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EDITORIAL

With the consistent patronage of the Journal of Human Kinetics and Health Education (JOKHED) by various researchers and the reading public, we are compelled to publish this latest edition of the journal (Vol, 3, No 1, 2020).

The Editorial Board deployed appropriate logistics to screen and select articles with high quality in conformity with the international standard of JOKHED.

This edition ascertains the publication of articles from diverse segments of human movement phenomena and health education pedagogy. We shall not relent in our avowed commitment to always put the journal in academic domain at least two times a year.

My profound appreciation goes to the members of the Editorial Board for their individual participation, and especially, the Managing Editor, in the successful publication of this edition of the journal.

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3. The abstract must not be more than 200 italicized words with focus on the purpose, methods, findings and recommendations; and a maximum of five key words.
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Assessment of Knowledge and Compliance with Routine Immunization among Nursing Mothers in Ekiti State

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Abstract

This study was carried out to assess nursing mothers' knowledge and compliance with routine childhood immunization. The descriptive research design of the survey type was adopted in this study. Four hundred and eighty nursing mothers having babies between 9 and 12 months, randomly selected from twelve health facilities in Ekiti State, participated in the study. Data was collected with the use of self-developed, validated questionnaire. Analysis of data was carried out using frequency counts, percentages, mean, ANOVA, and Pearson Product Moment Correlation, and all inferences were made at 0.05 level of significance. The findings revealed that level of knowledge of routine childhood immunization among nursing mothers was moderate while the level of compliance was high. The age of mothers significantly influenced their knowledge. Younger mothers' had better knowledge than older ones. Compliance of mothers with routine childhood immunization was significantly influenced by mothers' educational status and their age. There is the need to intensify public health campaigns on the importance of routine childhood immunization to raise awareness of mothers on routine childhood immunization and sustain the high level of compliance already attained.

Keywords: Childhood, Immunization, knowledge, Compliance, Mothers

Introduction

The public health effects of leaving children unprotected against killer diseases are enormous. Children under the age of five are vulnerable to infectious diseases like measles, pneumonia, tuberculosis, and

yellow fever (UNICEF, 2018) that cause child morbidity and mortality. According to WHO (2019), a single child left untreated of polio, puts all children in all countries at risk of contracting polio. Also, pneumonia, diarrhea, malaria and other

childhood diseases have been reported to be responsible for high percentage of global deaths among children under the age of 5 years (UNICEF, 2018).

Immunization is one of the most cost-effective public health interventions which offer protection against childhood diseases. Immunization can either be routine or supplemental. Routine immunization is the nationally scheduled regular administration of vaccine dosages to infants at specified ages with the main aim of delivering to all children, a complete scheduled number of doses of potent vaccines in a timely, safe, and effective way to immune them against the targeted diseases (Adefolalu, Kanma-Okafor & Balogun, 2019). Supplemental immunization, on the other hand, takes the form of mass immunization campaign, that it is conducted at a certain period of the year to deliver vaccines to individuals especially children that were missed by routine immunization services (WHO, 2016).

The introduction of immunizations has resulted in a vast reduction in the prevalence of childhood morbidity and mortality worldwide. More than 2.5 million child deaths are prevented globally through vaccines. It is also evident that an additional 2 million child deaths could be prevented each year through immunization with currently available vaccines (WHO,

2020). Also, through vaccinations, the health of children is protected and the cost of medical expenses reduces.

Despite the tremendous impact of immunization in reducing infectious diseases among children, and the enormous efforts of the Government, assisted by UNICEF and WHO, in making available necessary resources for routine and supplemental immunization for children, Nigeria has witnessed a gradual but consistent reduction in immunization coverage. The national data available in the year 1996 and 2003 showed a steady decline in immunization coverage in Nigeria. WHO-UNICEF estimates of immunization coverage in Nigeria between 2008 and 2019 were just a few percentages above average (WHO-UNICEF, 2020). Hence more still needs to be done. Many factors have a direct link with the low level of immunization in Nigeria. These include a low level of knowledge of what childhood immunization entails, low level of acceptability, low level of compliance with childhood immunization, poor financial status, low level of education, little or no access to the media and poor health-seeking behaviors among others.

Knowledge is the understanding of concepts. In the context of routine immunization, knowledge entails having an understanding of the importance of childhood immunization, knowing the

various vaccinations required to be taken by a child at a specific period, and the health implications of defaulting. Compliance entails adhering to a laid down rule or guideline. In the context of childhood immunization, compliance means adhering to the immunization schedule. It is the timely administration of a vaccination according to the immunization schedule (Hadjipanayis, 2019). When mothers who are the direct caregivers of children have a proper understanding of the importance of childhood immunization, it is likely to influence their acceptability of, and compliance with routine childhood immunization schedule positively. Thereby improving the level of immunization and guaranteeing maximum protection of children against vaccine-preventable diseases.

Having established the importance of knowledge and compliance with childhood immunizations on improving the level of immunization and protecting children against vaccine-preventable diseases, it is important to frequently assess these variables among mothers so that if need be, timely intervention can be planned. The objectives of this study were therefore to determine the level of knowledge of mothers' on routine childhood immunization, to assess the level of compliance of mothers with

routine childhood immunization, and to determine the influence of demographic variables of age, educational status, geographical location and number of children of mothers' knowledge and compliance with routine childhood immunization. .

Research Questions

The following research questions were raised to guide the study;

1. What is the level of knowledge of mothers on routine childhood immunization for children in Ekiti State?
2. What is the level of compliance of mothers with routine childhood immunization for children in Ekiti State?

Research Hypotheses

The following hypotheses were formulated for the study;

1. There is no significant relationship between mothers' knowledge of routine childhood immunization and compliance with immunization in Ekiti State.
2. There is no significant influence of educational status on mothers' knowledge of routine childhood immunization.
3. There is no significant influence of age on mothers' knowledge of routine childhood immunization.

4. There is no significant influence of educational status on mothers' compliance with routine childhood immunization.
5. There is no significant influence of age on mothers' compliance with routine childhood immunization.

Methodology

Descriptive research design of the survey type was used for the study in order to describe mothers' knowledge and compliance with routine childhood immunization. This design enables the researcher to observe the situations as they occurred in the field without manipulation of the variables. The population of this study consists of all the 92,967 mothers having children between 9 and 12 months in the three hundred and eight health centers offering routine immunization in Ekiti State (Ekiti State Ministry of Health, 2019).

The sample for this study consisted of 480 mothers nursing infants selected from twelve health centers in Ekiti State, using multistage sampling procedure. The first stage involved the use of simple random sampling technique to select two (2) local government areas (LGAs) from each of the three (3) senatorial districts in Ekiti State. A total of six LGAs out of the sixteen LGAs were selected. The second stage involved the use of simple random

sampling to select two towns from each of the six LGAs selected making a total of 12 towns. Thirdly, simple random sampling technique was used to select one health center each from the twelve towns selected. A total of twelve (12) health centers offering routine immunization in Ekiti State were selected. Finally, purposive sampling technique was used in the selection of 40 nursing mothers who brought children between the age of 9months and 12months to routine immunization clinic in each of the selected health center.

The instrument for data collection was a self-developed questionnaire. The instrument had four (4) sections: Section A was used to obtain information about the demographic characteristics of the infants and their mothers. Section B contains items to assess mother's knowledge on routine immunization for infants while Section C was designed to assess mothers' compliance with routine childhood immunization. The face and content validity of the instrument were ascertained by experts in the departments of Human Kinetics and Health Education, Guidance and counseling and Tests and Measurement of Ekiti State University, Ado Ekiti. The instrument was administered on the respondents with the help of three health workers who served as research assistants. Consent was first

obtained from the head of each health centres and the nursing mothers selected. Also, the research assistants were trained on the focus of the research work and modalities to follow in the administration of the instrument. On the spot method of questionnaire administration was adopted.

The data collected from the study were analyzed using descriptive and inferential statistics. The research questions were answered using frequency counts, percentages, mean score and standard deviation. While inferential statistics of Pearson Product Moment Correlation (PPMC) and ANOVA were used to test the hypotheses at 0.05 level of significance.

Results

Research Question 1: What is the level of knowledge of nursing mothers on immunization for children in Ekiti State?

To determine the level of knowledge of mothers on immunization for children in Ekiti State (low, moderate and high), the mean score (16.10) and standard deviation (3.26) of mothers' responses to knowledge items were used. Low level of knowledge was obtained by first subtracting the standard deviation from the mean ($16.10 - 3.26 = 12.84$) hence any value between 0.00 and 12.84, was categorized as low level. Moderate level was set at any value between 12.85 and 19.35, while the high level was set at a value between the addition of the mean and standard deviation (19.36) and the highest possible score on knowledge (i.e 20.00). The level of mothers' knowledge on routine immunization in Ekiti State is presented in Table 1

Table 1: Level of Mothers' Knowledge on Immunization in Ekiti State

Level of knowledge	Frequency	Percentage (%)
Low (0.00-12.84)	58	12.1
Moderate (12.85-19.35)	319	66.5
High (19.36- 20.00)	103	21.5
Total	480	100

Table 1 shows that majority of the respondents (66.5%) had moderate level of knowledge. This shows that the level of

mothers' knowledge on routine childhood immunization in Ekiti State was moderate.

Research Question 2: What is the level of compliance of mothers with immunization for children in Ekiti State?

To determine the level of compliance of mothers with childhood immunization (low, moderate and high), the mean score (33.63) and standard deviation (0.079) of the responses of mothers' to items used to measure compliance were used. Low level of knowledge was obtained by subtracting the standard deviation from the mean (33.63-

0.079= 33.55) hence any value between 17 and 33.55, was categorized as low level. Moderate level was set at any value between 33.56 and 33.70, while high level was set at a value between the addition of the mean and standard deviation (33.71) and the highest possible score on compliance (i.e.34.00). The level of mothers' compliance with routine immunization in Ekiti State is presented in Table 2.

Table 2: Level of Compliance of Mothers with Immunization in Ekiti State

Level of compliance	Frequency	Percentage (%)
Low (17.00- 33.55)	89	18.5
Moderate (33.56-33.70)	-	-
High (33.71- 34.00)	391	81.5
Total	480	100

Table 2 shows that 89 respondents representing 18.5% of the total sample had low level of compliance while those with high level were 391 representing 81.5%. This shows that the level of compliance of mothers with routine immunization for infants in Ekiti State was high.

Hypothesis 1: There is no significant relationship between mothers' knowledge on routine immunization and their compliance with routine immunization in Ekiti State.

Table 3: Relationship between Mothers' Knowledge and Compliance with Childhood Immunization

Variables	N	Mean	SD	r	p
Mothers' knowledge on routine immunization	480	16.10	3.260		
Mothers' compliance to routine immunization	480	33.63	0.789	0.385*	.000

Table 3 reveals that the P- value for the relationship between mothers' knowledge and compliance (r value= 0.385) is less than 0.05 which implies that mothers' knowledge had a significant relationship with their compliance with childhood immunization. Therefore, hypothesis 1 is rejected. The result further implies that there is a positive relationship

between knowledge and compliance with childhood immunization. This implies that as knowledge increases, the compliance of mothers with routine childhood immunization also increases.

Hypothesis 2: There is no significant influence of educational status on mothers' knowledge of routine childhood immunization

Table 4: Influence of Educational Status on Mothers' Knowledge Routine Immunization

Source	SS	df	MS	F	P
Between Groups	81.929	3	27.310		
Within Groups	5009.662	476	10.525		
Total	5091.592	479		2.595	.052

The result on Table 4 shows that the P-value for the difference in mothers' knowledge based on educational status, is greater than 0.05. Hypothesis 2 is therefore not rejected. This implies that there is no significant influence of educational status

on mothers' knowledge of routine childhood immunization.

Hypothesis 3: There is no significant influence of age on mothers' knowledge of routine childhood immunization.

Table 5: Influence of Age on Mothers' Knowledge of Routine Childhood Immunization

Source	SS	df	MS	F	P
Between Groups	116.291	3	38.764		
Within Groups	4975.301	476	10.452	3.709	.012
Total	5091.592	479			

Table 5 shows that the P-value for the difference in mothers' knowledge ($F=3.709$) based on age is less than 0.05 this implies that age had a significant influence on mothers' knowledge hence

hypothesis 3 is rejected. In order to locate the sources of difference among the groups, Scheffe Posthoc test was carried out and presented on Table 6.

Table 6: Scheffe Post-hoc Analysis of Source of Significant Difference in Mothers' Knowledge on Routine Immunization by Age

Age	1	2	3	4	N	Mean
20-29yrs (1)				*	171	16.33
30-39yrs (2)				*	246	16.00
40-49yrs (3)				*	59	16.17
50yrs above (4)					4	11.00

Table 6 shows that mothers between the ages of 20 and 29 years had the highest mean score of knowledge of routine childhood immunization (16.33), while those who were 50 years and above had the least mean score of knowledge.

Hypothesis 4: There is no significant influence of educational status on mothers' compliance with routine childhood immunization.

Table 7: Influence of Educational Status on Mothers' Compliance with Childhood Immunization

Sources	SS	df	MS	F	p
Between Groups	6.121	3	2.040		
Within Groups	291.871	476	0.613	3.327	.020
Total	297.992	479			

Table 7 shows that the P-value obtained for the difference in mothers' compliance based on educational status is less than 0.05. Therefore, hypothesis 4 is rejected; implying that educational status of mothers had significant influence on

compliance of mothers' with routine childhood immunization. In order to locate the sources of pair-wise significant difference among the groups, Scheffe Post-hoc test was carried out as depicted on Table 8.

Table 8: Scheffe Post-hoc Analysis of Mothers' Compliance on Routine Immunization Based on Educational Status

Pattern of Employment	1	2	3	4	N	Mean
No formal education (1)		*			76	33.45
Primary education (2)					80	33.51
Secondary education (3)					131	33.76
Tertiary (4)					193	33.66

Table 8 shows that mothers with secondary education had the highest mean score of compliance with routine immunization (33.76), while those with no

formal education had the least mean score of compliance.

Hypothesis 5: There is no significant influence of age on mothers' compliance with routine immunization.

Table 9: Influence of Age on Mothers' Compliance with Routine Childhood Immunization

Source	SS	df	MS	F	P
Between Groups	5.401	3	1.800		
Within Groups	292.591	476	.615	2.929	.033
Total	297.992	479			

Table 9 indicates that the P-value for the difference in mothers' compliance based on age is less than 0.05. This indicate that age had a significant influence on mothers' compliance hence

hypothesis 5 is rejected. In order to locate the sources of pair-wise significant difference among the groups, Scheffe Post-hoc test was carried out as presented on Table 10.

Table 10: Scheffe Post-hoc Analysis of Mothers' Compliance with Routine Immunization by Age

Age	1	2	3	4	N	Mean
20-29yrs (1)					171	33.61
30-39yrs (2)				*	246	33.66
40-49yrs (3)				*	59	33.64
50yrs above (4)					4	32.50

Table 10 shows that mothers between the age of 30 and 39years had the highest mean score on compliance with routine immunization while those who were 50years and above had the least mean score of compliance.

Discussion

This study was carried out to assess the knowledge and compliance of nursing mothers with routine childhood immunization. Findings of this study revealed a moderate level of knowledge among nursing mothers. This is slightly at variance with the findings of Adefolalu,

Kanma-Okafor & Balogun, 2019) who reported a high level of knowledge among the nursing mothers who constituted their study samples. Knowledge comes through awareness, which in turn can be through education, public enlightenment, campaigns among others. The likely reason for the moderate level of knowledge of routine childhood immunization observed among nursing mothers studied, is moderate level of awareness of what routine childhood immunization entails.

In this study, mothers' knowledge was significantly influenced by their age. Younger mothers were more knowledgeable about routine childhood immunization than the older ones. This is also at variance with the findings of Adefolalu et al (2019) where older mothers were reported to be more knowledgeable than the younger ones. The probable reason why younger mothers displayed better knowledge than the older one in this study is that many young mothers are inexperienced hence they tend to give more attention to everything that may be necessary for the children's health.

Findings of this study, like that of Adefolalu et al (2019), revealed a high level of compliance with routine childhood immunization among nursing mothers. This is highly commendable as this is likely going to reduce the occurrence of

diseases among the children. Educational status and age of mothers had significant influence on mothers' compliance. Furthermore, findings of this study shows that mothers with secondary education had the highest level of compliance. This is in contrast with the findings of Konwea, David & Ogunsile (2018), where it was reported that mothers with tertiary education had the highest level of compliance. The finding of this study suggests that having a higher educational status is associated with better compliance with healthy behavior. This is likely because the more educated are likely to have more information about healthy behaviors and are more likely to understand the importance of complying with such behaviors than the less educated (Margolis, 2013).

Conclusion

Based on the findings of this study, it can be concluded that nursing mothers in Ekiti State have moderate knowledge of routine childhood immunization and a high level of compliance with childhood immunization.

Recommendations

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

1. Public enlightenment on the importance of routine childhood immunization should be intensified.
2. Girl child education should be encouraged in the state so as to improve the literacy level of females.
3. The high level of compliance of nursing mothers with routine childhood immunization should be sustained through continued public health campaigns and introduction of incentives to compliant mothers.

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Awareness and Attitude towards Proper Use of Personal Protective Equipment Against Covid-19 Disease Among Nurses at Federal Teaching Hospital, Ido-Ekiti, Ekiti State, Nigeria.

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Abstract

In the wake of the ravaging COVID-19 pandemic, the importance of appropriate use of personal protective equipment (PPE) among nurses cannot be over-emphasized in the prevention of the infection. This paper therefore investigated the awareness and attitude towards proper use of personal protective equipment in the prevention of COVID-19 infection among nurses at the federal teaching hospital, Ido-Ekiti. It adopted descriptive research survey to study a sample of 50 nurses consisting of 25 nurses from the surgical wards, 23 from medical wards and 2 from the isolation ward in line with their numerical strengths. A self-developed structured questionnaire tagged Awareness of Proper use of Personal Protective Equipment Questionnaire (PPEQ) was used for the study after being validated by experts and pre-tested for reliability yielding 0.89 index and the instrument was administered by the researcher. The data were analysed using descriptive statistics of percentage, mean, scores and standard deviation, while inferential statistics of Regression analysis was used. The findings of this study showed that the level of awareness and positive attitude towards proper PPE utilization was high and of significant value among nurses working at federal teaching hospital, Ido-Ekiti. It is recommended that nurses, other health workers and patients should be provided with appropriate PPE. Periodic training and re-training should be organized for nurses and other health workers on the proper donning and doffing of PPE.

Introduction

Corona virus is any family of Coronaviridae of single-stranded RNA viruses that have a lipid envelope studded with club-shaped projections, they infect birds and many mammals including

humans, and include MERS, SARS and COVID-19. Corona viruses can cause a variety of illnesses in animals, but in people corona viruses cause one-third of common colds and sometimes respiratory infections in premature infants. The ongoing outbreak of corona virus

pandemic has claimed 765,864 lives, along with 21,472,580 confirmed cases globally, as of 15th August, 2020 (Worldometer Global Covid-19, 2020). The number of deaths associated with COVID-19 greatly exceeds the other two coronaviruses (Severe Acute Respiratory Syndrome Coronavirus, SARS-CoV, and Middle East Respiratory Syndrome Coronavirus, MERS-CoV), and the outbreak is still ongoing, which posed a huge threat to the global public health and economics. In Nigeria, as at 15th August, 2020 about 48,445 people have been infected with 973 fatalities.

The International Council of Nurses (ICN), on the 6th June, 2020, reported that at least 90,000 healthcare workers have been infected by COVID-19 and more than 260 nurses have lost their lives to the pandemic, warning that the number could be much higher. These figures are based on data from just 30 countries showing that 6% of all confirmed cases of the deadly virus occur among health workers. On the 3rd of June, 2020 the Director General of Nigeria Centre for Disease Control (NCDC), ChikweIhekweazu, revealed that over 812 health care workers have been infected, out of which 29 are personnel of the NCDC. In the same vein, the President of National Association of Nigeria Nurses and Midwives (NANNM),

AbdurafiuAdeniji, on Friday, May 15, 2020, disclosed that out of about 1000 nurses that were exposed to coronavirus, 70 have tested positive for the virus, while 6 have died. In consideration of these reports, proper use of PPE will go a long way in preventing nurses against Covid-19, while nurses who use PPE without the consciousness of its proper use still stand the chance of being infected, as proper donning and doffing with other standard precautions are important in preventing the infection.

Personal protective equipment (PPE) are basically fashioned with the intention to prevent users eyes, airways, mucous membranes and personal clothing from coming into contact with disease causing agents such as the novel corona virus disease(COVID-19). The mucous membranes and skin with compromised integrity are routes which are highly susceptible to infectious agents. According to the National Centre for Disease Control interim guidance (2020), the use of Personal Protective Equipment is not a substitute for standard infection prevention and control practices such as the hand washing practice and therefore must be used concurrently.

Personal protective equipment is equipment used to reduce exposure to hazards that may cause severe injuries or illnesses in a workplace, which can result

from contacts with chemical, radiological, physical, aerosols, electrical or mechanical hazards. PPE include respirators or N95 masks, surgical or medical masks, hazmat suite, aprons, goggles or face shields, disposable long sleeve gowns, disposable gloves, ear plugs or muffs, hair covers and shoe covers.

The Occupational Safety and Health Administration (OSHA) reported that in order to ensure proper use of PPE, the equipment should be safely designed and constructed, maintained in a clean and reliable fashion, fit properly, and encouraging its use by health workers. It is the responsibility of employers to provide adequate PPE to their workers and mandate its proper use, train the health workers on when it necessary to use a PPE, the type of PPE that is required for a particular procedure, limitations, proper care, maintenance and safe disposal.

Eye protection goggles or face shield protect the health worker conjunctival mucous membranes from sprays of droplet when in less than one metre away from the patient. When using normal reading glasses, a face shield should be worn over the glasses. Goggles should fit securely while each health worker should have his/her personal goggle or face shield to prevent cross infection. Surgical or medical mask is meant for mouth and nose protection, in

order to achieve infection source control, all patients with respiratory infection requires a nose mask and health workers must use a medical mask to cover their mouth and nose to avoid droplet spray when within less than one metre to patients.

Respirators remove particulate matter from the air using a filter that mechanically stops them from the wearer's nose and mouth. Examples of respirator is the US standard N95 mask which filters at least 95% of airborne particles and the European standard FFP2 mask which filters at least 94% of airborne particles. A respirator should always be used when performing aerosol-generating procedure in a covid-19 patient. Gloves made of latex should be used to protect hands against contact with respiratory and other body fluids, for every patient, a new pair of gloves should be worn to prevent a spread of infection from one patient to another, and the face, eyes, nose or mouth should not be touched with gloved hands. Body protection gown such as the Hazmat suit is a piece of personal protective equipment that consists of an impermeable whole-body garment worn as a protection against hazardous materials, where the hazmat suit is unavailable, long-sleeved water resistant gowns should be worn in the care of suspected covid-19 patients. The gown does not need to be sterile except when

used in a sterile environment such as the theatre.

Apron is used where water-resistant gowns are unavailable, in such instance, single-use plastic aprons can be used on top of the non-water-resistant gowns to prevent body contamination. Head cover is used to protect the skin and hair from virus contamination with further spread to the mucosa of the eyes, nose or mouth. Heavy duty elbow-length rubber gloves are used by cleaners, laundry personnel, health workers when dealing with infectious waste.

There is no doubt that the COVID-19 pandemic poses an enormous risk to the health and safety of nurses working at the Federal Teaching Hospital, Ido-Ekiti. The nurses may be vulnerable to coronavirus if they are not adequately protected. The best way to prevent infection and spread of COVID-19 among the nurses is to avoid being exposed to the virus by using personal protective equipment and compliance to other safety measures as highlighted by the National Centre for Disease Control. It is against this background that the study was designed to investigate the awareness and attitude towards proper use of PPE against COVID-19 disease among nurses at the Federal Teaching Hospital, Ido-Ekiti.

Objectives of the Study

The study is specifically designed to:

- 1) determine the level of awareness on proper use of PPE among nurses working in Federal Teaching Hospital, Ido-Ekiti;
- 2) determine the attitude towards proper use of PPE among nurses working in Federal Teaching Hospital, Ido-Ekiti.

Research Questions

The following research questions are generated to guide the study:

- 1) What is the level of awareness of the proper utilisation of PPE among nurses working in Federal Teaching Hospital, Ido-Ekiti ?
- 2) What is the attitude of nurses towards proper utilization of PPE in Federal Teaching Hospital, Ido-Ekiti ?

Research Hypotheses

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

- 1) Level of awareness of nurses will not predict the proper utilization of PPE in the prevention of COVID-19 disease at the Federal Teaching Hospital, Ido-Ekiti.
- 2) Attitude of nurses will not predict proper utilization of PPE in the prevention of COVID-19 disease at the Federal Teaching Hospital, Ido-Ekiti.

Methodology

The descriptive research design of the survey type was used in this study. The research design was found to be appropriate due to its ability to allow information to be obtained from a representative sample of the population. The population of the study consisted of 325 nurses working at the Federal Teaching Hospital, Ido-Ekiti, Ekiti State, Nigeria. Simple random sampling method was used to select 50 nurses for the study while stratified sampling technique was used to divide them according to assigned ward, surgical ward, medical ward and isolation ward, 25 nurses from surgical wards, 23 nurses from medical wards and 2 nurses from the isolation ward of the hospital.

A self-developed structured questionnaire tagged Awareness of Proper use of Personal Protective Equipment Questionnaire (PPEQ) was used for the study. The questionnaire was divided into four sections. Section A contained demographic characteristics of the respondents such as gender, religion, area of specialty and years of experience. Section B determined the level of awareness of PPE use among nurses working in Federal Teaching Hospital, Ido-Ekiti. It consisted of some questions on level of awareness of which the respondents must indicate either 'True' or

'False'; while Section C considered the attitude of nurses towards proper use of PPE. It consisted of questions on attitude of nurses to the use of PPE of which the respondents must indicate either Strongly Agree(SA), Agree (A), Disagree(D) or Strongly Disagree(SD). The validity of the instrument was ensured by experts in Health Education, Tests and Measurements, Guardian and Counselling departments of the Ekiti State University, Ado-Ekiti and Nursing and Clinical departments of the Federal Teaching Hospital, Ido-Ekiti. The nurses working at the Ekiti State University Teaching Hospital were used for the pilot study, where 20 respondents with the same characteristics as those in the actual study were involved. The test was administered twice to the respondents, the scores from the two sets of responses were analysed using Pearson's Product Moment Correlation to determine its reliability coefficient which yielded 0.89. This was high enough for the study.

The copies of questionnaire were administered to the nurses personally by the researcher after obtaining the permission from the hospital authority. All the copies of the administered questionnaire were returned. The data were analysed using descriptive statistics of frequency counts, percentages, mean and standard deviation. The criterion mean

set for the study was 1.50 and 2.50 respectively. The hypotheses formulated were tested using Regression Analysis at 0.05 level of significance.

Results

Table 1: Demographic Analysis of Respondents.

Demographic Variables	Frequency	Percentage
Gender		
Male	16	32.0
Female	34	68.0
Religion		
Christianity	40	80.0
Islam	10	20.0
Area of specialty		
Medical unit	23	46.0
Surgical unit	25	50.0
Isolation unit	2	4.0
Years of experience		
1-5 years	9	1.8
6-10 years	10	20.0
11-15 years	10	20.0
16 years and above	21	42.0

The socio-demographic characteristics of the respondents were revealed in Table 1. The table shows that more than half of the nurses (68.0%) at the Federal Teaching Hospital, Ido-Ekiti, Ekiti State were female. Most of the respondents (80.0%) were Christians. Half of the respondents (50.0%) were drawn from the surgical Unit

while majority of respondents had 16 years and above working experience.

Question 1: What is the level of awareness of the proper utilization of PPE among nurses working in Federal Teaching Hospital, Ido-Ekiti?

Table 2: Level of awareness of the proper utilization of PPE among nurses working in Federal Teaching Hospital, Ido-Ekiti

S/N	ITEM	TRUE	FALSE	MEAN
1	Face shield or goggles adequately protect nurses conjunctival mucous membrane when close to Covid-19 patients	41(82.0)	9(18.0)	1.82
2	Normal reading glasses can be used in place of face shield/goggle	5(10.0)	45(90.0)	1.90
3	Every nurse should have personal face shield/goggle with his/her name on them	48(96.0)	2(4.0)	1.96
4	Only patients with respiratory symptoms should wear a mask as part of source control	4(8.0)	46(92.0)	1.92
5	Nurses should use medical mask when in close proximity to patients	43(86.0)	7(14.0)	1.86
6	Respirators like N95 mask should be worn by nurses when attending to all patients whether Covid-19 positive or not	33(66.0)	17(34.0)	1.66
7	Latex gloves protect hands from both direct and indirect contacts with respiratory fluids and other body fluids	45(90.0)	5(10.0)	1.90
8	A new pair of gloves should be for every patient	48(96.0)	2(4.0)	1.96
9	Sterile gloves are only required for invasive procedures such as in the theatre	41(82.0)	9(18.0)	1.82
10	Hazmat suite/gown should be used in the care of suspected or confirmed Covid-19 patients	47(94.0)	3(6.0)	1.94
11	The gowns may not be necessarily sterile, except when required in a sterile environment like the theatre	39(78.0)	11(22.0)	1.78
12	Where water-resistant gown like hazmat suite is not available, a plastic apron can be used on top of the non-water resistant wear	43(86.0)	7(14.0)	1.86
13	Head cover protects the skin and hair from virus contamination which may spread to the face, eyes, nose or mouth	44(88.0)	6(12.0)	1.88
14	Heavy duty elbow-length rubber gloves are necessary for nurses when handling infectious wastes	39(78.0)	11(22.0)	1.78

Table 2 shows that the mean scores vary by items. Using a cutoff mean score of 1.50 for the rating scale, each of the items had a mean score above the cutoff point. This implies that the level of

awareness of the proper utilization of PPE among nurses working in Federal Teaching Hospital, Ido-Ekiti was high.

Question 2: What is the attitude towards _____ in Federal Teaching Hospital, Ido-Ekiti?
proper PPE utilization by nurses working

Table 3: Attitude towards proper PPE utilization by nurses working in Federal Teaching Hospital, Ido-Ekiti

S/N	ITEMS	SA	A	D	SD	MEAN
1	Nurses are provided with adequate PPE	4(8.0)	11(22.0)	20(40.0)	15(30.0)	2.92
2	Nurses already have experience on proper PPE donning and doffing	3(6.0)	20(40.0)	16(32.0)	11(22.0)	2.7
3	I feel well supported by the hospital with all the concerns and requirements I needed at this time	3(6.0)	16(32.0)	9(18.0)	22(44.0)	3.0
4	With the provision of PPE by the hospital, I feel good to come to work at this crucial period	6(12.0)	25(50.0)	9(18.0)	10(20.0)	2.54
5	Despite provision of PPE, I am still worried about contracting Covid-19 while discharging my duties	13(26.0)	23(46.0)	14(28.0)	-	2.98
6	Despite the use of PPE, I am still worried about transmitting the disease to my family by coming to work	11(22.0)	24(48.0)	15(30.0)	-	2.92

Table 3 shows the attitude towards proper utilization of PPE by nurses working in Federal Teaching Hospital, Ido-Ekiti. The results show that using a cutoff mean score of 2.50 for the rating scale, each of the items had a mean score above the cutoff point. This implies that the nurses working in Federal Teaching

Hospital, Ido-Ekiti had positive attitude towards proper PPE utilization.

