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Unsafe Abortion Procedures and Associated Public Health Challenges among Females in an Urban Community of South-South Nigeria

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Abstract

Unsafe abortion is one of the leading causes of morbidity and mortality in developing countries where there are restrictive abortion laws. The study investigated unsafe abortion procedures and associated public health challenges among sexually active females in Ahoada East Local Government Area (AELGA) of Rivers State. The general purpose of the study was to identify the common unsafe abortion methods used by females in AELGA. The study was cross-sectional in design. It utilized both quantitative and qualitative methods for data collection and analysis. A 22-item structured questionnaire validated by test-retest reliability was used to measure knowledge about abortion, unsafe abortion methods and the public health implications of unsafe abortion from 370 randomly selected sexually active females from AELGA of Rivers State, out of which, 367 were retrieved. Two sessions of Focus Group Discussion (FGD) of five (5) persons each were conducted. Primary data was also obtained from the managements of two public health facilities in order to determine the prevalence of post-abortion complications recorded by the facilities from January-December, 2015. Descriptive statistics and tables were used for data analysis. Findings from the study revealed that some of the unsafe abortion procedures commonly used in the area are drinking toxic fluids or concoctions, ingesting corrosive substances such as taking potash, lime or excessive salt, inserting herbal preparations into the vagina, placing inappropriate medication into the vagina or rectum, use of unskilled heal care providers among others. Sex education and appropriate family planning methods were recommended in order to prevent unwanted pregnancies.

Key words: unsafe, abortion, methods, health, implications

Introduction

Every day, thousands of women in the world become pregnant. According to the World Health Organization (WHO, 2012), an estimated 210 million pregnancies occur in the globe annually. Most of these pregnancies are usually unintended and undesired. Studies show that at least, 41% of all pregnancies are unintended and about 75% of all unwanted pregnancies inevitably consider abortion as one of the likely options (WHO, 2007).

Abortion is the expulsion of the human fetus before it is capable of surviving outside the womb (Åhman, Dolea, & Shah, 2006). It is the termination of pregnancy prior to 20 weeks gestation or a fetal weight less than 500g (WHO, 1992). Abortion can either be spontaneous or induced (Fawole, Aboyeji & Akande, 2006). A spontaneous abortion is one that takes place naturally with no external intervention. It represents a situation over which the mother has no control (Grisanti, 2000). Induced abortion on the other hand, is an abortion procedure that requires some deliberate efforts in order to terminate a pregnancy (Grisanti, 2000).

In countries where there are restrictive laws such as Nigeria, induced abortion can either be therapeutic or criminal (WHO, 2012). It is therapeutic when the procedure is conducted as the only alternative to safeguard the life of the pregnant woman while criminal abortion refers to the willful termination of an undesired pregnancy that is not necessarily prejudicial to the health of the one bearing the pregnancy (Guttmacher Institute, 2009). Due to its legal implications, criminal abortions in Nigeria are usually achieved through self-help and other clandestine procedures that are below minimum standards and as such, unsafe. According to the Guttmacher Institute, (2013), women are likely to resort to unsafe abortion procedures when faced with an unplanned pregnancy and provisions for safe abortions are restricted, unavailable or inaccessible.

Unsafe abortion has been defined as any procedure for terminating an unwanted pregnancy that is carried out by a person lacking the necessary skills or in an environment that does not conform to minimal medical standards or both (WHO, 1992). It is estimated that 22 million of the about 46 million abortions reportedly performed in the world yearly, are unsafe (WHO, 2004).

According to Grimes, et al. (2006), every year, about 19-20 million abortions are done by individuals without the requisite skills or in an environment below minimum medical standards or both. The global burden of unsafe abortion lies substantially on developing countries especially, Africa. Available records reveal that nearly all unsafe abortions (98%) occur in developing countries due to legal restrictions (Ikeako, Onoh, Ezegwui & Ezeonu, 2014).

It has been observed that where access to safe abortion is restricted, unsafe abortion becomes the only option available to pregnant women who do not intend to keep their pregnancies. This has in turn, led to various degrees of complications resulting in maternal morbidity and mortality. For instance, it is estimated that 47,000 women die in the world each year as a result of aborting pregnancies in unsafe manners (Shah & Ahman, 2010).

In a study carried out in Zambia, it was discovered that between 2000 - 2008, about 66,579 women were admitted into five major Zambian hospitals for abortion-related complications, accounting for slightly more than one-third of all gynecologic admissions (Guttmacher Institute, 2009). Similarly, a study carried out among female postgraduate students of the University of Ibadan, South-West Nigeria revealed that 25% of those who were sexually active had ever been pregnant and that 90% of those that had ever been pregnant had terminated at least, one pregnancy (Cadmus & Owoaje, 2011).

Unsafe abortion methods commonly used by women include drinking toxic fluids such as turpentine, bleach or drinkable concoctions mixed with livestock manure. Other methods involve inflicting direct injury to the vagina such as, inserting herbal preparations into the vagina or cervix, placing a foreign body such as a twig, coat hanger or chicken bone into the uterus, placing inappropriate medication into the vagina or rectum, unskilled providers also improperly performs dilation and curettage in unhygienic settings, causing uterine perforations and infections. Methods of external injuries are also used such as, jumping from the top of stairs or a roof or inflicting blunt trauma to the abdomen (Srivastava et al., 2013).

Similarly, another study shows that the methods used for self-inducing abortion vary and include herbs, high doses of chloroquine and detergent, wood ashes in solution, cassava stem, twigs and contraceptive pills (Birth Mothers, 2015). This can also be done by the patient herself by ingesting corrosive substance such as taking potash, lime or excessive salt (Olaitan, 2011).

Unsafe abortion is one of the most undermined and highly neglected public health challenges plaguing developing countries today including Nigeria and a leading cause of maternal morbidity and mortality. It may lead to hemorrhage, infection, damage to the fallopian tubes and ovaries, pelvic inflammatory disease, chronic pelvic pain, bilateral tubal occlusion, secondary infertility and eventual death (Ahman & Shah, 2006).

