: FIFA organized Competitions and the Eradication of Poverty and Hunger and attainment of MDG in Nigeria, D: FIFA Organized Competitions on the Attainment of Universal Primary Education and attainment of MDG in Nigeria, E: FIFA Organized Competitions and Gender Equality and Empowerment of Women in Nigeria and attainment of MDG in Nigeria, F: FIFA Organized Competitions assist in Combating HIV/AIDS in Nigeria and attainment of MDG in Nigeria, G: FIFA Organized Competitions and reduction of child mortality and attainment of MDG in Nigeria, H: FIFA Organized Competitions and improvement of maternal health and attainment of MDG in Nigeria, I: FIFA Organized Competitions and ensuring environmental sustainability and attainment of MDG in Nigeria and J: FIFA Organized Competitions and Global Partnership for Development and attainment of MDG in Nigeria. The 5 point likert scale of measurement was used. This scaled have strongly agreed points, agreed = 4 points, undecided = 3 points, strongly disagreed = 2 points, not agreed =1point. Kerlinger, (1973); expressed that likert scale of measurement allows the respondents to place themselves along a feeling continuum for each statement in the instrument inventory. In order to determine the face validity and internal consistency of the Questionnaire, it was given to the supervisory team to make their input, while the corrected copies were given to five different professional experts selected by the supervisory team in sports management, within and outside the Department of Physical and Health Education, A.B.U Zaria to serve as jurors by vetting the contents with the sole aim of determining the instrument's suitability and adequacy. On the basis of their inputs a final clean copy of the Questionnaire was prepared for the conduct of pilot study. For the reliability of the instrument to be ascertained, test and retest methods was used. two states from the North Central (NC) geopolitical zone were used for the pilot study. The states for the pilot study were selected by the method used in the selection of the states for the study. Through this method, Plateau and Nasarawa states were selected. To determine the reliability of' the instrument therefore, it was administered to 26 respondents each selected from Plateau and Nasarawa state FAs and MDGs. The data collected were coded and subjected to statistical analysis using the Statistical Package for the Social Sciences (SPSS IBM version 20). The Cronbach Alpha, option was selected in line with (Tavakol & Dennick, 2011) recommendation for interval scaling for establishing the reliability of the instrument and internal consistency of the items within it. The observed reliability obtained for the instrument for the cronbach Alpha was *0.895,* the internal consistency

index was established at 0.895 for the average measure intra-class Correlation. The obtained reliability coefficients all indicated that the instrument could be considered reliable and internally consistent for the study.

This observation is consistent with Field, (2013) recommendations which states that the reliability coefficient of between 0.5 and 1 is expected to be obtained for an instrument which would imply that it is reliable and internally consistent for a study and studies of similar nature. The researcher with the help of six (6) research assistants administered the Questionnaire within two weeks. The purpose of this study was to appraise the influence of Federation of International Football Association (FIFA) organized competitions on the attainment of Millennium Development Goals in Nigeria; the statistical package for social science (SPSS) was used to analyze the data. Descriptive statistics of frequency contents and percentages were used for the analysis of the demographic characteristics of the respondents, Means and standard deviation {SD} were used to determine the average responses of the respondents and answer the research questions raised in this study, The Chi-square statistics was used to test the significance of the influence of the FIFA organized competitions on the variables, One Way Analysis of Variance (ANOVA) was used for differences among the NFF Staff, State FA's Staff and MDG's Staff in their perceptions of the influence of FIFA organized competition on the attainment of MDG's, One sample t-test was used to appraise the influence of FIFA organized competitions on the attainment of MDG's in Nigeria, and All statistical techniques were tested at 0.05 level of significance.

Results:

Descriptive Analysis of the Socio-demographic Characteristics

The demographic variables of the respondents selected for analysis along the expressed opinions on the influence of Federation of International Football Association (FIFA) organized competitions on the attainment of the Millennium Development Goals (MDGs) in Nigeria included gender, age, marital status, highest educational qualification, designation and years of experience on the job. Each of the variables was analysed in frequency contents and percentages in Table **3.**

Table 3: Demographic Characteristics of Respondents:

Variables	Variable options	Frequency	Percent
Gender	Male	170	61.6
	Female	106	38.4
		276	
Age grouping	18yrs – 25yrs	63	22.8
	26yrs – 35yrs	71	25.7
	36yrs – 45yrs	67	24.3
	46yrs and Above	75	27.2
		276	
Marital Status	Married	141	51.1
	Single	127	46.0
	Divorced	8	2.9
Highest Educational qualification	First School Leaving Certificate	10	3.6
	WASSC/NECO/NABTEB	30	10.9
	NCE/ND	40	14.5
	HND/BA/BSC	104	37.7
	PGDE	51	18.5
	Masters	29	10.5
	PhD	12	4.3
Designation	Board Member	42	15.2
	Management team	62	22.5
	Coach	60	21.7
	Sports coordinator	49	17.8
	Others	63	22.8
Years of experience	1yr- 5yrs	96	34.8
	6yrs - 10yrs	81	29.3
	11yrs – 15yrs	40	14.5
	above 15years	59	21.4

Male respondents as shown in the table 3 above were 170(61.6%) while the females were 106(38.4%). The inclusion of this variable helps to balance the gender aspect of the investigated variables on the influence of Federation of International Football Association (FIFA) organized competitions on the attainment of the Millennium Development Goals in Nigeria.

Also the table revealed that 63(22.8%) of the respondents were between 18 and 25years. Respondents who were between 26 and 35years were 71(25.7%) while 67(24.3%) of the respondents were between 36 and 35years. Only 75(27.2%) of the respondents were above

35years. The age distribution shows that all the respondents were adults and would be expected to know the influence of Federation of International Football Association (FIFA) organized competitions on the attainment of the Millennium Development Goals in Nigeria.

Respondents who were married from the total number involved in the study were 141(51.1%) while 127(46.0%) were single and 8(2.9%) were divorced/separated or widowed. The marital status of the respondents could have some influence on their perception of the FIFA organized competitions on the attainment of the Millennium Development Goals in Nigeria.

Respondents whose highest qualifications was the First School Leaving Certificate (FSLC) were 10(3.6%) of the total respondents. Those with Secondary school certificates (WASSCE/NECO) were 30(10.9) while 40(14.5%) have NCE/OND/ND. Those with Higher National Diploma or First degree were 104(37.7%). While those with the Post graduate Diploma in Education were 51(18.5%). Only 29(10.5%) of the respondents have Master degrees and 12(4.3%) have Doctorate degrees. With these qualifications, the respondents would be expected to provide valid information required for the study.

By designation, 42(15.2%) of the respondents were board members of their respective associations wile 62(22.5%) were part of their respective associations' management team, 60(21.7%) were coaches, 49(17.8%) were sports coordinators and 63(22.8%) were members of the other different units of their associations. These would imply that the respondents could be said to represent a broad spectrum of the different sports organization in the country. Their opinion would be expected to be a good appraisal of the influence of Federation of International Football Association (FIFA) organized competitions on the attainment of the Millennium Development Goals in Nigeria

The table shows that 96(34.8%) of the total respondents have between 1 and 5years of experience on the job while 81(29.3%) have between 6 and 10years of experience. Those with 11 to 15years of experience were 40(14.5%) and 59(21.4%) have above 15years of work experience in their respective jobs. The distribution shows that all the respondents could be said to have adequate years of working experience to adequately appraise the influence of Federation of International Football Association (FIFA) organized competitions on the attainment of the Millennium Development Goals in Nigeria.

Research Question: Does FIFA organized competitions have any significance influence on the achievement of Universal Primary Education Nigeria?

Table 4 Mean scores of responses on the influence of FIFA organized competitions on the attainment of UPE in Nigeria.

S/n	Universal Primary Education and attainment of MDGs	Mean	S. D.
1	Federation of International Football Association (FIFA) organized competitions could encourage Nigerian children to go to school.	2.97	1.555
2	Federation of International Football Association (FIFA) award educational scholarships to sport men and women in Nigeria.	2.86	1.547
3	Sports institutions established by Federation of International Football Association (FIFA) in Nigeria encourage education to at all levels.	2.83	1.566
4	Most renowned sports men and women in Nigeria are discovered from Federation of International Football Association (FIFA) established Sports institutions.	2.91	1.573
5	Federation of International Football Association (FIFA) organized competitions in Nigeria has helped to improve the achievement of universal primary education.	2.86	1.478
6	Federation of International Football Association (FIFA) organized competitions, many children have become literates.	2.86	1.498
7	Federation of International Football Association (FIFA) organized competitions have contributed to the increase in the enrollment of young people in universal primary education.	2.95	1.475
8	Federation of International Football Association (FIFA) organized competitions; many young people have enrolled in universal primary education.	2.90	1.423
9	Federation of International Football Association (FIFA) organized competitions, sports, culture and education has been improved.	2.84	1.654
10	Federation of International Football Association (FIFA) organized competitions e-learning has being enhanced	2.88	1.477
Aggregate mean		2.89	0.956

(Decision mean =3.0)

From the aggregate mean score of 2.89 and a standard deviation of 0.956 for the table, the respondents did not agree that FIFA organized competitions have any positive influence on the achievement Universal Primary Education objective of the Millennium Development Goals in Nigeria. The respondents were of the view that FIFA organized competitions have no influence in encourage in Nigerian children to go to school through their activities nor do they establishes Sports institutions which ought to encourage increased enrolment into educational institutions and ward educational scholarships to sport men and women in the country.

The respondents did not perceived that FIFA organized competitions activities have any educational bearing that could be said to encourage development of education in the country or that such activities influence in any way the development of education in the country which would in turn influences the attainment of the Universal Primary Education objective of the Millennium Development Goals in the country.

From the observation of the expressed opinions, it could be concluded that the respondents disagreed that FIFA organized competitions have significance influence on the achievement of Universal Primary Education and attainment of the MDGs in Nigeria.

Table 5: One sample t-test on influence of FIFA organized competitions on achievement of universal primary education in MDGs in Nigeria.

Variables	N	Mean	S. D.	S. E	t-value	DF	P-value
Education	276	2.89	0.956	0.058	1.972	275	0.055
Test mean	276	3.00	0.000	0.000			

(t-critical = 1.96, P > 0.05)

The result of the test revealed that the respondents did not agree that FIFA organized competition has significant influence on the achievement of universal primary education in the Millennium Development Goals. This is indicated in the table with an observed t-value of 1.972 obtained at 275 degree of freedom. The critical value for t at the same DF is 1.96.The observed significant level obtained in the test is 0.055 (P > 0.05). With this observation, the null hypothesis that there is no significant influence of FIFA organized competition on achievement of universal primary education in the MDGs in Nigeria is therefore retained.

Discussion

The result showed that the influence was not considered to be significant by the respondents. The null hypothesis was therefore retained. The finding is that organized competitions did not provide any enhancement in mobilization for school enrolment and in some cases provide direct aids to prospective pupils. The finding is a reflection of the National Policy on Education (1998), which stipulates that government welcomes the participation of voluntary agencies in the funding of education.

Conclusion:

From the findings of this study the following conclusion was drawn;

There is no significant influence of FIFA Organized Competitions on the achievement of universal primary education in Nigeria.

Recommendation

Based on the findings from this study, the following recommendation was made:-

In the face of the present prevailing crisis, the Federal Government could exploit FIFA organized competition for promoting peace and educational advancement through achievement of universal primary education in Nigeria.

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INFLUENCE OF FACILITIES AND EQUIPMENT ON THE PARTICIPATION OF STAFF AND STUDENTS IN RECREATIONAL SPORT PROGRAMMES OF TERTIARY INSTITUTIONS IN PLATEAU STATE, NIGERIA

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Abstract

The purpose of this study was to assess the influence of facilities and equipment on the participation of staff and students in Recreational Sport Programmes of tertiary institutions in Plateau State, Nigeria. To achieve this purpose, Ex-post facto research design was used. The population of this study comprised of the students and staff in all the eighteen (18) tertiary institutions in Plateau State totalling 91,185. Four hundred (400) respondents were issued the questionnaire to collect data for the study of which 392 (96.4%) of the questionnaire sent were duly completed and retrieved for the purpose of data analysis. The key indices used for the study was facilities and equipment. Chi-square (^{2}) statistics was used to test the null hypothesis at 0.05 level of significance. The results of the study revealed that facilities and equipment ($x^2=63.70$) was >0.05 leading to the rejection of the null hypotheses stated. The researcher concluded that Facilities and equipment significantly influenced participation in Recreational Sports Programs by staff and students of tertiary institutions in Plateau State, Nigeria. The researcher recommended that there is need for the management of tertiary institutions in Plateau State, Nigeria to provide more recreational sport facilities and equipment through regular purchase and supply -as material resource influence participation in Recreational Sport Programs among staff and students in tertiary institutions in Plateau State, Nigeria.

Keywords: *Facilities, Equipment, Influence, Recreational, Sports Programs.*

Introduction

The word recreation is an activity essentially self-chosen for intrinsic purpose rather than extrinsic gains and, to participate for self-satisfaction during one's leisure (Mull, Forrester and Barnes, 2013). According to Ladani (2008) stated that sport is a game with a set of rules which puts the individual to a test, competitive in nature, and in a contesting situation. Rob (2010) asserted that sport is an institutionalised competitive activity that involves vigorous exertion of relatively complex physical skills by individual whose participation is motivated by a combination of intrinsic and extrinsic factors.

Hall (2006) sees Recreational Sport Programmes as competitive physical games such as Basketball, Football, volleyball, Table Tennis, Squash, Dart and many others that are played for

fun. Recreational Sport Programmes are observed to be essential components of higher education, supplementing the educational process through enhancement of staff and students physical, mental, social and emotional development (Kabido, 2016).

Participation in Recreational Sport Programmes vary from continent to continent, nation to nation, region to region and state to state depending on the topography, government policy, the zeal of the people and availability of infrastructures for recreational sport. Individuals who participate in recreational sports no doubt tend to develop positive self-image, self-control, increase tolerance, broad social interaction, skills and maturity that are all glean from recreational sport experience (Ladani, 2008).

The goals of Recreational Sport Programmes as enumerated by the National Intramural Recreational Sports Association(2015) include, to provide participation in a variety of activities that satisfy the diverse needs of students, faculty and staff members and where appropriate, guests, alumni and public participants, to provide value to participants by helping individuals develop and maintain a positive self-image, stronger social interactive skills ,enhanced physical fitness and good mental health among others. Mull, Forrester and Barnes (2013) stated that through participation in recreational sport, students are encouraged to develop critical thinking skills, create new problem solving strategies, honest decision making skills, enhance creativity, and more effectively synthesize and integrate this information into all aspects of their lives. In this way, students both perform more effectively in an academic environment and flourish throughout all phases of the curricular experience.

In another instance, Ruston (2012) stated that in order for Recreational Sport Programmes to function properly and to experience mass participation by staff and students of tertiary institutions, material resources, which are facilities and equipment, Supplies and Funds should be available. Kampt (2010) further maintained that facilities are fixed materials or infrastructures that cannot be moved from one place to the other. Sports facilities mean any ground or premises designed for sporting activities that include golf courses, swimming pools, squash courts, tennis courts, football pitches, volleyball courts, the stadium building, handball courts and basketball courts among others.

These facilities are supposed to be sufficient and of high standard for training and competition purposes of the students, staff and community of these tertiary institutions.

Equipment are movable and perishable materials resources that are used for playing of sports such as , hockey sticks, golf clubs, cricket clubs, rackets, nets for volleyball, football, handball, movable goal posts and many others. Equipment can be protective like mouth guards, shin pads, helmet, knee cap, elbow pads and anklets (Halladurai, 2006). Again, material resources include supplies such as jerseys, shorts, canvases, wrist bands, head bands, elbow guard, crepe bandages and many others.

Hypothesis

1. Facilities would not significantly influence participation in Recreational Sports Programmes of tertiary institutions in Plateau State, Nigeria.
2. Equipment would not significantly influence participation in Recreational Sports Programmes of tertiary institutions in Plateau State, Nigeria.

Methodology

An ex-post facto research design was used for this study. The population of this study comprised of staff and students in all the eighteen (18) tertiary institutions in Plateau State, Nigeria totalling 91,185 (2017/2018 Session). For the purpose of sampling, these tertiary institutions were stratified into four strata of Universities, Colleges of Education, Polytechnic and Monotechnics. From each stratum, the researcher used simple random sampling to pick one University, one College of Education, the only polytechnic was picked automatically and one Monotechnic for the research study. The names of all the institutions in each stratum were listed on pieces of papers wrapped and placed in a container and were shaken. The researcher then randomly picked one university, one college of Education, Polytechnic entered automatically and one Monotechnic without replacement. A total number of 400 respondents were formed. The sample of the study was guided by research Advisors, (2006) which opined that for a population of 91,185, that 383 is an adequate sample. Based on the confidence level of 99% with a marginal error of 5.0%. Attrition of 17 questionnaires was added to make the sample size to be 400. 392(96.4%) out of the 400 questionnaire administered were duly completed, retrieved and used for the analysis A researcher developed questionnaire (Likert Type Scale) on Influence of facilities and equipment on the Participation of Staff and Students in recreational Sport Programmes of Tertiary Institutions in Nigeria was used as an instrument for data collection for this study. Chi-square (χ^2) statistics was used to test the null hypotheses generated at 0.05 level of significance.

Results

Hypothesis one: Facilities and equipment would not significantly influence the participation of staff and students in recreational sports programmes in tertiary institution in Plateau State.

Table 1: Chi-square (χ^2) analysis on the influence of Facilities and equipment on participation in Recreational Sports Programmes

	Number	χ^2 cal.	χ^2 crit.	χ	Df	P-value	Decision
Influence of Facilities and equipment on the participation in Recreational Sport Programmes	392	63.70	31.41	0.05	20	0.005	Rejected Null Hypothesis

P =0.005 (< 0.05)

The above result shows the p-value of 0.005 which is less than 0.05 alpha level of significance. The χ^2 calculated values of 63.70 is greater than the χ^2 critical value of 31.41 at degree of freedom of 20. The null hypothesis is thus rejected. This means that facilities and equipment would significantly influence the participation of staff and students in recreational sports programs in tertiary institution in plateau state.

Discussions

The test of hypothesis carried out on the influence of facilities and equipment on participation in Recreational Sports Programs by staff and students of tertiary institutions in Plateau State revealed that equipments and facilities influence participation in Recreational Sports Programs by staff and students in tertiary institutions in Plateau State, Nigeria. This is in line with the findings of Igbanugbo (1999) that availability and sufficiency of standard facilities attract students to participate in sporting activities which in turn improve their performance and brings about sports development. The finding of this study is also in agreement with that of Morakinyo (2000) who affirmed that for recreational sports programs to be effective, more developed and to have massive participation, standard facilities and equipment should be made available and sufficient to carry out the sporting activities. Awosika and Olusola (2014) opined that, facilities and equipment are programs related. If they are available, adequate and well maintained, the possibility of having good sport programs is ensured. Alla and Ajidua (2012) found that academic and non-academic staff in tertiary institutions in Ondo state participate in leisure physical activity differently which is attributed to the availability of different facilities and equipment for varieties of Recreational Sports Programs. However, the finding of this study was in agreement with that of Adeyemo (2013). The finding of this study has the support of Ruston (2012) who asserted that for Recreational Sports Programs to function and ignite massive participation in the program, by staff and students of tertiary institutions, material resources as facilities and equipment are required.

Ekuri (2018) asserted that presence of facilities and equipment motivate participation. In the same vein, Ekpe (2001) opined that the success of any sports program depends largely on quantity and quality of available facilities and equipment.

Ogedengbe (2006) hinted that availability of adequate sport facilities and equipment are necessary ingredients to successful sports participation and their absence negates proper participation and development of sports.

According to Ajayi (2007), there is a positive relationship between availability of sports facilities and sports participation and effectiveness. That availability of facilities and equipment contribute to participation and athlete performance.

Okwori and Anejo (2004) stated that, the existence of sports facilities & equipment are of vital importance in the conduct of physical activities intra-moral sports and other sports programs. Haruna (2013) said sports are mainly concerned with movement and one important factor in the conduct of successful sports programs is the provision of adequate facilities, equipment and

supplies. Bitrus (2005) opined that availability of facilities and equipment motivate great enthusiasm for sports participation among staff and students of Tertiary Institution.

Mass sports participation cannot take place without availability of facilities and equipment or the masses (Igbanugbo, 1999). Igbanugbo (1999) opined that sports facilities and equipment play a determinant role to participation. They are motivational mechanisms for sports events to all and they serve as indices for sports development.

Conclusions

Based on the findings of this study, the researcher concluded that facilities and equipment influence participation in Recreational Sports Programmes by staff and students of tertiary institution in Plateau State.

Recommendations

There is need for the management of the tertiary institutions in Plateau State to continue providing more recreational sports facilities and equipment through purchase and supply -as material resource to promote participation in Recreational Sports Programmes among their staff and students.

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IMPLICATIONS OF FASTING PRACTICES ON HEALTH AND ALTHLETIC PERFORMANCE OF UNDERGRADUATE STUDENTS OF KOGI STATE UNIVERSITY, ANYIGBA.

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Abstract
This study was designed to examine the implication of fasting practices on health and athletic performance of undergraduate students of Kogi State University, Anyigba. Two research questions and hypotheses were tested for in this study. The population for the study was 850 students from Kogi state univwesity,Anyigba. The research design adopted for the study was descriptive survey design. Multistage sampling techniques were used to select one hundred and fifty respondents using purposive simple random and stratified sampling techniques. The data was collected with the use of structured questionnaire consisting of 15 items was used to elicit information form the respondents. The questionnaire was validated by three experts. Cronbach alpha was used to determine the reliability of the instruments which yielded 0.76 coefficients. The data collected was analyzed using pearson product moment correlation coefficient. The results of the study revealed that fasting practices has significant effects on health and athletic performance of undergraduate students of Kogi State University, Anyigba. Calculated r-value of 0.165and0.173 were higher than the critical r-value of 0.159 at 0.05 level of significance with 299 degree of freedom. Based on the findings of this study, it was recommended that ,where a period of fasting coincides with a major competition. Athletes should defer their fasting. Athletes who choose to observe a fast should develop a coping strategy for pre-event warm up, pre-event or in-event cooling strategies, recovery strategies and lifestyle issues.

Keywords: *Fasting, Athletic Performance, Undergraduate, Athletes, Health.*

Introduction

Fasting is the voluntary abstention from eating and drinking. It is an integral part of all of the world's major cultures, though patterns of fasting and rates of adherence both vary widely. Fasting is also practiced by many individuals in the belief that health benefit will result. A fast may be total or partial and may be prolonged or intermittent. It may be practiced annually on fixed dates, on specified days of the weeks, at prescribed times of the years for fixed duration, or at the discretion of the individual (Maughan, 2010).

Fasting may involve total abstention from food and water, from food alone, or from only certain food items. The Roman Catholic church requires that, on the days of mandatory fasting,

Catholics eat only one full meals or snacks. Fasting relates to solid food, not to drink, no any amount of liquids may be consumed. (Maughan, 2010).

Religious fasting has been used for purification, penance, divine revelation and transcendence, among other reason. The three major religions Christianity, Islam, and Judaism – all encourage some form of fasting during periods of religious significance (Trepanowski and Bloomer 2016). Fasting during Ramadan is the abstinence from all food and drink between dawn and dusk. All observing Muslim are obligated to fast during the month of Ramadan, with exceptions of children who have not reached puberty, pregnant and lactating women, the sick and those who are travelling (Bernieh, 2016).

Mahan 2000 found out in his study that the body's response to fasting depends on the length of the fast. Once the body has digested and absorbed all of the food and nutrients from the last meal, which takes eight to 12 hours, the body is in a fasting state and must rely on stored nutrient for energy. The body changes certain hormones to access these stored nutrients, keeping a constant supply of glucose (energy). Insulin, for example, is a hormone that signals body cells to pick up and use glucose from the blood. During a fast, the body produces less insulin and more anti-insulin hormones (glucagon, epinephrine, etc); this allows the body to access stored energy from food which is unavailable. After about 24 hours, a healthy adult will run out of stored glucose sources and begin making new glucose by breaking down protein stores, including muscle tissue.

The major change in diet during Ramadan fasting is a reduction in meal frequency. However numerous studies show that people do not tend to reduce the number of calories (amount of energy) they consume daily during the fasting period (Meckel, Ismael, and Eliakim 2016). Despite this, a decrease in body weight and body fat is often found in fasting individuals (Bakar and Yeim, 2012). A study of young Jordanians women showed no difference in Calorie intake, macronutrient intake, or overall physical activity during fasting. The women still lost weight and body mass index or BMI and showed a reduction in body water and body fat percentage (Al-Hourani 2007).

Athletics is a term encompassing the human competitive sport and games requiring physical skill and the systems of training that prepare athletes are competitions which are primarily based on human physical competition, demanding the qualities of stamina, fitness and skill. (Athletic sports, encyclopedia puritanical).

Hawley; (2016) in his study discovered that fasting during training, as well as competition, may be affected by prolonged period of dietary restraints. Emerging evidence supports the role of nutrition in promoting the adaptive responses of tissues to a training structure. Rodriquez (2010) added that there is growing evidence that nutritional status affects gene expression in the post-exercise period. Kadri, (2015) affirmed that there are clearly psychological changes associated with periods of fasting and there is evidence for change in mood during fasting and these may affect performance in many activities, especially where attention, vigilance and judgment are required.

Fasting is more complicated for athletes. Beyond the change in eating and drinking patterns that occur, fasting can cause changes in circadian rhythms (sleep/wake cycles), metabolism, and

hormonal secretions. These changes – along with sleep deprivation – can impact athletic performance (Shepherd, 2013).

Athletes can experience decreased performance and increased fatigue during the fasting days. A study of middle distance runners who continued training during fasting showed a decline in maximum aerobic velocity and an increase in fatigue (Kadri, 2015). While a study of adolescent soccer players. Showed a decline in various parameter of performance even though total caloric intake and sleeping time were unchanged (Meckel, Ismaeel and Elakim, 2015). Similarly the endurance capacity of professional during fasting has been shown to be reduced during fasting (Zerguimi, 2017).

Maughan; (2016) reported that prolonged restriction of food and fluid is harmful to health and performance and often lead to decrement in exercise performance.

Athletes have an increased risk of iron deficiency and iron is an essential component of red blood cells that help transport oxygen to different muscles during exercise. Fasting can increased the risk of iron deficiency and anemia in athletes (Karadag, 2014).

The study of Burke (2014), found that during physical activity in a fasting state, athletes used less carbohydrates for energy and burned more fat instead, shown through higher circulating fatty acids and ketone bodies are burning fat for fuel. This notion is further supported by Churchley (2017) added that fat utilization within the first 30 minutes of exercise was greater during fasting by athletes.