Testing of Hypotheses

Hypothesis 1: Level of awareness will not predict the proper utilization of PPE by nurses at the Federal Teaching Hospital, Ido- Ekiti.

Table 4: Level of awareness on proper utilization of PPE by nurses

Model	Unstandardised Coefficients		Standardised Coefficients	t	p
	B	Std. Error	Beta		
(Constant)	12.962	6.522		1.982	.053
Level of awareness of PPE	1.077	.266	.505	4.056	.000

Multiple R= 0.505, Multiple R²= 0.255, Adjusted R²= 0.240, F_{1,48}= 16.448* $p<0.05$

Table 4 shows that there was a significant influence of level of awareness on proper utilization of PPE by nurses ($t=4.056^*$, $p<0.05$). The null hypothesis was rejected. The result shows that there was a significant positive but moderate multiple correlation between the predictor variable (level of awareness) and proper utilization of PPE ($r=0.505$, $p<0.05$). The value of the coefficient of determination ($r^2=0.255$) indicates that the predictor variable accounted for 25.5% ($r^2 \times 100$) of the observed variance in the proper utilization of PPE while the remaining 74.4% unexplained variation was largely due to other variables outside the regression model. The calculated F-ratio (16.448) was significant at 0.05 level of significance. This implies that the predictor variable

provides a significant explanation for the variation in the proper use of PPE by nurses at the Federal Teaching Hospital, Ido-Ekiti. The regression equation showing the relationship between the dependent and independent variables can therefore be given as follow:

$$Y = 12.926 + 1.077X$$

Where

X = Level of awareness

Y = Proper utilization of PPE

b = Regression Weight Coefficient

a = Constant (other variables other than X)

Hypothesis 2: Attitude of nurses will not predict proper utilization of PPE in the prevention of COVID-19 disease at the Federal Teaching Hospital, Ido-Ekiti

Table 5: Regression analysis showing the influence of attitude on proper utilization of PPE by nurses

Model	Unstandardized Coefficients		Standardized Coefficients	t	p
	B	Std. Error	Beta		
(Constant)	24.183	1.176		20.568	.000
Attitude	1.023	.078	.883	13.063	.000

Multiple R= 0.883, Multiple R²= 0.780, Adjusted R²= 0.776, F_{1,48}= 170.638* $p<0.05$

Table 5 showed that there was significant influence of level of attitude on proper utilization of PPE by nurses ($t=13.063^*$, $p<0.05$). The null hypothesis was rejected. The result showed that there was a significant positive and high multiple correlation between the predictor variable (attitude) and proper utilization of PPE ($r=0.883$, $p<0.05$). The value of the coefficient of determination ($r^2=0.780$) indicates that the predictor variable accounted for 78% ($r^2 \times 100$) of the observed variance in the proper utilization of PPE while the remaining 22% unexplained variation was largely due to other variables outside the regression model. The calculated F-ratio (170.638) was significant at 0.05 level of significance. This implies that the predictor variable provides a significant explanation for the variation in the proper use of PPE by nurses at the Federal Teaching Hospital, Ido-Ekiti. The regression equation showing the relationship between the dependent and independent variables can therefore be given as follow:

$$Y = 24.183 + 1.023X$$

Where

X = Attitude

Y = Proper utilization of PPE

b = Regression Weight Coefficient

a = Constant (other variables other than X).

Discussion

The study examined awareness and attitude towards proper use of personal protective equipment, in the prevention of covid-19 disease among nurses working at the Federal Teaching Hospital, Ido-Ekiti, Ekiti State, Nigeria; the findings revealed that the level of awareness of the proper utilization was high among the nurses ($t=4.056$, $p<0.05$). This finding is in tandem with the report of Abuobaida (2019) who showed a high level of awareness among his respondents due to the mandatory use of PPE as directed by authorities in Saudi Arabia. However, the finding contradicted the studies of Ahmed and Khamis (2013) and Hakim, et.al. (2016) who opined that the level of awareness of the proper use of PPE was relatively low among his respondents. Availability and mandatory use of PPE is key in the determination of its level of awareness among the respondents. The finding also opposed the report of Archana (2018) that showed that despite the significance high level of awareness on proper utilization of PPE among doctors, nurses and other health care professionals, there was still inappropriate use of PPE, emphasizing that periodic re-training is needed.

The result of the findings of this study showed that nurses had a positive attitude towards proper PPE utilization

($t=13.063$, $p<0.05$). This finding is consistent with the finding of Dimie, Kemebradikumo, Babatunde, George, Christian and Sanusi (2015) who showed that nurses believed that PPE use will prevent them from acquiring hospital based infection. However, the finding of the study contradicted the report of Georgios, Evridiki, Vasilios and Anastasios (2011) who revealed that nurses exhibited negative attitude to PPE use by not having enough time to don PPE when faced with urgent situation to save patients' life. This finding was also opposed to the finding of Ayinde, Usman, Aduroja and Gbolahan (2020) which reported that though overall attitude was significantly satisfactory, however the practices of Health Care Workers on the use of PPE was not satisfactory.

Conclusion and Recommendations

The findings of this study showed that the level of awareness on the proper PPE utilization was high. Similarly, there was a positive attitude towards proper PPE use. It is recommended that nurses should be provided with appropriate PPE. Also, periodic training and re-training should be organized for nurses, essentially on the proper use of PPE as a measure to prevent the spread of COVID-19.

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Improving Physical Health and Psychological Well-Being in the Midst of Covid-19 Pandemic

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Abstract

This paper reviews how physical health and psychological well-being can be improved in the midst of COVID-19 pandemic. People around the world are most likely to face increasing physical and psychological health issues because of coronavirus-related concerns. The present global pandemic has led to an increase in anxiety and depression due to the increasing number of deaths, loss of jobs, stress, financial constraints, physical isolation from loved ones and altered daily routines. People with anxiety tend to worry excessively and have feelings of being “on edge” which may cause symptoms like depressed mood, sadness, feelings of emptiness or hopelessness, increased fatigue and even sleep disturbances; all of which can have a negative effect on physical health and psychological well-being. Therefore, adopting a healthier daily routine of physical activity, adequate nutrition, engaging in activities which give a sense of achievement and maintaining social connections can bolster positive mood, make people feel more energized and improve physical health and psychological well-being.

Keywords: Anxiety, Depression, COVID-19, Health, Well-being

Introduction

Global issues such as COVID-19 pandemic can be incredibly overwhelming, because there seems to be so much uncertainty around it. Among many global health and societal disruptions, the COVID-19 outbreak has forced millions to physically isolate. Anxiety and depression seem to be on the rise due to the increasing number of COVID-19 cases and deaths,

loss of jobs, physical isolation from loved ones, altered daily routines, academic disruptions, social distancing and an uncertain future. Emerging research that assessed the mental health implications of COVID-19 has identified a heightened prevalence of moderate-to-severe self-reported depressive and anxious symptomatology among the general public (Wang et al., 2020), reflecting the

widespread effects of uncertainty and health-related fears.

Physical and psychological well-being is likely to be negatively affected as many people try to cope with fear, anxiety, stress, financial constraints, boredom, and isolation. As a result of lockdown measures implemented in response to COVID-19, people are at risk of abuse, employees facing job uncertainty and even children are among those most at risk. Having shut down schools as part of necessary measures to contain the spread of COVID-19, children may no longer have that sense of structure and stimulation that is provided by school environment, and have less opportunity to be with their friends and get the social support that is essential for good psychological well-being. Older people and also those with underlying health conditions, having been identified as more vulnerable to COVID-19, can be extremely frightened. While it is normal to be afraid of threat to life, too much fear and anxiety can be harmful to health.

Physical well-being consists of the ability to perform physical activities and carry out social roles that are not hindered by physical limitations and experiences of bodily pain and biological health indicators. According to Boehm and Kubzansky (2012), psychological well-being includes life purpose, emotional

vitality, positive effect, life satisfaction, happiness, and optimism, while psychological ill-being is referred to as negative psychological states or traits which include, depression, anxiety and negative affect (Hernandez et al., 2017). The lockdown measure to prevent the spread of COVID-19 has placed many at risk of psychological ill-being because people are uncertain, anxious, worried and isolated during lockdown. Some populations including people who are in recovery from addiction and other mental health issues and those experiencing child abuse or domestic violence are even more vulnerable.

According to the Healthline poll 2020, it was found that Americans are reporting more symptoms and signs of depression, anxiety and fear, than historic norms and that this increase has been sustained for several weeks and showing no signs yet of fading (Holland, 2020). YouGov, an international research data and analytics group, that has been running a weekly global COVID-19 tracker across 26 countries, including the United States, found out that 3 in 5 Americans reported that they fear they will contract the virus according to COVID-19 tracker conducted between April 13th and April 20th, 2020. The effects of this fear may not be felt equally in all groups as women reported being concerned more

than men (64 percent to 55 percent). Not surprisingly, people with pre-existing health issues also reported higher rates of fear and anxiety. According to YouGov (2020), Hispanic people were nearly twice as likely to say they are 'very scared' compared to white people (29 percent to 16 percent). Twenty-six percent of black people were 'very scared' in the survey. Surprisingly, people in younger age groups were more likely to rate themselves as 'very scared' of getting sick. Twenty-two percent of adults 18 to 34 years old said they were 'very scared' but only 16 percent of people 55+ considered themselves 'very scared'. The self-reported incidence of depression is also higher than historic norms right now. In the Health line survey 2020, 49 percent of respondents showed some signs of depression, ranging from mild to severe, as measured by the PHQ-4 scale (Patient Health Questionnaire), a standardized measure of anxiety and depression (Holland, 2020).

Another study that explored the impact of COVID-19 on student education and well-being found out that approximately 25% of their sample reported experiencing anxiety symptoms, which were positively correlated with increased concerns about academic delays, economic effects of the pandemic, and impacts on daily life (Cao et al., 2020).

Also, among the many student surveys administered worldwide, one survey by Young Minds, (2020) reported that 83% of young respondents agreed that the pandemic worsened pre-existing mental health conditions, mainly due to school closures, loss of routine, and restricted social connections. As anxiety and depression tend to increase in the midst of the global COVID-19 pandemic, coping in a healthy way may require a conscious effort. Therefore, there is need for individual to have access to resources on how to improve physical health and psychological well-being.

Improving Physical Health and Psychological Well-Being

Evidences have shown a strong association between physical health (objective and subjective) and psychological well-being (Hernandez et al., 2017). Psychological well-being is affected by medical history, current physical symptoms and body sensations, health beliefs and behaviors, mental and emotional well-being (Wu & Schimmele, 2006). World Health Organisation (WHO) Regional Director for Europe, Klugeat a press briefing held on 26 March, 2020 while answering questions on mental health issues in the context of COVID-19 said that anxiety and fears should be acknowledged and not be ignored, but

better understood and addressed by individuals, communities and governments. The strategies of undertaking physical activity, keeping to routines or creating new ones, and engaging in activities which give a sense of achievement and maintaining social connections were identified (WHO, 2020).

i. Physical Activity - Physical activity is defined as any bodily movement produced by skeletal muscles that require energy expenditure (WHO, 2020). Physical activity may include; active recreation ,sports participation, cycling, walking, playing, dancing, gardening, house cleaning and carrying heavy shopping. During the COVID-19 pandemic, being physically active could be a challenge but it is critical to find and plan ways to be active and reduce sedentary time (WHO, 2020).

The study of Endrighi, Steptoe and Hamer (2016) showed that enforced sedentary behaviour has led to depressive feelings and low moods in healthy people within seven days. Physical activity in any form is a great way to keep an individual physically healthy as well as improving psychological well-being. Research shows that doing exercise influences the release and uptake of feel-good chemicals called endorphins in the brain. Even a short burst of 10 minutes brisk walking increases

mental alertness, energy and positive mood (Mental Health Foundation, 2016).The study of Rosenbaum, Sherrington & Tiedemann (2015) on a 12-week exercise program that included three 30-minute resistance training sessions a week, as well as walking, was found to lead to a significant decrease in PTSD symptoms, depression, and better sleep quality after the program ended.Regular exercise is essential for everyone under normal circumstances and it is especially crucial during the COVID-19 pandemic. Sallis (2020) opined that, in light of the current situation worldwide, certain benefits of physical activity may be specifically pertinent to the COVID-19 pandemic. These benefits are:

- Physical activity enhances immune function and reduces inflammation. Therefore, it could reduce the severity of infections.
- Physical activity improves common chronic conditions that increase the risk for severe COVID-19 (i.e. Cardiovascular Disease and Diabetes)
- Physical activity is a great stress management tool which reduces symptoms of anxiety and depression.
- Physical activity helps bring cortisol levels in balance. Stress and distress (such as during a pandemic) creates an imbalance in cortisol levels and this negatively influences immune function and inflammation.

The WHO (2018) highlighted the following guidelines on the amount of physical activity:

- Infants under the age of 1 year need to be physically active several times a day.
- Children under 5 years of age should spend at least 180 minutes a day in physical activities, with 3-4 year-old being moderately or vigorously active for an hour a day.
- Children and adolescents aged 5-17 years should do at least 60 minutes a day of moderate to vigorous-intensity physical activity, including activities that strengthen muscle and bone, at least three days per week.
- Adults aged 18 - 64 years should do a total of at least 150 minutes of moderate-intensity physical activity throughout the week, or at least 75 minutes of vigorous-intensity physical activity throughout the week, including muscle-strengthening activities two or more days per week.
- Adults aged 65 years should do a total of at least 150 minutes of moderate-intensity physical activity throughout the week, or at least 75 minutes of vigorous-intensity physical activity throughout the week, including muscle-strengthening activities two or more days per week.
- Older adults with poor mobility should do physical activity to enhance

balance and prevent falls on three or more days per week.

According to WHO (2020), the following are ways to stay safe while exercising during COVID-19:

- Do not exercise if you have a fever, cough or difficulty breathing (symptoms of COVID-19).
- Practice social distancing when exercising outdoors and practice good hand hygiene before and after.
- If you are not used to physical activity, start slowly with low intensity activities such as walking or low impact exercises for shorter periods of time and gradually build up over time.
- Choose the right activity to reduce the risk of injury; the intensity of the exercise should match your fitness levels and health status.

Moreover, individuals can still be active, even when the gym is closed; by exercising with family, getting outdoors, following along with online exercise videos, setting an exercise goal and making a plan to work toward achieving it and tackling calorie-burning chores like working in the garden or washing the car.

ii. Keeping to Routine or Creating a New One - Routine plays an important part in physical and psychological well-being, especially in these uncertain times. Routine can help to cope with change, form healthy habits, and reduce stress

levels. Sticking to a routine helps to keep the mind occupied, makes one feel more in control of everything, and helps reduce stress levels (Chloe, 2020). There is need to plan the day as everyone is adjusting to this new normal, which can be a risk to psychological well-being. As tempting as it might be, to stay in sleepwear all day, regular routines are essential for identity, self-confidence and purpose. Mental Health Foundation (2020) recommended that people should start the day at roughly the same time they usually would and aim to set aside time each day for movement, relaxation, connection and reflection. Adherence to family routines has been identified as important for family resilience during times of crisis (Black & Lobo, 2008). Furthermore, WHO (2020) recommended that individuals should maintain familiar routines in daily life as much as possible, or create new routines, especially if children must stay at home and engaging them in age-appropriate activities, including activities for their learning. Where possible, children are to be encouraged to continue to play and socialize with others, even if only within the family when advised to restrict social contact. There is need to be alert and ask children what they have heard about the outbreak and support them, without causing them alarm because during times of stress and crisis, it is common for

children to seek more attachment and be more demanding on parents, hence, discussion of COVID-19 with children in an honest and age-appropriate way is also encouraged. If children have concerns, addressing them together may ease their anxiety. Children will observe the behaviour and emotions of adults, for clues on how to manage their own emotions during difficult times. Involving family and children in plans for good health is also essential. The new routine based on the recommendations of WHO (2020), as part of measures to reduce vulnerability to COVID-19 are: avoidance of touching of face (most especially eyes, nose and mouth), washing of hands frequently for at least 20 seconds with soap and water or using an alcohol-based hand sanitizer, staying at home as much as possible, avoiding crowded places, observing social distancing, and adhering to health tips of the World Health Organisation.

iii. Maintaining Social Connections: Staying at home, especially if one lives alone, can trigger a feeling of loneliness, as isolation and loneliness can aggravate anxiety and depression. Based on the recommendation of Mental Health Foundation, (2020), individuals are admonished to find creative ways to keep in touch with co-workers, friends, family, and others to help feel more connected and supported. Ways of social connections that

work for individuals; over the phone, social media, or video-chat should be explored. This could be anything from sharing a cup of tea over video, playing an online game together, or simply sending a supportive text message. Social interactions are critical production factors in health. Previous studies have found a strong positive relationship between social interaction and mental health (Dour et al., 2014; Bekele et al., 2015). Ohrnberger, Fichera and Sutton (2017) found out that social interaction has a positive direct effect on mental and physical health. The positive association of social ties with mental health has previously been found by Umberson and Montez (2010) and Umberson et al., (2010) also supports the positive relationship of social ties with physical health. An explanation for this effect is that social interactions favour good health behaviours and vice versa. WHO (2020) encouraged people to minimize watching, reading or listening to news about COVID-19 that causes feelings of anxiety or distress. Individuals are advised to seek information only from trusted sources, in order to take practical steps to make plans and protect oneself and loved ones. Individuals are also advised to seek information updates, once or twice at specific times during the day (WHO, 2020).

Based on the review, findings have shown that physical activity, keeping to routines and maintaining social connections are essential in improving physical health and psychological well-being as recommended by WHO (2020). However, the researcher opined that there is also a need to identify the important role of adequate nutrition in ensuring good physical health by boosting the immune system which protects the host from pathogenic organisms (bacteria, viruses, fungi, parasites) and preventing physical illness of which the recommendations of WHO (2020) did not take into account. Calder and Kulkarni (2018) stated that the immune system relies on both macronutrients: proteins, carbohydrates and fats, and micronutrients: vitamins and minerals, supplied by daily diet to remain healthy, by improving individual cell function as well as interactions between cells, as adequate nutrition makes an individual more resilient to infection.

Methodology

A literature review was conducted using search terms: COVID-19, physical health, psychological well-being, anxiety, social interactions. Databases searched included YouGov, Health line, World health Organisation and Young Minds.

Conclusion and Recommendations

Physical activities, keeping to routines or creating new ones, maintaining social connections, adequate nutrition and a healthy lifestyle are essential for physical health and psychological well-being especially among the adult population. It is therefore recommended that individuals should exercise regularly, keep regular sleep routines, eat healthy food and avoid unhealthy habits of sleep irregularities,

physical inactivity, skipping meals, increased alcohol or other drugs intake and neglect of personal care which are unhelpful ‘coping’ strategies. It is also necessary for individuals to protect themselves and family by adhering to measures put in place by World Health Organization to prevent the spread of coronavirus and seek professional help when necessary.

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Assessment of Knowledge and Attitude of Federal Public Servants Towards Utilization of National Health Insurance Scheme in Ekiti State

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Abstract

High risk to health due to financial incapability of the people especially workers can breed economic woes for a nation. It is against this background that this study assessed the knowledge and attitudes of Federal Public Servants in Ekiti State towards the utilization of National Health Insurance Scheme. Descriptive research design of survey type was used and population comprised of Federal Public Servants in Ekiti State totaling 6,780 according to Federal office of statistics. Data were collected from 402 randomly sampled among Federal Public Servants in Ekiti State via Interviewer-administered structured questionnaire. The validity of the instrument was determined by experts in Human Kinetic and Health Education as well as Tests and Measurement. The reliability was assured via a test-re-test method that yielded reliability coefficient of 0.81. Two research questions were raised and two Hypotheses were tested at 0.05 level of significance. Data collected were analyzed using Pearson Product Moment Correlation analysis, Independent t-test and Analysis of Variance. Results indicated a significant relationship between knowledge and utilization, and attitude and utilization with P-values of 0.01 and 0.01, respectively. Findings revealed a significant relationship between knowledge and utilization, and attitude and utilization. But there were no relationship between knowledge and attitude toward utilization of National Health Insurance Scheme. The findings show that respondents are having a good knowledge of National Health Insurance Scheme but have to be improved upon. Based on the findings, it was recommended that workers be motivated through reduced premium, full drug subsidy and improved sensitization.

Keywords: Insurance, Scheme, Knowledge, Attitude, Utilization.

Introduction

Health insurance is a social security system that guarantees the provision of token contributions at regular intervals to take care of the healthcare needs of the participants. The National Health Insurance Scheme provides a promising sustainable healthcare financial strategy. The world economic recession in 1980's and the consequent macro-economic adjustments which have continued until now, may have led to a continuous decline in public spending for health. It is unlikely that additional funding will be available from public sources to finance healthcare activities given the demands on total public incomes from other sectors as opined by Schellekens, (2009). An autonomous health fund apparatus will be needed to provide additional finance that would sustain the healthcare demand of a growing population, initiate new development in healthcare and improve standards of care (Health Insurance Report, 2005).

National Health Insurance Scheme is observed to be one of the policies of the Federal government which seems to have become unpopular among Nigerian masses due to a lot of misconceptions, fears about its workability, concern as regards workers financial contribution over time or government sincerity in financing workers

in the formal sectors among others (Olugbenga-Bello and Adebimpe, 2010). Many Nigerians seem to view insurance as gambling, thinking that the money committed into it could either serve the intended purpose or could be a waste. Consequently, over ten years after inception of National Health Insurance Scheme, available records show that only about 5.3 million Nigerians, which is less than four percent of the population enrolled into the scheme out of over 160 million population of the country. Statistics has shown that 70.2% of Nigerians are living below poverty line of USD 1.00 per day. This encourages the vicious cycle of poverty, ignorance and disease (Olugbenga-Bello & Adebimpe, 2010).

Ajzen (2001) theorized that a person's beliefs, feelings, or intentions [attitude] towards an object can predict behavior. Greenwald (2002) supported this theory by reporting that individuals with positive attitudes towards a subject or situation tend to evaluate them positively and those with negative attitudes towards a subject or situation tend to evaluate them negatively. If an individual believes that mostly negative outcome will result from the behavior, then the individual will hold negative attitude toward it. It may therefore be assumed that a casual chain linking beliefs formed on the basis of

available information, to the person's attitude can influence utilization. It is therefore reasonable to admit that knowledge of a person may provide an indication for utilization of National health insurance scheme services.

Studies related to NHIS are observed to be very scanty in Nigeria and those in relation to Ekiti State is observed to be few. The existed gap in literature about knowledge, attitude and the utilization of NHIS by Federal Public Servants attracted the study.

Objectives of the Study:

The study was designed to assess the knowledge and attitudes of Federal Public Servants of Ekiti State towards utilization of NHIS. Specifically, the objectives of the study were to:

1. investigate level of knowledge of Federal Public servants in Ekiti State about NHIS;
2. determine the influence of attitude of Federal Public servants on utilization of NHIS;
3. find out the relationship between knowledge and attitude of Federal Public Servants towards utilization of NHIS.

Research Questions

The following research questions were raised for the study:

1. What is the level of knowledge of National Health Insurance Scheme possessed by Federal Public Servants in Ekiti State?
2. What is the attitude Federal Public Servants towards utilization of National Health Insurance Scheme?

Research Hypotheses

The following hypotheses were tested for the study at 0.05 level of significance:

1. There is no significant relationship between knowledge and utilization of National Health Insurance Scheme by Federal Public servants in Ekiti State.
2. There is no significant relationship between attitude and utilization of National Health Insurance Scheme by Federal Public servants in Ekiti State.

Methodology

The descriptive research design of the survey type was used for this study. It enables the researcher to describe the existing situation as regarding NHIS utilization as affected by knowledge and attitude of the respondents. The population for this study consisted of Federal Public servants in Ekiti state. According to the available data at the Federal Bureau of Statistics Office 2014, there were 6,780 Federal workers in the Ekiti State.

The sample for the study consisted of 402 Federal Public Servants selected from federal establishments in the state using multistage sampling techniques selected as follows: 7 establishments out of 30 Federal establishments using simple random sampling

technique of balloting, the population was further divided into male and female using stratified sampling. Then proportionate sampling was used to select from the strata. Thus, stratification variable was the class they belong, that is, by their ranks. Police Officers 104, Civil Defense Corps 52, Federal Road Safety Corps 22, Federal Road Maintenance 16, National Food Drugs Administration and Control [NAFDAC] 15, Federal Teaching Hospital 99 and Federal University, Oye-Ekiti 94.

A Self developed close-ended questionnaire that consisted of four sections was used. Section A was designed to draw demographic information such as age, sex, religion, marital status, and educational background, while section B enquires information on knowledge about NHIS, Section C was used to elicit information on the attitude towards utilization of NHIS. Face and content value of the instrument was ascertained by team of experts in Human Kinetics and Health Education, Test and Measurement to indicate the suitability of instrument. The reliability of the instrument was determined by test-retest method as the researchers administered twenty copies of the questionnaire on 20 respondents selected among Federal Public Servants of Ekiti State apart from the actual samples used as a pilot study. After two weeks, the procedure was

repeated on the same participants. The two sets of data collected were correlated using Pearson Product Moment Correlation [PPMC]. A coefficient of 0.81 obtained showed high level of reliability of the instrument.

Data Collection

Researchers with the aid of seven research assistants from the selected Federal establishments in Ekiti State distributed and collected 402 copies of questionnaire to the selected respondents of the selected institutions. In addition, respondents were assured of confidentiality of their information because the respondents did not need to write their names.

Data Analysis

The data collected were analyzed using descriptive statistics of frequency counts, mean and percentages to answer the research questions while hypotheses were tested using inferential statistics of Pearson Product Moment Correlation Analysis at 0.05 level of significance.

Results

Research Question 1: What is the level of knowledge of National Health Insurance Scheme possessed by Federal Public servants in Ekiti State?

Table 1: Summary of Knowledge of National Health Insurance Scheme

		True n (%)	False n (%)
1	National health insurance scheme is a health financing strategy to improve health	363 (90.3)	39(9.7)
2	Health risk due to high cost of medical care is avoided through National health insurance scheme	334 (83.1)	68(16.9)
3	Utilization saves you from payment of bill for treatment at the point of care at the listed facility	310(77.1)	92(22.9)
4	National health insurance scheme maintains workers health and wellness at the lowest cost to him	321(79.9)	81(20.1)
5	Monthly Premium paid into National health insurance scheme is a reservation for emergency healthcare needs of payer	311(77.4)	91(22.6)
6	It is a social device by which financial expenditure through healthcare is spread over many members	322(80.1)	80(19.9)
7	A National health insurance scheme policy extends healthcare services to stipulated family members of the policy holder	312(77.6)	90(22.4)
8	Minimum economic security is provided to participating workers by avoiding unfavorable financial spending	301(74.9)	101(25.1)
9	Productivity among workers becomes high through National health insurance scheme by minimizing loss of working hours to illness	293(72.9)	109(27.1)
10	The utilization makes healthcare expenditure of workers affordable to them	329(81.8)	73(18.2)
11	Sudden death due to emergency care that is not affordable is averted for a policy holder.	255(63.4)	147(36.6)
		Min (Max)	Mean (SD)
	Descriptive Statistics:	0 (11)	8.6 (2.0)

Table 1 revealed that the level of knowledge of National Health Insurance

Scheme among the Federal Public Servants in Ekiti State was evaluated to

have mean 8.6 ± 2.0 on a maximum scale point of 11. The findings show that respondents possessed a high level of knowledge of National Health Insurance Scheme.

Research Question 2: What is the attitude Federal Public Servants towards utilization of National Health Insurance Scheme?

Table 2: Summary of Attitude towards National Health Insurance Scheme

	Strongly Agree n(%)	Agree n(%)	Disagree n(%)	Strongly Disagree n(%)
1 My annual household expenditure for medical care is minimal since I started to utilize NHIS	153(38.1)	205(51.0)	29(7.2)	15(3.7)
2 Assurance of quality care at such time of sudden sickness in a very standard facility is guaranteed.	103(25.6)	244(60.7)	43(10.7)	12(3.0)
3 I boldly say it that Health insurance is worth the money it costs me.	112(27.9)	224(55.7)	56(13.9)	10(2.5)
4 The utilization of National health insurance scheme helps to save my family.	122(30.3)	225(56.0)	45(11.2)	10(2.5)
5 Utilization equal to buying the life of my family, so that when suddenly sick ; we quickly get treated	137(34.1)	199(49.5)	45(11.2)	21(5.2)
6 Idea of over 18 years being considered as above primary dependant is unfair to me	196(48.8)	129(32.1)	57(14.2)	20(5.0)
7 That only four of my children are primary dependant is discouraging.	148(36.8)	155(38.6)	68(16.9)	31(7.7)
8 I am convinced that the goals of National health insurance scheme are achievable.	151(37.6)	180(44.8)	52(12.9)	19(4.7)
Min (Max)		Mean (SD)		
Descriptive Statistics:		4 (24)	17.1 (3.1)	

Overall as revealed by Table 2, the attitude towards NHIS among the Federal Civil Servants in Ekiti State was evaluated to have mean 17.1 ± 3.1 on a maximum scale point of 24. The findings showed that respondents have positive attitudes towards the utilization of NHIS.

Testing of Hypotheses

Hypothesis 1: There is no significant relationship between knowledge and utilization of NHIS among Federal Public servants in Ekiti State.

In order to test the hypothesis Knowledge and utilization were subjected to statistical analysis involving Pearson correlation at 0.05 level of significance. The result is presented in table 3.

Table 3: Summary of Pearson Product Moment Correlation of Knowledge and Utilization on NHIS

Item	Mean	N	R	P-value
Knowledge	8.6	402	0.125	0.01
Utilization	20.5	402		

Table 3 showed that there are significant relationship between knowledge and utilization with p-value 0.01. This positive relationship shows that as knowledge increases the utilization of NHIS also increases. The null hypothesis is rejected.

Hypothesis 2: There is no significant relationship between attitude and

utilization of NHIS among Federal Public Servants in Ekiti state.

In order to test the hypothesis, attitude and utilization were subjected to statistical analysis involving Pearson Product Moment Correlation at 0.05 level of significance. The result is presented in table 4.

Table 4: Summary of Pearson Product Moment Correlation of Attitude and Utilization

Item	Mean	N	R	P-value
Attitude	17.1	402	0.434	0.01
Utilization	20.5	402		

Table 4 showed that there was a significant relationship between attitude

and utilization with P-value 0.01. The null hypothesis was rejected.