It is predicated against this backdrop that it has become imperative to undertake a study on unsafe abortion procedures and associated public health challenges among sexually active females at Ahoada East Local Government Area (AELGA) of Rivers State.

Statement of Problem

The rate of unsafe abortion by females of reproductive age brackets within the study area has become an issue of great concern. This is worse among singles even though it is also prevalent among married women. More worrisome is the crude procedures employed to avoid the shame of carrying a pregnancy outside wedlock. Due to restrictive abortion laws, pregnant women who do not intend to keep their pregnancies now resort to self-help and other clandestine methods which are below minimum medical standards in order to terminate their pregnancies. Studies show that nearly every woman records at least, one unwanted pregnancy within her reproductive life span. Most of these women end up with the option of abortion under such circumstances. Unsafe abortion has thus, become one of the leading causes of maternal morbidity and mortality in Nigeria. This is evident in the frequency of post-abortion complication cases recorded by hospitals and other health facilities. It is in view of the above that this study has become inevitable.

Purpose of the Study

The study aims to achieve the following objectives:

- to ascertain the level of knowledge of women about basic abortion issues in AELGA;
- to identify common unsafe abortion methods used by women in AELGA; and
- to identify the public health challenges encountered by women through unsafe abortion procedures AELGA.

Research Questions

- What is the level of knowledge of women about abortion in AELGA?
- What are the common unsafe abortion methods used by women in AELGA?
- What are the public health challenges encountered by women through unsafe abortion procedures in AELGA?

Methodology

The study area was Ahoada East Local Government Area (AELGA) of Rivers State which has a population of 166,324 (NPC, 2006). However, the study population consists of women of reproductive age, resident within the LGA. It is estimated that at least, 50,000 women fall within this category excluding female children and menopausal women. Thus, based on the above estimate, minimum sample size was determined using the formula by Krejcie and Morgan, (1970).

The study was cross-sectional in design. It utilized both quantitative and qualitative methods for data collection and analysis. A 22-item structured questionnaire validated by test-retest reliability was used to measure knowledge about abortion, unsafe abortion methods and the public health implications of unsafe abortion from 370 randomly selected girls/women from Ahoada East Local Government Area (AELGA) of Rivers State, out of which, only 367 were retrieved.

Two sessions of Focus Group Discussion of five (5) persons each were also held for teenagers and older adults separately in order to elicit information about common unsafe abortion procedures, using the convenient sampling method. Primary data was also obtained from the managements of two public health facilities within the study area in order to determine the prevalence of post-abortion complications recorded by the facilities from January-December, 2015.

Informed consent was obtained from respondents and the wishes of those who declined participation were fully respected. Although the managements of the two health facilities visited declined issuance of written approvals which they insisted should ordinarily originate from their respective boards, they provided oral approvals upon which, useful data were obtained.

Descriptive statistics was used to analyze data from the instrument using IBM SPSS 20 software while information elicited from the focus group discussions were carefully recorded and reported verbatim. Primary data from the health facilities were presented using table.

Results

Demographic Details

Result from this study revealed that the mean age of respondents was 24.48 ±7.63 with a range of 29. Majority of the participants (48.6%) were singles while those who were married made up (15.4%), divorced, (8.6%) and widowed (8%). Christianity was the dominant religion with (97.3%) and Islam (2.7%). While (5.4%) of participants had no formal education, (13%) had primary, (62.7%) secondary and those with tertiary education were (18.9%). The dominant tribe was Ekpeye, an indigenous minority tribe with (63.4%), Igbo, (8.6%), Yoruba, (3.5%), Hausa (2.5%) while others comprising of all other minority groups within and outside Rivers State was (22%). Civil servants made up (21.9%) of the respondents, self-employed, (33.9%) while those who were unemployed were the highest with (39.2%).

Research Question 1: What is the level of knowledge of women about basic issues on abortion?

Table 1: Percentage Analysis of Knowledge on Basic Abortion Issues

S/N	Statement for Consideration	Yes	No	Total
1.	Abortion is the termination of pregnancy before it is due	347 (94.6)	20(5.4)	100%
2.	Abortion can either occur naturally or be induced	347 (94.6)	20(5.4)	100%
3	Induced abortion in Nigeria is criminal if pregnancy does not pose any threat to the woman's life.	326 (88.8)	41(11.2)	100%
4	It is not a crime in Nigeria to terminate a pregnancy in order to save the woman's life	351 (95.6)	16 (4.4)	100%
5	Most pregnancies are terminated merely because they are unwanted	351 (95.6)	16 (4.4)	100%

Table 1 above indicates responses of subjects. Most of the respondents (94.6%) agreed to items 1 and 2; 88% agreed to item 3 while 96% agreed to items 4 and 5 respectively. Meanwhile, the mean score for knowledge of respondents about basic abortion issues was (4.6±2.37) on a 5-point scale, representing (96%) level of knowledge.

Table 2: Percentage Analysis of Knowledge on Basic Abortion Issues

S/N	Statements for Consideration	SA (%)	A (%)	D (%)	SD (%)	Total (%)
1.	Many pregnant women patronize quacks for abortion	38.5	29.5	28.8	3.2	100
2.	Some women usually terminate their pregnancies themselves by drinking certain substances	44.1	43.9	8.3	3.7	100
3	Women also terminate pregnancies by inserting certain objects into their private part (vagina).	34.6	45.4	12.3	7.7	100
4	Some trained doctors perform abortion secretly outside health facilities such as rented apartments	30.1	59.2	5.8	4.9	100
5	Most of the environment where doctors perform abortion secretly lack standard facilities	40.9	50.7	5.3	3.1	100

From table 2 above, 38% strongly agree to item 1; 29.5% Agree, 28% disagree while 3.2% strongly disagree. Most of the subjects (44.1% and.43.9%) were on the affirmative to item 2 while 8.3% and 3.7% disagree and strongly disagree respectively. 34.6% strongly agree to item 3, 45.4% agree, 12.3% disagree and 7.7% strongly disagree. 30.1% of the subjects strongly agree to item 4, 59.2% agree while 5.8% and 4.9% disagree and strongly disagree respectively. Most of the subjects (40.9% and.50.7%) were positive to item 5 while 5.3% and 3.1% disagree and strongly disagree respectively. The mean score for unsafe abortion methods was 12.50 ±8.02 on a 15-point scale which represents (83.2%).