Chaouachi (2016), submitted that many of those involved in sport will undertake periods of fasting at different times throughout the year. This will have implications for both training and competition, and most experienced athletes develop effective coping strategies to accommodate their fasting within their training and competition schedules. Where a period of fasting coincides with a major competition. Some may choose not to fast or defer their fasting.

Research Questions

This study was guided by the following research questions

1. To what extent will fasting affect the health of an undergraduate athlete of Kogi State University, Anyigba?
2. What are the implications of fasting practices on the athletic performance of undergraduate students of Kogi State University, Anyigba?

Research Hypothesis

The following are the research hypotheses raised for this study.

1. Fasting has no significant effects on the health of an undergraduate athlete of Kogi State University, Anyigba.
2. Fasting has no significant effects on the athletic performance of undergraduate students of Kogi State University, Anyigba.

Methodology

The study adopted cross-sectional descriptive survey design. The population for the study was 850 undergraduate students all from the Kogi State University, Anyigba. Multi-stage sampling method was used to select 5 faculties from the seven faculties, while the purposive sample techniques was used to select one hundred and fifty athlete comprising of thirty respondents each from the five faculties. The specific purposes turned into two (2) research questions and hypotheses.

A 15 item questionnaire was developed from literature to obtain data for the study. The scale for the questionnaire was Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD). The questionnaire was face validated by three experts from the faculty of Education, Kogi State University, Anyigba. Cronbach Alpha was used to determine internal consistency of the questionnaire.

Statement of the Problem

The past two decades have seen a rise in the health related effects of religiously motivated fasts from various studies conducted by multi-disciplinary researchers (Trepanowski and Bloomer, 2007), evidence abounds that religious fasting are partaken primarily for spiritual purposes, but they also have the potential to greatly affect one's physical health.

However, recognition of the potential challenges faced by athletes during fasting has led to this study of the implications of fasting on health and athletic performance of undergraduate students of Kogi State University, Anyigba.

Purpose of the Study

The purpose of this study was to investigate the implications of fasting practices on the health of athletic performance of undergraduate students of Kogi State University, Anyigba. Specifically, the study did the followings:

1. Assessed the effects of fasting practices on health of an undergraduate athlete in Kogi State University, Anyigba.
2. Determined the implication of fasting practices on the athletic performance of undergraduate student of Kogi State University, Anyigba.

Research Questions

1. To what extent will fasting affect the athletic performance of undergraduate students of Kogi State University, Anyigba?
2. What are the implications of fasting on the health of an undergraduate athlete of Kogi State University, Anyigba?

Research Hypotheses

1. Fasting has no significant influence on the athletic performance of undergraduate students of Kogi State University, Anyigba.

2. Fasting has no significant influence on the health of an undergraduate athlete of Kogi state University, Anyigba.

Results

1. Hypotheses1: fasting has no significant influence on health of an athlete.

Fasting and health of an athlete

Variables	N	X	SD	DF	Calculated r-Value	Critical Value	Decision
Heath of athletes	150	3.1307	0.34987	149	0.165	0.159	H_0 is rejected
Fasting	150						

P<0.05

As shown in table 1, the calculated PPMC 0.0165 is greater than the critical r-value of 0.159 at 0.05 level of significance for 0.149 degree of freedom. The null hypotheses that stated that there was no significant influence of fasting on health was rejected. It can be inferred from the above that fasting has significant effect on the health of undergraduate student athletes.

1. Hypotheses 2: Fasting has no significance influence on the athletic performance of undergraduate students.

Fasting and Athletic Performance

Variables	N	$\overline{X}$	SD	DF	Calculated r-Value	Critical Value	Decision
Athletic performance	150	3.2726	0.025028	149	0.173	0.159	$H_{0\,2}$ is rejected
Fasting	150	3.1960	0.44237				

P<0.05

As shown in table 2, the calculated PPMC 0.0165 is greater than the critical r-value of 0.159 at 0.05 level of significance for 149 degree of freedom. The null hypotheses that stated that there was no significant influence of fasting on the athletic performance was rejected. It can be inferred from the above that fasting has significant influence on the athletic performance of undergraduate students.

Discussions

The findings from Table 1 indicated that fasting has significant influence on the health of the respondents. This assertion supports the work karadag, (2014), Bakar and Yeim (2012) that,

fasting can increase the risk of iron deficiency and anaemia in athletes (Karadag, 2014). Bakar and Yeim submitted that a decrease in body weight and body fat is often found in fasting individuals.

The findings from Table 2, indicated that fasting had significant influence on the athletic performance of the respondents and is in conformity with Maughan, 2016 which reported that prolonged restriction of food and fluid is harmful to health and exercise performance. Zergum, 2017 also supported this notion that the endurance capacity of professional soccer players has been shown to be reduced during fasting.

Shepherd, 2013 affirmed that fasting is more complicated for competitive athletes. Beyond the change in eating and drinking patterns that occur, fasting could cause changes circadian rhythms (sleep, wake cycles), metabolism, and hormonal secretions. These changes along with sleep deprivation can affect the athletic performance.

Conclusion

Based on the findings of this study, it was concluded that;
Fasting has significant influence on the health of an undergraduate student athlete of Kogi State University, Anyigba. Finally, fasting has significant implication on the athletic performance of an undergraduate students of Kogi State University, Anyigba.

Recommendations

Based on the conclusion drawn from this study, the following recommendations were made that:

1. Where a period of fasting coincides with a major competition, athletes should not fast or athletes should defer their fasting.
2. Athletes who choose to observe a fast should have develop a coping strategies for;
    i. Pre-event warm up
    ii. Pre-event or in-event cooling strategies
    iii. Clothing
    iv. Recovery strategies and
    v. Lifestyle issues

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SANITATION FACILITIES AND DISEASES OCCURRENCE: A CASE STUDY OF MALARIA AND DIARRHEA IN ILE-IFE, OSUN STATE, NIGERIA

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Abstract
Malaria and diarrhea are the two major diseases caused by paucity in environmental sanitation facilities and practices. This study therefore seeks to examine the relationship between environmental sanitation facilities and the occurrence of two major diseases (malaria and diarrhea) in Ile-Ife with a view to assessing the available environmental sanitation facilities; and its impact on the occurrence of malaria and diarrhea diseases in the study area in order to suggest positive measures for improved environmental quality in the area. Data used for the study were collected from primary and secondary sources. Multi-stage sampling technique was employed for the study. Hence 228 households were sampled in 12 selected political wards across the residential zones. This forms the sample size. Data analysis was done through the use of tables, graphs and multivariate regression model through the SPSS package version 20. The study revealed that almost all respondents practice environmental sanitation through monthly sanitation exercise and dispose their waste in the community dump sites. It also revealed that majority of the respondents' uses water closet toilet and open drainage system. It also shows that the predominant means of waste storage before disposal was Bucket. Also, this study shows that the environmental sanitation facilities in the study area are few and inaccessible; the available once were not properly managed. Hence there is an urgent need for the government and environmental sanitation agencies to intensify effort on the availability and accessibility of environmental sanitation facilities in order to alleviate the occurrence of malaria and diarrhea in the study area.

Key words: Sanitation Facilities, Unsanitary Environment, Malaria, Diarrhea, Health.

Introduction

The rapid increase of urbanization in developed and developing countries is alarming. In Africa, the dramatic effects of rapid urbanization are very clear in both the cities and peri-urban areas (Nsiah-Gyabaah, 2004). This population surge on the continent is highly felt in Nigeria, the most populated nation with fast growing megacity. The quest for a better quality of life increases

annually due to the economic opportunities and quality of life that the city provides for the residents (Abogan, 2014). Population growth has a negative impact on the quality of the environment (Khan, 2007). Hence there is need for the provision of adequate environmental sanitation facilities and practices so as to regulate the spread of diseases through an unsanitary environment.

Simpson-Herbert, Mayling, Wood, Sara and World Health Organization (1998), declares that environmental sanitation facilities are of several components; it includes facilities for disposal of hygienic management of liquid and solid human waste, facilities for control of diseases vector, washing facilities for personal and domestic hygiene amongst others. In other words, environmental sanitation facilities are the hygienic means of promoting health through prevention of human contacts with hazard of wastes.

Unsanitary environmental conditions are associated with a wide range of health conditions. Some of these diseases as posited by World Health Organization (WHO, 2006) are malaria, diarrhea, cholera, fluorosis, guinea worm, amongst others. Malaria is a mosquito-borne infectious disease that affects both human and animals. It usually begins 10-15 days after being bitten by a female anopheles mosquito. Malaria causes symptoms such as tiredness, headache, fever and vomiting. In severe cases, it can cause yellow skin, seizures, coma or death. Diarrhea is a condition of having at least three loose or watery bowel movement each day. It often last for few days and can result in dehydration due to fluid loss. The infection is often acquired from contaminated food or water. Cholera is an acute bacterial infection of the intestinal tract. It causes severe attacks of diarrhea that, without treatment, can quickly lead to acute dehydration and death. Fluorosis is a serious bone disease caused by high concentrations of fluoride occurring naturally in groundwater. Fluorosis is endemic in at least 25 countries across the globe. Guinea worm (also known as Dracunculiasis) People contract the disease when drinking water contaminated with ranunculus larvae. The larvae mature into large (up to a meter long) adult Guinea worms and leave the body after about a year, causing debilitating ulcers (WHO, 2006).

The risk of these diseases can be reduced through access to safe drinking water, well-built incinerators or dump sites, good toilet system and a hygienic environment. Addressing sanitation issues offers public health practitioners an opportunity to address an important social determinant of health of which sanitation facilities is highly essential. Public health has long been involved in sanitation issues. In a report to the United Nations Development Programme (UNDP), Hutton (2012) estimate that the cost benefit ratio of sanitation interventions in Nigeria is 7.2, Osun State inclusive. Health benefits are realized and accrue to the direct recipients of sanitation interventions and also to their neighbors.

The rapid urbanization in these countries has caused dynamic growth of urban slums and contributed to increasing numbers of informal slum dwellers. The result has been overcrowded living conditions; inadequate sanitation facilities; and exposure of slum dwellers, especially children under five years of age, to a high risk of disease worldwide, about eight million children died in 2010 before reaching the age of five, mainly due to poor sanitation facilities and unhygienic conditions (Adedimeji, 2005).

To ensure a safe and clean environment, the Osun state government established a board called Rural Water and Environmental Sanitation Agency (RUWESA, 2017) under the watch of Ministry of Water Resources, Rural Development and Community affairs, Osogbo to monitor the environmental quality and to ensure a refuse free environment. However, despite the government efforts at making the environment clean, there are numbers of location in Ile-Ife, Osun State where the said sanitation facilities are found wanting. In lieu of this, people dispose their waste at places considered to be convenient to them.

Indiscriminate disposal of waste due to insufficient of sanitation facilities affect the quality of water and air. It's against this background that this study seeks to appraise the sanitation facilities and occurrence of malaria and diarrhea diseases with consideration to the available sanitation facilities and its utilization in relation to the socio economic background and characteristics of the residents in the study area. Hence, the study sets to provide answers to the following questions: (i) what are the environmental sanitations facilities in the study area? (ii) How functional are the available environmental sanitation facilities in the study area? (iii) What is the level of variation in environmental sanitation facilities available in different residential in the study area? (iv) which environmental related diseases are prominent in Ile-Ife? Also, the working **hypothesis** for this study is:

H_o= there is no positive relationship between environmental sanitation facilities and the occurrence of diseases in the study area.

H_I= There is a positive relationship between environmental sanitation and the occurrence of diseases in the study area.

Study Area

Ile Ife is an ancient Yoruba town currently located in present Osun State southern western Nigeria. In fact, it is the source of Yoruba tribe and first settlement in southern western part of Nigeria. It is located between latitude 7°28'N and 7.467°N and between longitude 4°34'E and 4.567°E. The total area cover is 1,791 km sq (692 sq mi) and a density of 280/km s (740/sq). It has a population of about of 495,997 (NPC, 2017). It has two political local governments with 21 political wards. It home Obafemi Awolowo University (OAU), one of the leading academic institutions in West Africa.

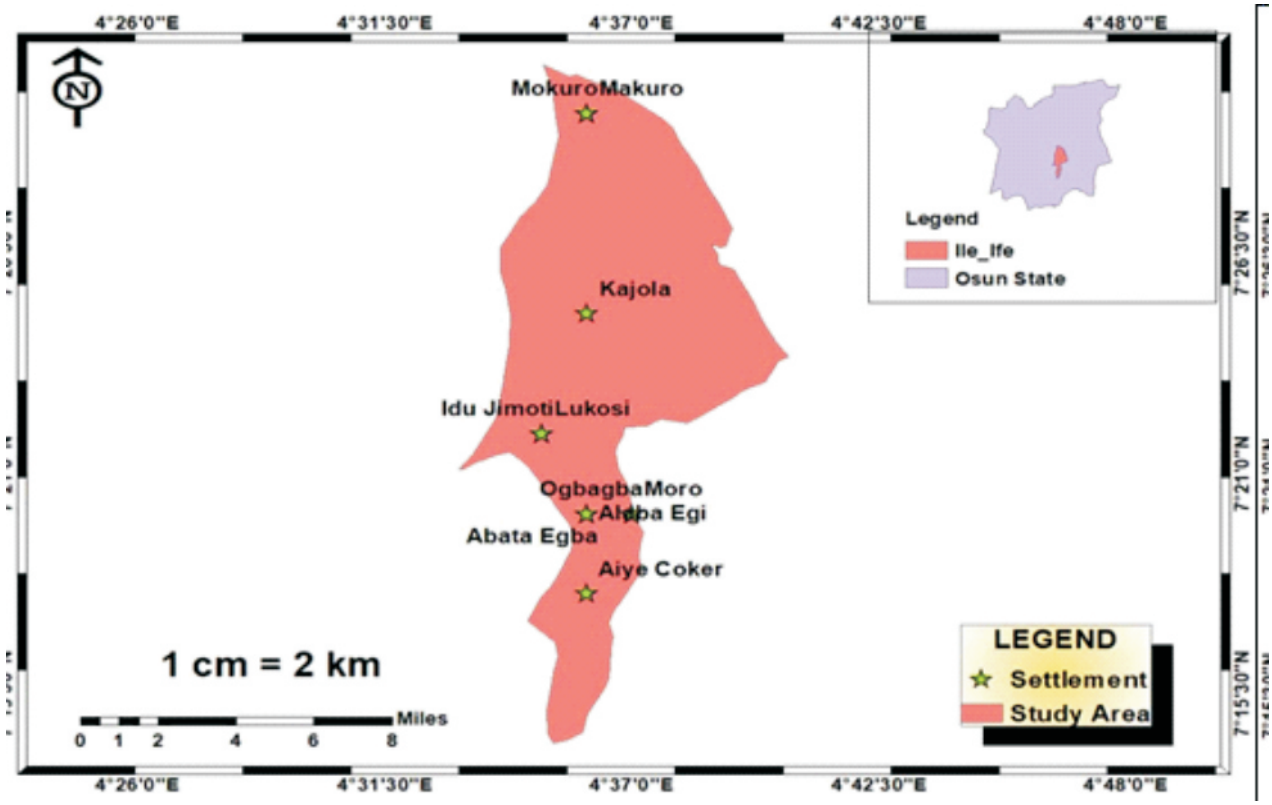


Fig 1. Ile-Ife indicating Ife Central and East Local Government with Osun state as inset
Source: Ministry of Land and Physical Planning Osun State Secretariat Osogbo (2018)

Material and Methods

Both Primary and Secondary sources of data were involved in this study. The primary data are the demographic characteristics of resident, available sanitation facilities in the study area (drainage, pipe borne water and waste storage).Data on selected diseases i.e. diarrhea and malaria for ten (10) years, population of the study area, map of the study area were the secondary data used for this research.

The primary data for this study was obtained through administration of structured questionnaire. Secondary information such as the map of study area, record of selected diseases for ten years (2007 to 2017) and the population of the study area which was derived from record of Ministry of Land and Physical Planning Osun State Secretariat Osogbo, Obafemi Awolowo University Teaching Hospital Complex (OAUTHC) and National Population Commission Ife Zone respectively. The target person for the survey in the sample building is the household head which could either be male or female.

Method of Data Analysis

The study area has two local governments, Ife Central and Ife East. Ife Central and East Local Government has 10 and 11 political wards and a total population of 233,118 and 262,879 people

respectively which made the study area to have a total number of 21 political wards and a population of about 495,997 altogether (NPC, 2007). Due to the nature of the study area, Multi stage sampling technique was employed. Based on the foregoing, the sampling procedure for the study was discussed under four (4) stages.

The first stage involved the stratification of residential areas in Ile-Ife into residential zones. The study area was divided into three; the core, the transition and the suburban. In the second stage, all residential areas identified in the study area were divided into the existing political wards as recognized by Osun State Independence Electoral commission (2015) in the conduct of electoral polls.

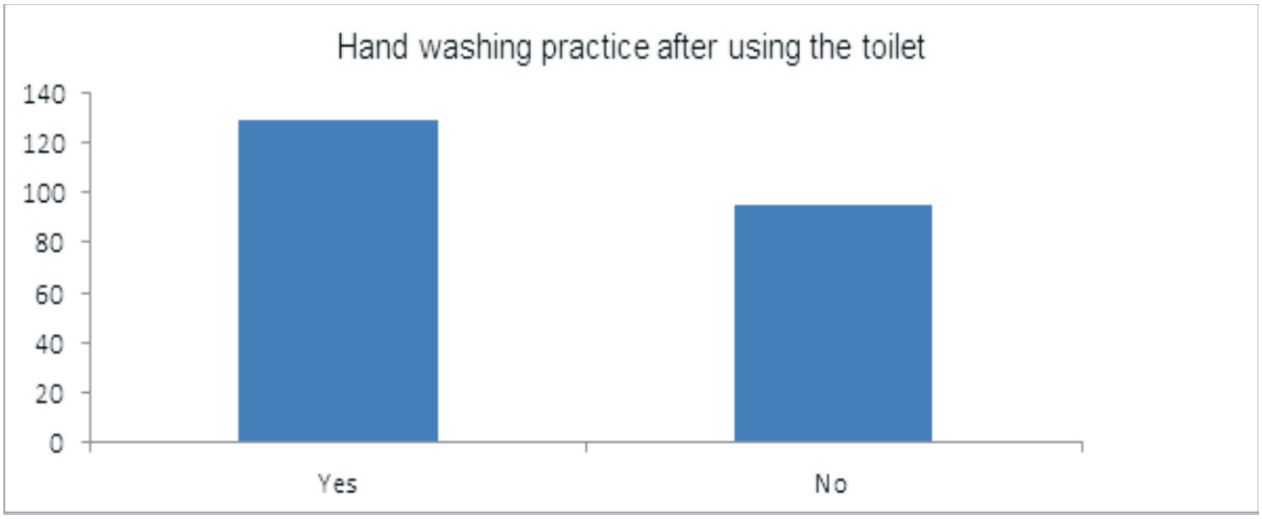
The third stage involved the selection of wards in each residential areas of Ile-Ife. Residents from the 21 political wards were selected and grouped into residential zones, i.e. 7wards from the core, 9wards from transition zone and 5wards from the sub-urban. The wards to be sampled were randomly selected across the three residential zones having a total of 12wards. The fourth and the last stage involved the administration of questionnaire to the residents of the selected wards. Systematic random sampling techniques was adopted in selecting one out of every two hundred (200) buildings whose residents was sampled i.e. 0.5% of all residential buildings. Record from the Osun state Valuation Office indicated that as at 2016 there were a total of 45,412 buildings in Ile-Ife where 20,100, 17,182 and 8,130 were the number of the core, transition and sub-urban respectively. Under this circumstance, with the proposed 0.5% sample size, questionnaire was administered on male or female household heads. In the core, 101 buildings were sampled, 86 in the transition and 41 in the sub urban. Therefore, a total number of 228 questionnaires were administered. This represents the sample size for this research. Both descriptive statistics and inferential statistics was used to analyze the data collected using Statistical Package for Social Scientists (SPSS) Version 20.

Results and Discussion

As shown in figure 2, majority 131 (57.6%) of the respondents wash their hands after using the toilet, while 97 (42.4%) do not. It can be observed from these data that a basic toileting sanitation practice is observed by many of the respondents, this thereby reducing the risk of contamination through hands to mouth channel.

Figure 2: Toilet Hygiene Practices adopted Respondents

Source: Author's fieldwork, 2018



Also, the result can be attributed with the quantity of water available for consumption in the different household as it was observed that some respondents does not have access to sufficient water for daily use.

In table 1, majority 146 (64%) of the respondents indicated that there is no incidence of open children's faeces in the study area, while 82 (36%) of the respondents indicated incidence of open children's defecation.

Table 1: Incidence of Open Defecation

Sanitation Facilities	Freq.	%
Yes	82	36
No	146	64
Total	228	100.0

Source: Author's fieldwork, 2018

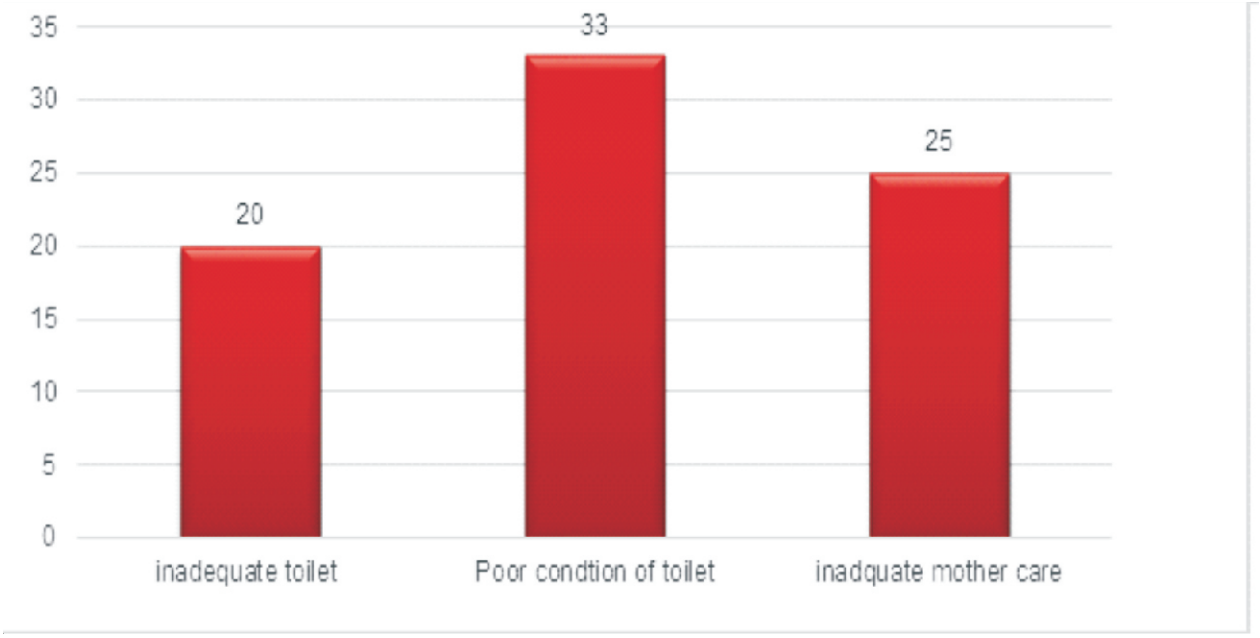
This result was expected given the inadequate quantity of water in the study area which discouraged many of the respondents from practicing good sanitation. The implication of this if not properly addressed on time is that, the respondents and their household's members may be susceptible to unsanitary related diseases such as malaria, cholera, diarrhea etc.

Table 2: Poor Management of Defecation

Sanitation Facilities	**Frequency**	**Percentage (%)**
Poor Toileting	96	42.1
Poor Management of Defecation	73	32
Inadequate Toileting Facilities	59	25.9
TOTAL	**228**	**100**

In support of Table 1, Table 2 shows major reason for poor management of defecation in the study area. Majority 96 (42.1%) of the respondents indicated poor toileting condition as a causal factor for poor management of defecation, while 73 (32%) and 58 (25.9%) indicated poor parenting and inadequate toilet facilities

Figure 3: Reasons for Incidence of Open Defecation in the Study Area



Source: Author's fieldwork, 2018

As shown in Table 3 all (100.0%) of the respondents have environmental sanitation orientation. Out of the 228 respondents, majority 138 (61.8%) were oriented through monthly environmental sanitation exercise, while 87 (37.1%) and 3 (1.3%) were oriented through environmental education and community participation respectively.

Table 3: Awareness and Sources of Environmental Sanitation Orientation

Awareness	Freq.	%
Yes	228	100.0
No	00	000.0
Total	228	100.0
Source of Awareness		
Monthly Environmental Sanitation Exercise	138	61.6
Environmental Education	87	37.1
Community Participation	3	1.3
Total	228	100.0

Source: Author's fieldwork, 2018

This result is in contrary to the study of Daramola, (2012) which revealed that there were no proper orientations and training given to residents of Ibadan community as to how to keep the environment clean and how best to dispose waste in order to prevent diseases and other health hazards that could result from poor environmental management.

As indicated in table 4 all 228 (100.0%) of the respondents are aware of diseases related to poor sanitation. Also, 89% of these respondents have been diagnosed of at least a disease related to poor sanitation, while 11% had not been diagnosed. This may be linked to poor sanitation condition observed in the study area.