Table 5: Summary of PPMC Showing Relationship between Knowledge, Attitude and Utilization on National Health Insurance Scheme

		KNOWLEDGE	ATTITUDE	UTILIZATION
	Pearson Correlation	1	.073	.125*
	Sig. (2-tailed)		.144	.012
	N		402	402
ATTITUDE	Pearson Correlation		1	.434*
	Sig. (2-tailed)			.000
	N			402
UTILIZATION	Pearson Correlation			1
	Sig. (2-tailed)			
	N			

*Correlation is significant at the 0.05 level (2-tailed)

Table 5 showed that there was a significant relationship between knowledge and utilization, and attitude and utilization with p-value 0.01 and 0.01 respectively.

Discussion

The findings of this study were consistent with many findings of previous studies, though findings in some studies contradict the findings. A statistically significant relationship was established between knowledge and utilization, attitude and utilization but no association between knowledge and attitude toward utilization of NHIS. This finding is consistent with a similar study conducted

in Oyo state on an assessment of awareness level of NHIS in Oyo State, Nigeria (Sanusi, & Awe, 2009).

Finding affirmed that adequate knowledge determined respondents reaction to the newly introduced programme like NHIS. This finding was supported by Enoch (2008) in his publication on perception of healthcare workers of Delta state about NHIS where attitude and utilization of NHIS has no significant association but knowledge and utilization. Finding is consistent with the result of a study conducted by Chuma et al. (2013) among Afghanistan women who had to wait till their husband is available before they can go for healthcare services.

The respondents in this study has good disposition towards prepayment facility as it is currently available under the NHIS. This is shown in their responses to assessment on whether it is a better alternative to out-of-pocket payment among other opinions. Active participation in a policy is usually logically preceded by being aware about the policy, followed by acceptance or adoption and eventually end up in utilization or otherwise. Stakeholders saddled with the responsibilities of the implementation and expansion of the scheme could leverage on two factors of high level of awareness and good disposition to the scheme expressed in this study as opportunities to increase the coverage of the scheme amongst this group of people (Olugbenga-Bello & Adebimpe, 2010).

Conclusion and Recommendations

Based on the findings of the study, it was therefore concluded that the level of knowledge of the respondents toward NHIS is very good, while their attitude is good it can be improved upon. The utilization of the respondents is good but must be improved upon. The following recommendations were made: Firstly, measures should be put in place to facilitate better utilization of NHIS among Federal Public Servants in Ekiti State. Secondly, though attitude towards NHIS is

considerably good, it can still be improved upon by applying motivating factors especially in considering reduced premium, full drug subsidy etc. Thirdly, religious bodies should be sensitized on the importance of NHIS so as to disseminate the information to their members. Fourthly, the mode of operation of the NHIS must be reviewed and repackaged to make potential enrollee find the scheme services irresistible.

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Attitude of Women of Reproductive Age towards Caesarean Section in Ado Local Government Area in Ekiti State, Nigeria

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Abstract

This study investigates the attitude of women of reproductive age towards caesarean section and its health implications in Ado Local Government Area in Ekiti State, Nigeria. The study examined the contributions of age, and religion of women of reproductive age towards caesarean section. A descriptive research design of the survey type was used for this study. The population for this study consisted of 2500 women of reproductive age attending public hospitals located within Ado Local Government. Data were collected with the use of questionnaire tagged "Attitude of Women of Reproductive Age towards Caesarean Section Questionnaire (AWRACSQ)". The instrument was subjected to face and content validity procedures and test-retest reliability was carried out. Reliability Co-efficient of 0.83 was obtained. Data collected were analyzed using frequency counts, simple percentages, t-test and Analysis of Variance (ANOVA). The hypotheses were tested at a 0.05 level of significance. The findings of this study showed that women of reproductive age generally showed positive attitude to caesarean section and they had strong perception that Caesarean Section can cause post surgical infection, thus increasing the number of days spent in the hospital. It also revealed that age and religion of respondents were correlate of women's attitude to Caesarean Section. Based on the findings, it was recommended that educational program about caesarean section should be organized from time to time in all public hospitals. Awareness should also be created to women that caesarean section would not give them health problems than their counterpart who went through normal delivery. Government should make caesarean section affordable for everybody, irrespective of status and hospital should be well equipped.

Keywords: Attitude, women of reproductive age, caesarean section, health implications, educational status, age, religion.

Introduction

Spontaneous Vaginal delivery has long been considered the most preferred outcome of delivery and it is commonly said to be a normal type of delivery for every pregnant woman. Despite the preference of most women for normal vaginal delivery, many women may still require alternative means of child delivery. This may be because it is not possible or safe for such women to deliver through the vagina e.g. vacuum delivery and forceps delivery. The most common alternative means of child birth is caesarean section.

Caesarean Section (CS) is a surgical procedure in which a foetus is delivered through an incision in the mother's abdomen and uterus (American College of Obstetricians and Gynaecologists, 2010). This becomes necessary when vaginal delivery poses a risk to the mother or baby, as a result of prolonged labour, foetal distress, and baby lying in an abnormal position, obstructed labour or problem with placenta or umbilical cord (Webmd, 2014).

Caesarean Section is the commonest major surgery performed in obstetrics and it has contributed to improve obstetric care throughout the world. Caesarean section can help women at risk of complications, avoid dangerous delivery room situations and can save the life of the mother and baby when

emergencies occur. In short, caesarean section is usually performed when vaginal birth is deemed hazardous either to the foetus or the mother and it can either be planned or unplanned (Webmd, 2014).

Despite the contribution of caesarean section to child delivery especially in emergency situations, many women still do not have good attitude to it and do not accept it as a means of child delivery. It has been observed also that women, who eventually undergo CS in child delivery, do it reluctantly even when it is clinically indicated. One of the factors contributing to this is the cultural of women towards CS. Many women are unwilling to have CS done because of the general belief that women who undergo CS are not complete women, weak and lazy and that abdominal delivery is reproductive failure on their part (Ilesanmi, Odukogbe, & Olaleye, 1997) hence many intending mothers will not promptly opt for appropriately skilled help even in the face of complications in labour.

The attitude surrounding CS may have a significant role in the decision making process which is influenced by multiple complex factors like the reason for which the surgery was performed, her cultural values, her beliefs and anticipation of birth, possible traumatic events in her life, available social support, and her

personal sense of control, are only a few. The finding that women with only one child were once likely to undergo a caesarean section may reflect women's attitude regarding the efficacy of the procedure as a means to ensure newborn survival and to avert risks of birth complications or stillbirth.

Attitude of women to CS may also be influenced by fear. Most women are uncertain about the possible outcome of CS thus resulting in their negative disposition to CS. Most women would not accept to have the procedure done due to the fear of post-operative pain and the fear of dying during the surgery. Some of the patients are frightened by subsequent infertility, while some women would rather pray and hope to achieve vaginal birth.

Trust in health care team and health care facilities is another factor that influence women's attitude to CS. In considering CS, many women do not trust the health team in the health facilities available and this result in a negative attitude. According to Gilson (2003), trust is clearly a significant aspect of maternity care for many women. He explained that trust in health care institution can be defined as dependency in relationships that occur in the context of inequality such as that between health care provider and patient.

It has been observed that majority of Nigerian women have an aversion to or have an outright fear of caesarean sections because of the fear of death. This is in contrast to a good number of western countries, where women actually request for Caesarean sections, because of the fear of the pain of childbirth. It is observed that there is little or no record indicating the attitude of women of reproductive age in Ekiti state, particularly in Ado local government about C/S. Hence, it is worthwhile to examine the attitude of women of reproductive age on caesarean section and its health implication in Ado Local Government area of Ekiti State.

Many factors have been reported to influence the attitude of women to Caesarean Section. One of such factors is educational status. Normally education tends to expose people to knowledge on issues like method of delivery. Such knowledge clears doubt and reduces maternal mortality rate among women of reproductive age. It is believed that more educated women would demand Caesarean Section as method of child delivery (Adesokan, 2010).

Religion is another factor influencing attitudes of women to Caesarean Section. As a result of strong religious belief, many women may not easily accept an alternative method of delivery, as some religious teachings and

practices reinforced that Caesarean Section is not of God and is meant for unbelievers (Dutta, 2011). The author further emphasize that in religious gathering giving birth through knife is the handwork of the devil and is meant for women who are not strong in spirit and prayers.

Moreover, it has been observed that occupation has a great influence on women's attitudes towards Caesarean Section. Olaogun (2015) opined that celebrities prefer to have normal delivery because it enables them to exercise as soon as they deliver; speeding up their ability to get back to their pre-pregnancy status weight; as giving birth via Caesarean Section requires them to stay away from rigorous exercise for six weeks after giving birth. On the other hand, some career women prefer Caesarean Section as it is less painful and stressful (Olofinbiyi 2015).

Early pregnancy may leave the mother feeling exhausted, nauseous and overwhelmed about the changes in her body. Women are encouraged to go to the clinic on confirmation or suspicion of a positive pregnancy. The socio demographic data, drug history, menstrual history, past obstetric history; like still birth, baby small or large for gestational age, congenital abnormality, previous perform labour, are considered. Also, physical examination which entails

checking the weight, blood pressure, urinalysis, blood test, Midwife's and Consultant's examination, palpation, and auscultation are also considered. The information gathered during the antenatal visits will determine the appropriate method of child delivery. The timing and number of visits will vary according to individual needs and changes should be made as circumstances dictate.

The midwife's examination is performed by exchange or information between the woman and midwife and observation rather than physical examination. It is holistic and should encompass her physical, social and psychological wellbeing. She assesses the facial expression, sleeping patterns, expected breast changes, bodily changes in pregnant, vaginal discharges, bladder and bowel function changes, are discussed.

Health workers such as gynaecologist, anaesthetist, peri-operative nurses, midwives, laboratory scientist, nutritionist, medical record officers, porters and health assistants who were involved in care of women in reproductive age should have a good relationship with the pregnant mothers so they can build confidence in them. (Olofinbiyi, 2015).

Explanations on the demand of the coming baby on the family and how to take care of him/her are given. Husbands if possible, should be invited and educated

on their new role and responsibility towards the successful care of their wives and children.

Ojo, (2004), asserted that level of education has a significant influence on the attitude of pregnant women to Caesarean Section; women with basic education usually manifest positive attitude, while Igbokwe, (2012), submitted that rural dwellers may have basic knowledge of Caesarean Section as a means of delivery, but are handicapped due to problems of accessibility to health facilities.

In spite of the abundant benefits of Caesarean Section, most women who reside in the local government area and its environs do not still avail themselves of this opportunity, hence the study investigated the attitudes of women of reproductive age towards Caesarean Section in Ado Local Government Area, Ekiti State, Nigeria.

Research Questions

6. What is the attitude of women of reproductive age to Caesarean Section?
7. What are the perceived health implications of caesarean section among women of reproductive age?

Research Hypotheses

1. There is no significant influence of age on the attitude of women of reproductive age to Caesarean Section.
2. There is no significant influence of religion on the attitude of women of reproductive age towards Caesarean Section.

Methodology

A descriptive research of the survey type was adopted for the study. This study involves collecting existing information on the attitude of women of reproductive age to CS and their perception of its health implications. The population consisted of 300 women of reproductive age, (15-45 years) which includes single, married and widow, co-hosting and divorced women of reproductive age in Ado Local Government areas of Ekiti state. They are made of 300 consenting pregnant women and nursing mothers of reproductive age selected through multistage sampling techniques.

A self-designed questionnaire tagged “Attitude of Women of Reproductive Age toward caesarean section questionnaire” was used to collect information from the respondents. The instrument consisted of three sections. Section A was used to elicit information

on the demographic attribute of respondents, while section B consisted of 15 items to assess the attitude of women to CS. Section C consisted of 12 items to assess respondents' perception of the health implications of CS. The questionnaire was based on a 4-point Likert type scale of SD, D, A and SA.

The validity of the instrument was ascertained by experts from the Department of Human Kinetics and Health Education, Ekiti State University, Ado-Ekiti. The expert's judgments on the items were utilized fully in drafting the final copy of the questionnaire. The reliability of the instrument was determined by the use of test-retest method. Twenty copies of questionnaire were administered twice within two weeks interval to women of reproductive age towards CS in Ado local Government area of Ekiti state. The scores from the two sets of questionnaires were subjected to person product movement correlation. The reliability co-efficient were obtained at 0.83 level of significance.

All data obtained were analyzed using descriptive and inferential statistics. The general questions were analyzed using descriptive statistics of frequency counts and percentages. Hypotheses were tested using t-test, and ANOVA. Hypotheses were tested at 0.05 level of significance.

Results

Research Question 1: What is the attitude of women of reproductive age to CS?

Table 1; Attitude of women of reproductive age to CS

Variable	Frequency	Percentage
Negative (4 -32)	53	17.7
Positive (>32)	247	82.3
Total	300	100.0

In other to answer the question, scores relating to respondents attitude to CS were computed. The mean score (40.00) and standard deviation (8.00) were used to categorize the respondents into negative and positive levels of attitude to Caesarean Section.

The negative level of attitude of women of reproductive age was determined by subtracting the standard deviation score from the mean score ($40-8 = 32$).

The positive level of attitude was obtained by adding the mean score and SD ($40+8=48$).

Respondents with scores between 4 and 32 were categorized as being negative while those having scores above 32 were categorized as having positive attitude to Caesarean Section as presented in

Mean \pm SD= 40.00 \pm 8.00

40-8=32 (4-32) =negative

>32 positive

Table 1 shows that out of the 300 respondents, 53(17.7%) had negative

attitude towards Caesarean Section while 247 respondents (82.3%) had positive attitude towards Caesarean Section.

Research Question 2: What are the perceived health implications of caesarean section as a method of birth among women of reproductive age in Ado Local Government area of Ekiti state?

Table 2; Descriptive analysis of Perceived Health Implications of Caesarean Section

Variable	Mean	Rank
Anaesthetic medications in CS can pass to the infant and may lead to serious complications.	2.54	11
Infants born by CS need longer hospital stay.	2.63	10
Risk of adhesion in future pregnancies after CS is greater than natural childbirth.	3.01	4
CS can compromise future obstetric performance (i.e the number of children to be born)?	2.96	5
CS is more risky than natural childbirth.	2.84	8
Hospital stay is longer after CS than in normal delivery	3.04	2
CS causes abdominal deformities (such as adhesion, uterine rupture etc	2.95	6
CS can cause infertility	2.47	12
CS leaves a permanent scar on the skin of the mother.	2.86	7
cost CS pain may have effect on the baby and maternal bonding	2.65	9
CS reduces the risk of vaginal laceration that could occur during normal delivery	3.03	3
CS can cause post surgical infections	3.07	1

Table 2 shows the percentage of health implication of CS among respondents. Respondents had a stronger perception about the fact that CS can cause post-surgical infection than the other items. This was followed by the fact that hospital stay is longer after CS than in normal delivery. Respondents perceived

more that CS can cause post-surgical infection ($\pi=3.07$) than the other items. The least perceived health implication of CS is that CS can cause infertility.

Hypothesis 1: There is no significant influence of age on the attitude of women of reproductive age to CS and its health implication.

Table 3: Summary of t- test Analysis of influence of Age on Attitude to Caesarean Section

Age	N	Mean \pm	Std. Error Mean	T	Df	p-value
Attitude 15 -25	157	40.83 \pm 6.93	.553	1.857	298	.021
Attitude 26 – 45	143	39.19 \pm 8.35	.698			

Table 3 shows that the p-value for the influence of age on attitude to CS is less than .005. This implies that age has a significant influence on the attitude of women to CS. Hence hypothesis 1 was rejected.

Hypothesis 2; There is no significant influence of religion on the attitude of women of reproductive age to CS and its health implication.

Table 4: Summary of ANOVA on the influence of Religion on Attitude to Caesarean Section ANOVA

Attitude	Sum of Squares	Df	Mean Square	F	Sig.
Between groups	504.481	2	252.241		
Within groups	17076.865	297	57.498	4.387	.013
Total	17581.347	299			

Scheffe post hoc analysis; Table 4a shows that the p-value for the influence of religion on attitude to CS is less than .005. This implies that religion has a significant

influence on the attitude of women to CS and its health implications hence hypothesis 2 is rejected.

Table 5: Scheffe multiple comparison of respondents' attitude to Caesarean Section based on religion.

	Christian	Islam	Traditional	N	Mean
Christian			*	201	40.92
Islam				65	38.77
Traditional	*			34	37.35

Scheffe Post hoc analysis (Table 4b) shows that the respondents who are Christians had higher mean score of attitude (40.92) than those in the other two religions. This implies that Christian respondents showed a more positive attitude to CS than those in the other religion.

Discussion

The findings of the study revealed that women of reproductive age generally showed a positive attitude to Caesarean Section despite the possible implication of causing post surgical infection, thus elongating the number of days spent in the hospital. It is worthy of note that educated women showed greater positive attitude compared to the uneducated

women. This outcome is inclined with a study carried out by Ghosh & James, (2010), which shows that educated women had positive attitude to Caesarean Section, despite the fact that Caesarean Section can cause post surgical infection, than illiterate or uneducated women.

The study further revealed that religion is a correlate of attitude of women towards Caesarean Section in Ado Local Government Area of Ekiti State. The women usually report to Hospital with life threatening complications and on such situations most of operations are performed as emergency under suboptimal circumstances. (Najimi, 1999). The result is therefore similar to the findings of Olofinbiyi, 2015 who opined that negative perceptions of Caesarean Section which is the delivery of a baby through a surgical incision among women in the developing countries, is still being perceived as an abnormal means of delivery by some women especially in Ado Local Government Area in Ekiti State, of which Christians had higher mean score than those in the other two religions (Olofinbiyi, 2015).

The finding shows that there was a significant influence of age on the attitude of women of reproductive age to Caesarean Section. However, there was no significant influence of religion on the attitude of women. This result was in line with the findings of Dutta (2011) who reported that religion background of women was not in support of Caesarean Section.

Recommendations

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

- Emphasis on the importance of seeking maternity care in Government health facilities as soon as pregnancy is detected should be included in the ante-natal care.
- Adequate orientation about Caesarean Section, to make women of reproductive age understands that the procedure helps improve the health of mother and child.
- Involvement of Government and other health related agencies in creation of awareness on the causes of infant and maternal mortality, which will in turn reduce negative attitude towards Caesarean Section.
- Breaking of Ante-natal classes into smaller groups, to encourage all members to participate and facilitate learning process.
- Caesarean Section should be made affordable to all women of different socio-economic status.

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Effective Communication and Its Impact on Primary Health Care Delivery for Sustainable Development in Nigeria

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Abstract:

This paper investigates the influence of Effective Communication on Primary Health Care (PHC) delivery for sustainable development in Nigeria. The purpose was to find whether effective communication would have influence on PHC delivery. It was also carried out to improve Primary Health Care personnel communicative level with their patients. Secondary data were used to gather information for the study. This was done through an in-depth review of scholarly journals, articles, textbooks and research materials offline and online. The paper discussed the concept of Primary Health Care delivery, effective communication with clients, strategies for effective communication, various components of primary health care delivery for sustainable development and impediments to effective communication such as language barrier and disrespect for cultural value. The paper concluded that the provision of continuous and comprehensive health care through effective communication will improve the health condition of the populace and services to the community. It was recommended that appropriate language use and the need to respect the clients' cultural values would improve effective communication in Primary Health Care Delivery.

Keywords: Communication, Primary, Health, Culture, Sustainable, Development.

Introduction

Effective communication is the ability to convey information to another effectively and efficiently. Communication is done mostly through the use of language, but it could be done through

verbal and non-verbal means. It is only through communication that information could be passed across to another, using the right means or language that the audience or clients would understand. For a communication to be effective the

language used in communicating it must not be ambiguous and it must respect the cultural value of the receiver to ensure that the message is beneficial to the receiver at this primary health care level. Effective communication with clients involves ability to communicate with clarity and respect for the personality of clients. It relies on the synergistic use of three strategic components: advocacy, social mobilization and behaviour change (UNICEF, 2015).

Effective communication is highly essential for the implementation of primary health care. This is possible through services carried out at primary health care centers and during home visits. Community involvement and participation are also vital ingredients of PHC. This is made possible through utilization of the components of PHC as indicated by Ajayi (2004) to include.

1. Health education concerning the prevailing health problems in the community
2. Provision of food supply and proper nutrition
3. Adequate supply of safe water and basic sanitation
4. Maternal and child health care including family planning
5. Immunization against communicable diseases
6. Prevention and control of locally endemic and epidemic diseases
7. Appropriate treatment of common diseases and injuries.
8. Provision of essential drugs
9. Dental care
10. Mental health (WHO – UNICEF, 1978)

These services must be carried out at the primary health care facilities and communicated to the clients using the language they will understand so as to send home the information for appropriate feedback from the receiver. Without this, efforts will amount to not passing any health information across to clients. Primary health care services well communicated in a language well understood by the clients has shown to be a good value investment, as it is evident that quality primary health care reduces total health care costs and improves efficiency by reducing hospital admissions.

Strong and well communicated primary health care services are essential to achieving the health related sustainable development Goals (SDG's) and universal health coverage. This will contribute immensely to the attainment of other goals beyond the health sector. It includes reduction in poverty, hunger, gender equality, provision of clean and portable water, sanitation, work and economic growth, reduction of inequality and climate change.

All the components of primary health care like health education, maternal and child health care, immunization against communicable diseases, provision of essential drugs, treatment of minor ailments, family planning, mental health care, dental health, provision of potable water, environmental sanitation and adequate nutrition are all tailored towards the improvement of the health of the masses and reduction in morbidity and mortality of the masses. It is therefore very essential to pass all the necessary messages across to the recipients in a language they will understand.

Primary health care or PHC is the essential health care that is based on scientifically sound and socially acceptable methods and technology which make universal health care accessible to all individuals and families in a community. Primary health care services are given to individuals and families in the community through full involvement and participation at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination. It is a health care services that cover a range of prevention, wellness and treatment for common ailments. Aighiremolén, Alenoghena Eboreime and Abejegah (2014) defined primary health care as grass-root management approach for

providing healthcare services to communities. It is designed to address the main health problems in the community by providing preventive, curative and rehabilitative services.

According to Ajayi (2004) Primary health care is a whole of society approach to health and well-being centered on the needs and preferences of individuals, families and communities. It addresses the broader determinants of health and focuses on the comprehensive and interrelated aspects of physical, mental, social health and well-being. It provides a person's need for health care throughout life not just for a set of specific diseases. It ensures people receive comprehensive care ranging from promotion and prevention to treatment, rehabilitation and palliative care as close and as feasible to people's everyday environment. Primary health care is also referred to as provision of ambulatory or first-level personal health care services. It is a set of priority health interventions for low income populations. As laudable as this programme is in meeting health needs of people at the grass-root level, there is need for effective communication of the basic components to the receivers for them to benefit maximally from the programme.

The programme is important to the health needs of the populace hence the reasons for its effective communication to respond to rapid economic, technological

and demographic changes all of which impact health and people's well-being. Primary health care has been proven to be a highly effective and efficient way of addressing the main causes and risks of poor health and well-being of masses as well as handling the emerging challenges that threatens health and well-being of tomorrow. Primary health care services well communicated in a language well understood by the clients has shown to be a good value investment, as it reduces total health care costs and improves efficiency by reducing hospital admissions.

Park (2007) asserted that the principles of primary health care underscore the great value of the approach, these principles which include essential health care, community participation, equity, intersectional collaboration and the use of appropriate technology are the driving forces behind the efficiency of primary health care as the hope of achieving universal health coverage.

Primary health care (PHC) was established to provide services to the majority of people based on needs without geographical, social or financial barriers through their involvement in the planning, implementation and evaluation of health programmes. It implies drawing resources from within and outside the health sector and utilizing technologies on the basis of suitability.

Alenoghena, Abejegah, Eboime, Aigbiremolen (2014) posited that Nigeria, like other parts of the world has its own peculiarities characterizing the health care system. These peculiarities are related to cultural, religious, and sociopolitical diversities. Thus, effective communication is needed to implement PHC to meet the challenges associated with these diversities because it will help to improve health care delivery system. PHC according to Lucas & Gilles (2006) include community mobilization and advocacy, service integration, health research, capacity building, integration of international organizations such as UNICEF, WHO, FAO, etc. and non-governmental collaborations.

Health education is the combination of learning experiences designed to help individuals and communities, improve their health by increasing their knowledge or influencing their attitudes. It teaches about physical, mental, emotional and social health. It motivates individuals to improve and maintain their health, prevent disease and reduce risky behaviors. It helps students to learn skills that will help them make healthy choices throughout their lifetime.

It is worth of note that most people walk about with varied health problems that are unnoticed by other individuals. These health hazards constitute serious

problems to the health status of the people affected and their families. The only measure to reduce this menace is through effective communication using the right language to communicate with the clients. This can be achieved through health education. Frontiers of knowledge will be pushed forward while ignorance would be rolled backwards.

A healthy nation is said to be a wealthy nation. Every nation including Nigeria ought to attain good health that will permit or enable individual to attain the peak of their social and economic life goals. It is this desire of everyone to attain optimal health and wellbeing world-wide that led to the birth of primary health care. To this effect, primary health care had health education as the most effective of all its components. Supporting this view, Ejima (2007) asserted that of all the components of PHC, health education well communicated is the pivot on which the rest of other components are hinged and the vehicle by which the set objectives and principles of primary health care could be achieved.

The extent to which the goals of primary healthcare delivery would be achieved depends strongly on the level of health education effectively communicated. The World Health Organization (2002) has identified five key elements to achieving this goal which are

interconnecting principles of equity, access to health care delivery system by all, empowerment, community involvement and participation, self –determination and inter-sectorial collaboration all of which depends on effective communication.

Moronkola and Okanlawon (2003) posited that health education empowers the consumer in the community to manage their health process effectively and to cope with social and economic changes. Effective health education is tailored towards behavioural change which could be achieved by making people to understand and feel the need for a change and ability to make positive healthy decision.

Effective communication of health related information to the populace is very essential. These are practices and procedures that health workers use to teach their audience, learners or clients to make them understand and learn what they are passing across to them. It could either be determined by the nature of clients or by the subject matter. Primary Health care personnel do instruct their patients or clients on daily basis on what to do in order to remain healthy, to be cured from illnesses or to prevent diseases either with or without the use of drugs. Therefore, it is imperative that they pass such instructions to their clients in an acceptable and courteous manner. Observations and

complaints from patients has revealed that many health workers pass instructions to patients in an unfriendly manner or with such an arrogant and disrespectful attitudes that even the hearts of patients feel disgust for the treatment they are about to give them or the help they are about to render on their health condition. Examples of such incidence is the case of some midwives who talk anyhow to patients especially pregnant women during labour and delivery, e. g. did you cry when you and your husband were enjoying yourselves? It is a fact that healing starts from the heart therefore, the researcher is of the opinion that if such primary health care personnel are well groomed on effective communication and also have a knowledge of teaching methodologies, it could change their orientation on ways of passing instructions to patients, it will expose them to better human relations having individual differences at the back of their mind. It will also expose them to means of motivating their clients to follow every instruction being passed to them.

There are different methods of passing information to clients which are incidentally teaching methods. Examples are: lecture method, discussion method, demonstration method, role play methods, to mention a few. The influence of communicating effectively with clients cannot be overemphasized, it is crucial to

healthcare delivery. It is therefore, very essential for all health care delivery personnel to learn and use these methods appropriately while communicating. Appropriate language of communication with clients, having at the back of their minds the culture and values of the people, will go a long way to accelerate sustainable development in the nation.

Communication in healthcare setting is one of the most important tools for providing great patient's care and improving patient's satisfaction. However, lines of communication can frequently be crossed and lead to lower patient satisfaction and wellness, hospital readmissions could be avoided with better communication among healthcare teams and between providers and patients."

Every patient who comes to a hospital has a team of people involved in providing care throughout their healing process: from doctors and nurses to housekeepers, culinary teams, and even their family and loved ones. With so many parties involved, effective communication could even regulate patient's blood pressure. Therefore patient care should be taken seriously and personnel should be trained to avoid the use of abusive, insulting and disrespectful languages that could lead to early grave of patients. Rather, they should learn to communicate

effectively to provide excellent patient care.

When discussing how health workers can impact the patient experience, HHS Chief Operating Officer, Bobby Floyd, noted that patients have a higher expectation of the type of care they are going to receive when they are in the hospital, and not just from nurses and doctors but also from support services such as housekeepers. They expect courtesy communications from all, including room technicians and other frontline primary health care personnel.

Therefore, they need to not only perform their day to day duties, but also be able to apply good communicative strategies to address needs of patients. The way health workers addressor speak with patients will determine whether the need of that patient or not will be met. Primary health care delivery personnel have a variety of clients or patients to communicate with, therefore, they need to learn different strategies of communicating effectively.

Here are a few of the strategies that can be used by healthcare personnel to consistently communicate effectively:

- i. Utilizing hospitality methodologies and principles established by the Disney Institute, Cleveland Clinic, and Studies Group, which teaches how to

initiate a meaningful connection with patients.

- ii. Empathy and use of key words to effectively communicate with patients and visitors during times of needs in order to give quality care.
- iii. Use of smile, calm and welcoming voice, according to HHS Regional Director David Sadara, "Everyone else is rushing in and out and most times they don't even know who is in the ward, therefore a health worker can take time to introduce himself and tell the patients how he is going to take care of them, open the blinds, prop them up to be more comfortable, ask how they are doing, and tell them that he will keep them in his thoughts when they say they are not feeling well. These little gestures can make a big difference."
- iv. Nurturing relationships with other healthcare workers to ensure a helpful and integrated part of a team, this allows them to complete tasks that would otherwise have taken their time away from providing patients with necessary care. Effective communication with the patients and other health workers will ensure that patients are receiving the best care possible.
- v. Utilizing the "do not pass rule:" If a call light is on, health worker must stop to check on the patient to see how they can help. If there is a simple task, such as providing additional blankets

or toiletries, they must assist the patient directly. Should more specialized care be needed and help to ensure that assistance is provided quickly when urgently needed.

The quality of communication will determine its impact; therefore this paper is out to reduce communication deficiencies to the barest minimal. John Wiley & Sons (2015) discovered that poor communication can lead to various negative outcomes, disunity of care, compromise of patient safety, patient dissatisfaction, inefficient use of valuable resources and economic consequences. It can even lead to misapplication of drugs and death of clients.

Other means of communicating effectively include:

- i. **The Silent Treatment: Remaining silent can be one of the most effective methods for communicating effectively with patients, especially if one is trying to entice them to share more information.** Instead of immediately answering after the patient's completed statement, one can remain silent but attentive. For example
Person A: My daughter just had a baby!
Person B: (responds immediately) wao! How adorable! Is it a boy or girl?

The information about the gender of the baby has to be coaxed out of person A rather than being freely offered. Now, using silent treatment will be:

Person A: My daughter just had a baby!

Person B: (remains silent but attentive)

Person A: She had a 3kg baby girl named Abigail. She's my second grandchild but my first granddaughter!

Instead of having to encourage the communication, the conversation continues naturally on its own.