Research Question 3: What are the public health challenges encountered by women through unsafe abortion procedures in AELGA?

Table 3: Percentage Analysis of Public Health Challenges of Unsafe Abortion

S/N	Statements for Consideration	SA (%)	A (%)	D (%)	SD (%)	Total (%)
1.	A woman can contract serious infections from poor abortion procedures	49.6	35.4	11.9	3.1	100
2.	Some women are unable to conceive again due to abortion complications	40.3	49.3	6.7	3.7	100
3	When abortion is not properly conducted, it can lead to severe bleeding	30.6	61.3	6.4	1.7	100
4	Severe bleedings after abortion and other complications can lead to death	51.1	39.2	4.8	4.9	100
5	Death by abortion usually brings shame and depression to the bereaved family	34.8	53.2	6.2	5.8	100
6	Some families spend most of their savings in order to manage post-abortion complications of their member	30.6	40.4	15.3	13.7	100

From table 3 above, 49.6% of the subjects strongly agree to item 1; 34.4% agree, 11.9% disagree while 3.1% strongly disagree. Most of the subjects (40.3% and 49.3%) answered on the affirmative to item 2 while 6.7% and 3.7% disagree and strongly disagree, respectively. 30.6% strongly agree to item 3, 61.3% agree 6.4% disagree and 1.7% strongly disagree. 51.1% of the subjects strongly agree to item 4, 39.2 agree while 4.9% and 4.8% disagree and strongly disagree, respectively. Most of the subjects (34.8% and 53.2%) answered on the affirmative to item 5 while 6.2% and 5.8% disagree and strongly disagree, respectively. 30.6% strongly agree to item 6, 40.4% agree, 15.3% disagree while 13.7% strongly disagree.

The mean score of the responses for public health implications of unsafe abortion was 15.49 ± 5.43 on an 18-point scale. This figure represents (86%) of the responses.

Discussion

The mean age for this study was 24.48±7.63 indicating that this was the most represented age-group on the average. This is consistent with previous studies in which the mean ages of women of reproductive age-brackets were 26.7 and 29.0 (Fawole, Aboyeji & Akande, 2006; Olaitan, 2011). The implication of this to practice is that people of this age are exposed to higher risks of unsafe abortion if necessary precautions are not deliberately imbibed.

Most of the respondents were very knowledgeable about basic abortion issues. For instance, 95% agreed that abortion is the termination of pregnancy 88% agreed that induced abortion in Nigeria is criminal if pregnancy does not pose any danger to the woman's life. This high level of awareness could be attributed to the fact that abortion has become a common occurrence among women. This is consistent with an earlier study conducted among female undergraduates at the University of Ibadan (Cadmus & Owoaje, 2011).

Majority of the subjects were aware of common unsafe abortion procedures. Some of the commonly used abortion procedures were captured during the FGD. Below are some of the excerpts.

> …for me, once I miss my period, I will just go and buy small stout, boil it and make it warm. Once I drink it, that's all, it will flush everything away even if the pregnancy is up to three months…

While narrating her personal experience, another respondent who was a teenager quickly added that;

> …Anytime I'm pregnant… (You know nah, I can't keep any pregnancy until I'm fully married), I use that thing (udder) they use to cook for nursing mothers with hot pepper sour stomach and drink it. Though it will turn your eyes for a while but it will surely flush everything out…I knew about this when I was nursing my aunty after delivery; they will ask me to make pepper soup for her with udder and when I inquired why, they said it will flush away all the blood remaining in her stomach. So, the first time I missed my period was when she just gave birth again, so, I just decided to give it a trial and it worked perfectly.

For the next subject, she mentioned inserting certain herb into her vagina before sleeping. According to her;

> …in my place (Andoni-Rivers State), we usually use one leave like that (I don't know the name shaa but I can recognize it anywhere I see it). You put it right inside your private part when you want to sleep. By the time you wake up in the morning, it will just be like magic, everything will be washed away without pains…we also use cassava stem and put it inside but I don't really know how they do that one…

Another respondent complained about the haste with which doctors carry out abortion procedures outside health facilities. In her words;

> …I nearly lost my life in the hands of a man who called himself a doctor. He rented

> an apartment near my friend's place and many girls are always waiting for their turn. He is so much in a hurry and usually very abusive when you complain of pains. I just hope that he has not damaged anything in my system because since after that experience, I always have sharp pains in my stomach from time to time.

Similarly, another respondent talked about sexual assault by doctors before they carry out abortion in their private clinics.

> …my own experience was terrible. I accompanied my friend who wanted an abortion and the doctor wanted to sleep with her first before terminating the pregnancy because she was really desperate…I no fit talk here whether she agreed or not but most of them are really very wicked.

This respondent talks about traditional healers who carry out abortion with roots and herbs.