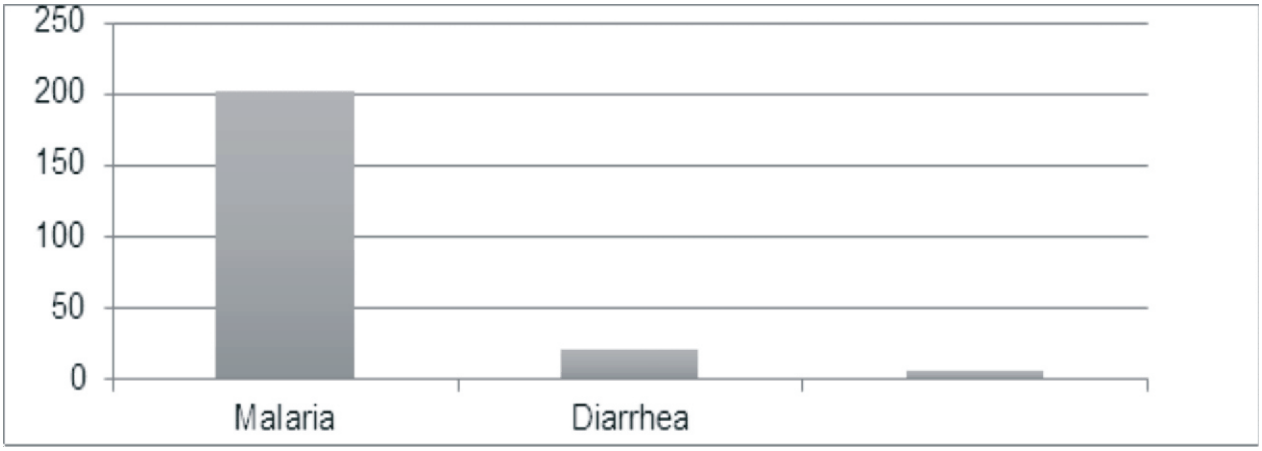
Table 4: Diseases Related to Poor Sanitation

Awareness of Diseases	Freq.	%
Yes	228	100.0
No	0	00.0
Total	228	100.0
Diagnosed of Diseases		
Yes	222	97
No	6	3
Total	228	100.0

Source: Author's fieldwork, 2018

As shown in Figure 4, only 6 (3%) of the respondents had not been diagnosed of diseases while 20 (8.8%) had been diagnosed of diarrhea. Majority 202 (97%) of the respondents have been diagnosed of malaria. This can be attributed to the waste disposal practices in the study area where higher number of respondents with 48.7% frequency uses communal waste dump site, diseases carrier like houseflies and rodent can easily spread diseases through contaminated surface.

Figure 4: Diseases Associated with Unsanitary Environment



Source: Author's fieldwork, 2018

Also improper maintenance of water were well are found to be too close to latrines and sewage systems, there could be possible leaching of impurities from the latrines into the well and thereby making the water unfit for drinking and other domestic uses and may result to disease infection. Malaria is the predominant disease affecting the population of Nigeria. Many other diseases endemic throughout the country are generally associated with unsatisfactory drinking water supply, poor sanitation conditions and inadequate health education programs. These include diarrhea, dysentery, gastro – enteritis, infectious hepatitis, hook work, guinea worm, scabies and other parasitic infections.

The health consequences of poor sanitation include environmental diseases such as cholera, typhoid fever, and salmonellosis, other gastrointestinal viruses, and dysentery. Water scarcity and poor sanitation have remained daunting challenges for concerned citizens and development partners, despite the endowed resources at the disposal of the most populous black nation, Nigeria.

Table 5: Respondents Diagnosed of Diseases within the Time frame of the study

Diagnosed of poor sanitation related diseases	Within the last 5 months	6-10 months	Not diagnosed within the time frame	TOTAL
Freq	206	7	15	228
Percentage	90.3	3.1	6.6	100

Source: Author's fieldwork, 2018

Figure 5 shows that most 206 (90.3%) of the respondents were diagnosed of diseases related to poor sanitation less than five months ago, while 7 (3.1%) were diagnosed between 6-10 months ago 15 (6.6%) of the respondent have not been diagnosed. None of the respondents were diagnosed between more than 10 months ago. This shows a recent occurrence of cases of poor sanitation related diseases in the study area (see also Table 5).

Figure 5: Duration of Diseases



Source: Author's fieldwork, 2018

As indicated in figure 6, the highest disease recorded within the stipulated period in Ile-Ife is malaria with a figure of 833,772 cases and a mean number of 6,316.5. Malaria is regarded as life a threatening disease which is typically transmitted through the bite of an infected Anopheles mosquito.

Table 6: Descriptive Analysis of the Occurrence of Selected Diseases (2007 – 2017)

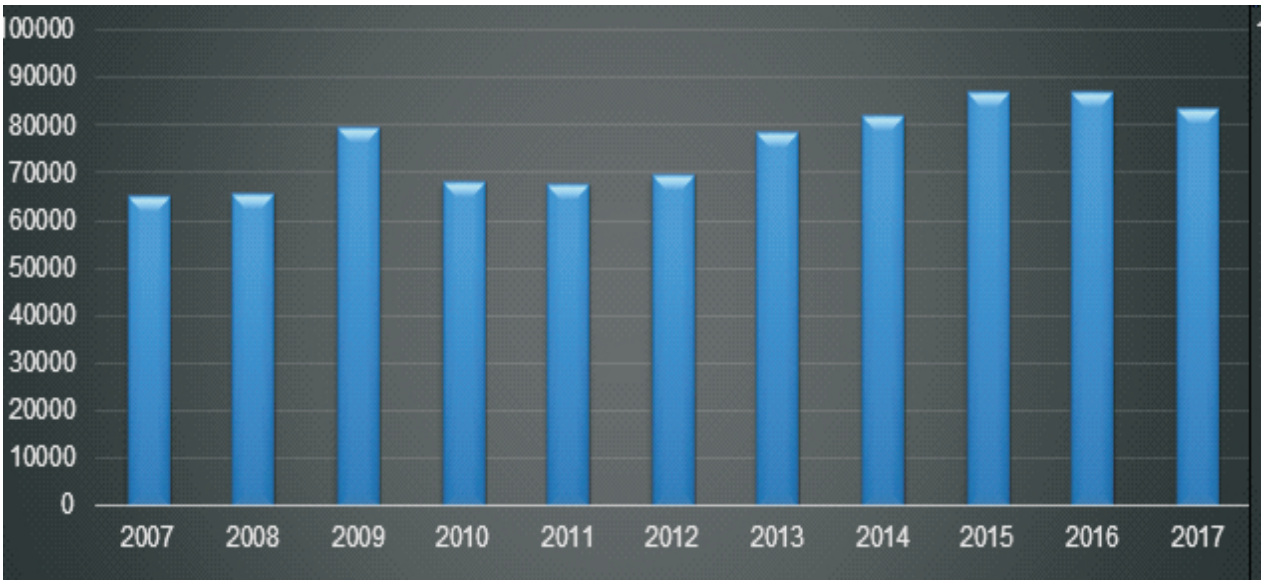
Disease	Total	Minimum	MaximumMean	Std Deviation
Malaria	833,7722,	17110,00	16,316.5	24,169
Diarrhea	8,021	2396	60.8	2,325

Source: Author's fieldwork, 2018

Diarrhea as a selected disease for study has a low concentration of number, within the stipulated time, the record of diarrhea is 8021 cases and a mean of 60.8 (see Table 6). The reason for the prevalent diseases can be traced to the level of sanitation practices. As observed in the study area, open lid waste basket was the prevalent waste facilities and it was unable to hold the waste generated properly. This could have provided a habitation for diseases vectors like mosquitoes and flies. In furtherance to this, open drainage causes runoff of water and this could interact with the surface water from overflowing septic tank systems and later percolate into ground water.

As indicated in Figure 6, between 2007 and 2017, most 22 (11%) of the occurrence of malaria was experienced in 2009, followed by 2014, 2015, 2016 and 2017 with 20 (10%) respectively; and 2013 18 (9%). Hence, an increase of 2.2% in the number of malaria occurrence between 2007 and 2017 was observed.

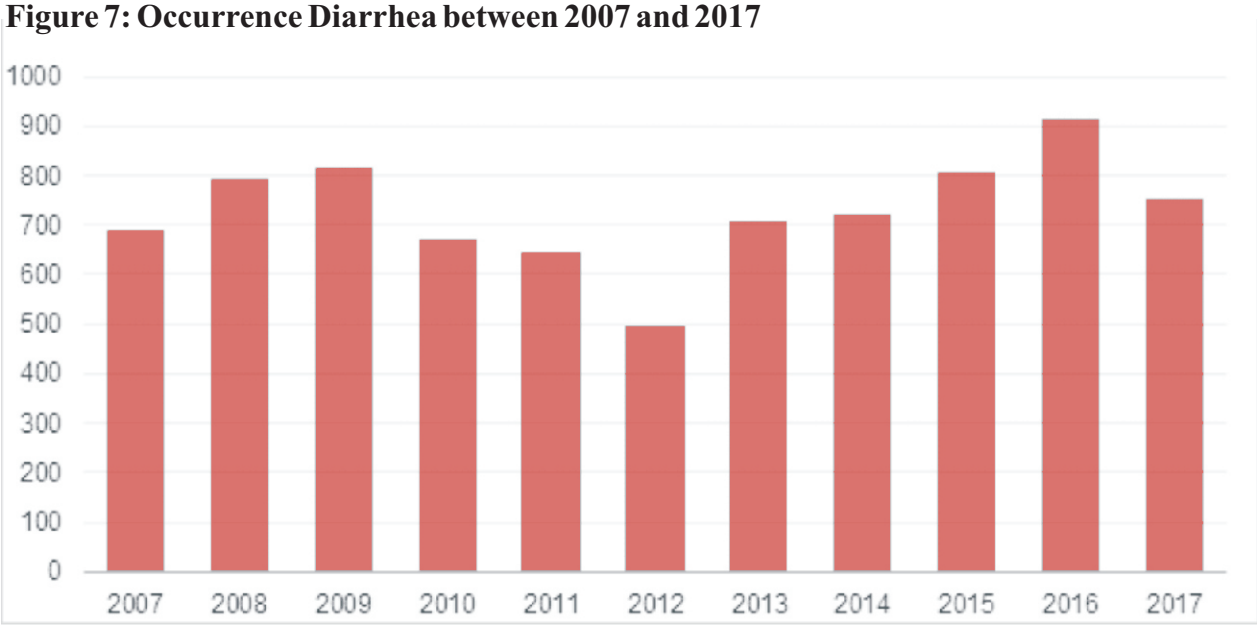
Figure 6: Occurrence of Malaria between 2007 and 2017



Source: Author's fieldwork, 2018

As seen in figure 7, most (11.4%) of the occurrence of diarrhea in the study period was recorded in 2016, followed by 2015 (10.1%). An increase of 0.8% is observed in cases of diarrhea reported between 2007 and 2017

Figure 7: Occurrence Diarrhea between 2007 and 2017



Source: Author's Fieldwork, 2018

Relationship between Environmental Sanitation Facilities and Selected Diseases (Malaria and Diarrhea)

The "Elements of Statistical Methods," states that if the pearson coefficient have an absolute value of 1, it indicates a perfect linear relationship but if the pearson coefficient have a value of 0, it indicates no linear relationship between the variables. Applying the King's interpretation, the result in table 7 shows that the Pearson coefficient value .350 which is greater than 0 but less than 1, this indicate a positive relation between the occurrence of malaria and inadequate environmental sanitation facilities. It revealed that environmental sanitation facilities accounted for 35% of the cause of malaria in the study area and that the more available environmental sanitation facilities, the lower and the possibility of the occurrence of malaria and vice versa. Therefore, the null hypothesis that there is no relationship between availability of environmental sanitation facilities and occurrence of malaria was rejected, the alternative hypothesis that there is a relationship between availability of environmental sanitation facilities and occurrence of malaria was therefore accepted.

Table 7: Relationship between Unsanitary Environment and Selected Diseases

	Malaria	Diarrhea
(Availability of sanitation facilities) Pearson Correlation	.350	.239
Sig (2-tailed)	.000	.000
N	228	228

Source: Author's fieldwork, 2018

Essentially, Table 7 shows the relationship between availability of sanitation facilities and the occurrence of diarrhea in the study area between 2007 and 2017. In support of this and as seen in Table 7, the Pearson Correlation value .239 is lower than 1 but greater than 0, this means that environmental sanitation in the area accounted for 23.9% causal factor of diarrhea. Also, when environmental sanitation facilities are not available, there is high possibility of occurrence of diarrhea in the study area. Therefore, the null hypothesis that there is no relationship between occurrence of diarrhea and availability of environmental sanitation and environmental facilities in the study area is rejected. Hence, it can be concluded that there is a positive relationship between environmental sanitation facilities and occurrence of diseases in the study area.

However, this study shows that most of the respondents use bucket to store their wastes most of whom disposed the waste at community dump sites. This answers the first research question showing that there are no adequate sanitation facilities in the study area.

Also, this study revealed that, a greater number of drainages in the study area is uncovered which makes them to be easily blocked. This shows that the few sanitation facilities available in the study area are not in good condition. The study shows malaria as the major poor sanitation related diseases experienced by many of the respondents in the study area, most of whom had experienced malaria within the last five months. Thus, indicating that malaria was the most prominent disease in Ile-Ife.

In addition, the findings of this research revealed that all of the respondents are aware of environmental sanitation through monthly environmental sanitation. Similarly, all of the respondent are aware of poor sanitation related diseases, while most 222 (97%) of them have experienced one diseases or the other. The outcome of this finding reports that there is a positive relationship between availability of environmental facilities and occurrence of malaria and diarrhea diseases in the study area.

The study further reports that, respondents have experienced one or two diseases related to poor sanitation less than five months ago although, it was shown that open defecation was not very common in the study area and poor toileting condition was the major factor affecting open defecation in the study area. This shows that government participation in environmental sanitation facilities practices in the study area was very low. Nevertheless, community members and private individuals have contributed to environmental sanitation facilities in the area through the provision of boreholes and drainages. This is with a view of improving the general wellbeing of the residents as well as the immediate environment in which people live.

Conclusion and Summary of Findings.

- This study showed that poor sanitation facilities and practices were responsible for the spread of diarrhea and malaria in the study area. As shown by scientific researches most disease are caused by unsanitary environment. It is often said that 'treat your environment how you want it to treat you', so being surrounded by a dirty environment increasing the chances of disease causing vectors to be ever-present in such areas.

- The study also reveals that the quantity of water available in the study area was inadequate for proper hygiene and domestic uses.
- Wastes are also not properly disposed in the designated areas therefore causing various health issues.
- In addition, most drainage is also opened creating a breeding and nesting place for mosquitoes, flies and diseases.
- Also, the Governments involvement in waste disposal to the designated points in the study area was poor. They no longer concern themselves with the happening of the area causing an acute set-back in maintaining a hygienic environment at the refuse designation area.

Recommendations for Policy Measures

In view of the findings of this study, it hereby recommends the following measures for policy making. This will help to ensure adequate sanitation facilities in the study area and subsequently regulate the spread of malaria and diarrhea infections.

- The government should ensure that sanitation facilities are properly put in place and its hygienic use should be enforced
- It is also expedient that the government increase the number of available pipe-borne water and boreholes in strategic locations so as to solve the challenges of inadequate water supply.
- Government should as well intensify efforts in providing standard sanitation facilities like incinerators, covered drainages, well equipped public toilets amongst others in order to control the spread of diseases such as diarrhea and malaria.
- In addition, the sanitation enforcement agencies in collaboration with the government should ascertain that the few available sanitation facilities in the study area are properly managed and in good condition.
- The government should also put in place necessary measures to monitor the hygienic condition of the refuse designated area.
- Community participation in the area of monitoring and enforcement of compliance to clean and healthy environment was also recommended.

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KNOWLEDGE OF SOLID WASTE MANAGEMENT AMONG HOUSEHOLD HEADS IN IMO STATE, NIGERIA

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Abstract
The study assessed the knowledge of solid waste management among household heads of Imo State, Nigeria. One (1) purpose of the study, research question and hypothesis were formulated and answered. Ex-post-facto research design was used. The population of this study comprised of all household heads in Imo state. The total population was three million, nine hundred and twenty seven thousand, five hundred and sixty three (3,927,563). A multi-stage approach involved a stratified random sampling procedure, simple random sampling procedure and proportionate procedure was used to select the respondents. The sample size was three hundred and eighty one (381) household heads. The instrument used for data collection was a questionnaire. Data collected was analyzed with Statistical Package for Social Science (version 22) using frequencies, percentages, mean, standard deviation, one sample t - test. Findings revealed that the knowledge of the household head of Imo State on solid waste management is significant (t = 3.117; p = 0.01). Based on the findings, conclusion was made that the knowledge of the household heads in Imo State on solid waste management is positive. On the basis of this finding, recommendation were made that seminar/workshop and community health related programme should be organized by state government and nongovernmental organizations on solid waste management in other to sustain the positive knowledge of solid waste management.

***Keywords**: Solid waste management, knowledge*

Introduction
In order to protect environment and promote health, waste disposal and management should be more aggressively addressed in our society. Waste is more easily recognized than defined. Something can become waste when it is no longer useful to the owner or it is used and fails to fulfill its purpose (Gaurlay, 2012). According to Milter (2008) solid waste is any useless unwanted or discarded materials that are not liquid or gas. Simmens. (2001) viewed solid waste as a great mixture of substances including fine dust, metal, glass, paper and cardboards, textiles, vegetable, materials and plastic characterized.

United State Environmental Protection Agency (2010), stated that management of waste is one of the problems human beings are faced. In Imo state household have a lot of land at their disposal, organic matters can be thrown away and they are allowed to decompose on the land (Gaurlay, 2012). However, household run the risk of being infected with diseases due to limited land to spare for refuse and its have effects of indiscriminate solid waste disposal in man are numerous. The flora or fauna on the environment in different health problems from convulsion, dermatitis, irritation of nose, throat, anemia, skin burns, chest pains, blood disorders, stanch aches, vomiting, diarrhea, and cancer of the lungs which can lead to death. Other health effects includes flies which carry germs on their bodies and legs and also excrete them, mosquitoes breed in stagnant water, blocked drains in favorable location (Freeze & Cherry, 2006). Some household burn their refuse while others indiscriminately bury it. Indiscriminate disposal, burning and burying of refuse pose major environmental and health threats through sour and water which put the entire eco-system of an area in danger (Gaurlay, 2012).

The rapid growth of cities in the developing world in recent decades has resulted in increased consumption of resources to meet the growing demands of urban population and industry and this situation leads to generation of large amount of solid waste. Seventy to eighty percent (80%) of refuse in African cities are disposed of by dumping in open spaces water bodies and surface drains as a result of inadequate infrastructure and ignorance of inhabitants (United Nations Environmental Programmed, 2010). Indiscriminate disposal of waste is detrimental to health because it creates unsanitary environment that have adverse impacts for urban residents where sanitary facilities are scarce and the household refuse are not disposed properly these compound the health hazard (Oluwade, 2009).

Abila and Kantola (2013) revealed while they conducted studies on municipal solid waste management in Nigeria while proposes a conceptual knowledge management approach for tackling municipal waste problems in cities across Nigeria revealed the application of knowledge management approach and strategy is crucial for inculcating a change of attitude towards improving the management of waste. The inefficient management of solid waste by individuals, households, consumers and solid waste management companies can be attributed to inadequate information on solid waste management benefits, lack of producers' involvement in solid waste management as well as poor implementation of government policies. According to Olanipekun, Oyeniyi and Konwea (2011) household should be orientated knowledgably to conceive waste as being a valuable resource for material and energy recovery, and also on the environmental consequences of waste dumps on drainage channels, streams, pathways android sides. Milter (2008) asserted that the interaction with international waste agencies is required to close up existing gaps between developed and developing countries, and to ensure efficient solid waste management. This interaction would open doors to new coping strategies of managing waste effectively in Nigeria, among which is knowledge management while the need for information flow between waste generators, producers and solid waste management companies is vital in bridging the knowledge gaps. The communication and exchange of knowledge is facilitated between solid waste generators and producers of recyclable packages such as plastic, tins, and cartons provided comprehensive descriptive logos or label are inscribed with

expressions in English and three major languages on such containers has been recyclables. Recovery process of these recyclables from consumers will be possibly not challenging if certain incentives are attached to the return of such items. These incentives are consumer generated incentives that are derived at the point of purchase as the cost of the actual containers is already added to the purchasing cost of the items.

The sustainable management of solid waste approach aims at global environmental quality and environmental quality is a pre-requisite for a rise in per capital welfare over a period of time "Efficient management of solid waste is a global concern requiring extensive research and development works towards exploring newer application for a sustainable and environmentally sound management" (Gaurlay, 2012). The problem of Solid waste management is a primordial and present issue in developing countries in Africa, particularly Nigeria. Solid waste management problems in Nigeria cut across concerns for human health, air, water, and land pollution among others. Therefore, the application of knowledge management approach and strategy is solid waste. The motivating factors for this study include among other things, the inefficient management of solid waste by individuals, households, consumers and solid waste management companies in Imo state Nigeria, Which was attributed to inadequate information on solid waste management benefits, inefficient involvement of health workers on solid waste management as well as poor implementation of government policies related to solid waste management. Therefore, it has become apparently necessary to conduct a research to assess the knowledge of solid waste management among the household heads in Imo state Nigeria, thereby filling the gap left by pre-existing researches which emphasized more on sewage disposal and other related areas. The purpose of this study was to assess the knowledge of solid waste management among household heads in Imo state.

Research Question

i. What is the knowledge of solid waste management among household heads in Imo state?

Hypothesis

Ho: knowledge of solid waste management among household heads in Imo State is not significant.

Methodology

For the purpose of this research, ex-post facto research design was used. The population of this study comprised of all household heads in Imo state. The total population was three million, nine hundred and twenty seven thousand and five hundred and sixty three (3,927,563) (National population Commission (NPC), 2006). The sample size for the study was 384. The sample size was deemed adequate according to Krejcie and Morgan (1990) who stated that for a population above 1,000,000, 384 samples are adequate at 95% confidence level. In order to draw the sample size above, a multistage sample technique was employed. Stratified sampling technique, simple random sampling technique and proportionate sampling were used to select three hundred and eighty four (384) respondents.

The researchers purposively selected household heads in the local government headquarters as the participant for the study. Structured questionnaire was used for data collection in other to achieve the purpose of the study. In other to determine the instrument validity, a draft questionnaire was prepared by the researcher and submitted to five (5) experts from Department of Human kinetic and health education for vetting. Their suggestions were adopted in the final draft of the questionnaire. The researchers obtained an introduction letter from the Human Kinetics and Health Department, Ahmadu Bello University Zaria, while respondents were met at their homes and briefed on the purpose of the study. The researcher with the help of four (4) trained research assistants employed to help in explaining the questions to the respondent. 384 Questionnaires copies were distributed to the respondents and 381 were retrieved due to failure from the respondents to submit which represent 99.2%. Descriptive statistics of frequency and percentage were used in describe the demographic characteristics of the respondents while inferential statistics of one sample t-test at 0.05 level of significance was used to test the hypothesis.

Results

Table 1: Mean and Standard deviation on the knowledge of solid waste management among household heads in Imo state.

S/N	Item	Mean	Standard Deviation
1	Never hear about solid waste management	2.1814	.64451
2	I am aware of solid waste management	3.2113	.70612
3	I know that dustbin is used to store solid waste	3.1755	.61666
4	Sewer system is a method of solid waste collection	2.9907	.57334
5	Pit latrine is a method of solid waste disposal	3.8214	.79679
6	Use of truck helps in solid waste evacuation	3.3619	.89770
7	Waste are burnt at your various homes	2.1313	.94991
8	Open dumping system is used in the management of solid waster	3.5133	.73142
9	Recycling of refuse is a method of solid waste management	3.7855	.58638
10	Sanitary land fill is a method processing and recovering	2.6311	.05286
11	Dustbin is used to store solid waste	2.3837	.51958
12	Proper solid waste management is the responsibility of the households alone	3.2411	.62089
13	Solid waste management is a governmental responsibility	3.4112	.19570
14	Refuse management in my locality is a combined effort of households and the government	3.6619	.69112
15	Transfer and transportation of waste help in waste management	3.6721	.53141
	Aggregate Mean	**3.1449**	

Table 1 shows the mean score of the responses of respondents about the knowledge of solid waste management among household head of Imo state. The responses for each item were computed taking into account that 4 for strongly agree, 3 for agree, 2 for disagree and 1 for strongly disagree. Pit latrine is a method of solid waste disposal which have a mean of 3.8214 and standard deviation of .79679, Transfer and transportation of waste help in waste management have a mean of 3.6721 and standard deviation of .53141, Use of truck helps in solid waste evacuation have a mean of 3.3619 and standard deviation of .89770. The highest mean responses with mean score 3.8214 revealed that most of the respondents agrees that pit latrine is one of solid waste disposal methods. While the index table shows that all the items from the responses were significant and the aggregate mean score of the items is 3.1449 which was found to be greater than benchmark score of 2.5. This implies that knowledge of the household heads in Imo state on solid waste management is positive.

Table 2: One sample t test on knowledge of solid waste management among household heads in Imo state

	Mean	Std. Deviation	t-value	Df	P-value
Aggregate mean	3.1449	0.6076	3.117	383	0.01
Constant mean	2.50	0.00			

t (383) = 1.972, P < 0.05

From the above result of analysis presented, it shows that the probability value is less than 0.05 at 5% level of significance. The t-value is 3.117 greater than the t-critical 1.972 at degree of freedom 383. The null hypothesis which states that "knowledge of solid waste management among household heads in Imo State is not significant." is therefore rejected.

Discussions

The finding of this study revealed that the knowledge of solid waste management among household heads in Imo State on is significant. This is in line with what Abila and Kantola (2013) revealed while they conducted studies on municipal solid waste management in Nigeria and proposes a conceptual knowledge management approach for tackling municipal waste problems in cities across Nigeria. The study revealed the application of knowledge management approach and strategy is crucial for inculcating a change of attitude towards improving the management of waste. The inefficient management of solid waste by individuals, households, consumers and solid waste management companies can be attributed to inadequate information on solid waste management benefits, lack of producers' involvement in solid waste management as well as poor implementation of government policies. According to Olanipekun, Oyeniyi and Konwea (2011) household should be orientated to conceive waste as being a valuable resource for material and energy recovery, and also on the environmental consequences of waste dumps on drainage channels, streams, pathways. Milter (2008) asserted that the interaction with international waste agencies is required to close up existing gaps between developed and developing countries, and to ensure efficient solid waste management and this interaction would

open doors to new coping strategies of managing waste effectively in Nigeria, among which is knowledge management while the need for information flow between waste generators, producers and solid waste management companies is vital in bridging the knowledge gaps. The communication and exchange of knowledge is facilitated between solid waste generators and producers of recyclable packages such as plastic, tins, and cartons provided comprehensive descriptive logos or label are inscribed with expressions in English and three major languages on such containers has been recyclables. Recovery process of these recyclables from consumers will be possibly not challenging if certain incentives are attached to the return of such items. These incentives are consumer generated incentives that are derived at the point of purchase as the cost of the actual containers is already added to the purchasing cost of the items.

Conclusion

It was concluded that household heads in Imo State have knowledge of solid waste management.

Recommendations

1. Health related programme on solid waste management should be organized by state government and nongovernmental organizations on solid waste management base on health related issues which maintain the knowledge of the household heads in Imo state through Seminar/workshop and community campaign.
2. There is need for environmental Health Extension workers to intensify effort to ensure that house hold in Imo state knowledge on the correct solid waste management.