- ii. **Asking of Questions:** Everything can't be known about a person without asking questions. Asking of open ended questions (questions not requiring yes or no but an explanation) can also be effective: i.e "what brings you here?" instead of "can I help you?"
- iii. **Empathy:** Empathy or emotional awareness are also essential for a clear transfer of knowledge. One can easily recognize when one's own emotions are causing issues with one's communication. Being empathetic gives one the ability to discern when the emotions of others are likely to cause a problem. Empathy is in part

emotional awareness, and also body language translation. One can often discern the emotional state of a person by simply looking at how he holds himself. A happy person will walk with their head up and shoulders back. He will make eye contact and will smile, or respond easily to an offered smile. A sad person, on the other hand, will often walk with their shoulders hunched and head bowed. They will not often respond to an offered smile, and if they do it will not reach their eyes. Effective communication is required to help out people in these situations

- iv. **Enthusiasm:** This can actually be as simple as maintaining eye contact, and modifying one's body language to appear attentive and interested
- v. **Language Choice:** If one is trying to foster a sense of solidarity and cooperation, the use of pronouns like "we" and "us" will help clients to consider themselves part of a team, rather than as an individual; Giving them a sense of love and acceptance.
- vi. **Honesty:** Honesty is often one of the largest barriers to effective communication, but it is one of the easiest to overcome. Effective

communication is largely based on trust. Therefore, primary health care personnel must be trustworthy and reliable.

- vii. **Not stopping learning:** This is often the biggest mistake that people make when learning to communicate effectively. They think that there is nothing left for them to learn. Albert Einstein once said it best, once you stop learning, you start dying. This is very essential as knowledge is dynamic and continuous. Learning will make for continuous improvement in the way health workers communicate with patients on daily basis.

The influence of effective communication on health education has been strongly highlighted at the Alama Ata conference, where it was pointed out that health is an individual responsibility and it must be ensured that every individual is health conscious, to be able to achieve healthy living practices and seek appropriate health attention when the need arises. In Nigeria today, effective health education has helped primary health care to achieve its goals in so many areas such as improvement in maternal and child health care thereby reducing maternal morbidity and mortality rate. Infant mortality and morbidity rate has also reduced drastically.

If messages are communicated to people effectively with empathy, for example the lives of pregnant women who are dying on daily basis for going to quack maternity homes to deliver their babies, might be preserved, if health workers are more friendly in their choice of words. There will be increase in coverage and improved health of children. There will be mass reduction in the killer diseases known as communicable diseases through high level immunization coverage. Use of effective communication in the area of family planning will also reduce the incidence of unwanted pregnancies leading to unwanted babies in the society, especially as many illiterates and semi-illiterates think that family planning is evil and could kill them. People visiting quack doctors for avoidance of disrespect for their personality should have desist from such.

Above all, good nutrition which is the basis for survival will also be improved tremendously through correct effective communication. It would lead to eating of the right diet at the right quantity and quality, also at the right time for healthy living. Knowledge about health related matters communicated to the society will be translated into practice since such will influence their beliefs, attitude and habits.

Awosusi (2018) asserted that health care services during pregnancy and

after delivery has been described as important tools in promoting maternal health and avoiding morbidity or mortality associated with pregnancy, childbirth and maternal care. Health education is a complex activity in which different individuals and organizations play a part. Among them are parents, teachers, friends, physicians, nurses, health workers and various organizations both governmental and non-governmental. Since no country can afford to employ institutionally trained health workers alone, health education therefore should be the concern of everybody engaged in community welfare work (Park 2007).

Park (2007) asserted that maternal and child health refers to the preventive, promotive, curative and rehabilitative health care for mothers and children. It includes areas such as: maternal health, child health, family planning, school health and care of physically challenged children. The objectives of maternal and child health as stated by the World Health Organization (2005) are:

- To reduce maternal morbidity and mortality
- To reduce infant and childhood mortality and morbidity
- To promote reproductive health
- Promotion of physical and psychological development of the child

The means of bringing the above stated objectives to play includes the use of ante-natal care, prenatal care, intra natal care and post natal care. Ante-natal care is the care of a woman as soon as conception is diagnosed and continued throughout pregnancy to achieve a healthy mother and baby. Effective communication of vital health issues that will keep the woman and the baby health and prevent complications should be well-spelt out to the pregnant women at the ante-natal clinic in the language she would understand. Effective communication of essential information will create high level of awareness for the pregnant women in order to promote, protect and maintain the health of the mother during pregnancy and childbirth. It will also help to detect “high risk” cases and give them special attention also to foresee complications and avoid them. Communication in the ante-natal clinics will also allow the pregnant women to give feed backs to the health educators or health workers on what they have heard and also ask questions on issues bothering their minds.

The pre-natal care concerns care of the pregnant woman and the baby. Communicating health education issues are mostly received at this time and the points should cover not only the problems of pregnancy and childbirth but overflow to family and child health care. The

importance of nutritious and balanced diet, personal hygiene, personal cleanliness, rest and sleep, moderate exercise, avoidance of drug use and abuse and the signs of imminent labor are all vital issues that should be communicated to them in the language they best understand. The intra natal care is the care given during child birth. The need for effective intra natal care is indispensable with emphasis on cleanliness and avoidance of exposure to infections for the mother, the baby and the health workers. Egbuniwe et al (2016) asserted that maternal morbidity could be prevented if skilled health attendants who are health professionals like (midwives, doctors, nurses) functions with appropriate equipment, drugs, supplies and provisions of life saving interventions. Also strict measures should be taken to control infections by maintaining high level of hygienic practices.

The post natal care is the care given to the mother and the new born baby after delivery. Communicating the necessary care will ensure healthy mother and child, prevent complications and ensure rapid restoration of the mother to optimum health.

Conclusion

Effective communication can influence Primary Health Care delivery because it could bring about reduction in

risky behaviours of clients which depend largely on the clients understanding of the risk and the importance of change. Use of appropriate language in communicating health information during primary health care delivery helps to promote healthy nation and prevent chronic diseases thereby bringing health benefits to the greatest number of people in the society.

Effective communication of health messages helps to reduce gaps created by differences in culture, location, social status, ethnicity, education and other factors that can affect health matters

Recommendations

1. Effective communication is a tool to improve the level of reception of health programmes hence the need for all health workers to appreciate this and improve their relationship with their clients to encourage improvement in participation and involvement in health matters.
2. Government should provide training and retraining for health workers on communication skills, etiques and etiquette guiding their professions to boost their inter-personal relationship with their clients and the community at large.

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Aerobic Dance Circuit Training as a Panacea for the Maintenance of Athletes' Fitness during Covid-19 Pandemic

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Abstract

Aerobic dance circuit training is an efficient, challenging series of conditioning workout that develop strength, endurance, flexibility, coordination and aerobic endurance. It is a new developed fitness training that has shown to effectively develop strength and cardiovascular fitness exercise session. Aerobic dance exercise has been used in circuit manner which can be adopted by sport and fitness specialist for the maintenance of social/physical distancing during this pandemic. A typical ADCT workout fulfills the cardiorespiratory and body composition training principles (Frequency, Intensity, Time, and Type of activity). Using ADCT as training programme improves cardiorespiratory variables such as systolic/diastolic blood pressure, Mean arterial blood pressure, also increases reserve heart rate, vital capacity, inspiratory reserved volume, peak expiratory flow rate and maximal oxygen consumption. It therefore recommended that future investigations could include the effects of ADCT on post pandemic.

Keywords: Aerobic, Dance, Covid-19, Pandemics, Social distancing.

Introduction

The successful performance of any sport depends on athlete's oxygen capacity which is a strong and mysterious science in sport medicine, but studies were attributable to more than 100 years ago when Kenneth Copper in 1960 describe it as determination of sport performance, and further describe activities performed in aerobic working condition. Zaletel,

Garbilo and Peric (2013) described according to Cooper 1960 whereby he found out that aerobic exercise improves cardiorespiratory status of US Air Force. The principle of aerobic dance have proved to be effective in the sport training, therapeutic treatment and rehabilitative of various human ailment.

Coronavirus disease known as Covid-19 has been known as infectious

disease caused by a new virus that emerged in late 2019 in Wuhan, Hubei Province, China (WHO, 2019). As at this moment, there is an increase in the number of people infected and people dead. It was reported by WHO (2019) that COVID-19 is a public health emergency of international interest, and recently in 2020 classified it as a pandemic.

According to Neto, Tavares, Schuch and Lima (2020) the pandemic occurs in three stages of imported cases, local transmission and sustained community transmission. WHO (2020) adopted several health measures includes; social isolation, surveillance of cases coming from epidemic areas, and increasing public awareness to infection control in health facilities to reduce the spread. Gymnasium and sport facilities are among the health facilities that are very crowded and that can be a space of virus transmission. Therefore, in an attempt to reduce the scenarios of virus transmission Ministry of Health, Brazil (2020) announced guidelines to avoid the spread of the coronavirus, such as choosing to exercise outdoors instead of taking gymnastics classes in enclosed spaces.

Social distancing, also called physical distancing means keeping a safe space between each other. To practice this, sport participants should stay at least 6 feet (about 2 arm's length) from other sport

performer outdoor spaces. Researchers in sport science have been shown their solidarity with efforts to reduce the spread of the virus and keeping athletes in fitness shape for sport performance. Also, to devise innovative solution by identifying ways that sporting programmes can respond to problems faced by athletes. During this lockdown and recover from COVID-19 there will be significant issues to be addressed to create an avenue for fitness training particularly for young athletes.

Aerobic dance is a physical exercise that is usually performed to the rhythm of music and may be practiced in a group setting, led by an instructor (fitness professional). Circuit training is a series of exercises done in order of stations and at a fast pace with only a short break period between exercises and a bit longer rest between stations (Kumar, 2013). The combination of these two training methods is termed aerobic dance circuit training (ADCT). It is a form of physical exercise that combines rhythmic aerobic exercise to pre-set music with stretching and strength training routine in a circuit manner (circuit training). During this lockdown in order to adhere to social distance, ADCT can be used as a training programme for the maintenance of athlete's fitness capacity. Keep distance at events is safest to avoid over crowded, but ADCT is a training

programme that can be adopted due that sport participants at each station can stay 6 feet away from each other to create social distancing.

Therefore, the purpose of this review article is to provide the knowledge and administration of ADCT during sport programme for the maintenance of athlete's fitness level when applying social distance policy of COVID-19.

Concept of ADCT

According to Moore (2010) aerobic dance exercise is distinct in the sense that the rhythmic aerobic exercise with strength training and stretching procedures with the aim of developing all features of fitness (flexibility, body composition, muscular strength, and cardiorespiratory fitness). Moore (2010) categorized aerobic dance into low-impact, high-impact, water dance aerobics and step aerobics dance exercises. High impact exercises, owing to its name, involves monotonous intensive workout which include, jumping actions harmonized with designed music. Step aerobic dance uses step bench, and the water aerobic dance is carried out in waist – deep water, usually in a swimming pool

It is a type of aerobic training aimed in improving the body structure and cardiorespiratory fitness of the exercisers. Accordingly, the muscular strength, speed, flexibility, power and endurance could be

developed through aerobic training. It involves the use of a number of exercise stations where the participants perform a given exercise within specific time. Circuit training can be programmed into a combination of resistance training and moderate to high-intensity aerobics designed in an easy way to follow and target fat loss, muscle building and heart fitness. Traditionally, the interval between exercises in circuit training is little, often with rapid movement to the next exercise and the circuit is completed, once the subject performs the exercise at all designated stations.

Thus, ADCT in this study is a training programme that consists of series of aerobic dance exercises performed to improve cardiorespiratory variables and to reduce fat. The ADCT can usually be completed easily by participants of all ages and fitness level. This is one of the unique characteristics of ADCT, in that the same step can be modified by the participants to meet the needs of her individual workout. A typical ADCT workout fulfills the cardiorespiratory and body composition training principles (Frequency, Intensity, Time, and Type of activity). It can be performed at a safe level of moderate intensity between 40% and 70% of age predicted MaxHR. It is similar to any cardiorespiratory workout classes which begin with a warm up of light activity and

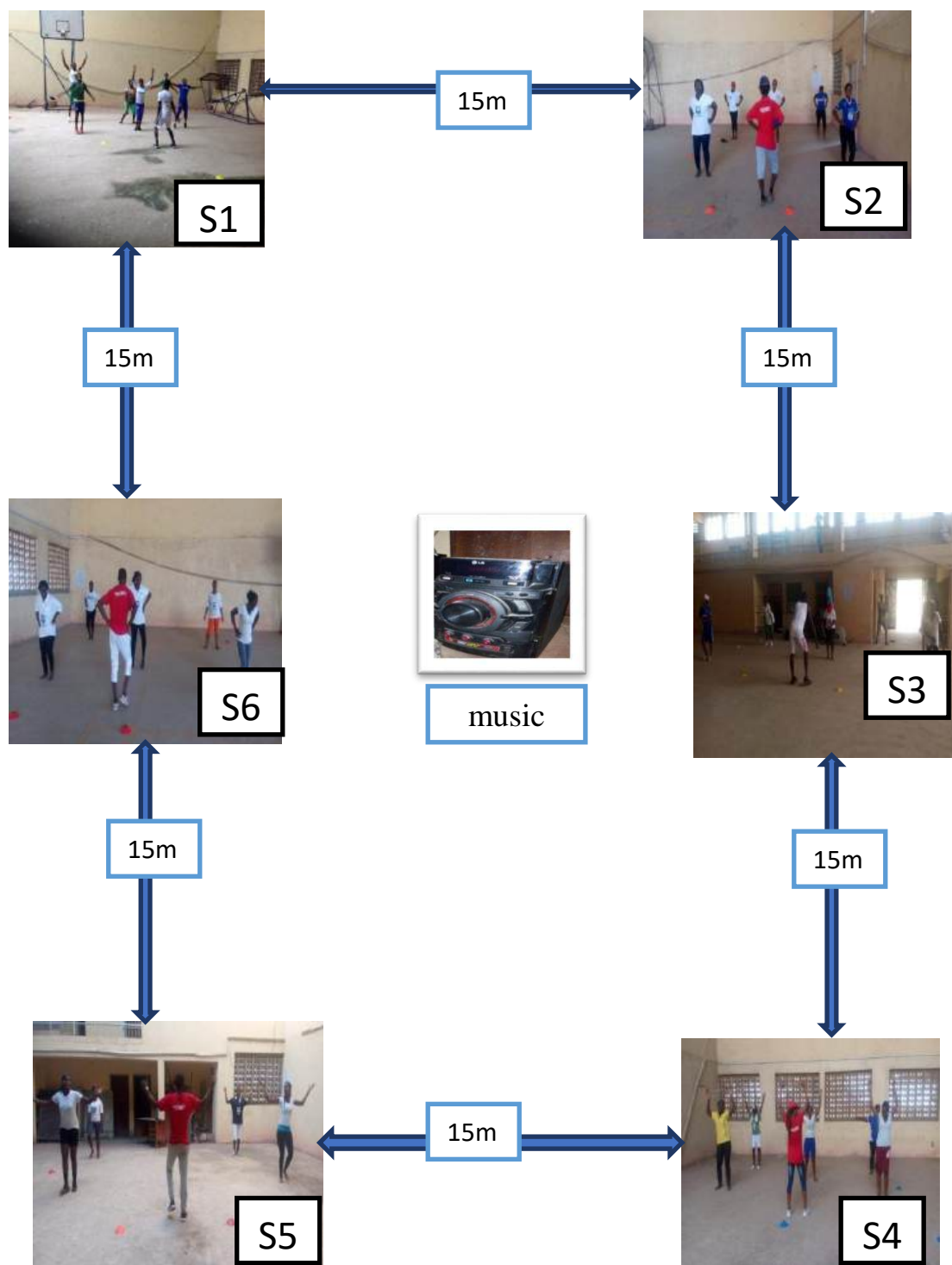
stretching exercise for 10 minutes, progress to the 20-30 minutes workout phase and then have a gradual cool down period for 10 minutes.

Benefits of Aerobic Dance Circuit Training

1. It reduces body composition percent body fat.
2. It improves cardiorespiratory variables such as systolic/diastolic blood pressure, Mean arterial blood pressure, also increases reserve heart rate, vital capacity, inspiratory reserved volume, peak expiratory flow rate and maximal oxygen consumption.
3. Helps regulate insulin levels and lower blood sugar
4. Reduces asthma symptoms
5. Reduces chronic back pain and reduce body weight
6. Strengthens immune system
7. Boosts mood
8. Safe for most people, including kids
9. Affordable and accessible

Aerobic Dance Circuit Training Description

ADCT is an excellent fitness activity that can get sport participant moving. It consisted of series of exercises inter spaced and performed at each station of 15meters between with minimal 60 seconds rest in between. The participants were distributed to six stations. The instructors lead the exercise at each station. The body movements are simplified and made easy to involve the use of both upper and lower extremities and the back and the principle of exercise warm-up and cool down; and 30-60 minutes of aerobic dance with brief rest periods to move from one station to the next station. The choreography exercise consisted of arm, leg, waist-hip and progressive step-aerobic movements; performed with music. According to ACSM (2010) exercises performed at a safe level of moderate intensity as 60% and 80% of age predicted MaxHR. Aerobic dance circuit training programme can be performed by all participants for the period of times based on the training scheduled.

**Keys:****S1:** Jumping jacks**S2:** Marching on the spot
bend**S3:** Waist twitch**S4:** Trunk swings**S5:** Arm swing leg asides**S6:** Lateral legs aside**Figure 1:** ADCT Training programme Source: Ajayi (2019)

Directions

ADCT is an enjoyable and energetic way to get fit.

1. Use a space of 100meters by 90 meters and maintain 15meters each between stations.
2. Choose some music that has a good clear beat and is rhythmic. The music should last from 10 to 60 minutes or more. Put it in a sequence as regards beat per minute and tempo
3. Distribute athletes 6 or 10 into each station demarcated with cones and appoint aerobic dance instructors at each station to lead the exercise.
4. Inform the instructors to demonstrate aerobic exercise
5. Play the music and signal for warm-up at least for 5minutes
6. Start the main training programme for at least 60 seconds and brief rest periods to move from one station to the next station.
7. A training session is completed when the whole group has move round the stipulated stations.
8. Follow the principle of cool-down activity.

Conclusion and recommendation

In conclusion, regular aerobic dance circuit training of moderate and vigorous intensity is believed to exert

beneficial effects on maintenance of physical fitness of athletes during COVID-19 pandemics as regards social or physical distancing and must be associated to the suggestions. The researcher sought to clarify the concept and importance of ADCT as a benefit of social or physical distancing. It therefore recommended that future investigations could include the effects of ADCT on post pandemic.

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Sport Involvement and Self-esteem of Athletes and Non-athletes Students in Unity Secondary Schools in Ondo State

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Abstract

The study examined the influence of participation in physical activity cum sports on the self-esteem of secondary school students in 'exclusive' schools. The descriptive survey research design was adopted for the study. Four hundred (400) respondents selected from the four Unity Secondary Schools in Ondo State were used for the study. The Rosenberg Self-esteem Scale (1965) was used to collect data for the study. Data collected was analyzed using descriptive statistics. The result revealed that there was a significant difference in the mean score of students who participated in physical activity/sport (athlete) on I feel that I'm a person of worth, at least on an equal plane with others ($M = 3.16$, $SD = 0.98$) compared to those who do not participate in physical activity/sport (non-athletes) ($M = 2.89$, $SD = 1.11$; $t(398) = 2.53$, $p = 0.01$).

Key Words: Self-esteem, Sport involvement, Identity formation, Athletes, Non-athletes, Self-Evaluation, Exclusive Schools

Introduction

Adolescents interest in sport is overwhelming, and the love is widespread across cultural and the different stratification that exist in every society. The followership of foreign club especially football is a movement that cannot be ignored by community leaders. Sport consists of training, and games, competition and display. Sport's unique

and universal power to attract, motivate and inspire, and it is a highly effective tool for engaging and empowering individuals. For the adolescent, sport generally serves as an outlet of energy, medium of socialization and networking. Participation in physical activity (sport) has a role to play in personal development; as it improves physiological and mental functioning and gives rise to feelings of

physical, psychological and social competence. Psychological benefits of sport participation includes, improves mood, reduce stress, improves ability to cope with stress, improve self-esteem, boost pride in physical accomplishments, increase satisfaction with oneself, improves body image, increase feeling of energy, improves confidence in physical ability and decrease tendency and symptoms of depression.

The period of adolescence is important for the process of self-esteem formation. The formation of self-esteem can be stimulated; encouraged by various factors sport inclusive. The level of self-esteem is mirrored in the adolescent's attitude and behavior, both at home and at school (Mogonea & Mogonea, 2014). Self-esteem refers to individual perception or subjective appraisal of one's own self-worth, one's feelings of self-respect and self-confidence and the extent to which the individual holds positive or negative views about self (Sedikides & Gress 2003). Transition from adolescent age to adulthood is a crucial phase of any individual's life. During this phase, adolescents are cumbered with challenges which may prevent them from maintaining optimal level of self-esteem. Self-esteem is important for surviving as an individual especially for adolescents. Self-esteem is

based on how we feel when we look in the mirror or talk about ourselves.

The adolescents with a high level of self-esteem have the following characteristics: they are capable of influencing positively the opinion and behavior of others; they tackle new situations positively and confidently; they have a high level of tolerance towards frustration; they accept early responsibilities, they asses correctly situations; they communicate positive feelings about themselves; they succeed in having a good self-control and the belief that the things they are undergoing are the result of their own behavior and actions (Lavoie, 2012). Therefore, adolescence is the critical period for the development of self-esteem and self-identity, and low self-esteem may endanger adolescent's emotional regulation (Lin, Tang, Yen, Ko, Huang, Liu et al., 2008). On the other hand, high self-esteem serving as a role of resilience or positive adaptation (Moksnes & Espnes, 2012).

Sport participation can boost self-esteem, researches in this area have corroborated to this. Decrease in self-esteem or low self-esteem can lead to drug use, depression, suicide, eating disorders, social withdraw, feeling of inadequacy, incompetence and an overall expectation of failing. On the other hand, individuals with high self-esteem are confident, have

good sense of self-worth, positive, encouraging and supportive of others with good communication.

Participating in sports and physical activities is more likely to enhance balance physical development, expand skill development opportunities and encourage sport participation that maximizes lifelong fitness and well-being. Physical activity (exercise) is a proven way to increase self-esteem, being involved in physical activity is one way for adolescents to cope with the changing time in their life. Especially during puberty, this is regarded as a period of major transition in forming a positive or negative attitude towards one's self-esteem and body image among adolescents (Pelham, 1995). Adolescents' assessments of their self-worth are based on the judgments they imagined others makes of them. Involvement in physical activity, exercise and sport promotes psychological well-being Researchers like Slutzky and Simpkins (2009) have been particularly interested in the psychological well-being of adolescents, as the period is associated with an increase in self-consciousness and an increased likelihood to be self-critical. Individuals form the majority of their identity during adolescent and the key components of identity formation are self-esteem and body image (body satisfaction)

Exercise and, by extension sport have long been known to produce

beneficial effects in mental health, enhance self-esteem, Participation in sport and exercise programs can play an important role in supporting the formation of self-concept in adolescents and building self-esteem and self-confidence in people of all ages. Participating in sports and physical activities is more likely to enhance balance physical development, expand skill development opportunities and encourage sport participation that maximizes lifelong fitness and well-being.

Adolescents' assessments of their self-worth are based on the judgments they imagined others makes of them. Psychological well-being refers to how a person evaluates his or her life. According to the American College of Sport Medicine (ACMS) (2006), psychological well-being encompasses three dimensions: cognitive, affect and self-perception. Researchers have been particularly interested in the psychological well-being of adolescents, as the period is associated with an increase in self-consciousness and an increased likelihood to be self-critical. Individual self-esteem is in development and in a fragile state as the adolescent is discovering his individuality (Berk, 2009). As indicated in a study by Badayal & Ismail, (2012) a decrease in self-esteem was found to occur during adolescence. High self-esteem has been found to correlate with positive life outcomes and

low self-esteem has been found to correlate negative life outcomes. Low self-esteem has also been linked to the onset of depression

Many researchers believe that physical activity and sports does help adolescent girls improve and maintain their self-esteem (Gilbert, 2001). Over time women have increased participation in sports based solely on the number of female sports contested. Title IX has helped to increase the participation in women's sports at the high school level by over 800% and has increased participation in college sports by 400% respectively (Women's Sports Foundation, 2001). Several studies have shown the positive correlation between sports and self-esteem in girls (Jonas, 2002). Some studies show that girls' self-esteem drops at three times the rate of boys their age. Decreases in self-esteem in girls can lead to drug use, unwanted pregnancy and depression. Some other problems that can be caused by low levels of self-esteem in girls are suicide, eating disorders and social withdraw. Girls that participate in sports have a greater feeling of psychological well-being and are often times shown to have a better sense of body image. Girls that play sports also have been shown to experience less depression throughout their lives.

One study found that only 29% of high school girls listed that they were

"happy the way I am." Self-esteem in girls is linked to many factors, some of them being: personal appearance, acceptance of peers and even physical competence. However, the most influential factor in determining girl's self-esteem is perceived physical attractiveness (Jaffee, LynnWu and Peggy, 1996). High self-esteem has been linked to many positive qualities such as: active engagement in daily activities, better psychological health and even a more optimistic attitude (Bowker, Gadbois & Cornock, 2003).

Conversely, low self-esteem has been shown to cause feelings of inadequacy, incompetence and an overall expectation of failing. Most girls have an unrealistically high expectation of their appearance which leads to feelings of inadequacy. Most girls compare themselves at some point to models on television and even others at school.

Boys during this time do not facilitate the girls positively, for they tend to hold girls to unrealistic standards of beauty. The Melpomene Institute researches correlations between physical activity and self-esteem and they have come up with research that states that the most important and influential factor for females is a father that plays with his daughter when she is young. Too many fathers play only with their boys, feeling that the girls will not like the rough and

tumble play. By doing this the father decreases the chance that his girl will be physically active when older. In researching self-esteem, researchers conducting longitudinal studies have shown that playing high school sports may correlate with having more positive thoughts about oneself later in life.

In a longitudinal study that was conducted by Tonya Dodge and Sharon Lambert (2009), they found that playing a team sport in adolescence resulted in more positive self-beliefs than the adolescents who did not play a team sport. The same group of participants was followed up again six years later and it was found that the results remained the same; the group who played sports in high school and continued to be active still had a higher level of positive self-beliefs and rated their subjective health higher on a scale than the group that stopped being active. The participants who played sports, self-reported higher levels of social satisfaction while the participants who did not play sports reported lower levels. In a large, nationally representative, longitudinal study by Hebert Marsh and Sabina Kleitman (2002) it was found that the self-esteem of girls who played sports was higher than their peers who did not play sports and this difference continued for 6 years.

Statement of the Problem

Many researchers believe that physical activity and sports does help adolescent girls improve and maintain their self-esteem (Gilbert, 2001). Most researches have been particularly directed towards the psychological well-being of adolescents, as the period is associated with an increase in self-consciousness and an increased likelihood to be self-critical. However, many of these adolescents who are in various secondary schools do not have the necessary avenue to express and discover themselves. Majority of the individuals in this age bracket interest have been diverted from active participation by the advent of automaton and Information and Communication Technology. Also, studies seeking to establish the influence of sports participation on adolescent self-esteem are numerous globally; however, there is a dearth of such studies in Nigeria especially in secondary schools in Ondo State where sport involvement is at the mercy of academic excellence.

Purpose of the Study

The purpose of this study is to examine the influence of sport participation on self-esteem of selected students in sport in unity secondary school in Ondo-state. This study sought to establish the effect of sport participation

on self-esteem of selected students in unity schools.

Significance of the Study

It is hoped that this study will justify the necessity of adolescence participation in sport. It is also expected to this research will quantify the rate of low self-esteem. Also, it will provide more direction for future research in the area of adolescent psychological wellbeing. Furthermore, the findings may also assist school administrators in making policies on using facilities and equipment to improve. The findings will not only be significant to students but also to teachers, curriculum planners, parents and educators as they provide an empirical data on importance of sports to teachers upon which to base their future judgments and decisions. Also, the study will be used by teachers and government in handling cases of low self-esteem of their students.

Methodology

The study employed the descriptive survey research design and the population of the study consists of all Unity Secondary School Students in Ondo State. The sample for this study comprised of Four hundred respondents who were selected from all the Four Unity government colleges in Ondo state using

intact class sampling technique. 100 respondents were selected from each college using simple stratified random sampling techniques with gender and class level as strata. The merit for selecting the 100 respondents from each school was 50 respondents from junior (JSS) class and 50 from senior class (SSS), from each class level the participant were divided by gender 25 male and 25 female. The research instrument used for the study was the Rosenberg Self-Esteem Scale Of 1965. The Rosenberg Self-Esteem Scale (1965) was used to evaluate the perception of respondents on how they see themselves. The instrument has two sections. Section A comprise the bio-data of the respondent while Section B consists of 10 items. A pilot study was carried out to test for reliability over a 14 days period and reliability co-efficient of 0.70 was reported. Data entry and analysis was done using Statistical Product for Service Solution (SPSS) version 20(IBM). This study made use of two levels of analysis- univariate and bivariate levels. The univariate analysis provided description of the variables using frequency and percentage. At the bivariate levels, the study made use of chi-square test (or Fisher Exact test as may be necessary) to examine association between participation in sport and self-esteem and independent sample t-test was employed to test for the

difference between gender and self-esteem.

Results

Table 1.0: Participation in Sport of the Respondents (Multiple Responses)

Favorite	Frequency	Percentage
Badminton	5	2.0
Basketball	41	16.5
Boxing	3	0.7
Football	154	62.1
Game	4	1.6
Gymnastic	8	3.2
Handball	1	0.4
High jump	12	3.0
Hockey	1	0.4
Javelin	3	0.7
Ludo	4	1.2
Running	102	41.1
Skiping	4	1.6
Table tennis	14	5.6
Volleyball	3	1.2

Table 1 shows that the majority 154 (62.1%) of the adolescents participated in football this implied that most of the adolescent in engage in football followed by 102(41.1) (Athletics); 41(16.5%) (Basketball); 14(5.6) (Table

tennis);8(3.2) (Gymnastic); 4(1.6) (Skiping and Ludo); 12(3.0%) (High jump; 5(2.0%) (Badminton), 3(0.7%) (Boxing);and 3(0.7%)(Javelin). Hockey games had the least number of participants 1(0.4%) respectively.

Table 2: Participation in Sport and Self-esteem of Participants and Non-participant.