> …we have a man in my place; his own is just roots mixed with hot drinks. Once he gives you, there is no other need for a doctor and he doesn't even charge much. He can even collect N1000 or N1500 form you. Many girls used to come from Port Harcourt and other places to see him…

These are in line with previous studies which observed that unsafe abortion methods commonly used by women include drinking toxic fluids such as bleach or drinkable concoctions, ingesting corrosive substances such as taking potash, lime or excessive salt, inserting herbal preparations into the uterus or placing inappropriate medication into the vaginal or rectum, use of unskilled provider who improperly perform dilation and curettage in unhygienic settings, causing uterine perforations and infections (Srivastava, *et al.*, 2013; Guttmacher Institute, 2013; Olaitan, 2011). The implication of this to practice is that most females may experiment these methods under similar conditions if adequate health education on the implications of unsafe abortion is lacking.

Lastly, majority of the subjects were aware of the likely health outcomes of unsafe abortion. Below are some of the recorded cases at health facilities visited.

Table 4: Post Abortion Complication Admission Cases from January-December, 2015.

Month	Facility A	Facility B
January	3	2
February	1	-
March	-	2
April	2	2
May	2	1
June	5	2
July	3	1
August	2	1
September	4	3
October	3	2
November	2	1
December	1	1
Total	28	18

The above table shows that about two post-abortion cases are recorded monthly in each of the facilities visited. This excludes clients who patronized other clinics, traditional medicine men or even prayer houses. Ahman, *et* al, (2012) in an earlier study has identified hemorrhage, infection, damage to the fallopian tubes and ovaries, pelvic inflammatory disease, chronic pelvic pain, bilateral tubal occlusion, secondary infertility and eventual death as health outcomes of unsafe abortion. The implication of this to practice is that knowledge alone about health outcomes of unsafe abortion is not sufficient for behavior change as new post-abortion complication cases are regularly recorded in our health facilities.

Conclusion

Unsafe abortion is a leading cause of maternal morbidity and mortality. It has brought untold hardship to many homes. Some of the unsafe abortion procedures commonly used are drinking toxic fluids or concoctions, ingesting corrosive substances such as potash, lime or excessive salt, inserting herbal preparations into the vagina or cervix, placing inappropriate medications into the vagina or rectum, use of unskilled providers among others. The public health implications of unsafe abortion include infection, hemorrhage, secondary infertility and death.

Recommendation

The following recommendations will be very useful:

1. More intentional efforts should be made by all stockholders which includes the family, school, church, media among others to provide age appropriate sex education and family planning methods in order to promote the practice of safer sex methods which will in turn, reduce unwanted pregnancy.
2. There should be enforcement of relevant laws in order to prosecute criminal abortionists to serve as a deterrent to others.
3. Adolescents must be encouraged on the gains to abstain from illicit sex while unmarried.

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Socio-Economic Characteristics Influencing Street Hawking Among Children in Port Harcourt Metropolis, Rivers State, Nigeria

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Abstract

The study assessed the socio-economic characteristics influencing street hawking among children in Port Harcourt Metropolis, Rivers State, Nigeria. Specifically, the study described the socio-economic characteristics of street hawkers, examined the effects of street hawking and analysed the relationship between the socio-economic characteristics of the respondents and street hawking among children in the study area. Structured interview schedule was the research instrument used to elicit information from 100 children involved in street hawking using the purposive sampling technique. Data collected were analyzed using percentage, mean and regression analysis. Results from the study revealed a mean age of 13.3 years. A higher number (59.5%) were females, 44% stopped at primary education, their parents/guardian are single (59%) and are unemployed (25%). The R^2(0.95) of the linear model had a positive significance at f-ratio of 0.3001 and p-value of 0.0173 and age (54.76), sex (3.70), education (0.69), marital status of parents/guardians (0.63) and occupation of parents/guardians (2.12) were significant at $P<0.05$. The effects of street hawking were low school attendance (x=2.95), early pregnancy (x=2.68) and physical abuse (x=4.25). The study recommends that education for children should be made accessible and cheap to the reach of common man in the society.

Keywords: socio-characteristic, street hawking, children, effects

Introduction

Children are the most vulnerable group affected by the changing global political, economic, environmental and social activities of our times. At both the state and community levels, they cannot react and interact with these changes in the same way as adults. Children's inability to cope with the surrounding environments is limited if compared to that of the adult community (Wahua, 2011). Research reports and documents have shown that children's suffering is actually increasing globally, due to ongoing wars and armed conflicts, and the economic strains resulting from ozone depletion and rapid population increase (Wahua, 2011).

Currently, Nigeria is involved in children's right and child labour, in areas such as street vendors/hawkers, shoe shiners, apprentice mechanics, carpenters, vulcanizers, toilers, barbers, agricultural workers, among others. In the south western and northern zones of Nigeria, there is a higher work burden for working children. Boys tend to earn more than their female counterparts. Girls' non-participation in schooling is more likely caused by parent's lack of interest than the boys (United Nation Department of Labour (USDL), 2010 in Ekpenyong & Sibri, 2011). Street hawking among children frequently impairs schooling. Children engaged in street trading encounter problems related to their psychological well-being too. Stigmatization by press and public, feelings of disheartenment, stress and irritability, personality disorders, anti-social behaviour, alienation and isolation from their family have all been identified by Amin (1994).

Ekpenyong and Sibri (2011) found that the prevalence of street hawking is proliferating and must be addressed as a national emergency situation while Anabogu (2000) found feelings of

inferiority, exhaustion, emotional distress, unhappiness and personality disorders to be associated with street hawking. Dunapo (2002) observed that hawkers are exposed to dangers of being kidnapped, raped, and/or being recruited to hawk drugs by drug barons. He also discovered that young street hawkers are prone to early or unwanted pregnancy and contacting of deadly sexual transmitted diseases or infection (ibid). Both Eboh (2009) and Akpusugh (1986) showed in their separate studies that street hawking has serious effects on the social development of children. Their finding could be consolidated by the fact that street hawkers come to develop attitudes that deviate from normal expectations.