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SOCIO-DEMOGRAPHIC FACTORS AFFECTING TEACHING OF SEX EDUCATION AMONG JUNIOR SECONDARY SCHOOLS IN PAKATA COMMUNITY, KWARA STATE, NIGERIA

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Abstract

Sexuality is a central aspect of being human throughout life and encompasses sex, gender identities and roles, sexual orientation, eroticism, pleasure, intimacy and reproduction. Sexuality is experienced and expressed in thoughts, fantasies, desires, beliefs, attitudes, values, behaviours, practices and relationships. The study investigated (i) religion (ii) culture (iii) economic status and (iv) age difference as socio demographic factors affecting the teaching of sex education among junior secondary school in Pakata Community, Kwara State, Nigeria. A descriptive survey method was used. The population consisted of teachers in all six schools Pakata Community, Kwara State. A simple random sampling technique was used to select 128 respondents for the study. The researcher's designed questionnaire which was validated by three experts from the Department of Health Promotion and Environmental Health Education, University of Ilorin. A correlation co-efficient 'r' of 0.76 was obtained through test re-test method using Pearson Product Moment Correlation on respondents outside the study sample. Data collection was conducted by the researchers and two trained research assistants. The two postulated null hypotheses were tested using the inferential statistics of chi-square @0.05 alpha level. The findings from the study revealed that: i. religion and economic status were perceived as socio-demographic factors affecting the teaching of sex education among Junior Secondary Schools with the calc. $_{x}^{2}$ *value of 46.219* $_{x}$ *table* $_{x}^{2}$ *value of 21.03 and the calc. X2 value of 97.469* $_{x}$ *table X2 value of 21.03 respectively at the freedom df 12 @ 0.05 alpha level and ii. culture and Age differences were perceived as a socio-demographic factor affecting the teaching of sex education among Junior Secondary Schools with the calc.* $_{x}^{2}$ *value of 76.953*$_{x}$ *table* $_{x}^{2}$ *value of 21.03 and the calc. X2 value of 71.219* $_{x}$ *table X2 value of 21.03 respectively at the freedom df 12 @ 0.05 alpha level. Based on the findings, the researcher concluded that religion, culture, economic status and age differences were perceived as socio-demographic factors affecting the teaching of sex education among junior secondary schools in Pakata Community, Kwara State, Nigeria. It was recommended among others that government should incorporate sex education into the curriculum and create awareness on sex education for junior secondary school students and sensitize them based on religion affiliation, cultural practices, economic statuses and age differences.*

Keywords: Perception, Socio-demographic, Factor, Teaching, Sex, Education and Community.

Introduction

The need for sexuality education in schools has become indispensable in today's contemporary society. While many societies and cultures around the world are yet to consent to the introduction of sex education in schools mostly because of their socio-cultural background, belief system, political system, religion, etc, some countries see sex education as a gateway to deal with issues related to reproductive health and sexual preference among teenagers. Sexual health is one of five core aspects of the World Health Organization Global Reproductive health strategy approved by the World Health Assembly in 2004 (WHO, 2004).

According to WHO (2006), sexuality is a central aspect of being human throughout life and encompasses sex, gender identities and roles, sexual orientation, eroticism, pleasure, intimacy and reproduction. Sexuality is experienced and expressed in thoughts, fantasies, desires, beliefs, attitudes, values, behaviours, practices and relationships. While sexuality can include all of these dimensions not all of them are always experienced or expressed. Sexuality is influenced by the interaction of biological, psychological, social, economic, political, ethical, legal, historical, religious and spiritual factors (WHO, 2006). Akerele (2004) wrote that sex is something you do sexuality is something you are. This way of understanding sex highlights the difference between the act of sex and the individual experience of sexuality, which is an intrinsic part of whom we are and that cannot be separated out of ourselves more than our ethnicity, religion or spiritual beliefs.

According to Sexuality Information and Education Council of the United States (SIECUS) Report, Sexuality education also referred to as sex education or family life education which is a lifelong process of acquiring information and forming attitudes, beliefs and values. It encompasses sexual development, reproductive health, interpersonal relationships, affection, intimacy, body image and gender roles (SIECUS Report, 2001). United Nations Educational Scientific and Cultural Organization (UNESCO) defines sexuality education as an age-appropriate, culturally relevant approach to teaching about sex and relationships by providing scientifically accurate, realistic, non-judgmental information. UNESCO, pointed out that sexuality education provides opportunities to explore one's own values and attitudes and to build decision-making, communication and risk reduction skills about many aspects of sexuality (UNESCO, 2006).

According to Berger (2008), sexuality education seeks both to reduce the risks of potentially negative outcomes from sexual behaviour like unwanted or unplanned pregnancies and infection with sexually transmitted diseases and to enhance the quality of relationships. It is also about developing young people's ability to make decisions over their entire lifetime. Sex education is the education that is given to individuals on sexuality behaviour. It is the process of acquiring information, attitude and belief about sex. It is education for awareness especially

adolescents about sex related issues. Sex education does not encourage early initiation of intercourse but instead can delay first intercourse and lead to more consistent and understanding what the concept is all about. It is the process of acquiring information and forming attitudes and beliefs about sex, sex identity relationship and intimacy. It involves developing young people's skills so that they make informed choices about their behaviour. It is widely accepted that young people have right to sex education, partly because it is a means by which they are helped to protect themselves against abuse, exploitation, unintended pregnancies and Sexually Transmitted Disease (STDs) so as to understand their body mechanism in general (Nwahizu, 2006).

Collins (2008) argued that sexuality education encompasses education about all aspects of sexuality including information about family planning, reproduction, body image, sexual orientation, sexual pleasure, values, decision making, communication, dating, relationships, sexually transmitted infections and how to avoid them, and birth control methods. Sex education is also a means by which young people can protect themselves from abuse, exploitation, unintended pregnancies, sexually transmitted diseases (HIV and AIDS). The skills which young people develop through sex education are those that would enable them to communicate, listen, negotiate with others, ask for help and identify the sources of help and advice. These skills also help to improve their ability to make and take the right decision and to be assertive. They will thus be able to recognize pressures from other people and be able to resist them. They will be able to deal with challenge prejudice as well as to seek help from others. They also will be able to differentiate between accurate and inaccurate information. (Madunagu, Mahajan, & Sharma, 2005; Avert 2011).

However, if taught appropriately, curriculum-based sexuality education can also help young people to develop communication skills, as well as enhancing their self-esteem and capacities in making health related decisions. It can also help them to forge positive and equitable relationships (Gordon, 2007). Sexuality education also acts at a broader social level with the potential to change social norms by influencing adults (for example, teachers and parents), the social environment and subsequent generations of young people (Gordon, 2007). Sexuality education is often discussed and evaluated in terms of its role in reducing adolescent pregnancy and sexually transmitted diseases (STDs) rates (Asekun-Olarinmoye, Fawole, Dairo, & Amusan, 2007). Asekun-Olarinmoye et al (2007) pointed out that the primary goal of sexuality education is much broader-to give young people the opportunity to receive information, to examine their values and to learn relationship skills that will enable them to resist the becoming of sexually active before they are ready, to prevent unprotected intercourse and to help young people become responsible sexually active adults.

Statement of Problem

Early sexual activity among teenagers is on increase in many societies of the world today including Nigeria. This may be as a result of ignorance, lack of appropriate guidance and counseling, faster biological development, indiscipline and lack of moral education, inadequate parental care, bad role model of parents, adolescent rebellious attitude, child abuse, certain cultural influences and practice and the likes (Akande & Akande, 2007). However, there is growing concern in the Nigeria society about increase in moral laxity, promiscuity, unwanted pregnancies and cases of abortion among youths. The incidence of these problems has been attributed to ignorance of youths about sex and sexuality issues. Parents and guardians should be the primary sexuality educator of their children (Sieswerda & Blekkenhorst, 2006). It has been emphasized that parents may need support, resources and expertise from schools and other organizations and it is important that young people received sexual health information and develop practical skills that are appropriate with their age (Ogunjimi, 1989; Planned Parenthood Federation of America, 2004; Avert, 2011). It has been observed and reported that many educators feel anxious or tentative in tackling the topics of sex, sexuality and sexual health. They may also feel overwhelmed about where to start or confused about what to teach and when to teach it (Avert, 2011).

Some teachers do not approve the inclusion of sex education in the school curriculum for fear that it would lead to promiscuity, while there are some who are not willing to offer sex education to adolescents under their care (Akintayo, 1991; Iyoke & OnahOnowasigwe, 2006; Oladepo & Aniebue, 2007). Most parents are ignorant of their children's needs of sexual matters. It also seems that parents do not actually know the areas or topics that will be included but only assumes that it would be all about issues that will expose their children to sexually experimentation. However, it is most likely that if topics that are not acceptable to parents are included in the curriculum, it would lead to resistance from the parents. This is evident in the document posted on a site where the author claimed that the sex education that was proposed to be added to the curriculum of both primary and secondary schools is no more than poor perception and that it was an obvious sign of collapse in moral principles in the society (Toscany Academy, 2012).

Research Questions

The following questions are raised to guide this study:

1. will religion be perceived as a factor affecting the teaching of sex education among Junior Secondary Schools in Pakata Community Ilorin West LGA, Kwara State?
2. will economic status be perceived as a factor affecting the teaching of sex education among Junior Secondary Schools in Pakata Community West LGA, Kwara State?

Research Hypotheses

Ho_1. Religion will not be perceived as a factor affecting the teaching of sex education among junior secondary school in Pakata Community West LGA, Kwara State.

Ho_2. Economic status will not be perceived as a factor affecting the teaching of sex education among junior secondary school in Pakata Community West LGA, Kwara State.

Methodology

The research design that was used for this study is descriptive research design of survey type because it is suitable for gathering data from relatively large number of cases at a particular time. Colorado State University (CSU, 2014) described survey research as a chosen method of data collection among educationists. CUS (2014) contends that the popularity of survey research and its consistency is due to its efficiency and versatility. The population of this study comprised of all teachers in junior secondary schools in Pakata Community. According to the Kwara State Universal Education Board, Pakata community has a total number of six junior secondary school and 252 teachers. A simple random technique was used for this study. Teachers were randomly selected from all the government junior secondary schools in Pakata Community using 50% of the total in each school population. The instrument that was used for this study is a well-structured questionnaire designed by the researcher to elicit responses from the respondents concerning the perceived socio-demographic factors affecting the teaching of sex education in junior secondary schools in Pakata community, Ilorin. The questionnaire consists of two sections A and B. Section A measured the demographic variables of the respondents, while section B measured perceived socio-demographic factors affecting the teaching of sex education in junior secondary schools in Pakata community. A four point Likert scale with alternatives of Strongly Agree (SA) = 4 points, Agree (A) = 3 points, Disagree (D) = 2 points and Strongly Disagree (SD) = 1 point was used. The drafted questionnaire was given to three experts in Department of Health Promotion and Environmental Health Education, University of Ilorin, the comments and suggestions made by the experts were carefully studied and used to improve the quality of the instrument before the reliability of the instrument was carried out and this was used for final administration to the respondents. The reliability was carried out on the respondents. Twenty questionnaires were administered to respondents outside the research area but similar to the study. The results were collected after two week interval on the same set of subjects used, the questionnaires was collected and correlated on the two results. The collected data was analysed using Pearson Product Moment Correlation (PPMC) to determine the consistency of the instrument. A coefficient of 0.76r was obtained which shows that the instrument is reliable for the study. The rights and dignity of participants and privacy were considered. The researchers administered the instruments to the respondents, the copies of administered questionnaire were collected back immediately from the respondents. This was done in order to ensure high rate of return and to enable correct responses to the questionnaire

items and for further clarification if there is any on any item of the questionnaire. Data collected, coded and analyzed using both descriptive and inferential statistics. Descriptive statistics of frequency count and percentage was used to analyze demographic information and the research questions while inferential statistics of chi-square(x^2) was used to test the null hypothesis formulated for the study at 0.05 alpha level.

Results

Hypothesis One

Religion will not be perceived as a factor affecting the teaching of sex education among junior secondary school in Pakata Community Ilorin West LGA, Kwara State.

Table 1: **Chi-square Analysis Showing Religion as Perceived Factor Affecting the Teaching of Sex Education.**

S/N	ITEMS	SA	A	D	SD	ROW TOTAL	df	CAL. VAL	TABLE VAL.	REMARK
1	My religion teaches sex education.	94 (73.4%)	28 (21.9%)	4 (3.1%)	2 (1.6%)	128				
2	Religion leaders see sex education as a subject to be discuss privately.	30 (23.4%)	41 (32.0%)	34 (26.6%)	23 (18.0)	128				
3	Religious parents or teachers tend to be conservative when discussing sex related matters.	43 (33.6%)	69 (53.9%)	12 (9.4%)	4 (3.1%)	128	12	46.219	21.03	Ho Rejected
4	Religion leaders encourage the teaching of sex education.	48 (37.5%)	67 (52.3%)	10 (7.8%)	3 (2.3%)	128				
5	My religion belief that it is a sin to teach adolescence about sexuality.	19 (14.8%)	18 (14.1%)	42 (32.8%)	49 (38.3 %)	128				
	Column Total	**234**	**223**	**102**	**81**					

P< 0.05 alpha level

Table 1 indicates that calculated Chi-square value of 46.219 and the table value of 21.03 with the degree of freedom of 12 at 0.05 alpha level. Since the calculated value is greater than the table value, the hypothesis 1 is rejected. This implies that religion is perceived as socio demographic factor affecting the teaching of sex education among junior secondary schools in Pakata Community Ilorin West LGA, Kwara State.

Hypothesis Two

Economic status will not be perceived as a factor affecting the teaching of sex education among junior secondary school in Pakata Community Ilorin West LGA, Kwara State.

Table 2 : Chi-square Analysis Showing Economic Status as Perceived Factor Affecting the Teaching of Sex Education

S/N	ITEMS	SA	A	D	SD	ROW TOTAL	df	CAL. VAL	TABLE VAL	REMARK
1	Place of residence can affect the teaching of sex education.	47 (36.7%)	60 (46.9%)	5 (11.7%)	6 (4.7%)	128				
2	Educated parents tend to be open minded when teaching sex education.	60 (46.9%)	59 (46.1%)	6 (4.7%)	3 (2.3%)	128				
3	Less or uneducated parent tend to be conservative when discussing issues related to sex.	32 (25.0%)	73 (57.0%)	17 (13.3%)	6 (4.7%)	128	12	97.469	21.03	Ho Rejected
4	Level of income of parents or teachers can affect the teaching of sex education	27 (21.1%)	35 (27.3%)	40 (31.3%)	26 (20.3%)	128				
5	Parents occupation can affect the teaching of sex education.	18 (14.1%)	48 (37.5%)	39 (30.5%)	23 (18.0%)	128				
	Column Total	**184**	**275**	**107**	**64**					

P < 0.05 alpha level

Table 2 indicates that calculated Chi-square value of 97.469 and the table value of 21.03 with the degree of freedom of 12 at 0.05 alpha level. Since the calculated value is greater than the table value, the hypothesis 2 is rejected. This implies that economic status is perceived as socio demographic factor affecting the teaching of sex education among junior secondary schools in Pakata Community Ilorin West LGA, Kwara State.

Discussion of Findings

There were two findings in this study based on the hypotheses formulated for the study. The findings were discussed one after the other in this section according to the hypotheses formulated and tested at 0.05 alpha level.

Hypothesis 1: Religion will not be perceived as a factor affecting the teaching of sex education among junior secondary school in Pakata Community Ilorin West LGA, Kwara State. The calculated chi square value of 46.219 is greater than critical table value of 21.03 at the degree of freedom of 12 and alpha level of 0.05. The result of hypothesis one implies that religion is a socio demographic factor affecting the teaching of sex education among junior secondary schools in Pakata Community Ilorin West LGA, Kwara State. This finding is in agreement with Yousefzadeh, Holmakani and Nameni (2017) study that indicated religious beliefs could influence sexual relations. In some studies, religious teachings are cited as a barrier to sex

education that is why sex education is deemed unsuitable in Iran and some other countries. Smerecnik (2010) in his study claimed that since through online survey, they found that sex education among Muslims is unsuccessful and the respondents believed that religion has previously expressed the main orders. Therefore, Muslims think that it is not necessary to consider sex education.

Ahmadi, Fathi and Arab (2006) and Danesh and Kermani (2011) in their studies demonstrated that the correlation between religious commitment and sex is low and lack of religious information regarding sex is considered as a reason. They believed that if information in this regard is transferred properly based on cultural norms of the community, sex education can be effective. Studies by other researchers have found religion to have an impact on sexual behaviour among adolescents in Africa (Omoteso 2006; Sadgrov 2007; Sambisa, Curtis & Stokes 2010). The Islam injunction believes that both the Islamic moral philosophy and the social system of Islam have adequately taken care of sex education. It is strongly believed that religious knowledge, be it Islam or Christianity helps children to cultivate religious attitude towards life and orientate them towards self-purification, self-actualization and socialization (Adunola, 2005).

Hypothesis 2: Economic status will not be perceived as a factor affecting the teaching of sex education among junior secondary school in Pakata Community Ilorin West LGA, Kwara State. The calculated chi square value of 97.469 is greater than critical table value of 21.03 at the degree of freedom of 12 and alpha level of 0.05. The result of hypothesis three implies that religion is a socio demographic factor affecting the teaching of sex education among junior secondary schools in Pakata Community Ilorin West LGA, Kwara State. The finding is supported by Kim and Ward (2007) that Parents have a unique position when it comes to sex education because parents are the earliest socialisation agents in children's lives. Many parents actually want to teach and talk to their children about sex but they often doubt their skills and competency to impart that knowledge.

It is important to note that though parents can influence their children's beliefs and attitudes about sex, they may not necessarily pass specific messages related to sex. There are certain positive benefits to parents opening up communication with their children about sex There are indirect effects on the sexual health of adolescents, such as prompting them to have more open talks with their partners and increasing their knowledge of HIV and even reduce the chances of sexually risky behaviour. However, parents' communication is usually centralised on a few topics, such as health, risks and safety issues, rather than on pleasure, orgasm, etc. This is contrasted from findings based on existing studies of family sex communication, which preventative measures are rarely talked about. The focus of parental communication is on negative consequences of having sex or is heteronormative (Kim & Ward, 2007).

Conclusion

Based on the findings of this study, the following conclusion was drawn that

1. Religion was perceived as a socio demographic factor affecting the teaching of sex education among junior secondary schools in Pakata Community Ilorin West LGA, Kwara State.
2. Economic status was perceived as a socio demographic factor affecting the teaching of sex education among junior secondary schools in Pakata Community Ilorin West LGA, Kwara State.

Recommendations

Based on the findings of this study, it was recommended among others that:

1. Professionals like counseling psychologists, psychologists and doctors to carry out health promotion programme to empower teachers, parents, students and the society at large irrespective of their religion on sexuality education.
2. Government should incorporate sex education into the curriculum and create awareness on sex education, and non-governmental organisation should support the creation of awareness so as to reach every nook and cranny of the society irrespective of the economic status.

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DEMOGRAPHIC PREDICTORS OF PREMARITAL SEXUAL BEHAVIOURS AMONG SENIOR SECONDARY SCHOOLS IN KOGI STATE, NIGERIA

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Abstract
Teenage sexual behaviours have become a subject of attention among scholars and researchers in recent decades and it has been reported that the number of students engaging in sexual behaviours before marriage has increased drastically in recent years. Several studies has been carried out on peer pressure, family factors, religion, family factors, religion, exposure to pornographic materials and the advent of mass-media as the major determinants of teenage sexual behaviors among students while research attention has focused on the extent to which age and gender predict teenage sexual behaviors among secondary school students. This research therefore examined the influence of teenage sexual behaviours of senior secondary school students in Kogi State. To collect data for this study, a cross-sectional survey research design was adopted. Two thousand eight hundred and sixty-five (2,865) questionnaires were distributed to the two thousand eight hundred and sixty-two thousand eight hundred and sixty-five (2,865) sampled population from the forty-five (45) selected some secondary school from nine (9) sampled L.G.A of the twenty-one (21) L.G.A in the state using stratified and simple random sampling techniques. The analysis was done using z-test statistical method to test the hypotheses. Findings revealed that premarital sexual behaviours are influenced as a result of age and gender of senior secondary school students. It was therefore concluded that age and gender are predictors of teenage sexual behaviours among students. Based on the findings, the study recommended that parents should monitor their children closely especially during the time of their youth.

Keywords: Premarital, Sexual behaviors, predictor, age, gender, students

Introduction

All over the world teenage sexual behaviours have become a subject of attention among young scholars and researchers in recent decades. For the past three decades a substantial increase has been observed in the proportion of students who mostly engage in premarital sexual behaviours while at school (Ogungbamila, 2013 and Ugoji, 2014). Also, the World Health Organization (WHO, 2004) as cited by Adeola, (2014), documented evidence shows that teenage sexual

activities among students are increasing in Africa and Nigeria is one of them. This may be well placed while considering the fact that teenage sexual behaviours such as kissing, hugging, oral sex, and sexual intercourse could be associated with teenage pregnancy, sexually transmitted infections (STIs) such as HIV and AIDS among students (Ugoji, 2008; Adeoye, Ola and Aliu, 2012 and Ogungbamila, 2013).

Teenage sexual behaviours can be said to be the sexual activities engaged in prior to marriage. Such behaviour include but not limited to, kissing, hugging, romancing, fondling of the genital, oral sex and penetrative vaginal intercourse (Stephen & Stephen, 2016 and Behulu, Anteneh and Ayanlem, 2019). In Nigeria, sex before now was regarded as sacred and limited only to adult males and females within marriage but today adolescent students negate this valued tradition for the inglorious culture of premarital sexual activities (Adeoye *et al;* 2012 & Stephen & Stephen, 2016).

Several studies have investigated the influence of gender and age on teenage sexual behavior and the consensus is that age and gender do influence student's teenage sexual behaviour (Adebisi, 2016, and Muturi and Gaearwe, 2014). In their separate researches, Adeoye, *et al;* (2012) Onyebuchukwu, Sholarin and Emerenwa, (2015), Musime and Mugisha (2015) and Stephen and Stephen, (2016) opined that age and gender are major influence of teenage sexual behaviours among students. In addition, Westera and Bennett, (1994), Weinstein and Rosen, (1995) studies on premarital sexual behaviours of high school students cited by Ogungbamila, (2013) revealed that 88%, 84%, 69.9% and 59.5% of males and females respectively showed attitudes supportive of premarital sexual behaviours. In like manner, Ugoji, (2011) and Adeoye *et al*, (2012) submitted that premarital sexual behaviours among students is determined mostly by their gender. These studies did not indicate whether male engaged in premarital sexual behaviours than the females.

Most researches conducted to examine the influence of age on the premarital sexual behaviours of students reported by saying that early young adult students were mostly prone to premarital sexual behaviours (Fatusi, and Blum, 2008, and Adeola, 2014). Martin, Martin and Martin, (2001) and Oladepo and Brieger, (2000) reported that most individuals within the ages of 13-17 were more involved in teenage sexual behaviours than less young adults. Furthermore, a study conducted by Alo and Akinde, (2010) on teenage sexual activities revealed that 14.2% of young females students engaged in this act before age 14 while 84% of them admitted that they had sex before their 20th birthday.

Most of the studies conducted on teenage sexual behaviours in Nigeria tend to focus most predominantly on family factors, religion, peer pressure, contraceptive knowledge and exposure to pornographic materials/mass media as a major determinant factors of premarital sexual behaviours (Adeoye, *et al*, 2012, Ogungbamila, 2013, Alo and Akinde, 2010 and

Onyebuchikwu, 2015). Less attention has been on the age and gender on premarital sexual behaviours especially among senior secondary school students.

Therefore, the aim of this study was to investigate the influence of age and gender on teenage sexual behaviours among senior secondary school students in Kogi State, Nigeria.

Statement of the problem

Culturally, sexual activities is supposed to be preserved until marriage but researches shows that there is prevalence of premarital sexual behaviours among students in this contemporary time, which leads to high incidence of unintended pregnancies and sexually transmitted infections (STIs) (Stephen & Stephen, 2016). The Federal Health Management Board engages in series of campaign to create public awareness on the danger and circulation of sexually transmitted infections (STIs), but the issue of premarital sexual behaviour among students is fast emerging as a serial, social and public health problem. Evidence suggests that students are engaging in premarital sex at younger age than ever before. To understand premarital sexual behaviors of students we need to conduct a research on both age and gender. This study therefore examines the influence of demographic variables on the sexual behaviour of secondary school students in Kogi State, Nigeria.

Purpose of the Study

The purpose of this study is to assess the influence of age and sex on the premarital sexual behavior of senior secondary school students in Kogi State, Nigeria.

Research Hypotheses

Ho1: There is no significant influence of age on the teenage sexual behaviours of senior secondary school students in Kogi State, Nigeria.

Ho2: There is no significant influence of gender on the teenage sexual behaviours of senior secondary school students in Kogi State, Nigeria.

Methodology

The study adopted a cross-sectional survey research design method. The populations were all the two hundred and eighty-five (285) senior secondary school students in Kogi State, Nigeria. Sample sizes of two thousand, eight hundred and sixty-five (2,865) students from public senior secondary schools in Kogi State were used for this study. The sample size was selected using stratified purposive and simple random sampling techniques. The stratified sampling techniques was used to select nine local government areas for the study from the twenty-one Local Government Area using the existing three (3) senatorial districts in the State. Five (5) secondary schools from each L.G.A selected were used for the study using purposive sampling techniques in selection. The total numbers of secondary schools used was forty-five (45) out of a total number of two hundred and eighty-five (285) secondary schools in Kogi State. To select

respondents form each secondary school selected, simple random sampling techniques was used.

The instrument used for this study was structured questionnaire developed by the researchers. The questionnaire was divided into three sections. Section A is on the demographic data of the respondents, section B measure Age factor and section c measure Gender factor. To collect data from the respondents the researchers personally visited each school to distribute the questionnaires. The completed questionnaires were collected immediately from the respondents. Inferential statistic of Z-test was used to analyze hypotheses at 0.05 alpha level of significance.

Results

Hypothesis one: There is no significant influence of age on the teenage sexual behaviours of senior secondary school students in Kogi State.

Table 1 shows one sample z-test on age as a predictor of teenage sexual behaviour among secondary school students.

Variable	Number	Mean	Std. Dev.	Std. Error.	Df	Cal. T - value	Cri. T - value
Age	2,865	3.654	0.655	0.01223			
Premarital sexual behaviour	2,865	3.500	0.0000	0.000	2,864	3.963	1.96

Table 1 above shows calculated z-value of 3.963 which is greater than the critical z-value of 1.96 at 0.05 alpha level of significance. This implies that the null hypothesis is rejected. Thus age is said to be a predictor of teenage sexual behaviour among senior public secondary school students in Kogi State.