Variables		N	Mean	Std. Deviation	Std. Error Mean	T	sig
On the whole, I am satisfied with myself.	Athlete	248	1.81	.59038	.03749	2.48	0.01
	non athlete	152	1.67	.49869	.04045		
At times I think I am no good at all.	Athlete	248	2.56	.84613	.05373	2.35	0.01
	non athlete	152	2.34	.99841	.08098		
I feel that I have a number of good qualities.	Athlete	248	1.85	.74219	.04713	0.52	0.60
	non Athlete	152	1.81	.87965	.07135		
I am able to do things as well as most other people. I feel I do not have much to be proud of.	athlete	248	1.94	.69472	.04411	-0.81	0.41
	non athlete	152	2.00	.84176	.06828		
I certainly feel useless at times. I feel that I'm a person of worth, at least on an equal plane with others.	athlete	248	2.56	.79175	.05028	1.21	0.22
	non athlete	152	2.46	.84507	.06854		
I wish I could have more respect for myself. All in all, I am inclined to feel that I am a failure.	athlete	248	2.88	1.03307	.06560	2.71	0.01
	non athlete	152	2.58	1.11251	.09024		
I take a positive attitude toward myself. I am able to do things as well as most other people.	athlete	248	1.87	.60739	.03857	1.00	0.31
	non athlete	152	1.94	.68313	.05541		
I feel I do not have much to be proud of. I certainly feel useless at times.	athlete	248	1.83	.65370	.04151	-1.59	0.11
	non athlete	152	1.95	.77493	.06285		
I feel that I'm a person of worth, at least on an equal plane with others. I wish I could have more respect for myself.	athlete	248	3.16	.98618	.06262	2.53	0.01
	non athlete	152	2.89	1.11675	.09058		
All in all, I am inclined to feel that I am a failure.	athlete	248	1.84	.75519	.04795	0.01	0.99
	non athlete	152	1.84	.75560	.06129		

Table 2 shows the independents sample t-test conducted to show the difference in the mean score of self-esteem of athlete and non-athlete. The

result showed that there is a significant difference in the mean score of athlete students on satisfaction with themselves (M= 1.81, SD = 0.59) to mean score of

non-athlete ($M = 1.67$, $SD = 0.49$; $t(398) = 2.48$, $p = 0.01$, two tailed). Also, students who participate in athletics had a higher mean scores on I am no good at all ($M = 2.56$, $SD = 0.84$) compared to their counterpart non-athletic ($M = 2.56$, $SD = 0.84$; $t(398) = 2.35$, $p = 0.01$, two tailed). Furthermore, there is a significant difference in the mean score of non-athlete ($M = 1.11$, $SD = 0.90$) on I wish I could have more respect for myself compared to ($M = 1.03$, $SD = 0.06$; $t(398) = 2.71$, $p = 0.01$, two tailed). Finally, there is a significant difference in the mean score of athlete on I feel that I'm a person of worth, at least on an equal plane with others ($M = 3.16$, $SD = 0.98$) compared to ($M = 2.89$, $SD = 1.11$; $t(398) = 2.53$, $p = 0.01$).

Discussion

The result of the finding showed that more than ninety percent of students who participated in sport have a positive attitude towards themselves while eighty eight percent of those who did not participate in sport have a negative attitude towards themselves. This finding is similar with the work of Slutzky and Simpkins (2009) who found out that most of those who participate in sport has a greater effect on self-esteem. Also, in consonance with the finding of Omarson (2013) where he noted that most of those

who participate in sport have a high self-esteem. Similarly, Gadbois & Comock (2003), noted that sport participation linked to many positives qualities such as: active engagement in daily activities, better psychological health and even a more optimistic attitude. Furthermore, the result revealed that students who participate in sport had a high self-esteem compared to 47.4% of those who did not participate in sport. This is in agreement with the findings of Omarson, (2013) who concluded that participants who practice sports were found to have significantly higher self-esteem than participants who never do. Similarly, Brown (1998) in his work noted that sport participation has a positive effect on self-esteem and that participants who are highly involved in sports have higher self-esteem than those who are not. Also, similar with the work of Bowker, (2006) in his findings he stated that participation in sport rise self-esteem.

Conclusion

Based on the findings of the study, football was the mostly participated sport among athletes and majority of the respondents agreed that they are satisfied with themselves and had a positive attitude towards themselves. Furthermore there was a significant relationship between participation in sport and self-esteem.

Recommendation

Consequent upon the findings of the study, the following recommendations;

- i. Government and school owners should initiate/formulate physical activity and sport participation programme for students to encourage students to participate in physical activities.
- ii. Students should participate more in sports in a well-structured regular interval in order to enjoy more benefits.
- iii. Effectiveness of the routine weekly sport activities already incorporated into the school curriculum should be assessed.
- iv. Sporting competition like inter-class, inter-school sports competition should be organized periodically to encourage competitive spirit in sports to encourage more participation; and
- v. Parents should encourage the students to participate in sport activities at home during their leisure times.

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Knowledge of Environmental Laws and Extent of Compliance to the Practice of Green Chemistry among Industrialists in Southern Nigeria

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Abstract

Human activities such as industrial development, fossil fuel burning, agricultural practices account for changes in the environment, hence Nigeria has regulations, laws and policies with fine and penalties to enhance benign practices involving creation and diversification of chemical reactions that gives new products and processes that are sustainable, reducing waste or harmful matter in the environment. Based on this background, the study investigated the knowledge of environmental laws and extent of compliance to the practice of green chemistry principles among industrialists in Southern Nigeria. The study was quantitatively designed to investigate three industrial states comprised Rivers, Delta and Lagos States. Purposively, one hundred and three industrialists were selected due to accessibility problem. A validated Industrialists' Questionnaire (IQ) consisting of two sections having 25 items on environmental laws and expected green chemistry practice was used to elicit information. Data collected were analyzed using t-test and ANOVA. Among others, the findings showed that, industrialists having knowledge of environmental laws had better practice of green chemistry principles than their counterparts who do not have ($t\text{-cal } 6.62 = P < 0.05$), while industrialists' qualification had no significant difference on their practice of green chemistry principles ($F\text{-cal } 0.62 = p > 0.60$). Thus, publicity on environmental laws and benign practices should be given strong attention among industrialists.

Keywords: Industrialists, Laws, Practice, Chemistry.

Introduction

Environmental laws in Nigeria has been promulgated to twenty-four environmental regulations guiding the protection of the environment, usually made public to all stakeholders with no

exception to industrialists. All organisms including man modify their environment which has resulted in increase in population, consumption of food and production of non-benign materials. The composition of the earth's atmosphere is

consistently undergoing an unprecedented change, largely as a result of human activities, industrial development, fossil fuel burning, deforestation and agricultural practices. These have led to an increase in the atmospheric concentration of pollutant gases from industries. Such gases include carbon (iv) oxide (CO_2) and methane which are gases responsible for the greenhouse effect as opined by Ebi, Mearns and Nyezi (2003). The increase in concentration of these gases have far reaching consequences on man and the environment especially in gas flare area as confirmed by the findings of Amanze-Nwachukwu,(2008) which stated that, 400 million tons of CO_2 is released yearly through gas flaring. While Ugwuaren (2008) was of the view that, more than 70% of the oil fields in Nigeria flare about 0.84 trillion cubic feet of associated natural gas every year. Most oil communities therefore live with gasstacks that flare gas 24 hours a day at temperature of 13-14,000°C of unburned carbon from industries, automobiles, generators and other engines that use fossil fuel products (Ugwaren, 2008). Over 50 million tons of CO_2 and 12 million tons of methane are emitted in Nigeria more than the rest of the world (Bassey, 2001). Worst still, is the recent daily blast of oil pipelines through vandalization by the Niger Delta Avengers.

Despite the fact that Environmental governance commenced in Nigeria in 1988 by the establishment of the Federal Environmental Protection Agency (FEPA), there seems to be no adherence to the laws, nor punishment for violators of the environmental laws. Nweke (2017) was of the view that environmental pollution may continue to torment Nigerians for years to come if drastic measures are not taken to checkmate flaring of gasses, reckless dumping of refuse and building on water ways. Some among the rich have decided to make use of waterways as fallow grounds to build their properties. This attitude has become the norm among the rich who believe government laws are not made for everybody. Thus, this carefree attitude towards the environment may be exhibited by all categories of Nigerians if not checked.

Green chemistry or sustainable chemistry involves creation on the molecular level: devising chemical reactions that give rise to new products and processes that have the ability to meet sustainability goals, such as becoming more energy-efficient and reducing the amount of harmful matters found in the environment. Some major themes in green chemistry today include; reducing our reliance on non-renewable energy sources, reducing industrial carbon footprints, breaking down landfill waste and taking

advantage of abundant resources that nobody wants. An example is Carbon (iv) oxide (CO₂) that has a deserved reputation of being a damaging greenhouse gas that pushes up the rate of global warming. Green chemistry has been pivotal in coming up with ways to use CO₂ as a resource instead of having it become a harmful product stuck in our air. For instance, chemists have found out that when CO₂ molecules are kept in a transitive state, it is then used as an industrial refrigerant to keep things cool. This application makes CO₂ useful instead of being harmful to man. The inability of industrialists to show concern towards the environment has become worrisome and of concern to researchers, hence the need to determine the level of knowledge of environmental laws by industrial workers, since, a standard knowledge of environmental laws will enhance practice of green chemistry principles in order to have a healthy environment for the safety of all.

The Federal Government of Nigeria has promulgated various laws and regulations to safeguard the Nigerian environment, including the Federal Environmental Protection Agency Act of 1988 (FEPA Act). The following regulations were made pursuant to the FEPA Act; National Environmental Protection (Effluent Limitation)

Regulations; National Environmental Protection (Pollution Abatement in Industries and Facilities Generating Wastes) Regulations; the National Environmental Protection (Management of Solid and Hazardous Wastes) Regulations and the Environmental Impact Assessment Act of 1992 (EIA Act). These regulations, laws and policies are in relation to environmental research and technology both at the Federal, State and Local Government levels, as highlighted in the law No 14, Bill No 14 called 'The Agency'. The Nigeria EPA spelt out some duties as highlighted by Bassey (2001) and Ajakadike (2001) as follows:

- ✓ encouraging a productive and enjoyable harmony between man and his environment
- ✓ promoting efforts which will prevent or eliminate damage to the environment and biosphere
- ✓ and stimulate the health and welfare of the people in general, among others.

The bill equally empowers the agency to consider the use and value of public water supplies, air quality, such as prevention and control of atmospheric pollution, ozone protection by making recommendations and programmes for the control of any substance, practice, process or activity which may reasonably be

anticipated to endanger public health or welfare.

The Agency is to identify major noise control technology and make recommendations to control noise originating from industrial, commercial, domestic, sports recreational, transportation and other similar activities. The Agency is also saddled and empowered to convict any person or groups of persons who violate the provisions of subsection (1) of section 22 of the Environmental Protection Agency law through discharge of hazardous substance and related offences Anderegg (2010). The conviction ranges from a fine of one hundred and fifty thousand naira (#150,000) if committed against water, one hundred and twenty-five thousand naira (#125,000) if committed against the land and one hundred thousand naira (#100,000) if committed against the air space, to a term of imprisonment up to ten years. Surprisingly, 95% of industrial discharges collected in Southern Nigeria go to landfills, which indicates heavy reliance on landfills resulting in huge amounts of industrial trash, scrap metals, out-door litter, medical and solid wastes in the environment (Ugwuaren, 2008). The Environmental Guidelines and Standards for the Petroleum Industry in Nigeria (EGASPIN) 2002, published by the Directorate of Petroleum Resources (DPR)

provides that DPR, shall issue permits for all aspects of oil-related effluent discharges from point sources (gaseous, liquid and solid) and oil-related project development. The EGASPIN also provides that environmental permits shall be issued for existing and new sources of effluent emission. All projects in the oil and gas industry must be issued with the requisite environmental permits and failure to procure same may lead to penalties. Environmental degradation has continued to generate unpleasant challenges for health and economic development in Nigeria. Some of these Problems include deforestation, pollution, global warming and improper use of pesticides. Despite the fact that there are environmental laws and policies targeted at ameliorating these problems, the situation in Southern Nigeria seems to be degenerating owing to the fact that these laws are not effectively enforced (Oyebide, 2018).

Thus, the general objective of the study investigated the knowledge of environmental laws and extent of compliance to the practice of green chemistry principles among industrialists in Southern Nigeria. Specifically, first, the study determined if practice of green chemistry principles among industrialists' having knowledge of environmental protection laws differ from those who do not have. Second, the study investigated if

the qualifications of the industrialists make difference between and within groups of those in practice of green chemistry principles.

Research Questions

1. Is there any significance difference between those having knowledge of environmental protection laws among industrialists' practice of green chemistry principles and those who do not have?
2. Is there any significant difference in the practice of green chemistry principles among industrialists having University qualifications and their counterparts who have lower educational qualifications?

Research Hypotheses

Based on the above, two null hypotheses were formulated

- 1: There is no significant difference in the practice of green chemistry principles among industrialists having knowledge of environmental protection laws and their counterpart who do not have.
- 2: There is no significant difference in the practice of green chemistry principles among industrialists with University degree(s) and their counterparts who have lower education qualifications

Methodology

The study is a descriptive research design of survey type. The staff of industries (managerial, senior and junior staff) in oil and gas sector, food supply, energy and chemical industries in Southern Nigeria constituted the population for the study. Three Industrialized States consisting of seven (7) industries were used as case study. The industrialized states include Rivers, Delta and Lagos States. Originally a total of three hundred and eighty-four (384) industrialists which followed Krejcie and Morgan (1970) sample determination table comprised of managerial staff, senior staff and junior staff across the three states. These were those that returned instruments due to unavailability of population list, purposive sampling technique was used to reach only 103 staff of industries made up of 03 managerial staff, 50 senior staff and 50 junior staff. An Industrialists' Questionnaire (IQ) designed by the researcher consisted of two sections having 25 items relevant to the expected green chemistry practice principles of industrialists was used to elicit information from the industrialists. Using Cronbach Alpha, the IQ instrument was tested for reliability with an estimated coefficient of 0.73. Using the available data, t-test and analysis of variance (ANOVA) were used to estimate the data. The t-test was selected because the standard

deviation was not initially known and normal distribution was not required Jason and Thomas (2012)

Results

The results regarding the hypotheses earlier stated are presented in this section.

Hypothesis 1. There is no significant difference in the practice of green chemistry principles among industrialists having knowledge of environmental laws and those who do not have.

Table 1: t-test Analysis on Industrialists and Knowledge of Environmental Laws

Categories	N	Mean	SD	df	t-cal	P
Industrialists KOEL	60	81.62	5.57	101	6.66	.001*
Industrialists NKOEL	43	66.93	15.78			

Note: *Significant at $P < 0.05$.

Table 1 showed that the t-calculated $6.66 = P < 0.05$ is significant. This implies that the null hypothesis was rejected because industrialists who had knowledge of environmental protection laws (mean 81.62, SD 5.57, df 101 = $6.66 = P < 0.05$) have better practice in green chemistry principles than their

counterparts who do not have knowledge of environmental laws.

Hypothesis 2: There is no significant difference in the practice of green chemistry principles among industrialists with University degree(s) and their counterparts who have lower education qualification.

Table 2: One-way ANOVA of Industrialists' Qualifications and Practice of Green Chemistry

Categories	SS	df	MS	F-cal	P
Between Groups	327.976	3	109.330	.620	.600 NS
Within Groups	17361.753	99	175.370		
Total	17689.728	102			

The table 2 showed that F-cal 0.62 = $P > 0.6$ is not significant at 0.05 level of significant. This implies that the null hypothesis is upheld, that is, no significant difference existed in the practice of green

chemistry principles among industrialists with University degree(s) and their counterparts who had HND, OND/NCE and Secondary School Certificates.

Discussion

The findings also showed that industrialists having knowledge of environmental laws exhibited better practice of green chemistry principles than their counterparts who do not have. Surprisingly, the bulk of the respondents opined that, lack of enforcement of environmental laws by government accounted for their low practice of green chemistry principles. Oyebide (2018) also stated that non enforcement of environmental laws was the salient reason for lack of concern for environmental support in Nigeria. The industrialists are more concerned with the expensive nature of recycling and conversion of used materials that are not benign. Furthermore, researches of Ndoke, Akpan and Kato (2006) and Musa, Ifatimehin and Tajani (2012) revealed that unburned carbon has eco-toxic effects such as endocrine disruption resulting in the disruption of the world ecosystems which may be terrifying. The low knowledge of environmental laws by industrialists could lead to low production of benign materials and chemicals. Whereas, developed countries like United State of America have production of benign products and recycling of used materials are encouraged.

Findings of this study have far reaching implications for industrialists and

government at all levels in Nigeria since industrialists have little or no knowledge of environmental laws. Government at local, state and federal levels do not monitor nor enforce environmental laws hence, there is no support for the environment in Nigeria as observed by Oyebide (2018). This is in line with the findings of Nweke (2017) and Nwafor (2006), opined that the development and proper application of legal instruments in the field of environment is essential for the achievement of an environmentally sound and sustainable development. There is the need to ensure that Nigerians live in an environment free from pollutants, health hazard and activities that could further cause degradation of the physical and biological environments of the nation. To meet the above challenge requires coordinated actions by national agencies, government at all levels, industrialists' compliance to environmental laws through periodical seminars and conferences with a strong focus on environmental consciousness and practice of green chemistry principles.

Conclusion and Recommendation

The study investigated environmental protection practices among the industrialists and observed that there

was low practice in Southern Nigeria. It is therefore imperative that development of partners, both public and private, who support the country's own policies and help build individuals and industrialists are encouraged. This will further give capacity to conduct and monitor the activities that supports our environment. Publicity on environmental support should be made within the industrial arena alongside the economic benefits of new greener technology, so as to enhance benign material usage, synthesis and products by industrialists. There should be an increase in national board inspections of oil and gas pipelines as done in other countries. Pipeline safety should be encouraged by employers and industrialists should be directed to obtain higher certificates and degrees that are relevant to their jobs.

New ways should be devised for extracting carbon (iv) oxide and other pollutants generated in burning coal, oil, wood and reducing the emission of particulates that damages the respiratory system. Development of social awareness and public policies that enhance benign processes and products by the use of slogans such as keep Nigeria clean and safe. Federal, state and local governments should organize conferences, seminars, workshops on environmental laws for industrialists. There should be development of new bio-fuels which

reduces the net difference between current absorption and emission of greenhouse gasses. The production and use of solar and waste energy should be encouraged from secondary school level. Environmental laws and their implications should be made known to the public by using bill boards, adverts, radio and television programmes in both national and local stations. Government through these policies should encourage all citizens to behave in ways that leaves the Nigeria environment cleaner and healthy for man.

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Knowledge, Attitude and Coaching Style as Predictors of Doping Among Athletes of Oyo State Sports Council

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Abstract

Despite the attention given and development of advanced drug testing systems, both deliberate and inadvertent doping in sports is increasing in elite, amateur and school sports. Although World Anti-Doping Agency (WADA) is doing a lot to dampen the practice, yet there is increase of the malaise. It is against this background that the study investigated knowledge, attitude and coaching style as predictors of doping among athletes of Oyo State Sports Council. Descriptive survey research design was used. The participants for this study were two hundred and twenty (220) athletes of Oyo State Sports Council randomly sampled from various sports. Self-structured questionnaire was used to measure doping knowledge; the Performance Enhancement Attitude Scale (PEAS), Controlling Coach Behaviour Scale (CCBS) and The Moral Disengagement in Doping Scale (MDDS) were administered on the respondents. Reliability values of the instruments were 0.80, 0.78, 0.85 and 0.84 respectively. The data were analysed using multiple regression to test the hypotheses. There was a significant joint contribution of independent variables on doping ($F_{(3,216)} = 22.306$; $R = .486$, $R^2 = .237$, Adjusted $R^2 = .226$, $p < 0.05$). Two (2) out of three (3) independent variables had significant contributions ($p < .05$); attitude ($\beta = -.343$, $t = -5.239$) and coaching style ($\beta = -.255$, $t = -4.030$), knowledge ($\beta = -.029$, $t = -.485$, $p > .05$). However, knowledge had no significant contribution on doping. It was therefore recommended that strong anti-doping education programmes be given to sport coaches and encourage them to do their best to maintain the motivation of the athletes and remove an important determinant of cheating in sport.

Keywords: knowledge, attitude, coaching style, doping, athletes

Introduction

The issue of doping in sports has for more than half a century been of concern to athletes, sporting organisations,

lawyer and greater society alike. It would seem that not a year goes by now that one does not observe a high-profile athlete having doping to obtain the advantage

over their fellow athlete (Sturbios, 2010). As suggested by Lippi, Banfi, Franchini and Guidi (2008), doping now appears to be “an everyday problem”. In a number of cases the athlete seems to justify such actions as per the perceived demands of sport as if doping was necessary to perform at the required level (Cycling News, 2008; 2010). World Anti-Doping Agency (WADA) defines doping as the occurrence of one or more of the eight anti-doping rule violations stipulated in the WADA code. These substances and techniques are normally prohibited as they are considered as unfair means of winning against those who exhibit their natural potential in sports performance. (WADA, 2011)

Using prohibited substances for performance enhancement by athlete is a form of cheating behaviour which can jeopardize both their health and their careers. The most unfortunate aspect of drug use in sports is that sports superstars around the world, who are supposed to serve as role models to the youths are being caught using performance enhancing drugs. For instance, superstars like Asafa Powell; Sherone Simpson; Tyson Gay and Allison Randall were among five athletes who allegedly tested positive for banned performance-enhancing drugs during the Jamaican national championships in June, 2013 (The Nation Sporting life, July,

2013). Also, in Nigeria, there were reported cases of athletes tested positive to performance-enhancing drugs, most especially in weight lifting and athletics (Ojeikere, 2007). For instance, there were 15 reported separate cases of doping involving Nigerian athletes from 1985 to 2006. Also, three female Nigerian undergraduate athletes tested positive for anabolic steroids during the 12th IAAF World Athletics Championship in Berlin (Ojeikere, 2007).

Adequate knowledge about doping is important for athletes and sport participants at all levels in order to make useful and beneficial decision. Many studies reveal that athletes usually lack the proper knowledge in the field of doping (Backhouse, McKenna, Robinson & Atkin, 2006). Morente-Sanchez & Zabala (2013) review identified that athletes lack anti-doping knowledge, particularly around dietary supplements and the possible side effects of performance enhancing drugs. In their study Moran, Guerin, Kirby & MacIntyre (2008) reported that 62.6% of athletes of various nationalities said that, they had received information on banned substances in their sport, and 48.8% felt confident with their knowledge. Muwonge, Zavuga and Kabenge (2015) showed that two-thirds of Ugandan athletes replied in the affirmative to the question on whether they had received

information regarding banned substances in their sport. They further revealed that 47.3% of adolescent athletes and 57% of adult athletes respond that they had received information on banned performance-enhancing substances and, 39% and 53.4% exactly knew what those banned substances were for adolescent and adult athletes respectively. Chebet (2014) revealed that Kenyan elite athletes with more experience in higher levels of competition had a better knowledge since they are better exposed to officials or anti-doping officers.

Nieper (2005) observed that the coaches provided most of the information regarding doping in sports, whereas Erdman, Fung, Doyle-Baker, Verhoef and Reimer (2007) noted that family/friends and team mates were the most common sources of information on the use of PES in a group of 582 high-performance Canadian athletes. Somerville, Lewis and Kuipers (2005) reported that the team doctor was the most popular source of information on PES during a survey of 196 British Olympic-level athletes. Sas-Nowosielski and Swiatkowski (2007) indicated that source of knowledge was television followed by the internet, peers, coach, and sport press, the role of the internet has become more important due to digitalization, whereby sources of information like Apps (i.e., WADA-App

or NADA-App in Germany) has become more important.

Athletes' attitudes toward doping refer to beliefs and dispositions held by the athletes toward the use of performance-enhancing substances and drugs (Zucchetti, Candela and Villosio, 2015). Athletes' doping attitudes are often used as a proxy for doping behaviours, because those who use banned drugs have more permissive attitudes towards doping than those who never dope (Petróczi and Aidman, 2008). A qualitative study of 15 track-and-field elite athletes revealed that athletes perceived doping as a normalized practice in competitive sport and maintained that most elite and professional athletes use performance enhancing substances, most of these athletes had admitted using prohibited drugs (Pappa and Kennedy, 2012).

Johnson, Sekhar, Alex, Kumaraswamy and Chopra (2016) revealed that apart from intentional doping, inadvertent doping may occur if the athletes practice self-medication without consulting the healthcare professionals. This is particularly common among athletes with medical knowledge. Morente-Sanchez and Zabala in their study revealed that the decision to take banned substances is influenced by the assumption that the competitors are also taking them. In other words, familiarity with banned

substances through exposure to or observation of others' doping practices may influence an athlete to ultimately decide to dope themselves.

Although there are various influential social agents in sport (e.g., parents, peers, medical personnel, sport scientists), undoubtedly coaches play a crucial role in shaping the psychological experiences and actions of athletes (Bartholomew et al., 2009; Smith et al., 2010). Coaches are viewed as having a strong influence in regulating athletes' behaviour and attitude. Based on self-determination theory, coaching behaviours can be viewed as two styles; autonomy-supportive and controlling. The autonomy-supportive coaching style refers to an approach where the coach gives the athletes an opportunity to participate in decision making, respect the views and feelings of athletes and allows players in choosing appropriate tactics and techniques (Mageau and Vallerand, 2003).

Support from coaches enhances the satisfaction of basic psychological needs for autonomy, competence and relatedness and development of autonomous motivation. 15,16

Therefore, athletes' pro-doping attitudes may be weakened under autonomy-supportive climate.

Therefore, autonomy-supportive coaching style might be negatively

associated with pro-doping attitudes. The controlling style, in contrast, refers to an approach whereby the coach behaves in an authoritarian and coercive way, uses strategies such as guilt induction, manipulation or threats, and gives little recognition to the perspectives and feelings of the athletes.

Autonomy-support from coaches enhances the satisfaction of basic psychological needs for autonomy, competence and relatedness and development of autonomous motivation (Gagne, Ryan & Bargmann, 2003; Hodge & Gucciardi, 2015). Therefore, athletes' pro-doping attitudes maybe weakened under autonomy-supportive climate. Therefore, autonomy-supportive coaching style might be negatively associated with pro-doping attitudes. The controlling style, in contrast, refers to an approach whereby the coach behaves in an authoritarian and coercive way, uses strategies such as guilt induction, manipulation or threats, and gives little recognition to the perspectives and feelings of the athletes (Bartholomew et al., 2010). Controlling coaches frequently act in a forceful, pressuring manner, coercing their athletes into particular ways of thinking, feeling, and behaving. These coaches use numerous strategies to influence their athletes, such as yelling, imposing opinions, making normative comparisons, issuing

calculating statements, and offering contingent affection (Bartholomew et al., 2009). Such a controlling interpersonal style can frustrate athletes' basic psychological needs; undermine their self-determined motivation; and produce maladaptive affective, cognitive, and behavioural outcomes, including favourable attitudes toward doping (Bartholomew et al., 2009; Hodge, Hargreaves, Gerrard, & Lonsdale, 2013).

Studies have indicated the controlling coaching style is more likely to be associated with antisocial behaviours among athletes. Tractlet, Roman and Moret, (2011) reported that the controlling coaching behaviour was associated with anti-social behaviour in football players. Hodge et al. (2013) showed that a controlling coaching style was positively associated with doping attitudes and doping susceptibility. Chen, Wang, Wang and Huang (2017) results demonstrated that a controlling coaching style positively predicted attitudes toward doping and the relationship was fully mediated by moral disengagement. Bartholomew et al. (2010) subsequently showed that controlling coaching environments can frustrate athletes' psychological needs, and predict in negative emotions, feelings of burnout, and disordered eating. Ntoumanis, Brooke, Barkoukis and Gucciardi (2015) found that

coaches had an aspiration to influence athletes' doping-related decisions, but they lacked the efficacy or were unable to articulate the specific means by which they can facilitate the fight against doping.

The use of banned substances to enhance performance occurs in sport. Doping is cheating, and not "fair play". It renders medical risks. Elite athletes have an enormous desire to win at all costs. Doping has brought the lawyers into the sporting world, meaning that an athlete (accurately) accused of doping often seeks juridical assistance to find a way to avoid being banned, with the loss of honour, work (if professional) and money. Consequently, an innocent athlete accused of doping might need a legal adviser to prove his/her innocence. Also, possession and use of doping agents is according to national laws prohibited in most countries and might carry a penalty of fines or imprisonment.

The athletes of Oyo State Sports Council perform at various national competitions and some of the athletes represent the country in international competitions. Every effort is being put in place by athletes, coaches and sports management to see that the individual athlete and teams improve on their skills and outshine their opponents, but the results have not been promising in recent times. The researchers observed during the

training periods of these athletes in various sports and these athletes were found of using performance enhancement drugs and drink supplements to boost energy, avoid fatigue and manage pain. The researchers believe that this behaviour by the athletes can only produce an immediate result, while forgetting the adverse effects that could produce on human health and loss of honour. It is on this premise that the study was aimed at investigating knowledge, attitude and coaching style towards doping among athletes of Oyo State Sports Council.

Hypotheses

The following hypotheses were tested;

1. There is no significant relative contribution of knowledge, attitude and coaching style on doping among athletes of Oyo State Sports Council, Adamasingba.
2. There is no significant joint contribution of the independent variables (knowledge, attitude and coaching style) on dependent variable (doping) among athletes of Oyo State Sports Council, Adamasingba

Methodology

The descriptive research design of survey type was used for this study. The population for this study comprised

athletes of Oyo State Sports Council, Adamasingba. The sample size for this study was two hundred and twenty (220) athletes from the State Sports Council. Simple random technique was used to select two hundred (220) athletes from various sports (Athletics = 52, Ball games = 69, Combat games = 33, Racket games = 36, Swimming = 14 & Weightlifting = 16). The instruments include self-structured Doping Knowledge Questionnaire (DKQ) to measure general knowledge and sources of information about doping from the respondents. The 14-items DKQ were measured on four-point likert scale ranging from strongly disagree (1) to strongly agree (4); Standardized Scale of the Performance Enhancement Attitude Scale (PEAS) by Petróczi (2002) was adapted to measure athletes' attitudes toward doping. The PEAS consists of 17 attitude statements, which were measured on a six-point Likert-type scale ranging from strongly disagree (1) to strongly agree (6). No neutral middle point was offered, and all 17 items were scored in the same direction; Controlling Coach Behaviour Scale (CCBS) developed by Bartholomew, Ntoumanis & Thøgersen-Ntoumani (2010) was used to elicit information on athlete's perception of their coaches' style, the 16-items were on a 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree); and The Moral

Disengagement in Doping Scale (MDDS) developed by Kavussanu, Hatzigeorgiadis, Elbe & Ring, (2016) was used to measure moral disengagement and moral identity of athletes in doping. The 6-items were on a 7-point Likert scale, ranging from 1 (not at all likely) to 7 (very likely). Reliability values of the instruments were 0.80, 0.78, 0.85 and 0.84 respectively. The questionnaires were completed anonymously, and participants were guaranteed that their responses would be kept strictly confidential and used only for research purpose. Participants were asked

to answer all questionnaires honestly and independently. The instruments were administered and collected on the spot after the athletes' usual training in various sports. Two (2) hypotheses were tested. Data collected were analysed using inferential statistics of multiple regression

Results

H₀ 1: There is no significant relative contribution of knowledge, attitude and coaching style to doping among athletes of Oyo State Sports Council, Adamasingba

Table 1: Regression summary showing relative contribution of the independent variables to the prediction of doping

Model	Unstandardized coefficients		Standardized coefficients	T	Sig.
	B	Std.error	Beta		
Constant	1.139	2.910		.391	.696
Knowledge	-.038	.082	-.029	-.485	.643
Attitude	-.174	.033	-.343	-5.239	.000
Coaching style	-.138	.034	-.255	-4.030	.000

Table 1 reveals that two out of three factors (attitude and coaching style) are potent predictors of doping. The strongest predictor of doping is coaching style ($\beta = -.255$, $t = -4.030$, $p < .05$) followed by attitudes ($\beta = -.343$, $t = -5.239$, $p < .05$), except knowledge ($\beta = -.029$, $t = -.485$, $p > .05$). Therefore, the null hypothesis is

rejected. This implies that attitude and coaching style are predictors of doping by 34.3% and 25.5% respectively.