In an intensive study of 100 female hawkers, aged 8 to 15 by Ebigbo and Abaga (1990), it was discovered that 50% of them had sexual intercourse during hawking which is a grave situation in view of their vulnerability to fatal sexually transmitted infections. Additional problems found to be associated with street hawking includes restlessness, noise making, disobedience, loitering untidiness, lying and conducts problems, Walter (2009). These street hawkers sell for parents to augment their lean wages, others sale for employers for a morsel of bread; others sell for relation in the form of disguised child labour and still others sell to support a living. Hidden from the casual observer is the army of child prostitutes who combine hawking and petty prostitution. They are at times encouraged by their parents, guardians and employers. This category makes up the most hazardous street children because of the HIV/AIDS scourge and unwanted pregnancies/teenage motherhood, (Nte, 2005).

The structure and function of families play a central role in shaping the behaviour and skills of children. Children, who form sub-components of the family, must be raised to be responsible members of the society with appropriate values, beliefs and training. The ability of the family to function effectively is a factor in child development. Child hawking is a sign of family dislocation, failure and disorganization (Crosson, 2008). As a result of child hawking, the welfare of the children is adversely affected as they are exposed to other social ills and dangers. Globally, child labour is believed to be a major issue related to the phenomenon of street children and a cross-cutting relationship has been noted, where some street children are working and some working children are street children, thus, the legacy of poverty is passed from parents to children, UNICEF (1997, 2006, 2008).

In Rivers State, Port Harcourt, the story is the same with regards to child street hawking. The ugly trend of street hawking is becoming a threat to all habitants of Port Harcourt metropolis ranging from Obio/Akpor Local Government Area to Port Harcourt city of the state. Children abandon their schooling activities to hawking along the streets of Port Harcourt metropolis. Many of these children do not go to school, do not receive proper nutrition or care, and have little or no time to play. More than half of the children hawking on the streets of Port Harcourt are exposed to the worst forms of child molestations such as rape, drug addiction, hunger, child prostitution, drug trafficking, armed conflicts, vectors of ritual and other hazardous environments. This has led to the existence of several international instruments protecting children from child hawking and labour, like the Minimum Age Convention, 1973 and the Worst Forms of Child Labour Convention. It is on this background this study sought to determine the factors influencing street hawking among children in Port Harcourt with the aim of describing the socio-economic characteristics of street hawkers and the effects of street hawking in the study area.

Conceptual Framework

The schematic of street hawking children *figure 1* describes the relationship between the dependent variable (child labour), the independent variables (poverty, overpopulation, limited assess to education among others) and intervening variables (social economic variables), age, sex, marital status, occupation, education, income which result in physical abuse, low attendance to school and sexual abuse of the child among others.

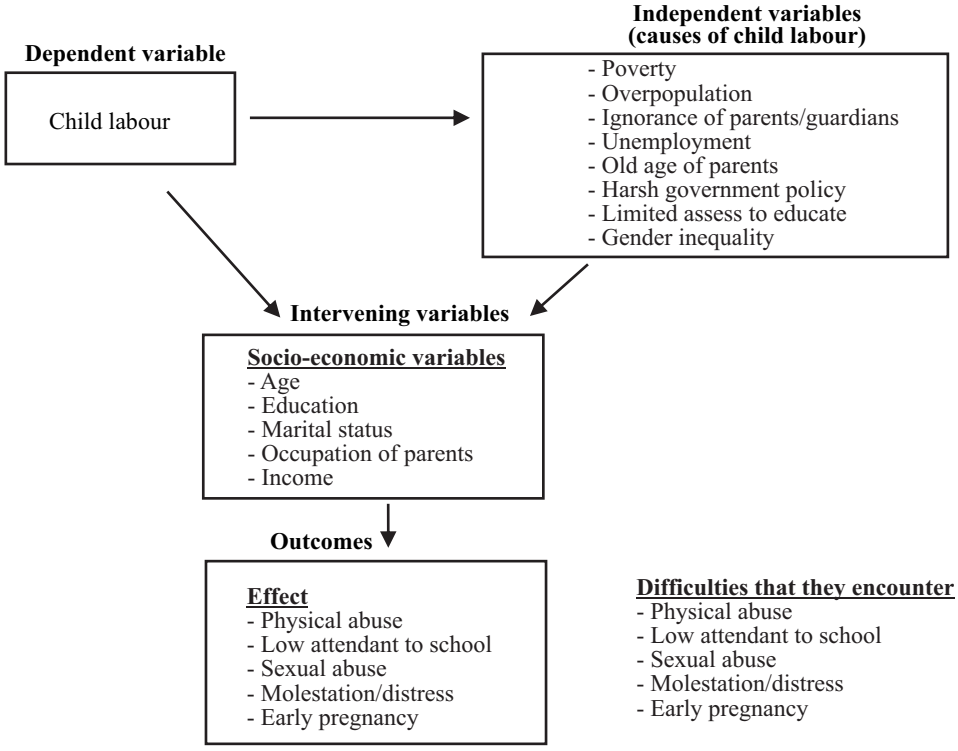

Fig. 1: Schematic representation of street hawking children in Port Harcourt metropolis

Methodology

Port Harcourt metropolis includes Port Harcourt Local Government Area such as Borokiri, Elekahia, Abuloma,Town, Trans-Amadi, Amadi Flat, Old and New GRA, D-line, Diobu Ogbunabali,and Rumuomasi; some communities in Obio/Akpor Local Government Area Ruumuokoro, Rumumasi, Elelenwo, Woji, Choba among others, some communities in Ikwerre Local Government area such as Igwuruta, Aluu, some communities in Eleme Local Government area such as Akpajo and Alesa and some communities in Oyigbo Local Government Area such as Afam and Oyibo. Business such as buying and selling, farming and fishing are the major occupation of the people in these local government areas. Respondents were purposively selected from ten core business areas where street hawking among children was prominent. The areas selected were Abali Park, Mile 3 Market, Aba Road axis and Mile 1 Market (PHALGA), Rumuokoro Market, Eleme Junction, Choba Uniport Junction(OBALGA), Oyigbo express (Oyigbo), Akpajo Junction (Eleme) and Igwuruta Market/Roundabout (Ikwerre). The simple random technique was used to select ten (10) children hawkers from each of the selected areas, making a total for 100 children that were surveyed. Descriptive statistics and regression analysis were used to analyse data collected using interview schedule as the research instrument. The effect of street hawking was analyzed using a four point Likert type scale with options: very effective (4), effective (3), less effective (2) and not effective (1), values 4 to 1 were given to the options and were added to get 10 which was further divided by 4 to get 2.5. The 2.5 was used, any value equal to or greater than 2.5 was regarded as effective while values below 2.5 were regarded as not effective.