Hypothesis two: There is no significant influence of gender on the teenage sexual behaviours of secondary school students in Kogi State.

Table II shows one sample z-test on gender as a predictor of teenage sexual behaviours among senior secondary school students in Kogi State.

Variable	Number	Mean	Std. Dev.	Std. Error.	Df	Cal. T - value	Cri. T - value
Gender	2,865	3.764	0.53015	0.00897			
Premarital sexual behaviour	2,865	3.500	0.0000	0.000	2,864	4.705	1.96

The result in table II above shows the observed or calculated z-value of 4.705 which is greater than the table or critical z-value of 1.96 at 0.05 alpha level of significance. Hence, the null hypothesis of no significant influence of gender on teenage sexual behaviours of students is rejected. The finding implies that teenage sexual behaviour is influence by gender of senior secondary school students in Kogi State, Nigeria.

Discussion

The study investigated the rate at which age and gender predict teenage sexual behaviours among senior secondary school students in Kogi State. The discussion of the results are as follows:

Hypothesis one: The result showed that age predicted teenage sexual behaviour among senior secondary school students. This finding is supported by the studies carried out by Algaa, (2000); Alo and Akinde, (2010); Ugoji, (2014); Adeola, (2014); Onyebuchukwu *et al,* (2015); Adebisi, (2016) and Tololu, and Beida, Worku, Deressa Hassan and Gudeta (2017). Thus, the authors found out that age is a determinant factor of premarital sexual behaviours. They also opined that adolescents young people exhibit youthful tendencies, hence it is expected that age will produce a significant difference. They further noted that early age at puberty stage was associated with early debut of premarital sexual behaviours among students and that sexual behaviours of a young adolescent students was positively related to sex hormonal levels, which in turn were related to the age of the individual. However, this study contradicted the finding of Ogungbamila, (2013) who found out that age does not have influence on premarital sexual behaviour among students.

Findings of **hypothesis two** shows that gender also influence the premarital sexual behaviours of secondary school students in Kogi State. This result is in line with the consensus made separately by Ugoji, (2011); Mituri and Guearwe, (2014); Adeoye *et al*, (2012); Musiime and Mugisha, (2015); Stephen and Stephen, (2016) and Adebisi, (2016) that gender does influence student's premarital sexual behaviours. They concluded that there is sex difference in human and that it is a common belief that male students react more in sexual behavior than their female counterparts. For example, six percent (6%) of young females aged (15 to 24 years) are believed to be having sex by the age of 15 compared with twelve percent (12%) of young males. And by the end of their childhood (18 years), forty-two percent (42%) of females and sixty-three percent (63%) of males had become sexually active (Adebisi, 2016).

Conclusion

On the basis to the findings of this study, it is therefore concluded that age and gender have significant influence on the premarital sexual behaviours of senior secondary school students in Kogi State, Nigeria.

Recommendations

On the basis of this finding, the following recommendations were made;

- Since, age and gender are strong predictors of premarital sexual behaviours of senior secondary school students, parents should form the habit of monitoring their children closely especially during the time of their youth.
- All parents must strive to live a decent life in such a way that children from such background do have something to emulate.
- Parents should be closer to their children/wards, so that young people feel free to discuss with them issues on sexuality.
- Parents/teachers should provide students with opportunities in which they can seek clear and correct information about the period of adolescence and teaching coping skills, which will help them develop into sexually matured adult.
- Students should be helped to understand the implication of faulty sexual and reproductive development during adolescence and its implications on their future.
- Parents should live to set good examples to their children on living a decent life.

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FUELWOOD UTILIZATION AND ITS EFFECTS ON EDUCATIONAL DEVELOPMENT IN METROPOLITAN ZARIA.

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Abstract
The Study examined fuelwood utilization and its effects on educational development in Metropolitan Zaria. Research objectives include identifying the sources of fuelwood supplied to the metropolis; the role of children in the supply system as well as its effect on educational development. Data sets were collected through the use of questionnaires administered to fifty fuelwood vendors in the metropolis. The vendors were purposively selected to cover the length and breadth of the study area. The data were analyzed using simple statistical tools such as percentages and presented with the aid of tables and charts. Results reveal that 62% of the vendors get their supplies from outside Zaria, though within the State. Also, 46% of the laborers used are children of school going age who, though, do not attend school. It was concluded that the use of children retards their educational development and it was recommended that legislation against child labor should aim at protecting the rights of children who fall victim of child labor and educational deprivation.

Keywords: *Fuelwood, Energy, Charcoal, Household, Biomass*

Introduction

Woodfuel refers to all woody biomass used in some way to provide energy. Boucher, Elias, Liniger, May-Tobin, Roquemore, and Saxon, (2011), refers to fuelwood as made up of biomass that has not been processed and could be used as fuel for fires, as well as for cooking and keeping warm. Unlike pellets of chips, fuelwood is comparably less processed and could easily be identified as logs or branches. While fuelwood could be renewed as a resource, its demand could fall short of its ability to bounce back and be of use again either within the immediate area or outside.

According to the Food and Agricultural Organization, (1994), the most common sources of power for poor rural households in developing countries are fuelwood and charcoal. While majority of the people in these areas go to nearby forests or community wood lots to fetch it, others obtain theirs from the roadsides or markets. Most of the fuelwood harvested globally is used for cooking. When sold in the market, fuelwood and charcoal brings wages and serve as a means of employment to people who depend on it for a living. Charcoal is most preferred because it is the more efficient of the two and could be easily moved around or stored for future use.

Dobie and Sharma, (2014) opine that the use of wood for energy all over the world is only by the poorest people. They equally note that women and children are saddled with the responsibility of

collecting wood which is burned by households in fires that are not efficient. Because of the inefficiency of the fires, they should be closely monitored particularly where only small sticks and twigs are available for use.

Similarly, Trossero (2002) observe that global total primary energy used is made up of about 7 percent fuelwood, stressing that, with a majority of the world's population, the developing countries consume more than 76 percent of the fuelwood produced.

Literature abounds (Hammond & Kemausuor, 2009; FAO, 2010a, Kebede, Kagochi, & Jolly, 2010; Deichmann, 2011, and International Energy Agency, 2011) that globally, more than 2.4 billion people depend on fuelwood as their major source of energy.

In Nigeria, Sambo (2008a) observe a higher demand for fuelwood where over 80 percent of the population use the commodity for cooking and gives reasons for the preference which include availability and affordability of the resource.

Fuelwood utilization in Zaria has attracted interest from a number of scholars, for instance, Abdul-Hadi (2009) examined the household consumption rate of wood fuel in Zaria City, using descriptive statistics, and he revealed that households utilize different types of energy sources, with fuelwood being the major with an average consumption rate of 7.2kg per household per day. In the same vein, Abdulkadir (2009) assessed wood fuel trade and consumption pattern in Tudun Wada Zaria. He employed the Chi square analysis and found out that is an association between consumption rate and wood fuel trade with each household consuming an average of 6.7kg daily. Similarly, Abdul-Hadi (2016) studied the Impact of Fuelwood Consumption on Vegetation and concluded that cheapness, availability and affordability of fuelwood are the major factors responsible for its consumption. This study focuses on the pattern of fuelwood utilization and its effects on educational development in Zaria. It is hoped that the study would provide answers to the following.

Research questions:

- where are the source areas of fuelwood supplied to the study area?
- what is the role of children in the fuelwood supply chain? and
- what are the likely effects on education in Zaria?

The Study Area

Zaria Local Government Area is one of the 23 Local Government Areas of Kaduna state. It covers a total area of about 104km^2. It lies roughly between latitude 11^o 3' and 11° 8' North of the equator and longitude 7^o 40′N and 7^o 42′ East. It's about 671 km from the Atlantic coast. It boarders Giwa local government to the west, Sabon-Gari local government to the north and Igabi Local Government Area to the south. The built up area of Zaria is formed by fairly distinct urban quarters namely: Tudun-Wada, Wusasa, Gaskiya and Tukur-Tukur.

The relief of Zaria developed on the older-granites of the Precambrian Basement Complex Rock This geological formation comprises of both igneous and metamorphic rocks. Zaria is drained mainly by the River Kubanni, the major tributary to River Galma, which flows into the River Kaduna.

Zaria has a tropical savanna (Aw) climate with distinct wet and dry seasons. The wet season lasts for five to six months (April - late September). The dry season lasts almost seven months and relative humidity, low temperature gets low. The harmattan air causes haze that blurs visibility.

Zaria falls within the Northern fringes of guinea Savanna belt. It consists of a mixture of trees and grasses. The vegetation consists of low orchard bush with scattered trees like the silk, cotton, shea-butter and baobab. The soil types are the red laterite soil (Jankasa) of Northern Nigeria. The vegetation cover plays a vital role in the economic activities of the population.

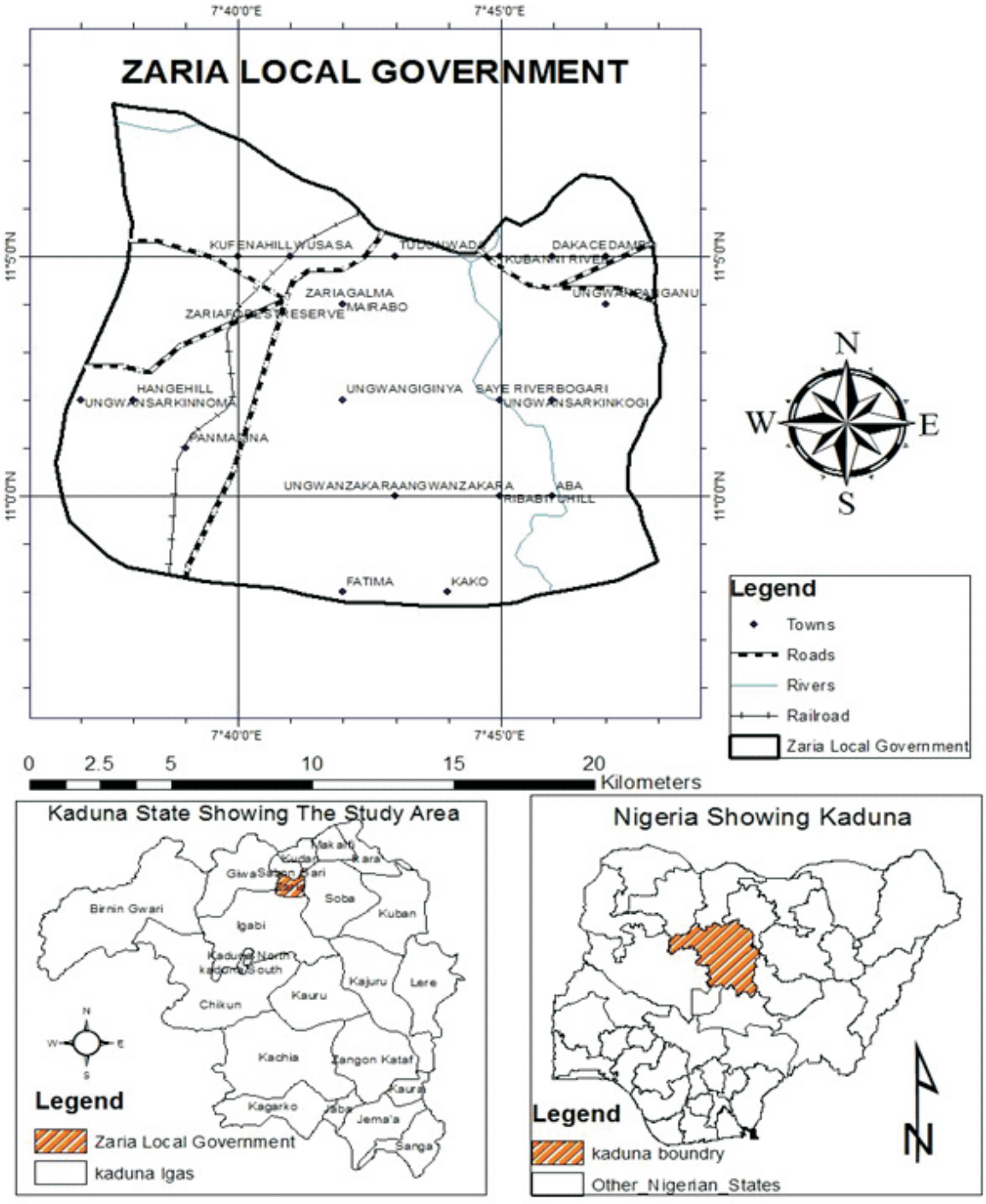


Fig.1: Map of Zaria Local Government Area
Source: Adopted and modified from the Administrative map of Nigeria

Methodology

The research employed a survey design. In a quantitative methodology as the one used in this research, instruments for data collection is the questionnaire and face-to-face interview were used as the main instrument to draw-out information on: Demographic characteristics; Socio-Economic characteristics; Pattern of fuelwood consumption; Extent of fuelwood consumption; Sources of fuelwood; Effects of fuelwood utilization. Data collection procedure for the demand and supply of fuel wood vary along a continuum. At one end of this continuum are quantitative procedures and at the other end are qualitative procedures. This research employed the quantitative data collection procedure (questionnaire). The use of quantitative techniques and statistical methods of data interpretation were profitably employed, they include the use of means, percentages and data presentation in tables and charts.

Pilot Phases was carried out as a mini version of a full-scale study (feasibility studies) as well as the specific pre-testing of the research instrument (questionnaire/interview schedule). This pilot study was based on a quantitative method and quiz phase employed before the main survey conducted. The first phase of this pilot involved using an in-depth interview to establish the issues to be addressed on a large scale questionnaire survey. Next the questionnaire e.g., the wording and order of the questions were also piloted. The final pilot phase was conducted to test the research process e.g. the different ways of distributing and collecting the questionnaires. Also, the number of fuelwood vendors was ascertained at this stage of the research.

A face-to-face type of questionnaire administration where the interviewer presents the questions asked orally was utilized in the course of this research work. The reason for adopting this method of administration is basically due to the literacy level of fuel wood harvesters, distributors and some of the users.

The Study comprised of 50 fuelwood vendors. The sample size calculator was employed to determine the sample size. At 95% confidence level and 13.8 confidence interval, the sample size is 50. The fuelwood marketers were purposively selected across the wards in the study area. However, some of the vendors were randomly selected where more than one vendor met our criteria.

Results and Discussion

Table 1: Age of fuelwood vendors

Age	Responses	Percentage
11-20	6	12
21-30	19	38
31-40	21	42
41 above	4	8
TOTAL	50	100

Across the sampled respondents, the study reveals that the age category (31 – 40 years) has the highest number of respondents engaged in the fuel-wood business. It is closely followed by the 21-30 years category. This shows that the business is better managed and tolerated by younger people which are the active and most productive age. Considering also that the venture requires physical strength and is exhaustive.

Table 2: Duration of being a vendor

Period (Years)	Responses	Percentage
0 – 4 years	12	24
5 – 9 years	4	8
10 – 14 years	4	8
15 – 19 years	26	52
20 – 24 years	4	8
Total	50	100

The distribution of respondents according to duration in the business reveals that majority of respondents have been in the business for 15 – 19 years. These are possibly those who have come to embrace the business due to hardship or lack of job availability being experienced in the country especially for non-skilled and people without formal education.

Sources of Fuelwood

Table 3: Source of fuelwood

Source	Responses	Percentage
Within Zaria	14	28
Within Kaduna State	31	62
Outside Kaduna State	5	10
Total	50	100

Source: Field work, 2017.It is expected that most supply should come from the rain forest region due to the availability of trees but, the reverse is the case. Most of the supplies come within Kaduna state (62%). The reason is simple, there are forests surrounding Zaria from where the supplies are drawn. Places mentioned include Birnin-Gwari, Saye, Shika village Sakaru, Marwa, Soba and as far as Lere and Kauru villages all of which fall within Zaria emirate. However, very few supplies come outside the state because transporting fuel wood from long distances to areas of need will not be of much profit.

Table 4: Estimated trucks of fuelwood supplied daily

Trucks	Frequency	Percentage
1 – 5 trucks	22	44
6 – 10 trucks	18	36
11 – 15 trucks	6	12
16 and above	4	8
Total	50	100

The table above shows the number of times wood suppliers make supply per day to vendors, majority of the respondents (44%) can only afford 1 – 5 trucks per day. Those who can afford to pay for more than 16 trucks are the least (8%). The table shows a progressive reduction in the number of trucks supplied daily. This might not be unrelated to the size of the business as the bigger merchants are the ones who receive more than 10 trucks daily.

Fuelwood Consumption

Figure 1 presents the patronage of fuelwood vendors and reveals that majority of the consumers are a combination of boarding schools, restaurants, bakeries and households. It could be deduced that fuelwood is very important in the energy mix of the study area as consumers cut across all spheres of life from small scale enterprises to major ones.

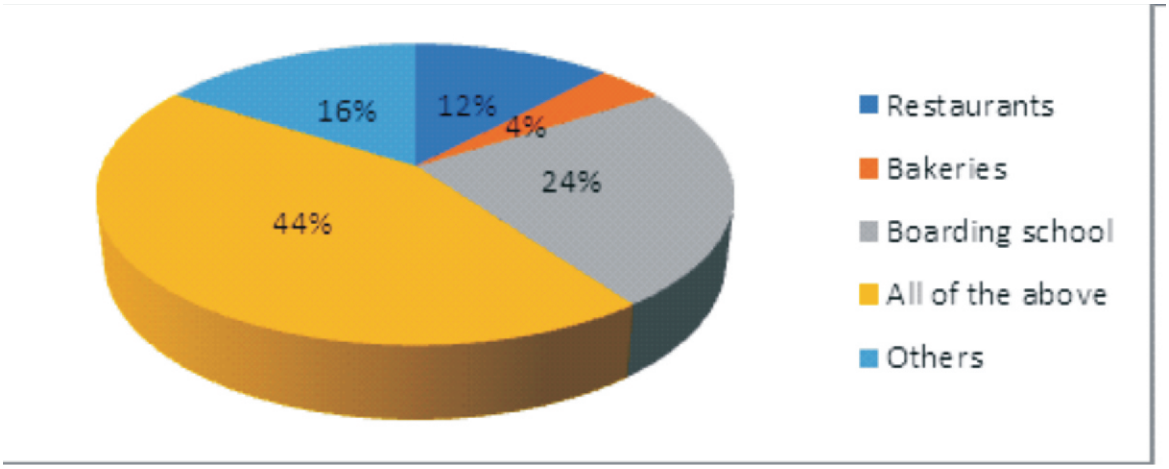


Fig. 1: Fuelwood consumers

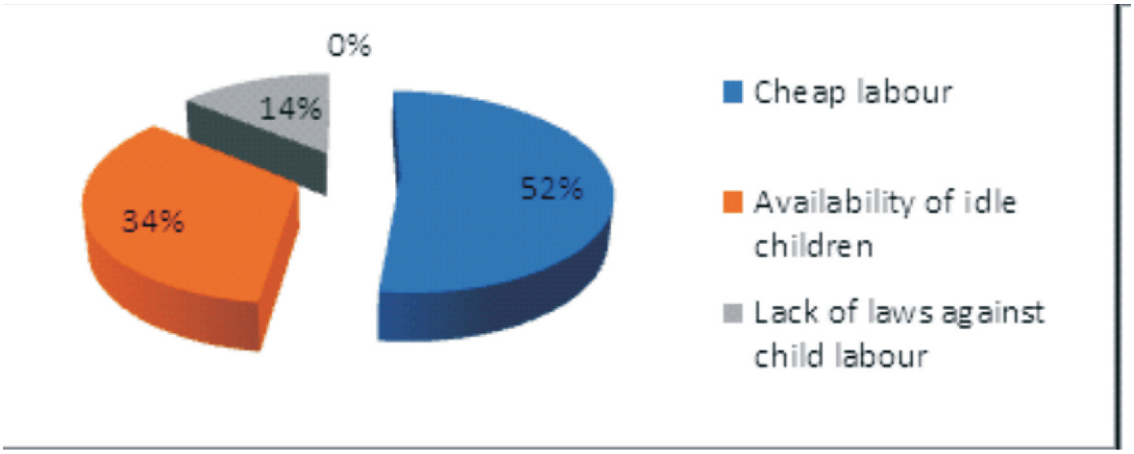
The Role of Children in the fuelwood supply chain

Table 5: Laborers

Option	Frequency	Percentage
Children	23	46
Adults	27	54
TOTAL	50	100

The table depicts the labor force for the loading and off-loading of the fuelwood. Majority of the laborers are adults (54%) as given by the vendors, while the remainder (46%) employ the services of children (mostly Almajiris) to help in off-loading of the firewood, the reason for this can be attributed to the fact that the children are always available and their services are cheaper when compared to the adults.

Fig. 2: Reasons for employing children



The above figure illustrates reasons why distributors employ children in loading and off-loading of fuel-wood. Most (52%) of the respondents say cheap labor, this is because children have little sense for value, they find joy in doing what they are do, as long as it will earn them peanuts to afford sweets or biscuits at the end of the day. Other responses include availability of idle children and lack of laws against child labor.

Effects on Educational Development

Table 6: School Attendance

OPTION	FREQUENCY	PERCENTAGE
YES	22	44
NO	28	56
TOTAL	50	100

Going to school does not necessitate having a white collar job, rather becoming literate in order to fit into the society. From the table, 56% of the respondents opine that their laborers do not go to school, while 44% of the respondents do. This is an issue of great concern to the country, because children are the leaders of tomorrow but with the way adults are taking undue advantage of children and using them as laborers is becoming an issue. Earnings from the labor are used to finance they laborers' (children) education.

Table 7: Reasons for not attending school

Reason	Frequency	Percentage (%)
No sponsor	12	24
No school in the area	8	16
Their family depend on them for support	30	60
Total	50	100

Education is not a privilege but a right to every citizen of the country, the table above shows the reasons why laborers do not attend school. Majority of them (60%) say their parents depend on them for financial support and upkeep, while others say it is because there is nobody to sponsor them, and the remainder mention the absence of a school their area as an excuse.

Conclusion

This study shows that majority of the fuelwoood vendors in the study area fall within the productive age and receive their supplies of the commodity within the state from places like Birnin-Gwari, Saye, Shika village Sakaru Marwa Soba and as far as Lere and Kauru villages all which fall within Zaria emirate. While most of them employ the services of adults as laborers, some recruit children who are supposed to be in school to provide labor and other services in the business, which affects their school attendance. They serve as laborers to fuelwood vendors to earn a living as well as support in family upkeep.

Recommendations

On the basis of the findings and conclusion reached, the following recommendations are made.

i. Fuelwood related policies should focus on providing alternative sources of energy rather than emphasizing on the health and environmental implication of using wood as the major source of energy.
ii. The recent pronouncement by the Executive Governor of Kaduna state in the penalty that awaits fuelwood collectors and vendors should be made effective and well implemented.
iii. Legislation against child labor should aim at protecting the rights of children who fall victim of child labor and educational deprivation.
iv. Tree planting should be made compulsory to every family residing within the study area and if possible the country at large. This would replace the trees been felled and used as fuelwood.

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PRACTICE OF FOOD SAFETY AMONG FOOD HANDLERS IN BOARDING SECONDARY SCHOOLS IN BAUCHI STATE, NIGERIA

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Abstract

The study investigated food safety practice among food handlers in Bauchi State. The population of the study is 317 food handlers in boarding secondary schools in Bauchi State). Researcher's developed questionnaire named Food Safety Practice Questionnaire (FSPQ) was used as instrument for data collection which was validated by three experts in Department of Physical and Health Education and reliability index of 0.75 was obtained. Out of three hundred and seventeen (317) copies of questionnaire administered, only three hundred and five (305) were dully filled, returned and used for data analysis. Simple frequency counts and percentage were used to organize and describe demographic information of the respondents while Chi-square, independent t-test, Analysis of variance (ANOVA) was used to test the null hypotheses at 0.05 level of significance. The findings of the study revealed that food handlers in boarding secondary schools in Bauchi State have improper food safety practice (χ^2=,df: 1; P<0.05); there is no significant difference between male and female food handlers on practice of food safety (t=-.033, df:303; P>0.05); there is no significant difference on food safety practice among food handlers in boarding secondary schools in Bauchi State based on their years of experience (F=.060, df: 3, 300; P>0.05); It was therefore recommended among others that government should ensure adequate and regular training of food handlers, and also institute a modality for regular monitoring of food handlers in boarding secondary school in Bauchi State to ensure effective food safety practices.

Keywords: *Practice, Food handlers, Food safety, Boarding school.*

Introduction

According to World Health Organization [WHO] (2005), food safety is a scientific discipline describing handling, preparation and storage of food in ways that prevent food borne illness. Food safety refers to the conditions and practices that preserve the quality of food to prevent contamination and food borne illnesses (Vorvick, 2014). Unurayel (2007) reported that food safety management is the scientific systematic management of food and environmental condition employed to ensure the safety of food during planting, harvesting, transportation, storage, processing and service of foods in such manner that their contamination by micro-

organisms, insects, rodents and other animal pests and by foreign chemical materials can be prevented. Doyle and Erickson (2011) further added that Purchasing, storing, preparing and serving food using safe handling practices will result in limiting the chances of people acquiring food borne illness.

Suleiman (2014) stated that safe food handling practices are intended to reduce the risk of food contamination and food borne illnesses therefore, good food handling practice would help by keeping food safe and healthy for human consumption these may includes: properly freeze, thaw, prepare, cool, and serve all foods offered to consumer. Therefore, to achieved safe food handling follow food safety rules about storage, temperature controls, hygiene, and sanitation; leave room for air to move around and stored food in the refrigerator, freezer, and storeroom; cover all food in the refrigerator and freezer; date all foods and use oldest foods first.

National Food Service Management Institute [NFSMI] (2012) stated that preparing food for eating generally requires selection, measurement and combination of ingredients in an ordered procedure so as to achieve desired results. Adequate preparation of food would help to preserve the nutrient value of the food and utilize healthy fats, reasonable portions, and wholesome food (NFSMI, 2012). According to Marotz (2008), food storage allows food to be eaten for some time (typically weeks to months) after harvest or preparation rather than immediately. Proper food storage ensures the retention of the nutritional value and functional property of a food product without compromising on its aesthetic value (Abakarov, Sushkov & Mascheroni, 2013).