H₀ 2: There is no significant joint contribution of the independent variables (knowledge, attitude and coaching style) on dependent variable (doping)

Table 2: Multiple regression summary showing the joint contributions of independent variables to the prediction of doping

R= .486 ^a		Adj.R ² =.226			
R ² =.237		Std.Error=6.91955			
Model	Sum of square	df	Mean square	F	Sig.
Regression	3204.038	3	1068.013	22.306	.000 ^b
Residual	10342.121	216	47.880		
Total	13546.159	219			

Table 2 reveals that the joint contributions of the knowledge, attitude and coaching style on doping. The multiple regression model reveals $R=.486$, $R^2=.237$, adjusted $R^2=.226$. The three independent factors account for 22.6 % (adjusted $R^2=0.226$) variance in doping. Factors accounting for the remaining variance are beyond the scope of this study. Therefore, there is a significant joint contribution of the independent variables to the predictors of the dependent variable; $F_{(3,216)}=22.306$, $p<0.05$. Hence, the null hypothesis is rejected.

Discussion

The results of this study revealed that knowledge was not a significant predictor of doping among athletes of Oyo State Sports Council. This could be attributed to the academic level of the athletes and few numbers of athletes that participate at international competition who have been exposed to anti-doping agencies. This corroborates with the study

of Chebet (2014) who revealed that Kenyan elite athletes with more experience in higher levels of competition had a better knowledge since they are better exposed to officials or anti-doping officers. Morente-Sanchez and Zabala (2013) identified that athletes lack anti-doping knowledge, particularly around dietary supplements and the possible side effects of performance enhancing drugs. Nieper (2005) observed that the coaches provided most of the information regarding doping in sports, whereas Erdman, Fung, Doyle-Baker, Verhoef & Reimer (2007) noted that family/friends and team mates were the most common sources of information on the use of performance enhancing substances in a group of 582 high-performance Canadian athletes,

Also, the study revealed that attitude was significant predictors of doping among athletes of Oyo State Sports Council. This is in line with the study of Pappa & Kennedy (2012) that athletes perceived doping as a normalized practice

in competitive sport and maintained that most elite and professional athletes use performance enhancing substances, most of these athletes had admitted using prohibited drugs. The study further coincides with the study of Johnson, Sekhar, Alex, Kumaraswamy & Chopra (2016) that apart from intentional doping, inadvertent doping may occur if the athletes practice self-medication without consulting the healthcare professionals. This is particularly common among athletes with medical knowledge. Morente-Sanchez and Zabala revealed that the decision to take banned substances is influenced by the assumption that the competitors are also taking them. The doping attitudes among athletes of Oyo State Sports Council could be attributed to the result of complex and dynamic internal and external influences such as athlete's personality and social environment. Also, athletes may involve in doping based on the premise that some contemporary athletes are found of using it and easy access to performance-enhancement substance could be a factor.

Coaching style was significant predictors of doping among athletes of Oyo State Sports Council. This is in agreement with the study of Chen, Wang, Wang & Huang (2017) who demonstrated that a controlling coaching style positively predicted attitudes toward doping and the

relationship was fully mediated by moral disengagement. Bartholomew et al. (2010, 2011) subsequently showed that controlling coaching environments can frustrate athletes' psychological needs, and predict in negative emotions, feelings of burnout, and disordered eating, while Ntoumanis, Brooke, Barkoukis & Gucciardi (2015) found that coaches had an aspiration to influence athletes' doping-related decisions, but they lacked the efficacy or were unable to articulate the specific means by which they can facilitate the fight against doping. The great demands and high expectations of coaches from the athletes could promote illegal and unethical involvement in doping, while coaches need to focus on helping the athletes to improve his/her performance rather than threatening or coercive.

Conclusion

This study investigated knowledge, attitude and coaching style as predictors of doping among athletes of Oyo State Sports Council. Based on the findings of this study, it was concluded that, attitude and coaching style were significant predictors of doping among athletes of Oyo State Sports Council. In addition, knowledge was not a significant predictor of doping among athletes of Oyo State Sports Council.

Recommendations

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

1. Athletes of the Oyo State Sports Council should be educated on anti-doping programmes and implications of doping to their physical and mental health and their athletics career.
2. There should be an establishment of counseling centers for various sports to allow the athletes to benefit from counseling on doping in order to change their attitudes against doping.
3. Coaches should always be ready to go for secondary training and continue learning to increase knowledge and improved coaching style since only those who perceive to be competent will actively address the topic and appear more trustworthy, thereby helping athletes develop and modify their own set of values.
4. Coaches and other sports staff found of any doping misconduct should be sanctioned and banned as it is well recognized at international level, while team physicians, trainers, coaches, parents, and others in the athlete entourage should be well informed

and trained in recognizing the signs and symptoms of drug abuse, including changes in physical health and behaviours.

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Effects of Animated Cartoon Based Instructional Strategy on Senior Secondary School Students' Learning Outcomes in Computer Studies in Ekiti State, Nigeria

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Abstract

The study investigated the effects of animated cartoon based instructional strategy on senior secondary school students' learning outcomes in computer studies in Ekiti State. The purpose of the study was to determine the significant difference between the academic performance and retention of students taught with the use of animated cartoon based instructional strategy and those taught with conventional method of teaching computer studies. The study adopted the pretest-posttest, quasi experimental research design. The population for the study comprised of Senior Secondary School II Students in Ekiti State. The multistage sampling technique was used to select 240 students from four secondary schools. The instruments used for data collection were Computer Achievement Test (CAT) and Computer Retention Test (CRT). The validity of the instruments was ensured using face, content and construct validities. The reliability coefficient of 0.80 and 0.79 were obtained respectively for the study at 0.05 level of significance through test- retest method. Data collected were analyzed using descriptive statistics of mean, standard deviation and inferential statistics such as t-test, Analysis of Covariance (ANCOVA) and Multiple Classification Analysis (MCA). The findings revealed that there was no significant difference between the academic performance and retention of students in the experimental and the control groups before treatment but there was significant difference between the academic performance of students and between the retention of students in the experimental and the control groups after the treatment. Based on the findings, it was concluded that animated cartoon based instructional strategy significantly improved academic performance and retention of students in computer studies. It was therefore, recommended that conscious effort must be made by teachers in Ekiti State to use animated cartoon based instructional strategy to teach difficult concepts in computer studies to improve the students' academic performance, and learning retention in computer studies. Also government should provide adequate computers, other technological tools and

well equipped computer laboratories for secondary schools for effective and efficient teaching and learning of computer studies.

Keywords: Animation, Cartoon, Strategy, Teaching, Academic Performance, Retention, Computer Studies, Students.

Introduction

Nowadays, a great number of changes occur in the application of educational technology to teaching and learning especially in the area of innovation. Education has witnessed more innovations in the methods, practices, tools and philosophies in the past ten to fifteen years than in the preceding 100 years, (Garry, Thomas, Glenda, and Randolph, 2008). Innovation in education has witnessed a continuous shift in the nature of the use of technological means and measures for improving the processes and products of education. This depends upon the type of excellence attained by the members of the society and communities all over the globe in terms of the scientific, philosophical, psychological, and technological progress and advances. Technology is a significant driver behind change, and mostly plays an important role in innovations in educational design and delivery. This means that technology has the power to transform education by ushering in a new model of connected teaching which links teachers to their students to help them improve their own

instruction and personalize learning. There are immense possibilities for greater and wider-spread change with the use of present day technology advancements, as well as the implementation of innovative educational programmes.

With the quest for educational innovations, Nigeria as a developing country should attempt to align with the developed countries in the area of instructional computer technology with advanced technological skills to improve the quality of teaching and learning so that learners can be at par with the developed countries. This step should enhance the teaching of Computer Studies which is relatively new in her educational system (Adebayo, 2016).

Some concepts in computer studies which involve a model with particular reference to computer programming, could look abstract and difficult to grasp by learners in developing countries, if there is no proper teaching of the concepts. Conventional methods such as lecture method have been found not suitable enough in the classroom for teaching and learning of these concepts (Abdulkadir,

2016). The conventional methods of teaching often make students at secondary school feel intimidated and anxious thereby, making learning a passive one contrary to learning objectives.

Specifically, studies such as Twaakyondo (2012), Syeda (2016) and Soetan (2016) have shown that students perform better when contents are presented through animations which attract, arouse, improve and sustain students' interest in learning instead of conventional methods of teaching. The researchers agreed that animation in teaching and learning enables students to grasp difficult concepts more easily and depict abstract contents into real life situations thereby providing learners with higher interactive activities. In addition, Garry, Thomas, Glenda, and Randolph (2010), asserted that teaching-learning that incorporates color, sound, motion, and pictures with text has much more appeal than one with text on a plain background. Combining text, audio, video, animation and sound brings life to teaching and learning.

The role of animation in teaching and learning is rapidly becoming one of the most important and widely discussed issues in contemporary pedagogy. Mayer and Moreno (2002), defined animation as a form of pictorial presentation referring to computer generated moving pictures showing association among drawn pictures

and simulation corresponding to the motion picture.

If animation is properly used, it provides basis for conceptual thinking, enhances clarity of communication and increases the speed of comprehension. Besides increasing the teachers' efficiency, animations appeal to any age and ability group. The simultaneous use of audio, text, multi-colored images, graphics, motion, light and other special effects provide ample and exceptional opportunities for the learners to develop capacity for high quality learning and increase their ability to be highly innovative in thinking and in practice. With the conventional method of teaching and learning, students are directed on how to learn and what to learn. It is strictly on learning by listening which might not be favorable to students who desire other learning styles.

Computer Studies is a practical subject, where invention and resourcefulness are encouraged. Learners are expected to apply the academic principles they have learned to the understanding of real-world systems, and to the creation of purposeful artifacts. This combination of principles, practices, and invention makes it an extraordinarily useful and intensely creative subject, suffused with excitement. Also, computer studies is a STEM discipline sharing attributes with science subjects (biology,

chemistry and physics), Technology, Engineering and Mathematics in that it has its own theoretical foundations and mathematical underpinnings which involves the application of logic and reasoning.

No nation can rise above the quality of its education. Through education, of which computer education is an integral part, every nation (including Nigeria) shapes its future. Agbaje, Rashidat, Alake and Ese (2014) opined that the development in the area of science and technology is a measure of the development of any nation. Technological growth of a nation leads to its social and economic development. In view of this, computer education should be given utmost priority in educational settings because of its centrality to the nations' economic growth and technological development. Therefore, since the acquisition of the basic knowledge of computer science and technology skills at secondary school level is central and foundational to that of all levels of education, the quality of education and acquisition of science and technology at that level is paramount and may likely determine the future of the nation.

Computer Education in Nigeria secondary schools is bedeviled by many problems such as availability and accessibility of computers, instructional

materials and equipment, teachers' quality and teaching method, learning environment and learners' attitudes (Akuoma, 2012). Other problems include erratic power supply, poor maintenance of computers, low computer literacy of teachers and students and high class size. These problems make teaching computer studies in Nigeria secondary schools a very big challenge to majority of teachers which affects the learning outcomes (academic performance and attitudes) of students in the subject. Secondary School students with particular reference to senior classes (SSS1-SSS3) in Nigeria, are the children between the ages of 13-15 years who have completed their education at the junior secondary school and successfully passed the junior Secondary School Certificate Examination (JSSCE).

Teaching science and technology such as computer studies at this level is considered ideal or necessary for the achievements of learning objectives. The appropriateness of the teaching strategy with the application of science knowledge and technological tools in teaching computer studies at this level is probably the most important determinant of cognitive learning outcomes for the students. It has been observed by the researcher that of all the problems facing the teaching of science subjects in secondary schools today, none is as

persistent as the one relating to the conventional method of teaching these subjects. Conventional method of teaching science subjects is a didactic approach commonly used in formal schools in Nigeria which does not make allowance for students to be actively involved in classroom during instructional delivery (Wang, 2001). He and other researchers (Udoh, 2012, Oteyola, Oyeniran and Adesoji, 2016) criticized this strategy of teaching, affirming that it causes boredom and consequently makes students passive learners. The researchers noted that the basic ingredients required for effective teaching and learning is unavoidably missing in the conventional method.

Analysis of WAEC results from year 2014-2017 from Ekiti State Ministry of Education Science and Technology, Planning Research and Statistics Department, Ado-Ekiti also showed that more than 50% of candidate who registered and sat for computer studies/Data processing failed, while more than 63% of the candidates who registered for the subject from 2015 – 2017 decreased.

It could be inferred that poor academic performance of students in most of the internal and external examinations could be attributed to the adoption of the conventional method of teaching science subjects that is widely used for teaching in

formal schools in Nigeria without proper attention to the use of computer instructional package which involves step-by-step approach to teaching and learning process.

In addition, the poor academic performance of Nigerian students in West African School Certificate Examination (WASCE) had been continually poor as a result of the continuous use of the conventional method of instruction, (Adewuya, 2003) cited in (Ajetunmobi, 2013). He, therefore, suggested that professional teachers should henceforth experiment with new methods of teaching in order to stem the tide of poor academic performance of students in examination.

Studies have shown that conventional method of teaching science concepts is a didactic approach to efficient and effective teaching and learning. However, studies by Barak, Ashkar and Dori (2010) have shown the positive effect on students' learning outcomes and motivation in teaching science concepts via animated movies. The researchers are, therefore, of the opinion that giving students the opportunity to be actively involved during instructional delivery through proper application and effective use of animated cartoon will facilitate better understanding of computer studies concept at the senior secondary school level.

Animated cartoon based instructional strategy has the potential of boosting students' morale to develop higher motivation to learn science in terms of self-efficacy, interest and enjoyment, connection to daily living, and importance to the student's future, compared to students who studied science in a traditional way.

In view of this, there is need to investigate the effects of animated cartoon based instructional strategy on senior secondary school students' learning outcomes in computer studies in Ekiti State.

Statement of the Problem

Analysis of WAEC Computer Studies/Data Processing results from (2014 - 2017) year according to Ekiti State Ministry of Education, Ado-Ekiti clearly showed that more than 50% of the candidates who registered and sat for the examination failed computer studies/Data processing which involves programming. It could be inferred that students appear not to be able to "hands on" the computer system successfully and lack the knowledge of computer programming which involves logic and reasoning.

The researchers observed that the poor academic performance and retention of students in computer studies/Data

processing was as a result of usual conventional method of teaching the subject adopted by Ekiti State Secondary School teachers which makes the students to be passive learners.

The problem of this study therefore is to investigate the effect of animated cartoon based instructional strategy as a way to improve on the teaching and learning of computer studies/Data processing in senior secondary schools in Ekiti State.

Research Hypotheses

The following null hypotheses were tested at 0.05 level of significance:

1. There is no significant difference between the pre-test achievement mean scores of students in the experimental and control groups in computer studies.
2. There is no significant difference in the post-test achievement mean scores of the experimental and control groups in computer studies.
3. There is no significant difference between the retention of students in experimental and control groups in computer studies.

The research design used for the study is the Pretest-Posttest, Quasi Experimental design. There was one experimental group which was exposed to treatment (animated cartoon based

instructional strategy) and one control group without any treatment but conventional method of teaching. The design format for the study is represented below:

Pretest - Posttest Control Group Design

O_1 x O_{2Ort} (Experimental Group)

O_3 — O_{4Ort} (Control Group)

Where; O_1 = observation (learning outcome) from the pretest which is the prior knowledge of the students in the topic to be taught (Concept of Program Development and program errors) before the treatment.

x = treatment

rt_1 = students' retention 6 weeks after posttest in the experimental group

O_3 = observation (learning outcome) from the pretest control group which is the prior knowledge of the students in the topic to be taught (Concept of Program Development and program errors) before the use of conventional method.

- =no treatment (control group)

O_4 = observation (learning outcome) from the posttest control group

rt_2 = students' retention 6 weeks after posttest in the control group.

The population for this study consisted of 14,907 Senior Secondary School students in year II comprising 7,417 males and 7,490 females from 187 public secondary schools in Ekiti State according to Ekiti State Ministry of Education Science and Technology, 2017. The schools comprises both single and co-educational from rural and urban areas. The sample for this study consisted of 240 Senior Secondary School Students in year II from four schools whose selection was based on the combination of multistage and proportional stratified random sampling techniques (using sex of students and location of schools) as proportional stratification basis. Two research instruments were used in the study titled: Computer Achievement Test (CAT) and Computer Retention Test (CRT) which were grouped into two sections. Section A consisted of respondents' (students) bio - data such as name of school, school's location and sex. Section B consisted of 30 multiple choice items which was based on the topics taught under the major content areas of the current scheme of work for public senior secondary schools year II in computer studies subject. A self - prepared marking guide by the researcher was used

for marking the answers provided by the respondents on who the instrument was administered. The validity of the instruments (CAT and CRT) were ensured using face and content validities. The instrument were given to experts in Test, Measurement and Evaluation, Guidance and Counseling and those in the field of Computer Science for face and content validities to ensure the instruments measures what it purported to measure while the reliability of the instruments were determined through test - retest method. The instruments were administered twice within an interval of two weeks on 20 senior secondary school students in year II comprising of 10 males and 10 females which were randomly selected from both rural and urban schools outside the sample space. The two sets of results were collated and analyzed using

Pearson's Product Moment Correlation Analysis. The reliability coefficient of 0.80 and 0.79 were obtained respectively at 0.05 level of significance. These values were considered appropriate for the consistency of the instruments.

Results

Hypothesis 1

There is no significant difference between the pre-test achievement mean score of students in the experimental and the control groups in Computer Studies.

In order to test the hypothesis, achievement mean scores of students in the experimental and the control groups before treatment were computed and compared for statistical significance using t-test statistics at 0.05 level. The result is presented in Table 1

Table 1: t-test showing achievement of students in experimental and control group before treatment

Group		N	Mean	SD	df	t	P
Experimental		120	10.65	3.480	238	0.285	0.776
Control		120	10.77	2.834			

P > 0.05

Table 5 shows that there is no significant difference between the pre-test achievement mean scores of students in the experimental and the control groups (t

= 0.285, p > 0.05). This means that the entry skills of the students are the same in computer studies. Therefore, the null hypothesis is not rejected.

Hypothesis 2

There is no significant difference in the post-test achievement mean scores of the students in experimental and control groups in Computer Studies.

In testing the hypothesis, the post-test achievement mean scores of students

exposed to animated cartoon based instructional strategy and the conventional instructional strategy in Computer Studies were computed and compared for statistical significance using Analysis of Covariance (ANCOVA) at 0.05 level. The result is presented in Table 2

Table 2: ANCOVA of students' achievement in Computer Studies by treatment

Source	SS	Df	MS	F	P
Corrected Model	7647.722	2	3823.861	1025.336	.000
Covariate (Pretest)	778.322	1	778.322	208.700	.000
Group	6952.661	1	6952.661	1864.297*	.000
Error	883.862	237	3.729		
Total	74202.000	240			
Corrected Total	8531.583	239			

* $p < 0.05$

Table 2 reveals that there was a significant difference in the post-test achievement mean score of students using animated cartoon based instructional strategy and the conventional instructional strategy in Computer Studies ($F_{1,237}=1864.297$, $p < 0.05$). The null hypothesis is rejected.

In order to determine the effectiveness of treatment (use of animated cartoon based instructional strategy) in improving students' achievement in Computer Studies, Multiple Classification Analysis (MCA) was used. The result is presented in Table 3.

Table 3: Multiple Classification Analysis (MCA) of students' achievement in Computer Studies by treatment

Studies by treatment

Grand mean=16.54					
Variable + Category	N	Unadjusted Devn'	Eta ²	Adjusted For Independent + Covariate	Beta
Experimental	120	5.35	.90	5.29	.29
Control	120	-5/35		-5.47	
Multiple R					0.285
Multiple R ²					0.081

Table 3 reveals that, with a grand mean of 16.54, students exposed to animated cartoon based instructional strategy had higher adjusted mean score of 21.83 (16.54+ 5.29) on Achievement in Computer Studies than their counterparts in the conventional group with an adjusted mean score of 11.07 (16.54+(-5.47)). This implies that the use of animated cartoon based instructional strategy is an effective instructional strategy for improving students' achievement in Computer Studies. The treatment accounted for about 90% (Eta²=0.90) of the observed variance

in students' achievement in Computer Studies.

Hypothesis 3

There is no significant difference between the retention of students in experimental and control groups in computer studies. In testing the hypothesis, retention mean scores of students exposed to animated cartoon based instructional strategy and the conventional instructional strategy in Computer Studies were computed and compared for statistical significance using Analysis of Covariance (ANCOVA) at 0.05 level. The result is presented in Table 4.

Table 4: ANCOVA of students' retention in Computer Studies by treatment

Source	SS	df	MS	F	Sig.
Corrected Model	12647.945	2	6323.972	1586.262	.000
Covariate (Pretest)	392.840	1	392.840	98.537	.000
Group	12332.040	1	12332.040	3093.284*	.000
Error	944.851	237	3.987		
Total	56073.000	240			
Corrected Total	13592.796	239			

*p < 0.05

Table 4 reveals that there is significant difference in the retention scores of students using animated cartoon based instructional strategy and the conventional instructional strategy in Computer Studies ($F_{1,237} = 3093.284$, $p < 0.05$). The null hypothesis is rejected.

In order to determine the effectiveness of treatment (use of animated cartoon based instructional strategy) in improving students' retention in Computer Studies, Multiple Classification Analysis (MCA) was used. The result is presented in Table 5.

Table 5: Multiple Classification Analysis (MCA) of students' retention in Computer Studies by treatment

Grand mean=13.30					
Variable + Category	N	Unadjusted Devn'	Eta ²	Adjusted For Independent + Covariate	Beta
Experimental	120	7.15	.93	7.17	.
Control	120	-7.14		-6.14	
Multiple R					0.0
Multiple R ²					0.0

Table 5 reveals that, with a grand mean of 13.30, students exposed to animated cartoon based instructional strategy had higher adjusted mean score of 20.47 ($13.30 + 7.17$) on retention in Computer Studies than their counterparts in the conventional group with an adjusted mean score of 7.16 ($13.30 + (-6.14)$). This implies that the use of animated cartoon based instructional strategy constitutes an effective instructional strategy for improving students' retention in Computer Studies. The treatment accounted for about 93% ($Eta^2 = 0.93$) of the observed variance in students' retention in Computer Studies.

Discussion

Findings from the study revealed that there was no significant difference between the achievement mean scores of students in the experimental and control groups before the treatment. This result showed the homogeneity of all the groups indicating that students performed below average in introduction to Computer Programming as a problem-solving skills in Computer Studies. The researcher observed that the below average performance of the students could be attributed to the way they have been taught in their various schools. This findings supported that of Abdulkadir (2016) who

reported that poor academic performance of students in Computer Studies (algorithm) was attributed to conventional method of teaching and learning Computer Studies which lack varieties of instructional materials and good teaching strategy. The result also indicated that there was a significant difference in the achievement mean scores of students in the experimental and control groups. This means that students exposed to animated cartoon based instructional strategy performed better with adjusted mean score of 21.83 than their counterparts taught with the conventional method of teaching with adjusted mean score of 11.07. This corroborated the findings of Unal and Husein (2017) on conceptual knowledge of computer system where majority of students have misconceptions about basic concepts of computer studies before treatment but the use of 3D animation significantly improved their level of conceptions.

The findings revealed that there was a significant difference in the retention of students taught with the use of animated cartoon based instructional strategy and those taught with the use of conventional method. This implies that the use of animated cartoon based instructional strategy constitutes an effective instructional strategy for enhancing students' retention in Computer

Studies. This corroborates the findings of Barak, Ashkar & Dori (2010), Rahmat (2015) who revealed that students in experimental group retained 90% of what they have been taught in computer studies due to the use of animated movies compared to students in control group (use of conventional method of teaching). Unal and Huseyin (2017) added that students in the experimental group were able to retain what they had learnt on the concept of computer systems after the use of 3D animation. The researchers added that no matter how students are forgetful in their studies, once students are exposed to animated movies, there is tendency for improvement in the level at which they forget what they have been taught.

Conclusion

Based on the findings of this study, it could be concluded that the academic performance and learning retention of students in computer studies were low before the treatment. This was discovered in the study as a result of the usual conventional method of teaching and learning used by the teachers in Ekiti State secondary schools which is teacher centered.

There were improvements in the academic performance and learning retention of students after the treatment.

Recommendations

Based on the findings of this study, it was recommended that conscious effort must be made by teachers in Ekiti State to use animated cartoon based instructional strategy to teach difficult concepts such as programming in computer studies to improve the students' academic performance and learning retention in computer studies. Teachers in the secondary schools should make use of animated cartoon based instructional strategy in teaching computer studies in order to concretize abstract learning. Seminars and workshops should be organized by the government to train teachers on the use of new technological tools for effective and efficient teaching and learning.

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Prevalence of Maternal Mortality among Women of Reproductive Age in General Hospital, Badagry, Lagos

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Abstract

Maternal mortality continues to be the major cause of death among women of reproductive age in many countries and remains a serious public health issue especially in developing countries. The study therefore, investigated the prevalence of maternal mortality in the general hospital badagry. Two research questions and two hypotheses were postulated for the study. The descriptive survey research design was used. The population consists of women of reproductive age attending General Hospital, Badagry. the research instrument used for the study was a four points likert-type rating scale questionnaire. The test-retest method of reliability was adopted. The reliability of the instrument was ascertained by using the cronbach's method. The calculated cronbach's alpha coefficient was 0.86. A total number of one hundred and twenty (120) copies of questionnaires were distributed and same copies were collected and analyzed. Chi-square statistical tools were used in testing the stated hypotheses. The study shows that significant relationship exist between poor maternal health care and maternal mortality in general hospital Badagry and also there is significant relationship between maternal population growth and maternal mortality in general hospital Badagry. In conclusion the study found poor maternal health care during pregnancy leads to maternal mortality, Given birth to many children can increase maternal mortality. The findings recommended that pregnant women should treat any diseases and go for prenatal care while nursing mothers should attend postnatal care; pregnant women and nursing mothers should be given awareness on the need to visit hospital as soon as they notice any disease signs and symptoms.

Keywords: Maternal, mortality, Nursing mothers, Pregnant women.

Introduction

The growing concern on improving reproductive health at the global level has created a demand for research especially in the area of maternal health. Maternal health is the physical well-being of a woman during pregnancy, childbirth, and postpartum period (Dutta, 2014). Maternal mortality, also known as maternal death, continues to be the major cause of death among women of reproductive age in many countries and remains a serious public health issue especially in developing countries (WHO, 2017). Globally, the estimated number of maternal deaths worldwide in 2005 was 536,000 up from 529,000 in 2010. According to the WHO Factsheet (2012), 1500 women die from pregnancy or pregnancy-related complications every day. Most of these deaths occur in developing countries, and most are avoidable. Of all the health statistics compiled by the World Health Organization, the largest discrepancy between developed and developing countries occurred in maternal mortality. Neonatal mortality in recent years has increased in developing countries with Nigeria having the third highest neonatal mortality in the world. Presently with the integrated Maternal and Newborn and Child Health (IMNCH) strategy, rolled out by the Federal Government in 2011, to

accelerate reduction in MDGs 4 and 5, there is an increase focus on the neonates, which account for 40 percent of children fewer than five years of age, and have unfortunately been neglected in recent times. Maternal health is defined as wellbeing of a mother during pregnancy, childbirth and postpartum (WHO, 2010).

The status of maternal health is poor in Nigeria, defined by maternal mortality of 59,000 per annum due to pregnancy-related causes. Maternal Mortality is one of the leading cause of death among women of reproductive age in Nigeria (Idris, 2010). Unfortunately, the Beijing declaration has not been fully implemented in Nigeria despite its poor record of maternal health as many women still die prematurely or suffer debilitating ill-health from reproductive processes which are to a large extent, preventable (Alubo, 2010).

In developing countries Maternal Mortality is much worse, as studies from various countries of sub-Saharan Africa indicate that maternal mortality has not only continued to be high, but is indeed increasing after the launch of the Safe Motherhood Initiative (SMI) in Nigeria (Idowu, Osinaike, and Ajayi, (2011). Maternity care in Nigeria is organized around three tiers: primary, secondary and tertiary care levels. Primary health centres

are located in all the 774 local government councils in the country. Pregnant women are to receive antenatal care, delivery and postnatal care in the primary health centres nearest to them. In case of complications they are referred to secondary care centres, managed by states, or tertiary centres, managed by the federal government. The Nigerian health system as a whole has been plagued by problems of service quality, including unfriendly staff attitudes to patients, inadequate skills, decaying infrastructures, and chronic shortages of essential drugs (Omo-Aghoja, Aisien, Akuse, Bergstrom & Okonofua 2010).

The problem of poor organization and access to maternal health services has always been a major challenge in Nigeria (Idowu, Osinaike, & Ajayi, 2011). It is in view of this that the study investigated the prevalence of maternal mortality among Women of Reproductive age in General Hospital, Badagry, Lagos.

Objectives of the study were:

The study was designed to:

1. determine the prevalence of maternal mortality among women of reproductive age in General Hospital, Badagry, Lagos;
2. investigate the causes of maternal mortality; and

3. assess the relationship between maternal health care and maternal mortality.

The study provided answers to the following research questions:

1. What is the prevalence of maternal mortality among women of reproductive age in General Hospital, Badagry, Lagos?
2. What are the causes of maternal mortality among women of reproductive age in General Hospital, Badagry, Lagos?

The following research hypotheses were formulated and tested:

1. There is no significant relationship between maternal health and maternal mortality among women of reproductive age in General Hospital, Badagry, Lagos.
2. There is no significant relationship between maternal population growth and maternal mortality among women of reproductive age in General Hospital, Badagry, Lagos.

Methodology

The descriptive survey research design was adopted because of its capability to examine the relationship between variables under study, hypotheses testing and development of generalization. The populations of this study consist of

women of reproductive age in General Hospital, Badagry, Lagos state of Nigeria. Simple Random Sampling Technique was used by the researcher in selecting the respondents for the study. One hundred and twenty pregnant and child bearing women who attending antenatal and infant welfare clinic was randomly selected for the study from the general hospital badagry. The research instrument is a self-developed, structured and validated questionnaire of modified four point likert attitudinal scale with sections A and B. The section A was demographic data while B contain the questions, the response opinions include: Strongly agree (SA); Agree (A); Strongly Disagree (SD); Disagree (D) to enable respondents provide answers depending on their opinions. The face and content validity of the questionnaires was ascertained in the department of human kinetics, sport and health education including my supervisor. The test-retest method of reliability was adopted. The reliability of the instrument was tested using the cronbach's alpha technique of the SPSS. In this study the

calculated cronbach's alpha coefficient was 0.86.