Results and Discussion

Respondents' Socio-Economic Characteristics

Results in Table 1 show that the mean age of the street hawkers in the study area was 13.3 years, mostly females (59.5%), 44% stopped at primary education while 34% had no education, their parents are single (59%) and are unemployed (25%). This implies that the children involved in street hawking were in their adolescent age, growing to adulthood, the stage of exploration of life, inquisitiveness, wanting to test and know everything. According to Dunapo (2002), children between the ages of 11-15 years lack necessary moral training and personal developmental qualities to take up leadership position in the future. Also, majority of the parents being unemployed and are single led to the street hawking as parents could not provide basic needs for the family.

Table 1: Socio -economic Characteristics of the Children Hawkers in Port Harcourt Metropolis

Characteristics	Frequency	Percentage (%)	Mean
Age in years			
5-9	27	27.0	13.3yrs
10-14	33	33.0	
15-17	40	40.0	
Total	100	100.0	
Sex			
Male	40	40.0	
Female	60	60.0	
Total	100	100.0	
Educational attainment			
No formal education	34	34.0	
Primary (FSLC)	44	44.0	
Secondary (JSS/SSCE)	22	22.0	
Total	100	100.0	
Marital status of parents/guardians of children hawkers			
Single	59	59.0	
Married	30	30.0	
Divorce/separated	11	11.0	
Total	100	100.0	
Occupation status of parents/guardians of children hawkers			
Trading	21	21.0	
Farming	19	19.0	
Craft-man	18	18.0	
Civil servants	15	15.0	
Company worker	2	2.0	
Unemployed	25	25.0	
Total	100	100.0	

Source: Field Survey, 2016

Testing of Hypothesis 1

From Table 2, the result shows that the R^2 of the linear model (0.95) had a positive significant with an f-ratio of 0.3001 among the three models. The p-value of the linear is 0.0173 and the double-log is 0.043 indicated that they are significant at ($P<0.05$), using the linear models, age (54.76), sex (3.70), education (0.69), marital status of parents/guardians (0.63) and occupation of parents/guardians

(2.12) were significant at P<0.05. This means that socio-economic characteristics of the parents such as marital status and occupation encourages street hawking among children in Port Harcourt metropolis while the characteristics of children such as age, sex and education made them venerable to street hawking.

Table 2: Regression Analysis on the Relationship between Respondents and Socio-Economic Characteristics

Model Summary & Fitness	Parameters	Linear	Semi-log	Double-log
	Multiple R Square (R^2)	0.9523*	-0.5391	-1.8211
	f-ratio	0.3001*	-2.679	-0.421
	P-value of the f. ratio	0.0173*	-1.321	-0.043
Coefficients estimates	Variables	0.6598	0.223	-1.5003
B0	Intercept	2.11(1.08)^{ns}	-0.01(0.08)^{ns}	0.761(1.32)^{ns}
B1	Age	54.76(3.51)*	2.56(0.81)*	-0.4884
B2	Sex	3.70(7.32)*	0.63(4.09)*	1.76(2.14)*
B3	Education	0.69(6.32)*	-2.32(-0.10)^{ns}	0.34(-2.01^{ns}
B4	Marital Status of Parents/Guardians	0.63(3.44)*	2.54(0.31)*	0.33(1.41)*
B5	Occupation of parents/Guardians	2.12(0.51)*	0.77(0.38)*	-7.63(0.56)^{ns}

NB: Dependent variable= socio-economic characteristics of respondents
Figures in parentheses are t ratios;*=Significant difference (P<0.05), NS=Not significant (P>0.05)
Source: Field Survey, 2016.

Linear

$Y= 2.11+54.76x_1+3.70x_2+0.69x_3+0.63x_4+2.12x_5+0.2302$
$R^2=0.9523$
X_1=Age, X_2=Sex, X_3=Education, X_4= Marital Status of Parents/Guardians of children
X_5= Occupation of Parents/Guardians of children.

Effects of street hawking among children in the study area

The results in Table 3 show that the most serious effect of children involved in street hawking in Port Harcourt metropolis was physical abuse of children with a mean of 4.25. The result agrees with that of Dantiye and Haruna (2004), who said that street hawking is highly detrimental to the child's physical, mental and social development. This is followed by low attendance to school with a mean of 2.95. This result is supported by the reports from UNICEF (2004) and Crosson (2008) that lack of education among children causes to start work early which affect their personal development and society at large. The implication of this finding is that community or country with low education attainment is likely to be poor in their human capital index development, and in addition may lack specific skills necessary for their future occupations and societal values. Other effect is pregnancy

with a mean of 2.68. This is a confirmation that hawking among children has negative influence of exposing them to teenage motherhood, deadly diseases like HIV/AIDS and other sexual transmitted diseases. These findings agree with that of Ekpenyong and Sibiri (2011) that street hawking affects the future of the children. This is also in consonance with the study conducted by Dunapo (2002) that street hawking exposes hawkers to dangers of being kidnapped, raped, contact deadly and infectious diseases that are sexually transmitted, early pregnancy and personality defects.