Evans and Harper (2009) reported that food serving in boarding secondary schools or school meal (also known as hot lunch, a school dinner or school breakfast) is a meal provided to students at school. Countries all over the world have various kinds of school meal programs in which millions of children from all standards and grades get their meals at their respective schools every day. Food safety practices are a subject of wide scope and it is a broad term used to describe the preservation and preparation of foods in a manner that ensures the food is safe for human consumption (Omemu & Aderoju, 2008). Food safety practices among food handlers are the observable activities which the food handlers engage themselves in as they acquire raw food items, prepare food or serve food to consumers. Therefore, to ascertain the actual practice of food safety, observation of food handler's activities while doing their bid in the food establishment is crucial and this involves the use of observational checklist (Suleiman, 2014).

Suleiman (2014) who conducted a study on Food safety practices among food handlers in Ahmadu Bello University (A.B.U.), Zaria, reported that good food safety practice was practiced by very few food handlers (0.6%) whereas majority of them had fair food safety practice (76.4%). The findings are contrary with the study conducted by Afolaranmi, Hassan, Bello, Tagurum, Miner, Zoakah and Ogbonna (2014) reported that majority (98.5%) of the food handlers had good practice of food safety and hygiene after the training as against 51.5% who had same before the training. Another study conducted by Isara and Isah (2009) on Knowledge

and practice of food hygiene and safety among food handlers in fast food restaurants in Benin City, Edo State which revealed that there was good knowledge and practice of food hygiene and safety among the respondents. Tessema, Gelaye and Chercos (2014) reported that 213 (52.5%) had good food handling Practices while among the total food handlers observed during visits, 319 (78.6%) used outer garments/gown of which 203 (63.6%) had a good food handling practices.

Sanlier and Konaklioglu (2012) reported that depending on the respondents' gender, a statistically significant difference was found between male and female participants on total food safety knowledge, attitude and practice score. In addition, there was a statistically significant difference between male and female food handlers in practice of food safety. Thanh (2015) in his study on food safety situation in certain districts in HoChiMinh city, Vietnam who revealed that significant differences were found in the food safety practice of the vendors on the basis of gender. Nee and Sani (2011) Nee and Sani (2011) conducted a study on knowledge and attitudes about food safety and to evaluate the quality of food (physical & Operational Standards) in the student canteen at Duhok University which indicated that significant difference between male and female was found for the age >41 for food safety practice.

Another study was conducted by Afolaranmi, Hassan, Bello, and Misari (2015) on knowledge and practice of food safety and hygiene among food vendors in primary schools in Jos, Plateau State, North Central Nigeria which reported that statistically no significant different was found between work experience and practice of food safety and hygiene. Isara and Isah (2009) reported in their study on knowledge and practice of food hygiene and safety among food handlers in fast food restaurants in Benin City, Edo State, the finding revealed that food handlers who had worked for longer years in the fast food restaurants had better practice of food hygiene and safety.

Bauchi State is located in north eastern part of Nigeria and consists of twenty (20) Local Government Areas. The state has many food service establishments in various organizations across the state. The boarding Secondary Schools of the State have food handlers that are responsible for food preparation and storage for the students. Therefore, many tools have been provided by government to ensure active managerial control of food borne illness risk factors. The State has predominant roles to ensure hygienic food handling and preparation in all the food premises in the state to safeguard the health and wellbeing of the consumers.

Food safety is one of the major public health problem in the developed and developing world to prevent or control food borne illnesses. Lack of food safety leads to various food borne illness such as Food Poisoning, typhoid and paratyphoid fevers, cholera, shigellosis (bacillary dysentery), hepatitis A, giardiasis, trichinellosis, cancer, and Lassa fever which are responsible for substantial morbidity and mortality worldwide. In response to the increasing number of food borne illness, governments all over the world are intensifying their efforts to improve food

safety. Therefore, food safety continues to be a public health issue worldwide because foods borne illness are widespread. Consequently, consumers are increasingly concerned about food safety and quality; and demand more transparency in production and distribution.

The occurrence of food borne diseases in Nigeria over the years is quite noticeable. This causes not only social and economic loss in schools but also increase morbidity and mortality rate as a result of consumption of unwholesome food in the country at large. The major food and water borne diseases among boarding secondary schools commonly being reported include hepatitis, diarrhea, abdominal pain and typhoid which usually lead to morbidity or even death. These diseases could be prevented if positive knowledge and proper practice of food preparation, handling and storage would be put into use. However, in the area under study, it was reported that the burden of food borne diseases every year was estimated as many as 600 hundred or almost 1 in 6 students in boarding secondary school fall ill after consuming contaminated food (Bauchi State Ministry of Health, 2015). The study further reported that there are series of cases of food borne illnesses among students such as diarrhea, dysentery, abdominal pain and typhoid fever which could be associated with poor knowledge or skills to prevent such diseases. It is against this background that the researcher intends to investigate the knowledge and practice of food safety among food handlers in boarding secondary schools in Bauchi State. The study answered the following questions by testing the formulated null-hypotheses.

1. Do food handlers in boarding secondary schools in Bauchi State practice food safety?
2. Do male food handlers in boarding secondary schools in Bauchi State differ from their female's counterparts in their practice of food safety?
3. Is there any difference in the practice of food safety among food handlers in boarding secondary schools in Bauchi based on their years of experience?

Hypotheses

The following null hypotheses were formulated to guide the study.

1. Food handlers in boarding secondary schools in Bauchi State do not have significant food safety practices.
2. Male food handlers in boarding secondary schools in Bauchi State do not significantly differ from their female counterpart in practice of food safety.
3. There is no significant difference on food safety practice by food handlers in boarding secondary schools in Bauchi State based on their years of experience.

Methodology

Descriptive survey research design method was used for this study. According to Osuala (2000) descriptive survey research design method is a design in which group of people or items are studied by collecting and analyzing data from only few people or items considered to be representative of the entire group.

Population of the study comprised of all food handlers in Boarding Secondary Schools in Bauchi State. According to Ministry of Education Bauchi State (2016), Bauchi State has thirty-five (35) boarding secondary schools and the population of food handlers is three hundred and seventeen (317).

The population of the study is minimal, the availability sampling technique was used to select the entire population of the study area which is three hundred and seventeen (317) respondents in all the thirty-five (35) boarding secondary schools in Bauchi State as sample of the study. Availability sampling technique (also known as convenience sampling) is a specific type of non-probability sampling method that relies on data collection from population members who are conveniently available to participate in study (Boxill, Chambers &Wint, 2014). Meanwhile, the sample respondents consist of one hundred and ninety-three (193) male and one hundred and twenty-four (124) female.

The instrument for data collection in this study was the researcher's developed questionnaire named Food Safety Practice of food handlers Questionnaire (FSPQ). The questionnaire was made up of two sections; section "A" is made up of two (2) Items which sought information on demographic information of the respondents while section "B" is made up of fifteen (15) Items which sought information on practice of food safety. The copies of the instrument were validated by three experts in Department of Physical and Health Education, Bayero University Kano. A reliability of 0.75 was obtained using split-half method from 30 food handlers in Government Secondary School Birnin-Kudu in Jigawa State. The data collected was subjected to a statistical test using Spearman Brown's Prophecy Formula.

Three hundred and seventeen (317) copies of the questionnaire were administered to food handlers in boarding secondary schools in Bauchi State in their respective places of work with the help of four (4) research assistants which were fully briefed on how to administer and collect the questionnaire from the respondents.

Results

Hypotheses I: Food handlers in boarding secondary schools in Bauchi State do not significantly practice food safety.

Table 1: is Chi-square summary on practice of food safety by food handlers in boarding secondary schools in Bauchi State.

Variable	FO	FE	χ^2df	P	
Proper practice	19(6.25%)	152	232.750	1	.001
Improper practice	285(93.8%)	152			
Total	**304(100%)**				

χ^2_{tab}=3.84, df: 1; P χ 0.05

The results on table 1 above shows that 19(6.25%) of the respondents practice food safety while 285(93.8%) do not practice food safety. This means that food handlers in Bauchi State have improper food safety practices. Statistical computation of Chi-square on the table shows significant improper food safety practice (χ^2=232.750,df: 1; P<0.05). Therefore, the null hypothesis is rejected. This means that food handlers in boarding secondary schools in Bauchi State have significant in proper practice on food safety.

Hypotheses 2: Male food handlers in boarding secondary schools in Bauchi State will not significantly differ from their female counterpart in practice of food safety.

Table 2: is independent t-test summary on difference between male and female food handlers in their food safety practices.

Gender	N	Mean	SD	SE	df	t	P
Male	185	33.11	2.949	.217	303	-.033	.973
Female	120	33.12	2.915	.266			
Total	**305**						

t_{tab}=1.97, df: 303; Pχ 0.05

The result on table 2 shows that the mean scores (33.11) of the male respondents on practice of food safety is less than the mean scores (33.12) of female respondents. This means that male food handlers in boarding secondary school in Bauchi State have relatively lower practice on food safety than their female counterparts. It also indicated that no significant difference between male and female food handlers on practice of food safety (t=-.033, df: 303; P>0.05). Therefore, the hypothesis tested is accepted. This means that male food handlers in boarding secondary schools in Bauchi State do not significantly differ from their female counterparts on practice of food safety.

Hypotheses 3: There is no significant difference on food safety practice by food handlers in boarding secondary schools in Bauchi State based on their years of experience.

Table 3: is analysis of variance on practice of food safety by food handlers based on their years of experience.

	Sum of Squares	df	Mean Square	F	P
Between Group	1.554	3	.518	.060	.981
Within Group	2610.196	300	57.204		
Total	**2611.751**	**304**			

The result on table 3 indicated that no significant food safety practice (F=.060, df: 3, 300; P>0.05). The hypothesis tested is therefore retained. This indicated that there is no significant difference on food safety practice by food handlers in boarding secondary schools in Bauchi State based on their years of experience.

Discussion

The study investigated the practice of food safety among food handlers in boarding secondary schools in Bauchi State. The finding of the study also indicated that food handlers in boarding secondary school in Bauchi State have improper food safety practices. This finding is similar with the study of Suleiman (2014) who conducted a study on Food safety practices among food handlers in Ahmadu Bello University (A.B.U.), Zaria which reported that good food safety practice was practiced by very few food handlers (0.6%) whereas majority of them had fair food safety practice (76.4%). The findings is contrary with the study conducted by Afolaranmi, Hassan, Bello, Tagurum, Miner, Zoakah and Ogbonna (2014) who reported that majority (98.5%) of the food handlers had good practice of food safety and hygiene after the training as against 51.5% who had same before the training. Another study conducted by Isara and Isah (2009) on Knowledge and practice of food hygiene and safety among food handlers in fast food restaurants in Benin City, Edo State revealed that There was good knowledge and practice of food hygiene and safety among the respondents. This finding also is not in line with the study of Tessema, Gelaye and Chercos (2014) who reported that 213 (52.5%) had good food handling Practices. Among the total food handlers observed during visits, 319 (78.6%) used outer garments/gown of which 203 (63.6%) had a good food handling practice.

The result of the study revealed that there is no significant difference between male and female in their food safety practice. The finding is contrary with Sanlier and Konaklioglu (2012), who reported that Depending on the respondents' gender, a statistically significant difference was

found between male and female participants on total food safety knowledge, attitude and practice score. In addition, there was a statistically significant difference between male and female food handlers in practice of food safety. The result of the study is not in line with the study of Thanh (2015) in his study on food safety situation in certain districts in HoChiMinh city, Vietnam, revealed that significant differences were found in the food safety practice of the vendors on the basis of gender. The result is also inconsistent with the report of Nee and Sani (2011) who indicated that significant difference between male and female was found for the age >41 for food safety practice.

The findings of the study revealed that there is no significant difference in practice of food safety by food handlers in boarding secondary schools in Bauchi state based on their years of experience. The finding is inconsistent with Afolaranmi, et al, (2015) who reported that statistically no significant different was found between work experience and practice of food safety and hygiene. The result is also contrary with the study of Isara and Isah (2009) on Knowledge and practice of food hygiene and safety among food handlers in fast food restaurants in Benin City, Edo State, which revealed that food handlers who had worked for longer years in the fast food restaurants had better practice of food hygiene and safety.

Conclusions

Based on the findings of this study, the following conclusions were drawn:

1. Food handlers in boarding secondary schools in Bauchi State have improper food safety practice. As such students in boarding secondary schools in the State are at higher risks of contracting food born diseases.
2. Irrespective of gender, food handlers in boarding secondary schools in Bauchi State have improper food safety practice.
3. Irrespective of years of working experience, food handlers in boarding secondary schools in Bauchi State have improper food safety practice.

Recommendations

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

1. Government should ensure adequate and regular training of food handling and also institute a modality for regular monitoring of food handlers in boarding secondary schools in Bauchi State to ensure effective food safety practices.
2. Health education in the form of training on basic principles of food safety should be organized in respective of gender to maintain and promote food safety knowledge and change the poor practice of food handlers in boarding secondary schools in Bauchi State.
3. Equal opportunity and concern should be provided by Government for food handlers in boarding secondary schools in Bauchi State in respective of years of experience to encourage and change their improper food safety practice.

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INFLUENCE OF SPORTS BETTING ON THE INTEGRITY OF SPORTS AMONG PROFESSIONAL FOOTBALL CLUBS IN KWARA STATE

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Abstract

It is beyond doubt that sports eminently thrive by the grace of its integrity. The mere semblance of dishonesty, manipulation or corruption and unethical behaviour among football clubs often leads to pure loathing of sports authority with all its potentials. This study examined the influence of sports betting on sports integrity among professional football clubs in Kwara state. The objectives of the study were to: (i) determine if sports betting leads to unethical behaviour (match-fixing) (ii) investigate the influence of sports betting on football players' attitude and (iii). Investigate if sports betting influences bias officiating. Descriptive survey design was adopted for the study. The population consisted of three hundred and fifteen (315) athletes and club managers in professional football clubs in Kwara State. All the 315 respondents representing 100% of the population were purposively selected and used for this study. Researcher designed structured questionnaire validated by three experts in related disciplines was used for data collection. Reliability co-efficient of r=.86 was obtained through test re-test method using Pearson's Product Moment Correlation (PPMC). Three null hypotheses were tested using Chi-square (x^2) at 0.05 alpha level.The findings revealed that: Sports betting though unethical behaviour, players' behaviour and bias officiating have significant influence on sports integrity among professional football clubs in Kwara State. The study concluded that Sports betting leads to unethical behavior, Football players' poor attitude and bias officiating among professional football clubs in Kwara State. It was therefore, recommended that Sports administrators and football governing body should create more awareness programmes to check the participation in sports betting and protect sports integrity among professional football clubs in Kwara State. Sports administrators should develop and implement programmes that will restrain both players and sports lovers from influencing the outcome of football competition because of financial gain through sports betting.

Keywords: *Sports betting, unethical behaviour, sports integrity, athletes behaviour*

Introduction

It is beyond doubt that sports eminently thrive by the grace of its integrity. The mere semblance of dishonesty, manipulation or corruption and unethical behaviour in sports often leads to pure loathing of sports authority with all its potentials. Sports administrators, therefore, have a great responsibility in protecting sports integrity. In an attempt to protect the sports affair and ethics, sports governing bodies faces numerous challenges, both from within and outside world.

Sports betting currently is a noteworthy type of business ventures among sports lovers in Kwara State. Whenever any professional football event is organized, especially, major football leagues/competitions, fans apart from watching the match also placed a bet on the results with the aim of making a financial gain. Nower and Blaszczynski (2014) asserted that sport betting is the umbrella term used for the betting action involving the prediction of a sporting event and placing a wager on the outcome of football event in order to win price/ money, as one of the most popular forms of entrepreneurial ventures in the state and world at large. IKeagwu, (2012) asserted that sports' betting typically involves wager being placed on sports such as football, basketball, baseball, hockey, rugby, boxing, horse racing, car races, tennis, and more.

Betting is largely expressive economic and social activities in history like football betting in Nigeria where it is now highly practised and fast becoming a popular space for resources exchange within the capitalist remit. Usually, sports is aimed at entertainment and leisure, Olayinka and Fageyinbo (2015) reported that sports serve both social and therapeutic purposes across social contexts, this shows that sport, for instance, football, has diverse appeals and are multi-contextual in purposes and manifestations. According to Nower and Blaszczynski (2014) fans take their "being a fan" further through the expressive economy for gains and loss with regards to Marxian survival of the fittest in the capitalist' directed settings. Football wagering takes usually the form of games' results predictions made by fans. Fans that predict correctly are rewarded and those whose predictions were wrong lost and are financially punished by losing their money and this may affect their original intention for sports as entertaining and recreational activities. Sports betting is quickly turning into the order of the day among sports lovers and the general public in Kwara State as sports fans go beyond a fan and stake a higher amount of money on football matches.

Ikeagwu, (2012) further buttressed that betting on football matches has raised serious concern as it is affecting the integrity of sports in the 21st century. A huge number of sports personnel, athletes, sports officials and spectators in Kwara State play the football pools each week are involved in sports betting activities solemnly for financial gain. In sports wagering, sports integrity saw the broadest prominence influence through the 19th century and into the mid-20th century. From the 20th century, sports betting started influencing individuals to free enthusiasm as football started gaining popularity up notoriety in the 21st century. Such a significant number of methodologies were utilized to pull in more bettors (IKeagwu, 2012). In rare cases will one find people especially sports fans not talking about a particular sports betting activity or the other such that it is now becoming a household issue (Samuel & Kelly, 2017).

Following the integrity of sports, many of the concerns raised that the saturation marketing of sports betting related has highlighted within sports extend to wider concerns with issues of corruption and integrity among professional football clubs. A football official on the field negotiation is a sort of petty (as distinct from heavily criminal) corruption that distorts a football

outcome which could endanger peoples' lives or creating a huge societal issue. For instance, the player(s) in some circumstances winning a match happens to be bargaining between two teams to win or draw a match, eventually with one team bribing the other (Andreff, 2016). Gorse and Chadwick, (2013) evidenced spontaneous cooperation between rivals in sports contests. In a football match, players from the two teams speak to each other or simply signal to the opponents, by kicking the ball aimlessly and lazily, their willingness to exert less effort and fix the result. Such corruption usually involves illegal financial gain (Wladimir, 2016). This kind of corruption emerges between sports insiders (athletes/players, coaches, referees, umpires and sports managers from the club level up to international sport governing bodies).

Rigging football match plays a crucial role in its outcome, the assignment of a professional football referee is extremely complex and highly discretionary. Matches were classified on different levels depending on their importance for the championship final outcome. Corruption in sport is an illegal, immoral or unethical activity that attempts to deliberately distort the outcome of a sporting contest for the personal material gain of one or more parties involved in the activity (Gorse & Chadwick, 2013). From an economic standpoint, corruption in the sport was initially meant to refer to any action that aims at and succeeds in earning money by distorting the outcome of sports contests by means of bribery/throwing a game for money or non-monetary compensation. Nowadays, corruption in sport has extended to other unethical behaviours such as match-fixing, bias officiating, doping, athletes deliberately underperforming among others.

Sports corruption may be engineered by an athlete(s) or official(s) to make a make financial gain through betting or in response to a bribe offered by bettors/spectators. In all cases, the athlete is confronted by an opportunity which can be represented as considering the expected benefits and costs of choosing to commit the crime. As a result of such growth, it is clear that sport betting markets is leading (Forrest, Mchale & McAuley, 2019). Match-fixing may also be regarded as a special arrangement among club governing body in the form of insider trading before the match is been staged.

Research by Hume (2013) on match-fixing and illegal sports betting discusses the relationship between professional sports and sports betting, noting that in recent years the relationship between the two sectors has become closer and more complex; that betting agencies are now major sponsors of a number of professional sport clubs and individual athletes and the wagering industry is a major financial contributor to grassroots sporting clubs in the state. Hume (2013); Kelly; (2011), Rodenberg and Kaburakis (2013), make several key points about the vulnerability of professional sports to the infiltration of organized unethical sports behaviour in relation to sports betting. This study discusses the susceptibility of sports to match-fixing and/or organized corruption which is affecting sports integrity. The global nature of sport is that sports are no longer protected thus exposing sports, athletes, officials and the public to potential ethical breaches that take place during sports competitions. In terms of sports betting specifically, a

principal threat to the integrity of professional sports is the use of inside information, where an individual might have knowledge of whether a team's star player is injured, and placing a large wager on the team losing the match before the injury is made public (Lord, 2013).

Beyond concerns with corruption in sport, issues related to probity more broadly have been documented by Gleeson (2011) in the r*eview of sports betting regulation.* The review examined the regulation of sports betting as a way of assessing the need to strengthen public confidence in the integrity of the sport. The review specifically looked at the need to protect the integrity of the betting that takes place on sports (no match-fixing), protecting betting consumers (avoiding scams), and providing sporting bodies with a fair share of the revenues from betting that takes place in their sports. However, sports integrity may also be affected through any form of practices by the football players leading to the use of specific drugs with an objective to improve performance or stamina in sports such as doping. This is considered as unethical behaviour in sports as it is affecting and damaging the true image of sports in Kwara state.

Sylvan, (2018) asserted that corruption and unethical behaviours especially among professional football clubs may have negative consequences which may dilute the 100% competitive and suspense nature of sport, athletes deliberately underperforming, poor officiating and even doping for optimal performance, lying, poor psychosocial adjustment, poor spirit of sportsmanship, higher rates of irritation among others (Delfabbro, Winefield, & Anderson, 2009).

It is observed by the researcher that over the years in Kwara State and in Nigeria at large there had been changes in the attitudes and approach of people most especially sports lovers towards sports most especially, football matches. In 2010, a clear example was the introduction of sports betting outlets and online betting which has now gained ground among football clubs' managers, officials, players and spectators in Kwara state. It is on this premise and among other reasons that this study is designed to investigate the influence of sports betting on the integrity of sports among professional sports clubs in Kwara State.

Statement of the Problem

The researcher observed that for decades, many football lovers/fans have been speculating about corruption among football clubs in Kwara State. Much of the speculation has centred on biases of football officials, match-fixing among club managers, poor officiating, players' behaviour among others. Despite the cacophony of societal rumours booster clamouring, and message board fodder about sports integrity, there has been virtually no empirical examination of these factors influencing the integrity of sports among football clubs in Kwara State. Sports betting influenced football matches greatly to the extent that it's diluting the unpredictability nature of a football match, the true and genuine spirit of fairness, equality and sportsmanship.

The implication of corruption and unethical behaviours is that sports are no longer protected thus exposing sports, athletes, officials and the public to potential ethical breaches that take place during sports competitions. As a consequence, attention has been directed towards professional football clubs in Kwara state; football players, officials, and even spectators have embraced sports wagering, with the rapid development of sports betting in the state. The researcher observes that there are many incidences of match-fixing, doping, bias and football players deliberately underperforming have shown to have far-reaching negative implications on sports image. It is in the light of these identified research gaps that this study titled "Influence of sports betting on the integrity of sports Among professional football clubs in Kwara State" was carried out.

Research Questions

The following questions were raised to guide the study;

1. Does unethical behaviours in sports' betting influence the integrity of sports among professional football clubs in Kwara State?
2. Does players' behaviour through sports bet influence sports integrity among professional football clubs in Kwara State?
3. Does bias officiate influence sports integrity among professional football clubs in Kwara State?

Hypotheses

The following hypotheses was tested in the study.

1. Unethical behaviour in sports' betting will not have a significant influence on sports integrity among professional football clubs in Kwara State.
2. players' behaviour will not have a significant influence on sports integrity among professional football clubs in Kwara State.
3. Bias officiating in will not have any significant influence on sports integrity among professional football clubs in Kwara State.

Methodology

For the purpose of this study, descriptive research design of survey type was used for this study. The population of the study comprised of three hundred and fifteen (315) athletes and club managers in professional football clubs in Kwara State. All the 315 respondents representing 100% of the population were sampled for this study. The researcher designed structured questionnaire validated by three experts in related disciplines was used for data collection. For reliability of the instrument, forty (40) of the questionnaires were administered on the respondents during club training section until the required number of copies was obtained. The reliability coefficient of r=.86 was obtained through test re-test method using Pearson's Product Moment Correlation (PPMC). In order to draw the desired respondents, purposive sampling technique was employed to select all the recognized football clubs in Kwara state for the study. The researcher administers the copies of the questionnaire to both player and manager in each

football clubs in Kwara state with the help of 4 research assistants in the study until the required copies of the questionnaire had been distributed. Descriptive statistics of frequency count and percentage were used to analyze and answer the research questions while inferential statistics of Chi-Square at 0.05 alpha level was used to test the hypotheses at 0.05 alpha level.

Result

The results of the three hypotheses tested in the study are presented below;

Table 1: Chi-square analysis result showing the influence of unethical behaviour, Players behaviour and Bias Officiating on sports integrity among professional football clubs in Kwara State.

SN	Row Total	Cal.V. (x^2)	Sig	Remark
1	315	162.52	0.001	Ho_1 Rejected
2	315	187.13	0.000	Ho_2 Rejected
3	315	252.65	0.003	Ho_3 Rejected

The results of hypothesis one to three on Table 1 shows that calculated Chi-square value of 162.52, 187.13 and 252.65 with 9 degrees of freedom respectively are greater than 0.05 alpha level. Since the significant levels of 0.001, 0.000 and 0.003 respectively are less than 0.05 alpha level the null hypotheses one, two and three are rejected. This means that sports betting leads to unethical behaviour, players' behaviours and bias officiating among professional football clubs in Kwara State which has a significant influence on sports integrity.

Discussion

The findings discussed are based on the influence of sports betting (unethical behaviour, players behaviour and bias officiating) on sports integrity among professional football clubs in Kwara State.

The finding on hypothesis one revealed that sports betting promote unethical behaviour among professional football clubs in Kwara State. The needs to make financial gain led most sports managers to get involved in unethical activities during the football competition. Such behaviours include match-fixing, bribery, disruption of games, selling of games among others. The finding corroborates the study of IKeagwu, (2012) which reported that betting on football matches has raised serious concern as it is affecting the integrity of sports in the 21st century. A huge number of sports personnel, athletes, sports officials and spectators in Kwara State play the football pools each week are involved in sports betting activities solemnly for financial gain. In sports wagering, sports integrity saw the broadest prominence influence through the 19th century and into the mid-20th century. However, contradicts that of Olayinka and Fageyinbo (2015)

reported that sports serve both social and therapeutic purposes across social contexts, this shows that sport, for instance, football, has diverse appeals and are multi-contextual in purposes and manifestations. The finding of the present study could be attributed to a lack of exposure to the aims and purpose of sports in society. The finding of this study thus indicates the need to grow awareness about sports betting involvement that is beneficial to the individuals with a special goal of protecting football development in Kwara State.