The copies of the instrument were personally distributed with the help of two trained research assistants to the respondents. One hundred and twenty questionnaires was distributed and collected by the researcher at the spot and data collection lasted for four weeks at General Hospital Badagry. Copies of the administered questionnaire were checked to ensure that they were well completed before leaving the clinic. The investigator monitored the process of data collection throughout. Daily review meetings were held at the beginning and end of each day with the research assistances. The researcher monitor the process of data collection throughout. Data collected were analyzed using appropriate descriptive statistics of frequency counts and percentages for data presentation. While the inferential statistics of chi-square was used to test all stated hypotheses at 0.05 alpha levels of significance. The statistical package for social science (SPSS) was used for analyzing the data collected.

Results

Data Presentation

Table 1: The socio-demographic characteristics of respondents

	Frequency	%
*Age in years		
18-25	27	22.1
26-35	81	66.4
36-45	6	4.9
46-Above	6	4.9
Total	120	98.4
Missing System	2	1.6
Total	122	100.0
*Marital Status		
Single	14	11.5
Married	101	82.5
Divorce/separated	5	4.1
Total	120	98.4
Missing System	2	1.6
Total	122	100.0
Educational status		
No formal	40	32.8
Primary	46	37.7
First Degree	12	9.8
Post Graduate	22	18.1
Total	120	98.4
Missing System	2	1.6
Total	122	100.0
Occupation		
Civil Servant	18	14.8
Business Woman	54	44.3
Full housewife	36	29.5
Other	12	9.8
Total	120	98.4
Missing System	2	1.6
Total	122	100.0
No of Pregnancy		
One Pregnancy	45	36.9
Two Pregnancy	41	33.6
Three Pregnancy	120	98.4
Total	2	1.6
Missing System	122	100.0
Total		

Table 1 shows that a total of 27(22.5) % respondents were between 18-25 years, 81(67.5) % respondents were between 26-35 years and a total of 6(5) % were 46 years and above while on marital status 14(11.7) % respondents are singles, 101(84.2) % respondents were married, 5(4.2) % were divorcees. On educational status a total of 40(33.3) % respondents has no formal education, 46(38.3) respondents were first school leaving certificate, 12(10) % respondents were first degree holders and a total of 18(15) % respondents were postgraduates holders while on occupation a total of 18(15.0) % respondents were civil servant, 54(45) %

respondents were business women, a total of 36(30) % respondents were housewives and a total of 12(10) % respondents were other occupation and number of pregnancy, 34(28.3) % respondents had got pregnant once, 45(37.5) % respondents had got pregnancy twice while a total of 29(24.2) % had got pregnant thrice and above.

Hypothesis 1

Hypothesis one stated that there is no significant relationship between poor maternal health care and maternal mortality in general hospital Badagry

Table 2: Maternal health care and mortality.

Maternal Mortality Poor Health care

Count

		Maternal Mortality			Total
		Disagree	Agree	Strongly Agree	
Poor Health	Strongly Disagree	6	2	5	13
Care	Disagree	0	24	0	24
	Agree	6	14	10	30
	Strongly Agree	7	14	32	53
Total		19	54	47	120

Table 2 shows that a total of 53(44.2) % respondents strongly Agree with the items on the questionnaire, 30(25) % respondents agree with the items statement, 24(20) % respondents disagreed

with the items while a total of 13(10.8) % respondents strongly disagree with the items statement.

Results in table 2 further revealed that the Pearson Chi-square statistic X^2 (6)

= 50.412, and p is less than 0.05. The hypothesis which states that there is no significant relationship between poor maternal health care and maternal mortality in general hospital Badagry is hereby rejected.

This implies that relationship exist between poor maternal health care and

maternal mortality in general hospital Badagry.

Hypothesis 2

Hypothesis two stated that there is no significant relationship between maternal population growth and maternal mortality in general hospital Badagry.

Table 3: Results of Chi-square analysis on decline maternal population growth and mortality.
Maternal Mortality * Maternal Population

Count		Maternal Population				Total
		Strongly Disagree	Disagree	Agree	Strong Agree	
Maternal Mortality	Strongly	3	0	0	0	3
	Disagree	9	0	3	7	19
	Disagree	4	0	33	16	53
	Agree	0	6	24	15	45
	Strongly Agree	16	6	60	38	120
Total		16	6	60	38	120

Table 3 shows that a total of 45(37.5) % respondents strongly Agree with the items on the questionnaire, 53(44.2) % respondents agree with the items statement, 19(15.8) % respondents

disagreed with the items while a total of 3(2.5) % respondents strongly disagree with the items statement.

Chi-Square Test			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	59.566 ^a	9	.000
Continuity Correction			
Likelihood Ratio	54.913	9	.000
Linear-by-Linear Association	15.527	1	.000
N of Valid Cases	120		

a. 8 cells (50.0%) have expected count less than 5. The minimum expected count is .15.

Results in table 3 further revealed that the Pearson Chi-square statistic $X^2(9) = 59.566$, and p is less than 0.05. The hypothesis which states that there is no significant relationship between maternal population growth and maternal mortality in general hospital Badagry is hereby rejected. This implies that there is relationship between maternal population growth and maternal mortality rate in general hospital Badagry.

Discussion

Hypothesis one states that there is no significant relationship between poor maternal health care and maternal mortality in general hospital Badagry was rejected since $p \leq 0.05$ level of significance. This implies that relationship exists between poor maternal health care and maternal mortality in general hospital Badagry. This finding is in line with World health organization, (2017) asserted that, in a seventeen-year review of factors contributing to maternal mortality in North-Central Nigeria found a bimodal pattern of maternal deaths occurring at both extremes of the reproductive age range. They found that the greatest risk of maternal death was among early teenagers and older women. They also found that ethnic group of the women was also an important risk factor for maternal mortality. (Alubo, 2010) examined that the

background factors that predisposed women to maternal mortality. The study investigated their socio-demographic characteristics, their use of prenatal care, and the incidence of delay in clinical management. The study also found that maternal mortality in the study population can be reduced through improved transportation and institutional management, and, on a long-term basis, through the adoption of measures to improve the socioeconomic status of women.

Idris, (2010) estimated that in Nigeria, more than 70 percent of maternal deaths could be attributed to five major complications: haemorrhage, infection, unsafe abortion, hypertensive disease of pregnancy and obstructed labour. Also, poor access to and utilization of quality reproductive health services contribute significantly to the high maternal mortality level in the country. As explained in Dutta, (2014) the causes of maternal deaths can be classified into medical factors, health factors, reproductive factors, unwanted pregnancy and socioeconomic factors. Omo-Aghoja, Aisien, Akuse, Bergstrom and Okonofua (2010) asserted that maternity care in Nigeria is organized around three tiers: primary, secondary and tertiary care levels. Primary health centres are located in all the 774 local government councils in the country. Pregnant women

are to receive antenatal care, delivery and postnatal care in the primary health centres nearest to them. In conclusion adequate prenatal and post natal care prevent maternal mortality rate among nursing mothers.

Hypothesis two states that there is no significant relationship between maternal population growth and maternal mortality in general hospital Badagry was rejected since $p \leq 0.05$ level of significance, indicating that relationship exists between maternal population growth and maternal mortality in general hospital Badagry. This finding corroborates with Garenne, (2011); Idowu, Osinaike, and Ajayi, (2011) pregnancy needs continual monitoring because it is associated with major physiological changes that may increase susceptibility to infectious and noninfectious diseases.

Alubo (2010) asserted that, maternal mortality is the death of a woman while pregnant or within 42days of termination of pregnancy, regardless of the site or duration of the pregnancy, from any cause related to aggravate by the pregnancy or its management. While WHO, (2012) added to this that is not from accidental or incidental causes. WHO, (2010) asserted that, maternal mortality is sub-divided into direct and indirect obstetric deaths. Direct obstetric death

result from obstetric complication of pregnancy, labour or the postpartum period .They usually due to one of the five major causes: hemorrhage (usually occurring post-partum) sepsis, eclampsia, obstructed labour and complication of unsafe abortion as well as interventions, omissions, incorrect treatment or event resulting from any of these. Dutta, (2014) agreed that physiological transition from pregnancy to motherhood heralds an enormous change in each woman physically and physiologically. It is a time when every system in the body is affected and the experience represents a major “rite de passage” in the woman’s life.

Conclusion and Recommendations

Based on the findings on this study, the following conclusions were made: Poor maternal health care during pregnancy leads to maternal mortality. Given birth to many children can increase maternal mortality rate. Low level of education can cause high maternity rate. Inadequate working environment and lack of suitable occupation can cause maternal mortality rates.

Based on the findings of study, the followings recommendations were made:

1. Pregnancy women should treat any diseases and go for prenatal care while nursing mothers should attend postnatal care.

2. Women attending pre and postnatal at General Hospital Badagry should be advised to space and give birth to number of children they can cater for.
3. Pregnant women and nursing mothers should be given awareness on the need to visit hospital as soon as they notice any disease signs and symptoms.
4. Women in the local Government should be empowered by Badagry local Government to start small scale business in a conducive environment.

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Parental Influence on Sports Performance of Athletes in Ekiti State, Nigeria

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Abstract

This study investigated the parental influence of sports performance of athletes in Ekiti State, Nigeria. It also examined the interest of parents in sports participation of their children and the level of involvement. The study adopted a descriptive research design of survey type. A simple random technique was used to select 738 (495 athletes and 243 parents) respondents in Ekiti State. A questionnaire whose validity and reliability were ascertained was used for the study. The data collected were added for the two categories of respondents (athletes and parents) after which simple statistical tools of frequencies and percentages were used to answer the research questions while inferential statistics of t-test was used to test the hypotheses at 0.05 level of significance. The findings of the study revealed that there was a significant influence of parents in sports performance of their children in terms of encouragement, supports and assistance during training and competition. Also, the study revealed that parental involvement in sports performances were considered significant because some parent prefer combination of academics and sporting activities for their children.

Keywords: Parent, Athlete, Performance, Training, Competition.

Introduction

Successful athletes often credit their families for encouragement, valuing achievement, love and support while dedicating their winning during media chat. However, some athletes speak about their family pressures, discouragement and disappointments. Parents play a key role in

influencing athletes' achievements and performance. Hellstedt (2000) stated that family influences are always present, visibly or invisibly in the athlete's mind during performance.

Any athletes that lack emotional, financial and physical support from their parents may not perform as expected.

Motivation plays an important role during the entire process of training and execution. Motivation has played a significant role in the attainment of excellence in sports.

The parent-to-athlete influences can be adaptive, thus, contribute to the optimal psychological well-being and positive perception of physical self. The athletes whose parents provide support without pressure, value effort and competition over winning and encourage process rather than outcome are more likely to enjoy participating in sports. Also, a family can also have negative effects on an athlete's development. For example, Cox, Enns, and Clara (2002) indicated that the concerns over mistakes, parental criticism, parental expectations are generally associated with maladaptive functioning that is negative to achievement. Parents who pressurise their children to win and communicate either directly or indirectly that the outcome is more important than the process, appear to promote their children in high levels of negative sport-related behaviours.

Athlete's perception of their performance can be influenced by their parents' gender stereotyped perceptions. Some parents belief that performances of boys are higher than girls. Thus parents' perceived beliefs could explain the gender differences seen in a child's own self-

perceptions of their physical performance in sports. Serious athletic competition is still viewed by many people as stressful for woman in Nigeria because it creates a role conflict in the family. Some parents discouraged their female children not to participate in sporting activities because they perceive the female athlete as masculine causing her to feel defensive and unhappy about herself. However, when it comes to children's participation in sporting activities it is undoubted that the family is the primary entity for socialization and provides important stimuli that profoundly influence attitudes values, cognition and behaviour and thus partially predetermine children further development (Duncan, Kalil, Mayer, Tepper and Payne, 2005). Also, through family interactions, attitudes and behaviour patterns can be transmitted from the parent generation to their offspring in sports development and cause the children to have interest in sporting activities.

It is typically claimed that parents work as role models for their children, set an example and thus convey their own class-based sports orientations and practices to their children (Edwardson and Gorely, 2010). However, parents can provide social support for sports activities of their children actively. For instance, they could play sports together with their children, provide equipment and materials

needed, encourage them to start sports activities, sponsor them to competition or even accompany them to competitions.

In families where children have access to a large variety of sports equipment such as swimming pool, volleyball court, basket ball court, gymnasium and outdoor fitness equipment, it seems more likely that children are inspired to play sport in their leisure time (De Lepeleere De Bourdeaudhui, Cardon and Verloigne, 2015). Therefore, children from higher socio-economic status may be privileged to participate in sporting activities than lower socio-economic classes. So, parent's attitudes and orientations towards sports are considered important in sport participation, while others may not consider it as an important personality development, social skills acquisition and exposure. In families where sport is given more value with regard to developmental outcomes, children may receive more stimulation and may be inclined to exercise by themselves (Wheeler, 2011).

Studies on family involvement and well-being have been conducted in the academic settings, such as Jennifer and Jacquelynne (2005) on adolescents' perceptions of social support by their mothers' and fathers' involvement protected against unhappiness and well-being. The authors revealed that mothers'

and fathers' moderate involvements are positively related to the psychological well-being of the adolescents, as well as the provision of stimulus which makes an important contribution to the adolescent's well-being. Participation in team sports especially for females, may enhance physiological and psychological well-being, and contribute to life satisfaction. Clearly, research on parental influence on sports performance is needed.

This study investigated parental influence on sports performance of athletes in Ekiti State, Nigeria.

Research questions raised for the study are:

- (1) What is the interest of parents in sport participation of their children in sporting activities?
- (2) What is the level of involvement in their children's participation?

Research hypothesis formulated for the study include:

1. There is no significant influence of parents on the performance of their children.

Methodology

The population of this study comprises 15 sports with 495 athletes and 243 parents in Ekiti State both government workers and non government workers.

The sample was drawn from 15 sports: Athletics, Badminton, Tennis, Volleyball, Football, Table Tennis, Boxing, Karate, Judo, Taekwondo, Swimming, Hockey, Handball, Basketball and Weight lifting. The purposive random sampling technique was used to selected 738 (495 athletes and 243 parents) respondents in Ekiti State.

A self-developed questionnaire was used as the instrument for the collection of data. The questionnaire had two parts: Section 'A' and Section 'B. Section A sought information on the demographic data of respondents which included name of town, sports participated in and the status of respondents. Section B sought information on the independent variable (parental involvement and athlete performances) of the study.

The responses for each of the strongly agree, and agree and those for the strongly disagree and disagree were added for the two categories of respondents (parent and athletes). Simple random sampling technique was used to distribute questionnaire to respondents. The data collected for the study were analysed using descriptive statistics of frequency counts and percentages while the hypothesis was tested using inferential statistics of t-test. The hypothesis was tested at 0.05 level of significance.

Results

Research Question 1: What is the interest of parents in sports participation of their children in sporting activities?

Table 1: Percentage showing frequency of interest of parents in sport participation of their children in sporting activities

Interest of Parent	Responses SA / A %		DA / SDA %	
	F	%	F	%
Parents encourage their children to sporting activities	384	52	354	48
Parents introduce sports to their children	464	62.9	274	37.1
Parents prefer academics to sporting activities	422	47.2	316	42.8
Parents assist in training and competition	338	45.8	400	54.2
I always ensure that my children in training for better performances	431	58.4	307	41.6
I believe that training has improve the performances of my children	480	65	258	35
I love to have input in my children training and competition	464	62.9	274	37.1
I enjoy watching my children during training and competition	473	64.1	265	35.9

Table 1 shows the interest of parents in sport participation of their

children in sporting activities. The results showed that 52% of the respondents

agreed that parents encourage their children to sporting activities while 48% disagreed. 62.9% of the respondents agreed that parents introduced sports to their children while 37.1% disagreed. Also, 57.2% of the respondents agreed that parents prefer academics to sport activities while 42.8% disagreed. 45.8% of the respondents agreed that parents assist their children in sports' training and competition while 54.2% disagreed. Also, 58.4% of the respondents agreed that parents always ensure their children engaged in training for better

performances while 41.6% disagreed. 65% of the respondents agreed that training always improve the performances of their children while 35% disagreed. 62.9% of the respondents agreed that they have input in their children training and competition while 37.1% disagreed. Also, 64.1% of the respondents enjoy watching their children during training and competition while 35.9% disagreed.

Research Question 2: What is the level of involvement in their children's participation?

Table 2: Percentage showing frequency of level of involvement of parents in their children's participation in sporting activities

Level of Involvement of Parents	Response	
	Frequency (f)	Percentage %
Very often	302	40.9
Fairly often	194	26.3
Not often	233	31.6
No response	9	1.2

Table 2 shows the level of involvement of parent in their children's participation in sporting activities. The results showed that 67.2% of the respondents involved in their children's

participation in sports while 31.6% of the respondents did not involved.

Hypothesis 1: There is no significant influence of parents on the performance of their children

Table 3: t-test analysis showing significant influence of parents on the performance of their children

Variable	Mean	Std.D	N	df	t-cal	t-tab	Result
Parents	12.79	12.22	243	737	12.34	1.96	Significant
Athletes	8.87	8.7	495				

*P<0.05

Table 3 above showed that calculated t-test value 12.34 was greater than the table value (1.96) at 0.05 level of significance. The null hypothesis is therefore rejected. It means there is significant influence of parents on the performance of their children.

The analysis of the data revealed shows that parental involvement plays a significant role in sports performance of athletes in Ekiti State.

Discussion

Parental influence in athletes performances have been seen to be a potent instrument for energizing athletes into greater performance. Since the members of a family function within a system and share a variety of complex interactions, it is impossible to understand an individual's situation without exploring their general family process as well as specific family member that is family member interactions. For instance parents who invested money, time, and all their resources into their children's sports development might experience tension, feelings of being left out once their children are not take along during national and international competitions. As a result, an athlete might become or made more aware of the financial and emotional costs

of the family and starts to be more compelled to succeed (Ryska, 2003).

Parental involvement in sports performances, the maturity level and competence and experience of the parent were considered significant in the study because some parent prefer combination of academics and sporting activities for their children. This is particularly true in Ekiti State where athlete has to combine training with his/her academics because Ekiti State is known with academics.

Lack of parental influence has resulted in fire-brigade preparations of some athletes for major sporting competitions and we are all aware of the disastrous consequences. It is the researcher's opinion that parental influence on sports performance of Ekiti State athletes has a smooth path to achieving sports objectives. The glamour for sports excellence cannot be achieved if appropriate supports from parents are not there.

Conclusion

The study revealed the significant influence of parent on sports performance of athletes in Ekiti State and there is a positive improvement on athletes' performances as a result of supports from their parents. However, majority of the athletes were of the opinion that it is more

advantageous when getting incentive from their parents. Also, majority of the parents find it interesting while seen their children performing well during competition as a result of their supports towards their achievement.

Recommendations

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

- (i) Parents and athletes should jointly plan with the coaches, programmes that would boost the performance of Ekiti State athletes for better result.
- (ii) The cooperative deals between parents and athletes as far as sports is concerned will yield a progressive achievement always. Parent pride and ego are boosted by sports and all hands must be on desk to encourage athletes who bring such honour.
- (iii) Parents should continue supporting their children both in training and competition period to achieve enviable results in sports.
- (iv) Parents and athletes should jointly set up intermediate training for better performance because parent who supports their children during training and competition increase self confidence, pride in

achievement and willingness to accept future challenges.

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Science and Technology: The Social Impact on the Society

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Abstract

The world is growing at very fast rate with regards to communication technology in science processes and methods. Science and technology are not only tools but also vehicles for all round development of any nation. For any nation to attain science as a sustainable development, there is need to recognize science education as a priority area of education for her citizens because it helps to develop creativity, improve scientific and technological literacy of citizens, prepare citizens for an active contribution towards their culture, and inculcate the spirit of scientific thinking in the citizens. Therefore, to a very great extent, the level of scientific and technological development of any nation determines the standard of living of the citizen of that nation. For this, any nation that does not develop scientifically and technologically will continue to dwarf among the developing and the developed nations. There are therefore needs to encourage co-operation between the social and natural sciences, draw lessons from humanities and local knowledge.

Keywords: Science, Technology, Education, Society.

Introduction

Science and technology has become an integral part of human culture in contemporary times. It is reflected in day-to-day activities. Technology has gone a long way in the society. Adedojoh and Tse (2016) stated that millions of people around the world with access to internet are members of one group or more social networks. They have a permanent online presence where they create profiles, share photos, share their thoughts with friends

and spend hours catching up with their friends which was brought about by technology. Science and technology have positive and negative impact on the society. Among the benefits are: access to information, economic and political gains. However, the negative impacts include time wastage, poor academic achievement. (Bongie, 2013).

Considering the facts that the world is fast growing towards science and

technology, there is therefore needs to know their impacts on the society.

What is science?

Jegede and Omotayo (2016) define science as intellectual activities through which man seeks to understand nature; it is the systematic study of nature. Science is an endless discovery, a continuous venture into the unknown, a quest to know and understand the world. Science has been regarded as the bedrock of modern day technological breakthrough is built. Nowadays, countries all over the world, especially the developing ones like Nigeria, are striving hard to develop technologically and scientifically, since the world is turning scientific and all proper functioning of lives depend greatly on science. It is a dynamic human activity concerned with understanding the workings of our world. This understanding makes man to know more about the universe. Without the applications of science, it would have been difficult for man to explore the other planets of the universe (Ogunleye& Adepoju, 2011),

Meaning of Society

A society is refers to the aggregate of people living together in a more or less ordered community. It is a group of people involved in persistent social interaction, or a large social grouping sharing the same

geographical or social grouping sharing the same geographical or social territory, typically subject to the same political authority and dominant cultural expectations (Wikipedia, 2014). The nature of a society directly determines the status of science in that society. Seweje & Jegede (2005) opined that an illiterate and highly superstitions society will give very little attention to growth and development of science in that society which will also determine the level of scientific activities within the society.

Adegun (2003) defines society as man's environment, where the man lives or interacts. It consists not only of man's physical environment but also other individuals with which they interacted together. A society at the same vein could be a persisting through generations and relatively independent of other societies which could be elephant society, American society among others. Adegun further classified societies based on – level of technological advancement and variety of people that inhabit it.

Technology

Technology is the application of scientific knowledge for practical purposes, especially in industry. It is also an application of science to solve a problem. Technology is the application of skills and knowledge for practical

purposes by which the people control and modify its systems, processes and development (Salvie, 2005). In the 20th century, there has been a scientific revolution which has touched all aspects of life sciences. Information and communication have already turns the world into a global village in which science has also been a key factor (Nneka, 2012).

Technology refers to computer and internet facilities used to handle and communicate information for the society (Yahya, Gana & Ibrahim, 2016). Science sets out what could be done while technology shows how to do it. Technology is a problem solving process; it is dynamic, innovative and evolutionary. In modern times technology has become mankind's main enterprise. Technology produces know-how while science produces know-what (Olaofe & Awokunmi, 2010).

Many nations in both developing and developed countries realize that technology literacy for all their citizens play a crucial role in the socio-economic strength which is considered to be the main reason for the rise in the technology curriculum movement resulting in massive introduction worldwide, of science study programmed for all ages of school children (Hofstein & Lunetta, 2003). Education if well planned and properly directed is the

key to success and progress especially in Nigeria therefore, no nation can boast of being democratic, self reliant and buoyant without integrating technology in their education system. Today's child lives in a technological world, a world of technological revolution; such child watches television and video, uses CD, VCD and DVD which has made the child to become influenced in various ways through these media and some of the programmes associated with them (Okoyefi & Nzewi, 2012).

The development of any nation could be a measure of her development in the area of science and technology. This is because the technological growth of a nation leads to its social and economic development. The development in science and technology has been the most effective factor in enabling less developed countries to enter the mainstream of contemporary technology and commerce. Science and technology as well as their teaching through formal and non formal education are essential factors improving the material and cultural conditions of people's lives and are objectives of cultural development. Technology is the practical method which has enabled human beings to rise above the animals and to create their habitat, food supply, comfort and means of health, travel and communication (Yusuf & Afolabi, 2010).

Science and technology are day to day activities that help in areas of education, agriculture (to provide the food we eat), in making the beds, in building the houses, in making the cloth, in transportation and had greatly made communications faster and more importantly organize the daily lives. Science and technology are veritable tools of national development and economic empowerment. While technology uses science to solve problems, sciences uses technology to make new discoveries. The global trend in this era is a race toward the emergence of e-society, a society driven primarily by digital technologies and a building block of modern society (UNESCO, 2003). Science and technology are not only tools but also are vehicles for all round development of any nation. The level of scientific and technological development of any nation determines the standard of living of the citizen of that nation. For this, any nation that wished to be recognized globally must ensure she is sound fated in science and technology. The importance of science and technology to any nation not only a matter of measuring up to the present scientific and technological level but also include improving on the attained level.

Education and Society

Education is regarded as one of the instrument of change. It is the construction of event that composes the lives of individuals so that new happenings and new events become more purposeful. Akindutire (2004) submitted that if education is developed and rightly used, it will make a better society because:

- a. education exists to create in individuals certain kinds of attitudes desires by the society;
- b. it is an agent of social mobility, causes change in literacy level and in standard of living;
- c. it leads to growth of the industries and social changes that accompany it;
- d. education fosters social change in the form of independent thinking and political movements. It is an essential instrument of democracy;
- e. research used in solving human problems is a form of social change brought about by education. Increased accumulation of knowledge is the basis of modern technology;
- f. social change in form of new modes of dressing, religion and marriage came to Africa through education;

- g. agricultural changes provide evidence of the role of education in causing social change.

Education is a tool for achieving science and technological advancement for effective building of the nation. Science and technology education is a type of education required by all citizens because of this, the government is laying emphasis on it for even in the schools today (Umeoduagu, 2000). Education is the leading out of the in-born powers and potentialities of the individual in the society, and the acquisition of skills, aptitudes and competencies necessary for self-realization and coping with life's problem (Oburu, 2012).

Roles of Science and Technology in the Society

Nearly everyone is a proud owner of some form of technology. The level and technological development of any nation determines the standard of living of its citizen. Igboegwu & Ikokwu, (2012) submitted that science is for life and technology the bedrock for societal growth and transformation. Some of the impacts that technology has on the society according to Okhueuse (2016) are:

1. ***It fosters education:-*** the use of electronic media in teaching has contributed greatly to improvement

of education in our societies. It is impossible to imagine searching through countless stacks of books, scouring pages for snippets of information to complete assignments and homework which can be opened up on internet tab and Google or yahoo in less than two seconds. We have e-learning, e-library etc. which promote supportive and interactive teaching and learning and hence, enhance the tools and environment for learning;

2. ***It is the basis of our global society:-*** the use of internet, twitter, Facebook or live messenger in communication has negate the time when string of a cup between windows were used to talk. It expands students' reality through the use of videos and video clips; students can be present at events that they would never be able to attend;
3. ***It aids critical thinking:-*** Steve Jobs opined that everybody in his country should learn how to program a computer because it teaches you how to think;
4. ***Healthcare:-*** technology has helped in healthcare in the area of drug production and administration, healthcare delivery,

- surgeon among others. Some sophisticated equipment is now available which are due to science and technology;
5. **Transportation:-** in the olden days, the only means of transportation is by trekking but with the aid of science and technology, people can now move through vehicles, motorcycle, plane, boat among others which are brought about by science and technology;
 6. **Industrialization:-** in the industries, technology has led to high production of goods and services. What was supposed to be produce at smaller quantity are now been produced in a larger quantity due to the use of machineries rather than mere manual labour;
 7. **Agriculture:-** science and technology has helped in the place of agriculture most especially in the areas of hybridization, improved yields, fertilizer applications, use of tractors etc;
 8. **Security:-** technology has helped in the area of security. For instance, the invention of CCTV to monitor the movement of people in and out of the Bank environment and some other important places;
 9. **Entertainment:-** technology had helped in entertainment most especially in theatre and music industries;
 10. **Infrastructure:-** the provision of social amenities such as electricity, pipe-borne water, healthcare delivery, good roads among others was due to the integration of science and technology;
 11. **Sport:-** advances in technology have had a profound impact on sport. This includes the analysis of sport performance which enable coaches improve the quality of feedback to players/athletes, it increases accuracy in time measurement of sport performance, it enables referees, umpires and sport officials to make better decisions on rule infringements, improvement in the design of sport equipment and apparel and in providing spectators with better viewing of sport performance.

Negative impacts of science and technology on the society.

A capsule review of literature by Bongie (2013) revealed the following as the negative impact of science and technology on the society:

- a. **Pollution:** land, noise, water and air pollutions are the types of

- pollution that can occur as a result of technology. Some activities such as disposal of vehicle parts into the lands, killing of aquatic organisms with the use of chemicals, citing of industries near residential areas, and escape of gases into the atmosphere in many of our industries causes pollution which in one way or the other affects the standard of living of the people in such areas.
- b. **In medicine:** illicit consumption of drugs like heroine, cocaine and some others affects the society. Also, if drugs are not taken as been prescribed by a physician, it can leads to death of the person that takes such drug most especially the illiterates in the society that doesn't know how to read and write.
 - c. **Fraud:** science and technology has made some people to engage in fraudulent acts. Some people engages in yahoo using the internet to dupe people, money can be taken away from another person's account once they know the person's contact/pin, some uses their phones to tell lies among others.
 - d. **Natural disaster** such as global warming, depletion of the ozone layer, earthquake, tunado, volcanic eruptions, acid rains among others are caused by technology.
 - e. **In agriculture:** some agricultural activities affect the society. For instance, inappropriate application of fertilizer as manure affects health status of people, the use of insecticides and pesticides as well as burning resulted in the killing of some micro organisms that are supposed to nourish the soil.
 - f. **In Education:** science and technology has lead to laziness on the part of the students. For instance, some student cannot do simple arithmetic without the use of calculators, they do not like reading books but rather they prefer watching films and listening to music, going into the internet to Facebook, To-go and to chat with their friends neglecting their work. Some people engage in examination malpractices via the internet.
- Conclusion:**
- Science and technology has contributed immensely into the society; there were negative and positive impacts on the society. Individual in the society needs to be educated on the positive and negative impacts of science and technology on the society so as to make

the environment more conducive for living.

Recommendations:

Based on this study, it is therefore recommended that scientists and scientists institutions should:

- a. Promote multidisciplinary approaches to research, encourage co-operation between the social and natural sciences, draw lessons from humanities and local knowledge
- b. Encourage holistic approach to problem solving for socioeconomic conditions
- c. Fully exploit the predictive power of science to serve social needs with the awareness of the limitations of scientific predictions
- d. Encourage the creation of science-coordination mechanisms at the highest level involving the governments of all countries as a way to promote integrated responses to global problems.