Table 4: Effects of street hawking among children in Port Harcourt metropolis

S/N	Effects	Total scores	Mean(x)
1	Physical abuse	850	4.25
2	Low attendance to school	590	2.95
3	Sexual abuse	450	2.20
4	Molestation/distress	240	1.05
5	Early pregnancy	526	2.68

*≥ 2.50 = Serious effect
*< 2.50=Not a serious effect
*Source: Field Survey, 2016

Conclusion and Recommendations

The children involved in street hawking were mostly adolescent and they are females who had primary school certificate as the highest level. The parents of the children in street hawking are single who are unemployed. Street hawking exposed the females to early pregnancy and physical abuse of both boys and girls including low attendance to school. Parental or guardian socio-economic characteristics such as marital status and occupation encourage street hawking among children in Port Harcourt metropolis while the characteristics of children such as age, sex and education made them vulnerable to street hawking.

Based on the findings, the study recommends that education for children should be made accessible and cheap to the reach of common man in the society and creation of employment opportunities for parents and guardians of children hawkers be encouraged.

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Assessment of Dredge Water Quality Status of the Ntawogba Creek, Port Harcourt Using Selected Water Quality Parameters

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Abstract

Water samples were collected from the Ntawogba Creek water which traverses the city of Port Harcourt and empties into the Bonny River. Particle size analysis was carried out which indicated much of a sandy soil using recommended techniques for both dredge spoil and the surface water. Result showed that heavy metals increased in the order of Cd <Mn < Fe < Cu < Pb which were analyzed using atomic absorption spectrophotometric method. Available phosphorus was determined using spectrophotometric technique of absorbance at 720nm whereas total Nitrogen was by taking 0.05% organic carbon but organic matter was by the Walkey and Black wet oxidation method. The pH was measured *in situ* using the pH-meter and was observed that the dredged water body was acidic due to so many factors. Graphs, standard deviation and statistical mean values were used to interpret and illustrate variations. Analysis showed that the water body was polluted and high level mineralization may be taking place. Most of the metals exceeded standard guidelines for portable water and hence risky to public health. Regular monitoring of the physicochemical and heavy metal level is therefore recommended so as to control anthropogenic inputs.

Keywords: Anthropogenic, Heavy metals and Pollution.

Introduction

United State Department of Agriculture, Natural Resources Conservation Service USANRCS in 2016 posited that dredge spoils are unconsolidated, randomly mixed sediments composed of rock, soil and or shell materials extracted and deposited during dredging and dumping activities. Usually dredge spoils are deposited on natural or regolith (undisturbed soils) which can finally form man-made land forms such as dredge spoil banks. Dredge spoils are materials excavated beneath the water bodies for the purposed of expansion, sand dredging and channel opening. When done for sand purposes, the remains excluding the sand of interest is termed dredge spoil which can be of various composition and natural deposits of the area. Therefore, dredge spoils are materials extracted from waterways and channels during maintenance and construction activities (Iyama & Edori, 2014).

The dredge spoil is handled in different ways but dependent on the aim of the dredging activity. These may include removal by flushing especially for commercial purposes; relocation and hence dumping in erosion prone areas as in maintenance dredging and relocation using a special water injection dredger. Iyama and Edori (2014) posit that temporal and spatial seasonal variation during dredging affects some physic-chemical parameters including the nutrient properties. The dredging activities in the Ntawogba Creek are for maintenance purposes which are at variance with that of the Rumuolumeni axis of the Bonny River for reclamation and construction purposes (Iyama & Edori, 2014).

The study area was the Ntawogba Creek, a shallow, highly eutrophic municipal waterway that traverses the city of Port Harcourt in Rivers State (Chiawolamoke, 2007). It is a fresh water

habitat as the aborigines used it as source of drinking water when much anthropogenic activities were not much on it especially the indiscriminate dumping of refuse (Chiawolamoke, 2007). Therefore, erosion taking place along the shores due to certain human activities had developed substantial sediment load as to block it hence a reduction of the depth which promotes flooding. This article was aimed at the assessment of nutrient status of the creek using certain heavy metals assays and selected nutrient parameters and also established certain effect of treatment on the bioavailability of heavy metals in the spoils. This work will further strengthen baseline data earlier established by other researchers.

The Ntawogba Creek study area drains from Orazi Community in Rumueme (Mile 4) traversing several parts of Port Harcourt and through the Amadi Creek (Amadi Flats) empties into the Bonny River. The Ntawogba Creek is located between longititude $7^0$20'E and latitude $4^0$58' and $4^0$65'N. Some contaminate prevalent in dredged spoils include heavy metals, halogenated hydrocarbons, pathogenic bacteria and viruses, petroleum hydrocarbon from oil spillage and some organic and inorganic chemicals and oxygen-demanding substances (Sigua, 2005).

Materials and Methods

Sampling location: Five sample stations were chosen based on the nature of anthropogenic inputs of materials along the creek and on a systematic sampling design. These stations were labeled $N_{A,}$ $N_{M,}$ $N_{I,}$ $N_{K,}$ N_{AF}.

Table 1: Sampling Stations

Tags	Description of Sampling Area
N_A	Ntawogba by Abacha Road (N04^0 48’56, E006^{0}58’40)
N_M	Ntawogba by Mile 3 Market (N04^0 48’28’, E006^{0}56;26)
$N_{I,}$	Ntawogba by Ikoku-UST axis (N04^0 48’46’, E006^{0}57’ 35;26)
$N_{K,}$	Ntawogba by Kaduna Street (N04^0 48’48’, E007^{0}03’06)
N_{AF}	Ntawogba by Amadi Flats. (N04^0 36’40’, E00704’05)

Sampling, Sample Preparation and Analysis

Dredge samples were taken from depths of about 0-10cm and 20-30cm using the soil auger. Similarly at each site stream bed samples of sediments were made by scooping at 9-10am of the marshy area of the spoil. These samples were air dried, sieved using a 2mm sieve. This study was conducted in two principal forms which were raw sample analysis and selecting samples of P^H 3.0-6.0 amended with $CaCO_3$; those of pH 6-9 were also amended using $CaS0_4$ where 1g of the lime materials was added to 15g of the sample.