The findings on hypothesis two revealed that sports betting influences players behaviour which affect sports integrity among professional football clubs in Kwara States. Most football payers put up bad behaviour by deliberately underperform during football competitions for financial gain. This finding is similar to that of Forrest, Mchale and McAuley, (2019) who showed that sports corruption may be engineered by an athlete (s) or footballer (s) to make a make financial gain through betting or in response to a bribe offered by bettors/spectators. In all cases, the athlete is confronted by an opportunity which can be represented as considering the expected benefits and costs of choosing to commit the crime. As a result of such growth, it is clear that sport betting markets is leading (Forrest, Mchale & McAuley, 2019).

The findings on hypothesis three revealed that sports betting motivates bias officiating among officials which affect sports integrity in football clubs in Kwara State. Most football officials deliberately misapplication of the rules of the football game and disrupts the play for financial gain. This finding is in line with that of Sylvan, (2018) discovered that corruption and unethical behaviours especially among professional football clubs may have negative consequences which may dilute the 100% competitive and suspense nature of sport, athletes deliberately underperforming, poor officiating and even doping for optimal performance, lying, poor psychosocial adjustment, poor spirit of sportsmanship, higher rates of irritation among others (Delfabbro, Winefield, & Anderson, 2009).

Conclusion

1. Sports betting leads to unethical behaviour such as match-fixing among professional football clubs in Kwara State.
2. Football players' poor attitude is influenced by sports betting which affects sports integrity among professional football clubs in Kwara State.
3. There is a high record of bias officiating influenced by sports betting.

Recommendations

The following recommendations are made, based on the findings of the study

1. Sports administrators and football governing body should create more awareness programmes to check the participation in sports betting and protect sports integrity among professional football clubs in Kwara State.
2. Sports administrators should develop and implement programmes that will restrain both players and sports lovers from influencing the outcome of football competition because of financial gain through sports betting.

3. The football governing body should improve on the officiating standard and discourage bias officiating through sports betting among officials.

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COMMUNICATION AS CORRELATES OF MARITAL SATISFACTION AMONG COUPLES IN OYO STATE: IMPLICATION FOR COUNSELLING PRACTICE

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Abstract
The study investigated communication as correlates of marital satisfaction among couples in Oyo State. The correlation method of the descriptive survey research design was adopted for this study The questionnaire titled Communication and Marital Satisfaction Questionnaire (CSMQ) was adapted from Oyedeji (1993) and this was used to gather information from the respondents. The Validity of the questionnaire was established by experts in the Department of counsellor, University of Ilorin. A reliability co-efficient of 0.81 was obtained. The correspondent's hypotheses were tested using Person Product Correlation, the independent t-test and the ANOVA. The results of the study showed that the common spousal communication styles among married adults in Oyo State was passive style (Mean 3.17). The finding also revealed that there was a significant difference in the spousal communication style and marital satisfaction (00.0>0.05), however no difference was found on the basis of gender, religion and length of years in marriage. In conclusion, all the hypotheses were accepted, only hypothesis one was rejected. It was recommended that counsellors and religious organization should not relent in their effort on communication style training that can enhance marital satisfaction.

Key Words- *Communication, Adults, Style, Marital Satisfaction,*

Introduction

Marriage is an important institution which is ordained by God. This is a universal social institution established to carter for the sexual satisfaction of man. Bierce (2010) also defined marriage as a social union or legal contract between a man and woman. It is equally seen as a culturally approved relationship of one man and woman (in the case of monogamy) and of one man and two wives (polygamy) it could also be a relationship of one woman and two or more men (in the societies where polyandry is acceptable). However, Dabone (2014) defined marriage as a union between two people of opposite sex. Yahaya, Esere, Ogusanmi and Oniye (2015) also corroborated the preceding definitions by stating that marriage is a partnership contract without escape clause. Consequently, marriage is a life-long arrangement where the couple should permanently survive a multitude of demanding situations such as illness, financial constraints, interference from in-laws and a host of others.

Communication is any process that involves the sharing of information, ideas and feelings which does not only involve spoken words but also body language, personal mannerism and style (Hybels & Weaver, 2001). In fact, it is described as the process through which husband and wife reach each other with ideas, facts, thoughts, feelings and values (Akpan, 2000). Communication is the foundation for all interpersonal relationship and its deeply rooted in

human behaviours. It is an integral feature of human existence and the pillar that maintains the structure of peaceful co-existence and mutual understanding (Idowu & Esere, 2007). Therefore, ineffective communication leads to frustration and is detrimental to the marriage (*Yassin, 2015)*. According to Donja (2000), the success of marriage rests heavily on how successfully couples understand their expectations and communication codes. Olson and Defrain (2000) considered communication as the heart of intimate human relationship and the foundation on which successful home are built. Nash (2014) and Carl (2014) explained that there are different types of communication styles in romantic relationship. Couples who communicate using emotional communication style are always passionate. They express themselves through non-verbal and verbal gesture such as yelling and crying. They are more interested in responses rather than circumstances that that led to the situation. In cognitive style, couples communicate using articulate facts and figures to drive their points home. Most times they focus on logic ways of solving marital problems. They may display non-verbal gestures when conveying their confusion and frustration (Nash, 2014). Carl (2014) explained that people who grew up in dysfunctional families may have problem communicating effectively in relationships.

Spouses using passive communication approach prefers to be silent and non-responsive to their feelings. Most times, they allow offences buildup for behaviours that are unacceptable before opening up. Therefore, passive communicator spouses are unassertive and in most times silently find a way of resolving conflict in marriage (Carl, 2014). Aggressive communicator spouse expresses their opinions and feelings in an hostile manner. Most times they infringe on their partner's rights. Couples with this style of communication style can humiliate, dominate, act threateningly, and be overbearing (Carl, 2014). Couples using passive-aggressive communication styles are often quiet but are filled with suppressed anger they have bottled up over a long time. As such, they express their resentment and anger subtly. People with assertive communication style are firm in advocating for their needs and rights without disrespecting their partner's rights. These sect of people express themselves when it is necessary (Carl, 2014).

Margarita (2010), opined that communication is the bedrock of any relationship, it allows spouses to share their thoughts, feelings and the manner in which they perceive any given situation in a way that enables them to understand each other's reality, as well as their needs and desire. Effective communication enhances marital satisfaction as such, a stable marriage ensures a stable individual which in turn translates to a stable and productive society

Statement of Problem.

Regardless of the divine blessings attached to marriage, the extent to which any given marriage is stable is directly linked to the presence of good communication skills. Yahaya (2005) reported that more than 10% of marriages conducted every year in Nigeria eventually end up in divorce. This can be attributed to the report of Akinade and Suliamon (2005) who emphasized that lack of communication and sexual dissatisfaction could be a major source of marital instability. Maciver, & Dunka (2012) also associated poor communication style as a major cause of divorce and marital separation.

In the same vein, some studies such as Usoroh, Ekot, and Iyang (2010) studied the effect of spousal communication styles on marital stability among civil servants in Akwa Ibom State, and found that spousal communication style can influence marital stability. In a similar manner, Esere, Yusuf and Omotosho (2011) examined the influence of spousal communication on marital stability, and also discovered that spousal communication influences marital stability. To the best Knowledge of the researcher no study has actually focused on the relationship between communication style and marital satisfaction of married adults in Oyo State, hence the need for this study. The aim of this study was to establish the correlation between communication styles and marital satisfaction of married couples in Oyo State. Specifically, the study also seeks to find out the moderating influence of gender, religion and length of years in marriage on communication styles and marital satisfaction of couples.

Research Question

1. What are the communication styles of couples in Oyo State?

Research Hypotheses

1. There is no significant relationship between communication styles and marital satisfaction of couples in Oyo State.
2. There is no significant difference in the communication style of couples in Oyo State based on gender.
3. There is no significant difference in the communication style of couples in Oyo State based on religion.
4. There is no significant difference in the communication style of couples in Oyo State based on length of years in marriage.

Methodology

The correlation method of the descriptive survey research design was adopted for this study. Correlation design is usually used to determine whether and to what degree a relationship exists between two or more variables. Stangor (2004) explained that correlation designs are apt for measuring complexities that exist among measured variables. A total of 432 married adults in Oyo State participated in the study. Correlation descriptive survey design was adopted for this study. The researchers adopted a multi stage sampling technique to pick sample for the study. Purposive sampling process was used to select all the three senatorial districts. Daramola (2006) stated that purposive sampling is a technique or a procedure through which the researcher purposely selects certain group as samples because of their relevance to the investigation under consideration. At stage two proportional sampling technique was used to select nine Local Government Areas from the three senatorial districts. Finally, the researcher adopted simple random sampling technique to select forty-eight respondents from each of the Local Government selected. Thus, a total of 432 married adults were selected for the study.

The instrument used in this study was titled Communication styles and marital satisfaction (CSMSQ). Section A of the item allows the respondents to give information about their demographic data while section B contained items on communication styles of married adults in

Oyo State. To ensure the instrument validity, experts in the Department of Counsellor Education University of Ilorin examined the items on the questionnaire and necessary corrections were done. The reliability index stood at 0.72 respectively. The 20 items was rated on a four Likert scale ranging from 1-4 using the key Strongly Agree = 4points, Agree = 3points, Disagree = 2points, Strongly Disagree = 1point. The highest possible score is 80 (4×20) and the lowest possible score is 20 (1×20). The range is 60 (80-20) and the mid- point of the range is 30 (60÷2). The cut-off point is 80-30 or 30+20 which equals 50.

This instrument was adapted from Oyedeji (1993) who worked on Marital Adjustment and Styles of Communication of Educated Married Couples in Ogbomoso. The original version of the instrument has a reliability coefficient of 0.82. The research question with correspondent's hypotheses were tested using the Multiple Regression, Person Product Moment Correlation, the independent t-test and the ANOVA.

Research Question 1: ***What are the communication styles of couples in Oyo State?***

Table 1: Rank Order of communication styles of couples in Oyo State

S/N	Passive Communication Style	Mean	Order
	I communicate with my spouse by:		
1	Condemning my spouse suggestions regardless of the quality.	3.46	
2	Persuading my spouse to take my advice even if it is against his/her plan.	2.54	
3	Not asking for my spouse's opinion when taking decisions that concerns the two of us.	3.46	
4	Not allowing my spouse to finish talking before saying what I have to say.	3.27	
5	Not discussing the issues affecting the family jointly with my spouse.	3.11	
	Average Mean Score	**3.17**	**1st**
	Aggressive Communication Style		
	I communicate with my spouse by:		
6	Telling my spouse how to spend money.	3.40	
7	Threatening my spouse when he/she refuses to take my advice.	3.32	
8	Scolding my spouse when he or she refuses to take my advice.	2.34	
9	Raising my voice when arguing with my spouse.	3.11	
10	Asking my spouse to shut up when I do not want to listen to him/her.	2.75	
	Average Mean Score	**2.98**	**2nd**
	Passive/Aggressive Communication Style		
	I communicate with my spouse by:		
11	Not expressing my anger to my spouse in a hostile way.	3.27	
12	Breaking the silence that immediately follows heated argument.	3.44	
13	Avoiding eye contact when arguing with my spouse.	2.25	
14	Responding to conflict slowly and indirectly.	2.12	
15	Discussing my feelings about my in-laws with my spouse.	2.15	
	Average Mean Score	**2.72**	**3rd**
	Assertive Communication Style		
	I communicate with my spouse by:		
16	Discussing my future plans with my spouse.	2.32	
17	Revealing my sexual feelings to my spouse.	2.66	
18	Not feeling embarrassed when talking about sex with my spouse.	2.61	
19	Discussing my problems at work with my spouse.	2.69	
20	Requesting my rights from my spouse.	2.83	
	Average Mean Score	**2.62**	**4th**

Table 2 indicates that 432 respondents participated in this study and agreed with the identified spousal communication styles of couples in Oyo State. The most common communication styles of couples in Oyo State was passive communication style which has a mean score of 3.17 (1^{st}), while the next is aggressive and passive/aggressive communication style with a mean of 2.98 (2^{nd}) and 2.62(4^{th}) respectively.

Hypotheses Testing

H_{o1}: ***There is no significant relationship between communication styles and marital satisfaction of couples in Oyo State.***

Table 2: PPMC Analysis of Relationship between Communication Styles and Marital Satisfaction of Couple*s* in Oyo State

Variables	N	Mean	SD.	Df	Cal.r	Sig. (2-tailed)	Decision
Communication	432	56.80	10.91				**H_0**
				430	0.65	0.00	**Rejected**
Marital Stability	432	50.87	6.96				

P<0.05

As shown on Table 2, communication style had mean score of 56.80 with standard deviation 10.91, while marital stability had mean score of 50.87 with standard deviation of 6.96, the calculated r-value was 0.65 while its calculated significance value is 0.00 of df 2/430 at alpha level of 0.05. On this basis, null hypothesis one was therefore rejected.

H_{o2}: ***There is no significant difference in the communication styles of couples in Oyo State based on gender.***

Table 3: Mean, Standard Deviation and t-test Analysis of Difference in the Communication Styles of Couples in Oyo State based on Gender

Gender	N	Mean	SD.	Df	Cal.t	Sig. (2-tailed)	Decision
Male	177	57.73	11.79				**H_{02}**
				430	1.48	0.14	**Not Rejected**
Female	255	56.16	10.20				

As shown on Table 3, male married adult respondents had mean score of 57.73 with standard deviation 11.79, while female married adult respondents had mean score of 56.16 with standard deviation of 10.20, the calculated t-valuewas 1.48 while its calculated significance value is0.14 of df 2/430 at alpha level of 0.05. On this basis, null hypothesis two was therefore not rejected. The reason was that the calculated significance value (0.14) was greater than 0.05 alpha level ($\rho > 0.05$).

H_{o3}: ***There is no significant difference in the communication style of couples in Oyo State based on religion.***

Table 4: ANOVA Summary of Difference in the Communication Style of Couples in Oyo State based on Religion

Source of Variance	Sum of Squares	df	Mean of Squares	F	Sig.	Decision
Between Groups	7.999	2	3.999			H_{03}
Within Groups	5117.881	429	119.293	0.034	0.97	Not
Total	**51184.880**	**431**				**Rejected**

Table 4 shows an F-value 0.034 with calculated significant 0.967 at 0.05 alpha level. Since calculated significance 0.967 is greater than 0.05 alpha level, hypothesis three is thus not rejected.

H_{o4}: ***There is no significant difference in the communication style of couples in Oyo State based on length of years in marriage.***

Table 5: ANOVA Summary of Difference in the Communication Style of Couples in Oyo State based on Length of Years in Marriage

Source of Variance	Sum of Squares	df	Mean of Squares	F	Sig.	Decision
Between Groups	247.444	2	123.722			H_{04}
Within Groups	50937.435	429	118.735	1.042	0.354	Not
Total	**51184.880**	**431**				**Rejected**

Table 5 shows an F-value 1.042 with calculated significant 0.354 at 0.05 alpha level. Since calculated significance 0.354 is greater than 0.05 alpha level, hypothesis four is thus not rejected.

Discussion

The study revealed that the most common communication style of couples in Oyo State was passive communication style. This finding might be as a result of the fact that the culture of the Yoruba's advocate for wives to be submissive in marital relationship. According to Oniye (2004) the two paramount religions in Nigeria teach submission and reverence for the husband in any marital relationship. As such Nigerian women might prefer passive communication style rather than been seen as up-surging the authority of men. However, success in marriage greatly hinges on the style of communication adopted by the couple (**Litzinger, & Gordon, 2005).**

Furthermore, the study showed that there is a relationship between communication and marital satisfaction of couples in Oyo State. This result corroborates that of Litzinger and Gordon

(2005) who also found a relationship between spousal communication and marital stability. According to *Haller (2005) a* marital relationship devoid of sound communication is likely to end up in divorce.

Also, there was no significant difference in communication styles of couples in Oyo State based on gender and religion. In a the study carried out by Esere, Yusuf and Omotosho (2011) on spousal communication showed that the variable of gender influenced the perception of the respondents. However, it is observed that male and females have different communication styles in marriage. It is commonly generalized that females communicate indirectly which often reflects uncertainty, tentativeness, and lack of authority, while males are perceived to have a communication style that is direct, succinct and independent (Tenenbaum, Ford & Alkhedairy, (2011). Irrespective of religious affiliation, *Dabone (2004)* noted that the success of marriage rests heavily on how successfully couples understands their expectations and communication codes.

In addition, the length of years in marriage did not influence spousal communication style of couples married adults in Oyo State. This finding is congruent with that of ***Usoroh, Ekot, Inyang*** *(2010)* who reported that there was no significant difference in the spousal communication style of married *civil servants in AkwaIbom State Nigeria.* It expected that the more the years couples spend in marriage, the better should be the communication style. However, Mortenson (2002) noted that couples tend to understand their differences in communication styles over the years, which often brings respect thereby enhancing marital stability.

Conclusion

In addition, the findings revealed that there was a significant correlation between couple's communication style and marital satisfaction of couples in Oyo State. Furthermore, gender, religion and length of years in marriage did not influenced the perception of the respondents. This study has relevant implication for counseling practice. The interrelationship of couple's communication style and marital satisfaction is revealed in this study. For an effective counselling relationship (marital counseling), the professional counsellor needs adequate information and knowledge on communication styles in marriage. This information will stand as a foundation for the counselling process. Therefore, counsellors need to be aware of the correlation among couple's communication style and the interdependence of each variable. The ability of the marital counsellors to use this knowledge will help them work well with clients experiencing marital instability and poor communication style. Furthermore, professional counsellors can teach married couples assertive communication skills.

Recommendations

1. Findings revealed that the major communication style of married adults in Oyo State was passive communication style, it was recommended that the couples should be encouraged to sustain this communication style so as to sustain marital satisfaction.

2. Counsellors and religious organization should not relent in their effort on communication styles training that can enhance marital satisfaction.
3. The study also found that couples need to be trained on assertive communication style because literature review showed that assertive communication style can also enhance marital satisfaction.

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OCCUPATIONAL SAFETY IN HOME ECONOMICS LABORATORIES AMONG STAFF IN TERTIARY INSTITUTION IN ZARIA, KADUNA STATE

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Abstract
This study assessed the occupational safety in home economics laboratories among staff in tertiary institution in Zaria, Kaduna State. Three (3) objectives and research questions was formulated. Survey research design was used. A total sample of forty respondents were randomly selected using simple random techniques. The instrument employed in this study was researcher design questionnaire. With a Cronbach Alpha Reliability index of 0.89 which showed that the instrument was reliable. Simple percentage and frequency count was used to answer the research questions raised. Results shows that 50% are classroom converted into laboratory, 55% of the hazards were cuts from the laboratory and 50% of the occupational safety measures were available. It can be concluded that safety of any environment, lives and properties should be observed by workers at the workplace through the use of various safety medium so as to achieve success in safeguarding lives, properties and environment. It was recommended that the Schools / sponsors should 'provide a standard laboratory for ensure proper performance of practical work and laboratory staff must be conversant with safety rules and practices.

Keywords*: Occupation, Occupational Safety, Home Economics, Staff in Tertiary Institution.*

Introduction

Work environment can be conceptualized as a place where an individual carries an activity directed towards the achievement of a goal. The environment in which people live may be affected by behaviour and unsafe development of a certain physical conditions that could be unpleasant to the people, environment and things around it. The work environment usually consist of those material and equipment required by the individual to enable him/her carryout his/her duties successfully. A work place comprises the workers, light, water, air, equipment and tools as well as building and others relevant facilities found in the environment. The works stand out as the chief factor with the responsibility of organizing the best of the factors to achieve proper environment safety which involves being secured, sound and free from changes (Eheenkranz & Lydia, 2013).

A review of the safety precaution in the use of equipment/tools and materials including the individual that manage the work will in no small way prevent hazard. Various task are carried out using various equipment, tools and materials, therefore, it is important to adopt safety measures whenever any function is been carried out in an environment, the laboratory is not an exception. It is easy to think, nothing could ever happen to me as one work in the laboratory. However, accidents can and do occur (Ceserani, Kenkon & Fostett, 2015). It is also true that most accidents can be prevented when positive work ethics are imbibed by every worker.

Occupational safety and health is a cross-disciplinary area concerned with protecting the safety, health and welfare of people engaged in work employment. The goal of all occupational safety and health programmes is to foster a safe work environment. The International Labour Organization (ILO) and the world health organization (WHO) have shown a common definition of occupational health. It was adopted by the joint ILO/WHO committee on occupational health as it first session in 1950 and revised at its twelfth session in 1995 (Center for Diseases and Control, CDC, 2012). It stated that occupational health should aim at the promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations; the prevention amongst workers of departures from health caused by their conditions, the protection of workers in their employment from resulting from factors adverse to health; the place and maintenance of the workers in an occupational environment adapted to his physiological and psychological capabilities and to summarize the adaptation of work to man and of each man to his job.

Every job has the potentials to be a hazard such as working in the laboratory e.g. wearing shoes can result into a fall from losing balance. Walking barefoot can also make one to stepping on a broken glass or dropping something on the feet can cause injury. Faulty electrical appliance can lead to shock. There is need to keep the laboratory clean, safe as a sure way for avoiding hazards. A laboratory is a facility that provides controlled conditions in which scientific research, experiments and measurement may be performed. Laboratories used for practical are in different form, based on the different practical's requirement. For instance, a physics laboratory might contain particles such as accelerator or vacuum chamber. Despite the great differences among laboratories, some features are common. The use of work benches or counter tops at which the scientist may choose to either sit or stand is a common way to ensure comfortable working conditions for the researcher. The provision of cabinet for the storage of laboratory equipment (Salami, 2012).

The laboratory in home economics study are laundry laboratory, food laboratory, clothing laboratory, child development laboratory, home management flat. Home economics as a course has at least one or more laboratory which can be found in the school, college, university etc. such laboratories can offer work space for just one to about thirty students. Work plays a central role in peoples' lives, since most workers spend at least eight hours a day in the workplace, whether it is on a farm, in an office, factory, etc. therefore, work environments should be safe and healthy. Yet this is not the case for many workers. Every day workers all over the world are faced with a multitude of health hazards, such as dusts, gases, noise, vibration, extreme temperature. Unfortunately, some employers assume little responsibility for the protection of workers' health and safety. In fact, some employers do not even know that they have the moral and often legal responsibility to protect workers. As a result of the hazards and lack of attention given to health and safety, work-related accidents and diseases are common in all parts of the world.

Work-related accident or diseases are very costly and can have many serious direct and indirect effect on the lives of workers and their families. For workers some of the direct cost of an injury

or illness are the pain and suffering of the injury or illness, the loss of income, the possible lass of a job and health care cost. It has been estimated that the indirect cost of an accident or illness can be four or ten times greater than the direct cost or even more. An occupational illness or accident can have so many indirect cost to workers that it is often difficult to measure them.one of the most obvious indirect cost is the human suffering caused to workers' families, which cannot be compensated with money (Eheenkranz & Lydia, 2013). Overall, the cost of most work-related accidents or illness to workers and their families and to employers are very high. Safety is paramount to every worker who performs practical. It has to be ensured if he/she has to perform optimally. Lack of a safety environment can affect the workers in various ways, physically, mentally psychologically to mention a few (Enger and Smith, 2019). The study investigates the types of safety and health practices of staff who perform works and practical works in the institution laboratory.

Research Questions

1. What are the laboratory equipment available in home economics laboratories in tertiary institution in Zaria, Kaduna State?
2. What are the occupational hazard in home economics laboratories in tertiary institution in Zaria, Kaduna State?
3. What are the occupational safety measures in home economics laboratories in tertiary institution in Zaria, Kaduna State?

Methodology

A survey research design was adopted for to assess occupational safety in home economics laboratories. The population comprises of home economics staff in tertiary institutions in Zaria, Kaduna State. Simple random technique was used to two (2) tertiary institutions and select twenty (20) home economics staff in each tertiary institutions. The instrument employed in this study was a questionnaire. The questionnaire items were formulated based on the research questions. The instrument comprised of two sections which are section A and section B. Section A comprised of 2 items on demographic data, section B comprised of 7 items, section C comprised of 5 items while section D comprised of 5 items. To determine the reliability of the instrument, ten (10) home economics lecturers were used as to pilot test which did not form part of the sample. Cronbach Alpha Reliability index was used to determine the internal consistency of the instrument on data obtained. The analyzed data yielded a coefficient of 0.89 which showed that the instrument was reliable. The 40 copies of the questionnaire were administered to the respondents. All the copies of the questionnaire were completed and retrieved. The researcher questionnaire collected was analyzed with SPSS 22 version using simple percentage.

Results

Table 2: Laboratory Equipment Available

	Frequency	Percentage
Type of Laboratory available		
Clothing Lab	12	30.0
Food Lab	10	25.0
Laundry Lab	4	10.0
Multipurpose Lab	10	25.0
Home Management Lab	4	10.0
Total	**40**	**100.0**
Description of Laboratory		
Standard Lab	3	7.5
Classroom converted lab	20	50.0
Temporary lab	15	20.0
Multipurpose lab	2	5.0
Total	**40**	**100.0**
How will you describe your laboratory		
Well equipped	5	12.5
Fairly equipped	24	60.0
Not equipped	11	27.5
Total	**40**	**100.0**
Types of Equipment		
Large equipment	2	5
Small equipment	3	7.5
Both large and small equipment	35	87.5
None of the above	0	0.0
Total	**40**	**100.0**
Which of these are the equipment in your lab?		
Electrical large equipment	11	27.5
Manual large equipment	9	22.5
Small electrical equipment	18	45.0
Small manual equipment	12	30.0
Total	**40**	**100.0**
Where do you store your equipment?		
In a cabinet	6	15.0
In a basket	6	15.0
On shelves	6	15.0
Store	12	30.0
All of the above	12	30.0
Total	**40**	**100.0**
Type of fuel used		
Kerosene	3	7.5
Gas	21	52.5
Electric	8	20.0
Fire wood	6	15.0
Coal	2	5.0
Total	**40**	**100.0**

Table 2 above shows the responses of the respondents on the laboratory equipment available, twelve (30%) said they have clothing lab, ten (25%) have food lab, two (10%) have laundry lab, ten (25%) have multipurpose lab, twenty (10%) have home management lab. Twenty (50%) have classroom converted into laboratory.

The condition of the laboratory was investigated, 5 (12.5%) indicated that labs are well equipped, 24 (60.0%) said it is fairly equipped, 11 (27.5%) said the lab is not equipped. Equipment available in the labs are large equipment, 35 (87.5%) storage of equipment is seen as an essential part of laboratory management. Schools indicated that equipment are stored in cabinet, 6 (15%), baskets 6 (15%) shelves 6 (15%) store 12 (30%) and all of the above had 12 (40%).