In order to maximize the gains, it is important to educate the society on its benefits as well as its adverse effects.

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Teachers' Perception on Nature, Scope and Methodology of Social Studies in Secondary Schools in Ekiti State

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Abstract

The study investigated teachers' perception of nature, scope and methodology of Social Studies as a discipline in secondary schools in Ekiti State Nigeria. The population comprised all Social Studies teachers in Ekiti State. The sample was made up of 200 male and female Social Studies teachers who were selected using stratified sampling technique. A self-designed questionnaire was used for data collection. The reliability coefficient of 0.86 was obtained for the instrument. Data collected were analysed using descriptive and inferential statistics. The results showed that there was no significant difference between male and female teachers perception of Social Studies. Similarly, there was no significant difference between graduates and non-graduates teachers' perception of Social Studies. Moreover there was no significant difference between specialists and non specialists in Social Studies teachers' perception of Social Studies in terms of nature, scope and methodology. It is recommended that ministries of education in the states in collaboration with reputable publishing houses like the Evans Heinemann and University press limited should be encouraged to organize writer's workshop to produce textbooks and teaching materials for both the non graduates and graduates Social Studies teachers to enhance effective teaching. Government should organize seminars and workshop for Social Studies teachers to improve the standard in teaching Social Studies.

Keywords: Perception, Sex, Social Studies, Graduates, Methodology, Specialists.

Introduction

Proper teaching of Social Studies at the various levels of educational institution in Nigeria entails adequate knowledge of the teachers teaching this subject as a

discipline in terms of contents scope, nature and teaching method. It is important that the teachers teaching Social Studies must be well informed and as well as be equipped in order to be able to teach this

subject meaningfully. It is not an over statement that most of teachers teaching Social Studies in the schools today still have poor idea of what Social Studies is in terms of its nature, scope, contents and teaching methods. It is observed that most of the teachers had no formal training and exposure to effective teaching of Social Studies contents and methods of teaching it. They perceived the subject as a new field, quite strange to them. Social Science teachers who teach Social Studies teach students in the areas they are specialists such as History, Geography, Economics, Psychology, Government, Accounting, and Christian Religious Studies under the Social Studies umbrella. The teachers were not well equipped to put up with the demands that Social Studies teaching required of them.

According to Ajiboye (2002) for effective teaching of Social Studies both male and female teachers should develop the capacities of learners to think intelligently on environment/Social issues and problems to make effective personal and rational decisions. Ololobou (2010) opined that students learn how female teachers in the classroom teach the virtues of activity, discovery, inquiry, discussion, values clarification and field work (Direct experience) institutional integrated approaches and the shortcomings of the persistent traditional chalk and talk

expository methods of the class teacher. Akinlaye, Mansaray and Ajiboye (2006) asserted that a lot of studies seem to exist on the meaning, nature and effective instructional strategies available for the teaching of the Social Studies.

In the opinion of Kadiri, Ololobou, Ahmad and Zuru (2007) logical steps in Social Studies curriculum development are worthy of consideration for the purpose of achieving any set goals of developing and improving. Onoja (2004) in his study perceive Social Studies as a common learning of man's interaction with his social and physical environment. He seems to be of view that Social Studies is not a study but a way of life which focuses on the totality of man. This explains why the subject is different in nature, content and scope from the traditional school subjects.

In the assertion of Kadiri et al (2007) based on the scope and nature of Social Studies both male and female Social Studies teachers perceive Social Studies as citizenship education because the discipline centers around human behaviour, values and attitudes as they affect life in the society. Uko and Okebe (2011) posited that Social Studies is perceived as a unified and integrated content, which utilizes concepts and generalization drawn from the traditional subjects especially the Social Sciences in solving the problems of man in his

environment. The usefulness of Social Studies is enhanced when it is seen as a way of looking at society in order to understand social problem and thereby help to seek solution to them.

In the assertion of Ajiboye (2002) Social Studies draws its inspiration, content, knowledge, values, skills and institution methodologies from the Social Sciences dealing with man or human relationships. According to Onoja (2004) the integrated nature of Social Studies is more suited to a better understanding of man's realities than the compartmentalized nature of the separate subjects with this, teachers teaching separate subjects are able to teach Social Studies as Social Studies have its integrated curriculum from Social Science Subjects. Inquiry, discussion, questioning, self discovery, field trip and construction methodologies are used by specialists and non specialists Social Studies teachers. Ololobou (2010) posited that Social Studies by nature is an integrated body of knowledge based on concepts drawn mainly from the Social Sciences, also by nature and scope Social Studies content is influenced by the Social Sciences. Ajiboye (2002) opined that Social Studies curriculum in which the non- specialists and specialists are able to follow and handle to enhance effective teaching. Social Studies teachers with regardless of their areas of specialization

are able to teach the subject to achieve better understanding of the students, they would then be better equipped to live and interact more effectively and meaningfully within their environments with various methodology applied in teaching the subject.

According to Akinlaye et. al. (2006) Social Sciences are regarded as a parent discipline of Social Studies in which teachers of both fields have adequate skills of teaching the subjects effectively. Social Studies teachers have effective training about the nature, content and scope of Social Studies at their various level of education. The changes advocated in the Social Studies curriculum were not accompanied by changes in the skills and attitudes of the teaching personnel that is graduates and non- graduates.

In the assertion of Akinlaye et al (2006) the inspiration of Social Studies is to get younger learners in school to better understand the intricacies of man's existence on earth in which teachers in fields have adequate skills of teaching the subjects effectively. Social Studies teachers have effective training about the nature, content and scope of Social Studies at their various level of education. The changes advocated in the Social Studies curriculum were not accompanied by changes in the skills and attitudes of the teaching personnel that is graduates and

non- graduates. Adewuya (2001) reported that teachers have ability to apply various methods to put his information across to learners. Teachers build on previous experience of the learners and also recognizing individual differences physical (socio-economic status). This study investigated teachers' perception of nature, scope and methodology of Social Studies as a discipline in secondary schools in Ekiti-State.

Purpose of Study

1. It examined how teachers in secondary schools in Ekiti State perceive the discipline of Social Studies in terms of nature, scope and method of teaching the subject.
2. It explored the difference between male and female teachers perception of Social Studies as a discipline.
3. It sought to find out the difference between the graduates and non graduates teachers of Social Studies as a discipline.
4. It also investigated the difference between the specialists and non specialist teachers of Social Studies as a discipline in secondary schools.

Research Questions

The following research questions were raised in the study:

1. What is the perception of teachers about the nature and scope of Social Studies?
2. What is the perception of teachers about methodology of Social Studies?

Hypotheses

1. There is no significant difference between male and female teachers' perception of Social Studies as a discipline.
2. There is no significant difference between the graduates and non graduates Social Studies teachers' perception of Social Studies as a discipline in secondary schools.
3. There is no significant difference between the specialists and non Specialists teachers' perception of Social Studies as a discipline in secondary schools.

Methodology

The study adopted a descriptive research design of the survey type. The population of the study comprised all 807 Social Studies teachers in all secondary schools in Ekiti State. The sample consisted of 200 Social Studies teachers of public secondary schools selected from the

three senatorial districts of Ekiti State such as Ekiti North senatorial district, Ekiti Central Senatorial district and Ekiti South Senatorial district. Out of 202 public secondary schools in Ekiti State, 53 secondary schools were used based on stratified random sampling technique. Male teachers chosen from the three senatorial districts were 89 and Female were 111 such as Ekiti North senatorial, Ekiti Central senatorial and Ekiti South Senatorial districts. Two local governments were selected from each senatorial district to carry out the research work using simple random sampling method. A self developed and validated instrument was used to collect data for the study was face and content validated. A trail testing was carried out on 20 Social Studies teachers not included in the sample. The instrument was administered

twice on the respondents within an interval of two weeks. Two scores were obtained and correlated using Pearson Product Moment Correlation Analysis. A coefficient of 0.89 was obtained. This was high enough for the study. Data collected for the study were analysed using both descriptive and inferential statistics. The general questions were answered by using descriptive statistics such as frequency count, percentage scores. The hypotheses were tested using t- test statistics at 0.05 level of significance.

Results

The results of the study are presented based on the research questions and research hypotheses.

1. What is the perception of teachers about the nature and scope of Social Studies?

Table 1: Frequency counts and percentages of teachers' perception of the nature and scope of Social Studies

S/N	ITEMS	AGREE	%	DISAGREE	%
1	AGREE	173	86.5	27	13.5
2	Social Studies derives its content from various separate school subjects like Economics, History, Geography, Government	184	92	16	18
3.	Social Studies by nature is an integrated body of knowledge based on concepts drawn mainly from the Social Sciences.	168	84	32	16
4.	By the nature and scope of Social Studies its content is influenced by the Social Sciences disciplines.	171	85.5	29	14.5
5.	Social Sciences are regarded as a parent discipline of Social Studies	181	90.5	19	9.5
	TOTAL AVERAGE	17.54	87.7	24.6	14.3

Table 1 shows that 86.5% agreed that Social Studies presents knowledge as a specialized fragments while 13.5% disagreed that Social Studies presents knowledge as a specialized fragments. 92% agreed that Social Studies derives its content from various separate school subjects like Economics, Geography, History, Government ,while 18% disagreed that Social Studies derives its content from various separate school subjects like Economics, Geography, History, Government. Also, 84% agreed that Social Studies by nature is an

integrated body of knowledge based on concept drawn mainly from the Social Sciences while 16% disagreed that Social Studies by nature is an integrated body of knowledge based on concept drawn mainly from the Social Sciences. 85.5% agreed that by nature and scope of Social Studies its content is influenced by the Social Science disciplines. 90.5% agreed that Social Sciences is regarded as a parent discipline of Social Studies while 9.5% disagreed that Social Studies is regarded as a parent discipline of Social Studies.

Table 2: Frequency counts and percentages of teachers' perception of the methodology of Social Studies

S/N	ITEMS	AGREE	%	DISAGREE	%
6	Discussion method is an essential component of Social Studies learning	155	75.5	45	22.5
7.	Students understand Social Studies concepts better when they are taught with inquiry method of teaching	148	74	52	26
8.	Field trips are very components of effective teaching method in Social Studies.	162	81	3.8	19
9.	Questioning method should be frequently used in Social Studies classroom	158	79	42	21
10.	Construction method and use of models,role play,maps and other related visual materials are effective Social Studies teaching and learning.	176	88	24	12
	TOTAL AVERAGE	159.8	79.9	40.5	20.1

Table 2 shows that 77.5% agreed that discussion method is an essential component of Social Studies learning while 22.5% disagreed that discussion method is an essential component of Social Studies learning. 74% agreed that students understand Social Studies concepts better when they are taught with inquiry method of teaching while 26% disagreed that students understand Social Studies concepts better when they are taught with enquiry method of teaching. 81% agreed that field trips are very components of effective teaching method in Social Studies while 19% disagreed that field trips are very components of effective teaching method in Social Studies. 79% agreed that questioning method should be frequently used in Social Studies

classroom while 21% disagreed that questioning method should be frequently used in Social Studies classroom. 88% agreed that construction method and used of models, role play, maps, other related visual materials are effective aspects of effective Social Studies teaching and learning while 12% disagreed that construction method and used of models, role play, maps, other related visual materials are effective Social Studies teaching and learning.

Hypothesis 1

There is no significant difference between the male and female teachers perception of Social Studies as a discipline.

Table 3: t-test analysis of teachers' sex on perception of Social Studies

GENDER	N	X	SD	df	T _{cal}	T _{tab}
Male	89	85.26	7.17	198	0.863	1.96
Female	111	84.29	8.44			

p>0.05 (not significant)

Table 3 shows that the t-calculated and t-tabulated as 0.863 and 1.96 respectively at 0.05 level of significance. Therefore the null hypothesis is not rejected.

Hypothesis 2

There is no significant difference between the graduates and non graduates Social Studies teachers perception of Social Studies as a discipline in secondary school.

Table 4: t-test analysis of qualification on perception of Social Studies

QUALIFICATION	N	X	SD	Df	T _{cal}	T _{tab}
Non graduates	76	83.83	8.53	198	1.252	1.96
Graduates	124	7.46	7.46			

P>0.05 (not significant)

Table 4 shows the t- calculated and t- tabulated as 1.252 and 1.96 respectively at 0.05 level of significance. Therefore the null hypothesis is not rejected.

Hypothesis 3

There is no significant difference between non specialists and specialists Social Studies teachers in secondary schools.

Table 5: t-test analysis of teachers' area of specialization on perception of Social Studies

Area of Specialization	N	X	SD	Df	t _{cal}	t _{table}
Non Specialist	67	84.57	7.57	198	0.194	1.96
Specialist	133	84.8	8.08			

P>0.05 (not significant)

Table 5 shows that the t-calculated value and the tabulated value as 0.194 and 1.96 respectively at 0.05 level of significance. Since the calculated value is lower than the tabulated value, this implies that there is no significant difference between specialists and non specialists. Therefore the null hypothesis is not rejected.

Discussion

The study revealed that there is no significant difference between the male and female teachers' perception of Social Studies as a discipline in terms of nature, scope and method of teaching Social Studies. The study shows that there is no

sex determinant in the teachers' perceptions of Social studies in terms of method of teaching Social Studies. It agrees with Ajiboye (2002) that for effective teaching of Social Studies teachers should develop the capacities of learners to think intelligently on environmental/Social issues and problems to make effective personal and rational decisions. It is also observed that the male and female perception of Social Studies in terms of nature and scope is relatively high.

Based on the methodology, male and female teachers are exposed to various method of teaching Social Studies such as discussion, field trip, note taking, role play

and students find it interesting as it boost their performances in the classroom. This agrees with study of Ololobou (2010) who opined that students learn how female teachers in the classroom teach the virtues of activity and teaching methods of the class teacher.

The result reveals that there is no significant difference between graduates and non graduates teachers of Social Studies as a discipline. The findings show that the same curriculum is designed for both the non graduates and graduates to teach Social studies subject at various levels in the school.. They have skills and ideas about the subject matter. This agrees with the studies of Ololobou (2010) who asserted that it is possible that the changes advocated in the Social Studies curriculum were not accompanied by changes in the skills and attitudes of the teaching personnel i.e graduates and non graduates.

This study also in support of Akinlaye, et al (2006) who asserted that the inspiration of Social Studies is to get younger learners in school to better understand the intricacies of man's existence on earth in which teachers in fields have adequate skills of teaching the subjects effectively. Social Studies teachers have effective training about the nature, content and scope of Social Studies at their various level of education. The changes advocated in the Social Studies

curriculum were not accompanied by changes in the skills and attitudes of the teaching personnel that is graduates and non- graduates.

Based on methodology, graduates and non graduates have good understanding of the various methods of teaching Social Studies, it enhances grasp of knowledge on the students and better understanding of subject by the learners during teaching in the classroom. Social Studies methodologies help to arouse the interest of the students while learning. This agrees with the study of Ajiboye (2002) who opined that Social Studies curriculum in which the non- graduates and graduates are able to follow and handle to enhance effective teaching. Social Studies teachers with regardless of their level are able to teach the subject meaningfully with various methodologies applied in teaching the subject.

The result also revealed that there was no significant difference between the specialist and non specialist teachers perception of Social Studies as a discipline .It is also observed that the specialist and non specialist teachers perception of Social Studies in terms of nature and scope is relatively high. Specialist and non specialist Social Studies teachers perceive the subject as that the structure of the subject is put together from the Social Sciences which are concerned with human

realities. This agrees with the study of Ajiboye (2002) who opined that Social Studies draws its inspiration, content, knowledge, values, skills, institution methodologies which both the non-specialists and specialists are able to teach the subject meaningfully. Social Studies teachers with regardless of their areas of specialization are able to teach the subject to achieve better understanding, they would then be better equipped to live and interact more effectively and meaningfully within their environments with various methodology applied in teaching the subject. Social Studies by nature is an integrated body of knowledge based on concepts drawn mainly from the Social Sciences.

This support with study of Adewuya (2001) who asserted that teachers determine the nature and scope of the subject matter and that could be taught by any subjects teachers such as Economics, Geography, Government and History. This is done to organize classroom work in order to ensure maximum and effective participation of learners. The usefulness of Social Studies is enhanced when it is seen as a way looking at society in order to understand social problem and thereby help to seek solution to them. It was found that on the methodology of Social Studies, that the specialists and non specialists Social

Studies teachers have positive perception of social Studies such discussion, inquiry, fieldtrips, note taking, questioning and construction methods are essential components and effective teaching methods in Social Studies. With these methods both the specialist and non specialist teachers teach Social Studies meaningfully and actively in the classroom. This agrees with Studies of Adewuya (2001) that teachers have ability to apply various methods to put his information across to learners. Teachers build on previous experience of the learners and also recognizing individual differences physical (socio-economic status).

In the opinion of Ajiboye (2002) traditional sources of knowledge for Social Studies are the Social Science discipline such as Geography, Economics, Government and Government hence both the non-specialists and specialists are able to teach the subject effectively and allows activeness of the learners in the class.

Conclusion

Based on the findings of the study, both male and female Social Studies teachers have the same perception of Social Studies. It also revealed that sex does not determine the perception of Social Studies teachers about Social Studies. There was no significant

difference between the perception of the graduates and non graduates Social Studies teachers. Also there was no significant difference in the perception of specialist and non specialist Social Studies teachers.

Recommendations

Based on the findings of the study, it was recommended that the ministries of education in the states in collaboration with reputable publishing houses like the Evans Heinemann and University press limited should be encouraged to provide current, adequate textbooks and teaching materials for both the non graduates and graduates Social Studies teachers to enhance effective teaching.

To produce enough qualified (specialists) teachers in this subject, federal government should encourage teachers and other higher institutions through seminars and conferences to expand the present scope of training teachers of Social Studies.

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Prevalence of Water-Borne Diseases among Farmers of Igboroko Farm Settlement in Ikole Local Government Area, Ekiti State

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Abstract

This study evaluated the prevalence of water borne diseases among farmers of Igboroko farm settlement in Ikole local government area of Ekiti State. The problem of attaining safe and clean water and high prevalence of water borne diseases has not been clearly understood. The study adopted a descriptive research method. Sampling techniques were used to select 100 people in the settlement. Data collected were analyzed using simple frequency count and percentage while the hypothesis was analysed using Pearson Product Moment Correlation. Findings show that there is water- borne diseases among farmers of the settlement. It also shows that well, borehole, sachet of water, and rain water are sources of water supply in the farm. It was recommended that health officers of the Local government should embark on public enlightenment campaigns on the health implications of waterborne diseases, while effort should be made by appropriate authorities to conduct quality assessment of water sources from time to time in order to ensure safe drinking water of good quality is available to the residents

Keyword: Farm, Water, Diseases, Settlement.

Introduction

Water is a major component of the environment and therefore, is the most indispensable natural resource to life and maintenance of health (Olajuyigbe, 2010). Drinking water containing pathogenic micro-organisms which can cause water-borne diseases must be avoided. According to the World Health

Organization (2015), the mortality rate associated with water borne diseases was more than 5 million people a year. Waterborne diseases are very rampant especially in sub Saharan African due to lack of access to clear water and poor sanitation. Waterborne or water related diseases encompass illnesses resulting from both direct and indirect exposure to

water, whether by consumption or by skin exposure during bathing or recreational water use. It includes diseases due to water-associated pathogens and toxic substances. A broader definition includes illness related to water contamination during adverse climate events, such as floods and disease related to vectors with part of life cycle in water habitats (Olaopa, 2010).

Waterborne diseases are those diseases that are transmitted through direct drinking of water contaminated with pathogenic micro-organisms. Contaminated water when used in preparation of food can be the source of food borne disease through consumption of the same micro-organisms. Most waterborne disease is characterized by diarrhoea, which involve excessive stooling, often resulting in dehydration and possibly death. According to the World Health Organisation (2015), diarrheal disease accounts for the deaths of 1.8million people every year. Further estimates suggest that 88%of that burden is attributable to unsafe water supply, sanitation and hygiene and is mostly concentrated on children in developing countries (Aribisala, 2011).

Most waterborne diseases are often transmitted via the faecal-oral route, and this occurs when human faecal material is ingested through drinking contaminated

water or eating contaminated food which mainly arises from poor sewage management and improper sanitation. Faecal pollution of drinking water may be sporadic and the degree of faecal contamination may be low or fluctuate widely (Emmanuel, 2012). In communities where contamination levels are high, consumers (especially the visitors, the very young, the old and those suffering from immunodeficiency-related diseases) may be at a significant risk of infection. In Igboroko farm settlement, faecal contamination of water arises from runoffs from nearby bushes and forest which serve as defecation sites for them. Waterborne disease can be caused by protozoa, viruses, bacteria, and intestinal parasites. Some of the organisms remarkable for their role in the outbreak of waterborne diseases include Cholera, Amoebic dysentery, Bacillary dysentery (shigellosis), Cryptosporidiosis, Typhoid, Giardiasis, Paratyphoid, Balantidiasis, Salmonellosis, Campylobacter enteritis, Rotavivours diarrhoea, E.coli, Diarrhoea, Hepatitis A, Leptospirosis and Poliomyelitis (Raji, 2010).

In Nigeria, contaminations of water with pathogens have also been reported in several towns (Bai,2007).Waterborne outbreaks of enteric disease have occurred either when public drinking water supplies were not adequately treated after

contamination with surface waters contaminated with enteric pathogens have been used for recreation purpose (Emmanuel, 2012). Today only 58% of Nigerians have access to safe water (WHO, 2015). Thus, most households have resort to drinking water from wells and streams especially in the rural and suburban communities. These water sources are largely untreated and might harbour waterborne and vector-borne pathogens causing diseases such as cholera, typhoid fever, diarrhoea, hepatitis and guinea worm (Oguntoke, 2019). Considering that drinking water should not contain unacceptable levels of hazardous chemicals and infectious risk to the health of consumers, it is essential to ensure the provision of safe and clean water. Evaluation of microbial quality of drinking water can protect consumers from illness transmitted due to the consumption of water containing pathogens such as bacteria, viruses, and protozoa. It can prevent the waterborne diseases outbreak that is one of the most important global health challenges (Rahman, 2001).

The prevalence of water-borne diseases is particularly linked to the dearth of potable water in most parts of the developing countries. Raji (2010) opined that diarrhoeal diseases are largely caused by unsafe water, inadequate sanitation and poor hygiene among human population.

Potable water in most cities and communities is grossly inadequate to meet the increasing demands for water each year due to rapid population growth. Available statistics indicate that the inhabitants of Ibadan Metropolis in Nigeria suffer mainly from diarrhoea, gastro-enteritis, malaria, measles, tuberculosis, cholera and typhoid fever, in that order (Iyunade, 2014).

In rural areas, there are no proper water supply and sewerage systems so water contamination can be attributed to infiltration, leaching, and surface run-off through pasture, lacking and leakage of sewerage disposal systems in villages (Aribisala 2011). Poor water quality is responsible for disease outbreak in many parts of the villages. In order to reduce the diseases outbreaks, there must be some interventions where there is the need to provide drinking water systems according to water quality standards which will reduced diseases,(Ajayi 2011). Water and sanitation management practices can decrease diarrhoea incidence by one-third to one-fourth.

The usual sources of drinking water in Ikole-Ekiti include well, borehole, spring and stream water is an important water source in both rural and urban areas of Ikole-Ekiti. Government, non-governmental agencies, and individuals are involved in sinking boreholes and wells to

provide water for communities, companies and their families due to the rapid urbanization of the state. The risk of ground water being contaminated increases particularly in areas where shallow aquifers exist and in an environment where the topographic features favour contamination (Bai, 2007).

The link between the problem of attaining safe and clean water and high incidence of water borne diseases has not been clearly understood. This is a serious problem that affects people world over, but those living in rural areas are especially the most impacted. It was observed that water borne diseases are endemic in most rural areas, where most of the victims are brought to the hospital for treatment and care.

In as much as the environmental factor, quality of water and prevalence of waterborne disease especially diarrhoea disease are associated with the supply of contaminated water and or lack of water for domestic use (including personal hygiene), this study was conducted to evaluate the prevalence of water borne diseases among farmers of Igboroko farm settlement in Ikole local government area of Ekiti State.

The link between the problem of attaining safe and clean water and high prevalence of water borne diseases has not been clearly understood. This is a serious

problem that affects farmers in Igboroko farm settlement. It was observed that water borne diseases are endemic in most rural areas, where most of the victims are brought to the hospital for treatment and care. Based on this background, the study investigated the prevalence of water borne diseases among farmers of Igboroko farm settlement in Ikole Local Government area of Ekiti State.

Research Questions

1. What are the main sources of water supply among farmers of Igboroko farm settlement in Ikole Local Government area of Ekiti State?
2. What are the common types of water borne diseases among farmers of Igboroko farm settlement in Ikole Local Government area of Ekiti State?
3. What are the effects of non-availability of drinkable water among farmers of Igboroko farm settlement of Ikole Local Government area of Ekiti State?

Methodology

Research Design

The design adopted for this study is descriptive design of the survey type, which was considered appropriate for the study because it evaluates the prevalence

of water borne diseases among farmers of Igboroko farm settlement in Ikole local government area of Ekiti State and described it without any manipulation. The population for this study consists of all the residence of the farm settlement. The sample for this study consists of Igboroko farm settlement, in order to carry out the research, simple random sampling techniques was used to select 100 people in the settlement. A self developed instrument was used for the study. It is divided into two sections. Section A

contains personal information of the respondents while section B contains items on sources, types and effects of drinking polluted water. The instrument was administered personally by distributing it to the selected people in the study area. The copies of the questionnaire were retrieved immediately from the respondents after completion. Data collected were analyzed using simple frequency counts and percentages while the hypothesis was analysed using correlation.

Results

Table 1: Socio-demographic Characteristics of respondents

Age groups in years:	Frequency	Distribution (%)
16 – 20	1	1.0
21 – 25	53	53.0
26 – 30	15	15.0
31 &above	31	31.0
Sex:		
Male	48	48.0
Female	52	52.0
Religion:		
Christianity	49	49.0
Islam	43	43.0
Traditional	8	8.0
Marital status:		
Single	62	62.0
Engaged	19	19.0
Married	11	11.0
Single parent	8	8.0

The socio-demographic characteristics of the respondents were shown in Table 1. The table shows that more than half of the residents of the Igboroko farm settlement (52.0%) are females, more than half of the residents are between 21-25 years of age (53.0%). Christians (49.0%) constitute the highest

religious denomination, while majority of the residents are single in terms of marital status (62.0%).

Research Question 1

What are the main sources of water supply in Igboroko farm settlement in Ikole L.G.A?

Table 2: Distribution of respondents by sources of water

SOURCES OF WATER	FREQUENCY(<i>f</i>)	PERCENTAGE (%)
Well	36	36.0
River	20	20.0
Stream	9	9.0
Sachet water	2	9.0
Rain	33	33.0
Total	100	100.0

The distribution of respondents by sources of water were shown in Table 2. The table shows that well (36.0%) is the most frequently used source of water in the settlement, followed by rain water (33.0%) and river water (20.0%) respectively. The least sources of water are sachet water

(9.0%) and stream water (9.0%) respectively.

Research Question 2

What are the activities surrounding sources of water in Igboroko farm settlement in Ikole L.G.A?

Table 3: Activities surrounding sources of water in Igboroko farm settlement

Activities surrounding water	Frequency	Percentage
Poultry	37	37.0
Farming	42	42.0
Piggery	5	5.0
Others	16	16.0

Activities surrounding water were shown in Table 3. The table shows that farming (42.0%) constitute the highest activity surrounding water sources in the settlement, followed by poultry (37.0%)

while piggery (5.0%) was the least activity surrounding water in the settlement.

Research Question 3

What are the common types of water borne diseases in Igboroko farm settlement in Ikole L.G.A?

Table 4: Common types of waterborne diseases in Igboroko farm settlement

Common types of waterborne diseases:	frequency	percentage
Cholera	31	31.0
Typhoid	38	38.0
Infectious hepatitis	12	12.0
Giardiasis	9	9.0
Amoebiasis	10	10.0

Common types of waterborne diseases were shown in Table 4. The table shows that Typhoid fever (38.0%) is the most common waterborne disease in the settlement closely followed by Cholera (31.0%), with Giardiasis (9.0%) being the least common waterborne disease in the settlement.

Discussion

Findings of the study revealed that typhoid fever and cholera diseases are common among the respondents in Igboroko farm settlement. It also shows that well, tap, borehole, sachet of water, bottle and rain water are not common sources of drinking water in the settlement while the activities of the water sources are around poultry and farm. More so,

findings also revealed a correlation of water borne diseases among residence of Igboroko farm settlement in Ikole local government areas of Ekiti State. It shows that the null hypothesis which stated that there is no significant effect of water borne diseases among residence of the farm settlement was rejected. This implies that there are water borne diseases among residence of Igboroko farm settlement in Ikole local government areas. This corroborated (Olaopa, 2010) and Olajuyigbe, (2010) who stated that in developing countries, particularly in Nigeria, the two main water problems man contends with are the quantity and quality of water. This is also in line with Bai, 2007 and Iyunade, 2014, that many rivers, streams and wells worldwide are affected

by faecal contamination leading to increased health risks to persons exposed to the water, degradation of recreational and drinking water quality. The contamination of the two popular sources of water indicate that most residents are at risk of water-borne diseases. The water quality result agrees with the hospital data that show a preponderance of waterborne diseases in the study area.

Conclusion

The finding in this study points to the fact that the prevalence of waterborne disease is linked up with the quality of drinking water sources available among residence of Igboroko farm settlement in Ikole local government area of Ekiti State. It was observed that most of the reported cases of water borne diseases were due to environmental sanitation, indiscriminate waste disposal, effect of age-long communal crisis, low topography and swamps that led to typhoid, water hardness and cholera of the well and borehole water in the study area. It was observed that effects of lack of drinkable water in the farm settlement was compounded by lack of good road which could have encourage water supply either by well to do individuals or agencies like Rural Water Supply and Sanitation Agencies (RWSSA) which its primary objective is to assist rural dwellers in provision of good water.

During the course of this study, it was observed that political instability, lack of internal security, language barriers, kidnapping and ritual killings were few other challenges that the settler faced. It was also noted that the health centre located in the farm lacks qualified health personnel, lack of drugs and consumables that can be used to attend to simple emergencies like diarrhoea and vomiting which was observed to be the commonest ailment in the farm.

Recommendations

Based on the findings, the following recommendations were made:

1. The government needs to make water available to rural dwellers by drilling solar powered boreholes for the use of the residents.
2. Efforts should be made by appropriate authorities to conduct quality assessment of water sources from time to time in order to ensure that safe drinking water of good quality is available to everyone.
3. Individual member of the community should ensure and maintain good hygienic condition around their water sources.
4. Water sanitation officers should embark on public enlightenment campaigns on the health implications of indiscriminate

- waste disposal and poor personal hygiene.
5. Non-governmental organizations can be encouraged to dig borehole for the use of farmers in the settlement.
 6. Agency like Rural Water Supply and Sanitation Agencies (RWSSA) which its primary objective is to assist rural dwellers in provision of good water should be contacted in providing solar powered borehole for the community.

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