Different types of fuel are used in the lab, Kerosene had 3 (75%), gas 21 (60%), electric 8 (45%) fire wood 6 (15%) and coal 2 (5%). This indicates that all sources of fuel are used.

Table 3: Occupational Hazard

	Frequency	Percentage
What are the hazards you've experienced in yourlaboratory?		
Fire	4	10.0
Burns	6	15.0
Cuts	22	55.0
Falls	4	10.0
Jamming each other/objects	4	10.0
Total	**40**	**100.0**
What are the common loses in the lab?		
Breaking of dishes/cutlery	12	30.0
Lost of cutlery	12	30.0
Theft	2	5.0
Cracking of canemal bowls	**10**	25.0
Breaking of glass windows	**4**	10.0
Total	**40**	**100.0**
Which of these accidents have you averted?		
Fire	6	15.0
Burns	6	15.0
Falls	10	25.0
Breaking of glass utensils	4	10.0
All of the above	12	30.0
None of the above	2	5.0
Total	**40**	**100.0**
How did you avert hazard on occurrence?		
Use of fire extinguisher	4	10.0
Use of water	4	10.0
Use of sand	4	10.0
Beating with leaves	4	10.0
Wiping the floor	4	10.0
All of the above	16	40.0
None of the above	4	10.0
Total	**40**	**100.0**
Preventive measures		
Wiping spills properly and immediately	4	10.0
Properly closing gas and electrical supplies	4	10.0
Keeping handles of equipment rightly away from body contact	2	5.0
All of the above	26	65.0
None of the above	4	10.0
Total	**40**	**100.0**

The issue of hazard was investigated respondents. Response reveal that 4 (10%) have experienced fire in their school lab. 6 (15%) said it was burn, 22 (55%) said it was cut, 4 (10%) said it was fall and jamming. All occurring respectively in the cause of working in the lab. Lost, damage are also the result reveal that experienced. 22 (55%) said it was breaking of dishes, 12 (30%) said it was lost of cutlery, theft had 2 (5%), breaking of utensils had 10 (25%), while all of

the common loses in the lab had 10 representing (25%). 4 (10%) said they have not experienced any lost.

6 (15%) of respondents indicated they have averted fire accident and burns respectively. (25%) indicates that they have averted breaking of glass utensils, 4 (10%) indicated they have averted all and 12 (30%) said they have not averted any. The various methods were used to extinct hazard. Two (5%) use all of the methods Twelve (20%) said they alert the authority while four (10%) did not do anything.

The method of prevention board by the various schools was investigated. 4 (10%) preventive measures are practiced by wiping floors properly and immediately, 4 (10%) said they close gas properly. 4 (10%) said they and switch electrical appliances and suppliers properly. 2 (5%) try keeping handles of equipment away form body contact, 26 (65%) indicated that all preventive measures are practical while 4 (10%) indicated non they don't practice any of the measures.

Table 4: Occupational Safety measures

	Frequency	Percentage
How do you protect yourself in the lab?		
Wearing lab coat	4	10.0
Wearing hand glove	2	5.0
Wearing flat shoe	10	25.0
Obey laboratory rules	24	60.0
Total	**40**	**100.0**
Which of these do you have in your labs?		
Laboratory rules	20	50.0
School rules	2	5.0
General rules	10	25.0
Civil service rules	8	20.0
Total	**40**	**100.0**
Which of these is necessary for safety?		
Know how to operate equipment	36	90.0
Protect equipment	2	5.0
Protect yourself	2	5.0
Not allowing students use equipment	0	0.0
Total	**40**	**100.0**
Safety measures in the lab		
Open windows while in the lab	24	60.0
Eat in the lab	12	30.0
Close the door	0	0.0
Have many students working	0	0.0
Wear lab coat	4	10.0
Total	**40**	**100.0**
Type of safety measures available		
Safety devices	2	5.0
Safety regulations	2	5.0
Watching students closely	8	20.0
Updating facilities	8	20.0
Providing modern equipment	20	50.0
All of the above	0	0.0
None of the above.	**40**	**100.0**

From table 4, safety measures and how they are in assessed. The result showed that 4 (10%) students wear laboratory coats 2 (5%) wear flat shoes five representing 10 (25%) obey laboratory rules while 24 (60%) use all the mentioned measures of protecting themselves in the laboratory. The laboratory have certain provisions (rules) to ensure safety. Respondents showed that 10 (25%) have laboratory rules as measures, 2 (5%) have school rules, 5 (10%) have general rules. 8 (20%) have all the rules while 16 (40%) don't have any of the mentioned rules.

Certain things that are necessary for safety ware assessed. Response reveal that 36 (90%) indicate that a required safety measure is knowing how to operate equipment. Two (5%) indicated it is protected equipment and oneself respectively and not allowing the use of equipment. Response on safety measures indicate that 24 (60%) said it is by opening windows while in the laboratory and 12 (30%) said it is by wearing laboratory coat. Respondents responses on safety measures available in the schools. 2 (5%) said safety devices are available, 2 (5%) said safety regulations are available, 8 representing 20% said it was watching students closely while 20 (50%) explained all of the listed measures were available.

Discussion of Findings

Occupational hazard occurs in every work environment. In the department and during home economics practicals, hazard can occurs in the laboratory. Types of lab available are clothing laboratory, food laboratory laundry, home management and multi-purpose laboratory. These laboratories are well equipped although not as the response indicated. Equipment available in the institutions include both large and small equipment of both. The result shows that there is no institution involved in the study without tools and equipment. These large and small tools and equipment include those operated electrical manually (Ceserani, Kenkon and Fostett, 2015).

The equipment and tools are stored in both cabinet, basket shelves and store. During practical fuels such as kerosene, gas, electric are used. Fire wood, coal and kerosene scored highest, this could be due to lack of constant electricity supply as well; as high cost of gas. Even though fire wood is a common source of fuel, it is hardly used in the lab with a least score of six (15%), coal is the least with two (5%). Hazard is a situation that result into an unwanted situation. Occupational hazard is a situation that allows one to occupy a bad position as a result of happenings. Such hazard include fire, burns, cuts, falls, jamming each other. All of these have been diverted by the use of five extinguisher. These accidents result into breaking of dishes, lost of cutlery, breaking of glass window cups breaking of bowls, with the least being bottle.

Accidents that occur have been controlled using fire extinguisher, water and sand by some department, the most being wiping spills on floors and alerting the authority. It was observed that preventive measures were put in place by wiping spills, closing gas cylinder and switching off sockets and appliances. Others are keeping handles of utensils away from body contact. Occupational safety measures have been put in place such as wearing a laboratory coat and hand gloves, flat shoes as well as obeying laboratory rules. To maintain safety rules such as laboratory general rules are put in place (Femuric, Keech and Shapod, 2015). Though not many have them, this leaves students to work without conscious guidance what is most necessary for safety management is knowing how equipment are operated and protecting oneself. A response showed that a safety measure is not allowing students use equipment. The question to ask if

students don't use the equipment then who will do so? And who is the equipment meant for?. To acquire safety in the laboratory, window are opened and students are made to wear laboratory coats. Strategies put in place for safety include having safe devices, safety regulation, keep close watch at students, updating facilities, as well as providing quality and easy to operate equipment for students use. These when implemented will ensure safety of life and property of the institutions (Eheenkranz and Lydia, 2013).

Conclusion

The complex nature of the modern environment demands that the adverse effect of man's exploitation of the environment has brought about universal concern which resulted into environmental education. The importance of safety in the work place cannot be overemphasized. This is because a hazard in laboratories and any work place produces both economics and social loss, impair and disrupt individual productivity and retard the advancement of standard of living.

It is therefore necessary that the safety of any environment, lives and properties should be observed by workers at the workplace through the use of various safety medium so as to achieve success in safeguarding lives, properties and environment.

Recommendations

1. Schools / sponsors should 'provide a standard laboratory for ensure proper performance of practical work.
2. Laboratory staff must be conversant with safety rules and practices.
3. Institutions must make available to students staff safety rules.
4. Students in the laboratory must obey laboratory rules and work according to the specification given.
5. Schools must keep safety gadgets at the right places
6. Teachers should ensure proper use of equipment gadgets / chemical.
7. Properly labeling of chemicals must be done.

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ACADEMIC STRESS AND SOCIAL ANXIETY AMONG UNDERGRADUATES OF UNIVERSITY OF ILORIN

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Abstract
Previous studies have pointed out various ways in which university education predisposes students to psychological challenges such as anxiety, depression, stress and general poor health. Stress and Social anxiety have been found to relate to diverse factors influencing academic performance and well-being of students. This study investigated academic stress and social anxiety among undergraduates of University of Ilorin. Descriptive survey was adopted to gather data for the study using academic stress and social anxiety scale. The instrument was validated by experts in the Department of Counsellor and its reliability was ascertained through the test retest method. The reliability results of the two scales yielded 0.94 and 0.96 respectively. A total sample of four hundred and twenty (420) undergraduates participated in the study. The data obtained were analyzed using percentages. Analysis of Variance (ANOVA) and t-test were used to test the null hypotheses generated. Results indicated that larger percent of undergraduate students in University of Ilorin reported high stress level. A significant proportion of the students experienced high level of social anxiety. Respondents differ in their expression of stress level on the bases of class level, mode of entry and type of home. The level of social anxiety of undergraduates in the university is impacted by their age, gender, home type, study level and programme of study. It was recommended that University counsellors should take into consideration study level, mode of entry and type of home in designing and implementing stress management and social anxiety intervention programmes.

Key words: *Academic stress, Social anxiety, Undergraduates, University, Ilorin..*

Introduction

Gaining admission into the university setting in Nigeria is a unique experience that predisposes the adolescents and emerging adults into social, physiological and psychological changes requiring adjustments. For the first time some adolescents are leaving their homes and family set ups to live alone either in a distant or close location and meeting with wide arrays of peers under little parental monitoring and control and with lots of demands that they might have not faced before at secondary school stage. These exposures could lead the undergraduates to experience cultural, physiological and social alterations; these can be related to detrimental tendencies such as academic stress and social anxiety that impact on health. In such situations academic stress management and social skills are required to avoid the detrimental effects and improve sound academic performance. Academic stress is one of the challenges experienced by undergraduates in Nigeria requiring adequate management. It has been found that undergraduates experience a lot of academic stress which affect their performance (Lamidi, 2016; Shamsuddin et al., 2013; Bayram & Bilgel, 2008).

Social anxiety is also capable of impairing academic performance of undergraduates by limiting their abilities to relate effectively to explore individuals who could assist in facilitating academic performance. Bella-Awusah and Omigbodun (2008) reported that undergraduates in Nigeria experience social anxiety in a similar dimension to what occurs in global community. However, Lamidi (2016) reported higher level of anxiety among Nigerian undergraduates than what were reported in the study of Bayram and Bilgel (2008). Bella and Omigbodun (2008) also noted vital connection between social anxiety and emotional distress.

The university experience as an undergraduate can be a tense process resulting from significant transformations at a social level and at an educational tier (Mitchels, et al., 2019; Chacon-Cuberos, et al., 2019). Mitchel, et al., (2019) described stress as a series of relations between an individual and circumstances that surpass his or her peculiar assets which present a threat to his/her comfort. Stress associated with intellectual settings, examination, scholastic efforts, verbal presentations are described as academic stress (Bedewy & Gabriel, 2015).

Lots of academic investigations (Fasoro et al., 2019; Lamidi, 2016) have pointed out various ways in which university education predispose students to psychological challenges such as anxiety, depression, stress and general poor health. Social anxiety and stress have been found to relate to diverse factors as determinants of academic performance and well-being of individuals (Farmer & Kashdan, 2015). Roelofs et al. (2009) revealed that individuals with social anxiety manifest increasing bodily processing reactions (amplified heart speed) to demanding tasks. This could predispose such individuals to dodge demanding educational tasks with detrimental impact on their academic achievements. This suggests connection between academic stress and social anxiety. Several studies have also pointed out how these variables are impacted by demographic features of age, sex, undergraduates' study level, course of study, family background among others. Mehfooz and Sonia (2017) Fasoro et al. (2019) reported that female undergraduates showed higher level of stress than male prior to and following assessments. Similar finding was reported by Sarka et al. (2017) regarding gender difference in stress level. Auerbach, Richardt, Kertz and Eberhart (2012) examined whether stress emanating from interactions and non-interaction sources considerably predict elevated social anxiety. They found the two categories of stress considerably predictive of elevated social anxiety in females. It was also reported that undergraduates studying medicine experience stress in the area of academic in their 300 level more than in other areas, although other study levels did not partake in the study to determine whether study level will contribute to the variation (Sarka et al., 2017). Lamidi (2016) noted significant connection between parental marital status with stress, but not with anxiety. Age and gender did not significantly impact stress and anxiety level of the undergraduates. However, Ludwig et al. (2015) reported variation in the stress level of respondents based on study level, medical students at higher study level experienced more stress than those at lower study levels. The study only considered medical students.

Averting anxiety infuriating social circumstances is an aspect of the measure for identifying social anxiety challenges (American Psychiatric Association, 2013). Individuals with increased social anxiety reduce engagement in social interactions than less socially anxious group (Dodge et al., 1987; Farmer & Kashdan, 2015). In line with this, undergraduates with high social anxiety may participate less in demanding academic tasks to minimize their negative feelings on days they perceived higher social anxiety. It can be deduced from literature that undergraduates across universities experience tremendous modifications in the social and psychological contexts. There are numerous `inquiries on sources of academic stress and their impacts on students' academic performance as well as on examination anxiety and its impacts on undergraduates' academic

success. But studies on the relationships between academic stress and social anxiety of undergraduates in Nigeria are scarce. It is therefore imperative to consider the association between academic stress and social anxiety among undergraduates of University of Ilorin.

Methodology

The research design that was adopted for this study is descriptive survey. It was used to determine the relationship between stress and social anxiety among undergraduates in the University of Ilorin using questionnaire. This type of design was chosen because it afforded the researchers the opportunity to collect data from the respondents conveniently. The descriptive survey research is the collection of data for the purpose of reporting condition as they exist. The population for this study therefore comprised of forty thousand, six hundred and seventy-four (40,674) undergraduates' students of the University of Ilorin from Academic support services (2019). This specific group runs full-time courses. The study population is spread among the fifteen faculties of the University of Ilorin; some live on campus while others live off campus. The total sample of four hundred and twenty (420) undergraduates participated in the study. This was assumed to be the representative of all undergraduates in the University and was taken to be in accordance with the suggested sample size based on population. In this study the researchers selected sample of the target population and gives every member of the population an equal and independent chance of being selected using simple random sampling technique. One of the researchers visited each of the faculties when they have faculty wide courses and administered the questionnaire. The researcher administered 57 copies of the questionnaire forms to each of the seven faculties except Faculty of Agriculture where 78 copies were administered because of the population and their willingness to participate in the study.

The instrument that was used for data collection was titled" Stress and Social Anxiety Scale" The scale has three sections A, B & C. Section A consist of the demographic data of the respondent. Section B is Stress scale and Section C is Social Anxiety scale. The sections B and C were designed using a 5 points Likert-type scale. The social anxiety scale was an adapted form of social anxiety scale by (Yahaya & Nyarko-Sampson, 2016). The original scale consisted of fifty (50) items, twenty-six (26) items was adapted for the social anxiety scale questionnaire. The instrument that was used for the stress scale was an adapted questionnaire by Riaz and Jian (2013). The original version consists sixteen (16) items, (14) was adapted and six (6) are self-designed for the Stress Scale to make a total of 20 items in the present scale. The sections B and C were designed using a 5 points Likert-Type scale, which the respondents respond to the items which was coded as follows: Always A, Often O, Sometimes S, Rarely R, Never N. And for the Social Anxiety Scale was coded; NTM=Not true of me, STM = slightly true of me, MTM= moderately true of me, VTM = Very true of me, VMTM= Very much true of me. Some of the adapted items from Riaz and Juan (2013) are;

1. When thinking about issues, I get so restless and have trouble relaxing is changed to thinking about important academic issues make me feel restless.
2. Attending social gatherings causes stress for me is changed to when I attend social gatherings, I feel tired.
3. When a deadline is given, I get really anxious about what to do is changed to working with deadline decreases my energy.

The six items that were researchers' designed are items 11,12, 15, 16,17 and 20.
The content validity was established by given copies of the questionnaire to experts in the

Department of Counsellor Education. The experts made suggestions to amend, remove, or add some items to make the instrument valid. All the suggestions were carefully observed after which it was adjudged adequate to measure the subject matter it was designed to measure. A test re-test technique was used in determining the reliability of the research instrument. The instruments were administered twice within an interval of two weeks. For the stress scale, the two sets of scores were correlated using Pearson's Product Moment Correlation which yielded a coefficient of 0.94. This score was considered sufficiently reliable for the study. For the social anxiety scale, the two sets of scores were correlated using Pearson's Product Moment Correlation which yielded a coefficient of 0.96. This score was therefore considered high enough to make the instrument reliable for the study.

Section A which dealt with the demographic data was scored using frequency counts and percentage. Section B with twenty (20) items on Stress among undergraduates in the University of Ilorin was scored using the 5 points Likert-type rating scale as follows: Always = 5points; Often =4 points; Sometimes =3 points; Rarely = 2 points; Never =1 points. For section B, it was scored as follows: 0-40 = Low level; 41- 70 = Moderate; 71-100 = High.

Section C with twenty-six items on social anxiety among undergraduates in the University of Ilorin was scored using the 5 points Likert-type rating scale as follows: Very Much True of Me (VMTM) =105-130; Very True of Me (VTM) = 79-104; Moderately True of Me (MTM) = 53-78; Slightly True of Me (STM) = 27-52; Not True of Me (NTM) = 0-26. The minimum score a respondent can obtain is 26 (1 x 26) while the highest obtainable score is 130 (5 x 26). By interpretation, any respondent that has between 79 and 130 is considered to have major challenge regarding social anxiety, while any respondent who obtains a score which is less than 79 (0-60) is rated as not having major challenges on social anxiety. This interpretation is based on the fact every individual needs a moderate level of anxiety to operate effectively.

Results

The data obtained were analyzed using frequency count and percentages for the demographic data section. Analysis of Variance (ANOVA) and t-test were used to test the null hypotheses generated. The t-test statistical method was used to compare means of two groups. In view of this hypothesis 1 was tested using the Pearson Product Moment Correlation (PPMC), hypotheses 2 and 3 were tested using were tested using ANOVA.

Results

Research Question 1: What are the social anxiety and stress levels of undergraduates in the University of Ilorin?

Table 2: Level of Severity of Social Anxiety and Stress among Undergraduates

Rating	Score	Frequency	Percentage
Social Anxiety			
Less social anxiety	0-78	332	79.0
High social anxiety	79-130	88	21.0
Total		**420**	**100**
Stress			
Low	20-40	0	0.0
Moderate	41-70	34	8.1
High	71-100	386	91.9
Total		**420**	**100**

Table 2 shows the respondents' social anxiety and stress levels. The table indicates that 332 (79.0%) of the respondents had less social anxiety level while 88 (21.0%) of the respondents had high level of social anxiety. A total of 386 (91.9%) of the respondents perceived high level of stress.

Data collected to test hypotheses two and three were analysed using Univariate Analysis of Variance. The result of the analysis is shown in tables 4 and 5.

Hypothesis One: *There is no significant relationship between perceived stress and social anxiety levels of undergraduates in the University of Ilorin.*

Table 3: Mean, Standard Deviation and r-value Showing Relationship between Stress and Social Anxiety among Undergraduates in the University of Ilorin.

Variable	N	Mean	SD	df	Cal. r-value	P-value
Stress	420	82.97	11.75	418	0.38*	.000
Social Anxiety	420	49.98	18.69			

*Significant, p<0.05

Table 3 shows that the calculated r-value of 0.38 with the corresponding p-value of .000 which is less than 0.05 alpha level of significant. This indicates that there is direct significant relationship between the variables. Academic stress can explain 38% of social anxiety among the respondents. Hence, the hypothesis is rejected. Therefore, there is significant relationship between stress and social anxiety among undergraduates in the University of Ilorin.

Hypothesis 2: *There is no significant difference in the stress level of undergraduates in the University of Ilorin based on age, gender, class level, mode of entry, programme of study and type of home.*

Table 4: F-value Analysis of the Difference among Age, Gender, Class Level, Mode of Entry, Programme of Study and Type of Home on the Stress Level of the Respondents

Source	Type III Sum of Squares	df	Mean Squares	Calculated F-ratio	p-value
Correlated Model	26059.24[a]	6	4343.20	56.29	.00
Intercept	147549.32	1	147549.32	1912.53	.00
Age	4.96	1	4.96	.06	.80
Gender	.80	1	.80	.01	.91
Class Level	1946.81	1	1946.81	25.23	.00*
Mode of Entry	15968.42	1	15968.42	206.98	.00*
Programme of Study	.01	1	.01	.00	.99
Type of Home	1194.71	1	1194.71	15.48	.00*
Error	31862.29	413	77.14		
Total	2948978.00	420			
Corrected Tota1	57921.53	419			

*Significant, p<.05

Table 4 reveals that the study level, mode of entry and home type are significant in determining the stress level of undergraduates in University of Ilorin. Age, gender and programme of study are not statistically significant in determining the stress level of the respondents.

Hypothesis 3: *There is no significant difference in the social anxiety level of respondents based on age, gender, study level, mode of entry, programme of study and type of home.*

Table 5: F-value Analysis of the Difference among Age, Gender, Class Level, Mode of Entry, Programme of Study and Type of Home in the Social Anxiety Level of Undergraduates in the University of Ilorin

Source	Type III Sum of Squares	df	Mean Squares	Calculated F-ratio	p-value
Correlated Model	88193.84[a]	6	14698.97	104.28	.00
Intercept	103432.87	1	103432.87	733.84	.00
Age	8879.41	1	8879.41	62.99	.00*
Gender	40960.38	1	40960.38	290.60	.00*
Study Level	3219.33	1	3219.33	22.84	.00*
Mode of Entry	376.86	1	376.86	2.67	.10
Programme of Study	7868.41	1	7868.41	55.82	.00*
Type of Home	586.88	1	586.88	4.16	.04*
Error	58210.96	413	140.94		
Total	1195505.00	420			
Corrected Total	146404.81	419			

*Significant, p<.05

Table 4 reveals that age, gender, study level, programme of study and type of home are significant in the social anxiety level of respondents. But mode of entry was not significant. Therefore, the null hypothesis three is not accepted. This implies that there is no significant difference in the social anxiety level of respondents based on mode of entry but significant differences were found based on age, gender, class level, programme of study and type of home.

Discussions

The study revealed that undergraduates in University of Ilorin reported high stress level. Stress occurs when one is confronted with a situation which is perceived to be overwhelming and one cannot cope with such a situation (Agolla & Ongori, 2009). The issue of stress among university students has been in focus for several decades. The finding of the study is in line with the submission of Mehfouz et al (2017) who found almost three quarter of their respondents reported academic related stress. Sarka, Gupta and Menon (2017) registered high prevalence stress level among university students (56%). It was stress further that academic related activities lead to a higher prevalence of stress among university students. The finding differs from Chacon-Cuberos et al (2019) who reported moderate level of academic stress among university students. While Sharifirad, Marjani, Abdolrahman, Mostafa and Hossein (2012) reported 21.4 severe stress level but 76.1% global stress. Lamidi (2016) reported 17.8% prevalence level of stress. Yussuf et al (2013) reported 3.6% prevalence rate.

The finding of the study also revealed that over one fifth of the respondents reported high level of social anxiety among undergraduates in the University of Ilorin. This implies that significant number of undergraduates in the University of Ilorin experienced high social anxiety. The prevalence rate is close to the findings of Hakami et al (2017) who found a quarter of the respondents to be socially anxious with varying degree of intensity. Earlier study among Nigerian undergraduate students reported lower rate of social anxiety disorder 8.5% (Bella-Awusah & Omigbodun, 2009). Taha et al (2017) found prevalence of 16.3% among female undergraduates; Yusoff, Rahim, Baba, Ismail, Esa, et al. (2013). Yusuff et al (2013) reported high prevalence of moderate and severe examination anxiety (54.5%) among prospective medical students. Yusuof et al (2013) focused on examination anxiety, hence variation in findings regarding prevalence of anxiety.

Results of the inquiry revealed significant relationship between stress and social anxiety among undergraduates in the University of Ilorin. This implied that there is positive correlation between students' Stress level and social anxiety. Earlier studies (Bella-Awusah & Omigbodun, 2008; Auerbach, Richardt, Kertz & Eberhart, 2012; Moylan, Maes, Wray, & Berk, 2013) demonstrated connection between stress and mental health challenges. For instance, Auerbach et al (2012) found that stress emanating from interactions and non-interaction sources considerably predict elevated social anxiety. Also, Moylan and others (2013) noted that persistent stress predisposes anxiety and depression.

Another finding disclosed that the study level, mode of entry and home type are significant in determining the stress level of undergraduates in University of Ilorin. Age, gender and programme of study are not statistically significant in determining the stress level of the respondents. The findings supported earlier studies (Ludwig et al., 2015; Lamidi, 2016, Sarka et al., 2017; Adegboyega, 2020) regarding significant variation on issues surrounding undergraduates' academic stress on the bases of age, gender, study level, mode of entry and parental marital status. The findings which cut across various faculties showed that regardless of course of studies undergraduates experience high level of stress in the university.

It was also evident that age, gender, study level, programme of study and type of home are significant in the social anxiety level of respondents, however, mode of entry was not significant. Taha et al (2017) had earlier reported that loss of parent which leads to single parenting predicts social anxiety disorders among undergraduates in Saudi Arabia. However, Lamidi (2016) noted that age, gender and parental marital status were not significantly related to parental marital status. The findings also differ from Hakami et al (2017) who found that respondents' age, gender, faculty type and family factors did not significantly impact the social anxiety disorder of their respondents. (reason?

Conclusion

Larger percent of undergraduate students in University of Ilorin reported high stress level. A significant proportion of the students experienced high level of social anxiety. Respondents differ in their expression of stress level on the bases of class level, mode of entry and type of home. The level of social anxiety of undergraduates in the university is impacted by their age, gender, home type, study level and programme of study.

Recommendations

i. Student affairs unit of the university as well as student's association should include stress management as part of their orientation packages for the freshly admitted undergraduates.

ii. University counselors should take into consideration demographic variables of study level, mode of entry and type of home in designing and implementing stress management intervention programmes.

iii. Counselors in the University should also realize the need to assist undergraduates in addressing issues relating to social anxiety as it affects significant proportion of them. The focus should not be limited to examination anxiety.

iv. Counselors and level advisers should take into consideration social anxiety while addressing students' poor academic performance.

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