The pH was obtained using a pH meter on a 1:3 soil /water suspension. About 20g of the sample were put in a 100ml Beaker and 50ml of distilled water using a glass rod for proper mixing. The soil pH was then measured after an hour after proper calibrations were made at 7 and 4 standard buffers (Edori & Iyama, 2017). Similarly, water samples were taken from the 5 selected sample stations at 20cm, 40cm and 60cm depths. Available phosphorus was obtained using hydrochloric acid (HCl) and NH_4F (ammonium fluoride). The calorimetric technique and the use of ammonium molybdate and ascorbic acid (reducing agent) were applied. This involved 3.0g of the sample in extraction flask where about 20ml of extracting solution was added and shaken for 5 minutes and then filtered. Finally absorbance at 720nm using the spectrophotometer was used. Total nitrogen was measured using that applied by Sbaragha (1991) in similar environment simply calculating 0.05% of the value of organic carbon. The Walkey and Black wet oxidation methods were used for the determination of organic carbon (Chiawolamoke, 2007).

The particle size distribution was determined by the method adopted by Ibitoye (2006) in his studies. The heavy metal analysis was determined using the method applied by Okoye and Agbo (2014) in their research on trace metals in soils around solid waste dumps in Nsukka. This was in consonance with heavy metal analysis using atomic absorption spectrophotometric method as was done by Iyama (2015) in his studies on the assessment of heavy metal concentration from the three Bassan Rivers of Southern Ijaw, Bayelsa State. The following heavy metals were studied and analysed for the 5-samplying stations; Copper (Cu), Iron (Fe), Manganese (Mn), Cadmium (Cd), Lead (Pb), and Zinc (Zn).

Results and Discussion

The pH of Ntawogba Creek water within the study stations is shown in Table 2. The top surface water had pH of 4.4, middle surface 4.9 whereas the bottom stream had a pH of 4.9 also. This showed a relatively high acidic content. Their mean values were 4.73+0.29. The pH value for the Abacha Road axis was however due to the nature of waste dumped into this section of the creek where household, electrical and faecal waste were found. Udo, Uko and Tamunobereton-ari (2015) gave total Heterotrophic Bacteria count of the Amaechi Drive axis of the Ntawogba Creek as 3.3 x 10^5 cfu/ml (though lowest found in their study stations). This is consistent with other findings by notable investigators (Ogbonna, Ideriah & Nwanchukwu, 2013; Braide, Izonfuo, Adiukwu, Chindah & Obunwo, 2004 and Iyama & Edori, 2014). The pH of this study station is relatively so low hence may have resulted from interaction with an acidic substance at some point in time. This may also be constituent of the residual soil or rocks that formed the solid substrate of the aquifer which contains the ground water that feeds the Ntawogba Creek. This reduced pH values are *in tandem* with those recorded for similar streams in the Niger Delta (Chiawolamoke, 2007). The mean pH values for stations N_m, N_l, N_K and N_{AF} are 5.2± 0.35, 6.1± 1.39, 5.97 ± 1.27 and 7.4 ± 0.17 respectively. This shows that station N_{AF} has an almost near neutral pH which is comparable with that of Braide *et al*. (2004) on the water quality of Miniweja Creek in the Niger Delta. Other stations show acidic nature similar to station N_A (Abacha Road station). The N_{AF} stations are very close to the exit point of the Ntawogba Creek which empties into the Bonny River. The nature of soil and anthropogenic inputs may account for the near neutral pH values. Most wastes deposits from the beginning of the creek are usually settled at the N_{AF} station. Fertilizer, manure, plant decay, atmospheric fallout is major non point sources of nitrogen and Phosphorus (USGS, 2016). Phosphorus has mean values of 16.33 ± 11.85, 15 ± 8.89, 44 ± 14.93, 58 ± 22. 91 and 44.33 ± 4.16 for N_A, N_m, N_l, N_k and N_{AF} respectively. The result for phosphorus and total nitrogen is shown in Tables 2, 3, and 4 for all the study stations. The lowest value for available phosphorus was found as 8mg/l in station N_m in the middle surface whereas the highest was found in N_k at the top surface as 78mg/l. Available phosphorus is observed to be higher in the top water surface and hence higher than 10.0mg/kg regarded as the critical level for available phosphorus using the Bray P-I extraction method. There is decrease in the available anthropogenic inputs as agreed in the work of Chiawolamoke (2007) in similar environment. Available phosphorus was relatively lower in station N_m (8mg/kg) due to the high clay content recorded here. The overall high content of phosphorus explains the high presence of water hyacinth found hence blocking the drainage channel leading to flooding during the rainy seasons.

Total nitrogen shown in Tables 2, 3, and 4 shows that station N_A (0.8%) found at the top and middle surfaces were the highest recorded during the period. Station NA has the highest mean value of 0.7 ± 0.17 compared to 0.00 ± 0.00 mean % nitrogen found in N_l stations. The mean % nitrogen for the stations N_A, N_m, N_l, N_K and N_{AF} are 0.7 ± 0.17, 0.17 ± 0.17, 0.26 ± 0.16, 0.37 ± 0.15 and 0.00 ±0.00 respectively. The higher % nitrogen content of 0.8% recorded in station N_A at both top and middle surfaces were as a result of higher organic matter content also corroborated by Chiawolamoke

(2007) in his heavy metals and nutrient status of dredge spoils from the Ntawogba Creek in Port Harcourt. This higher % nitrogen content may be as a result of mineralization from the accumulation of organic matter from municipal wastes (Kurihara, 1984). The absence of % nitrogen in station N_I (0.00%) indicates low level of mineralization and organic matter as no anthropogenic inputs upstream of this study station.

Organic matter (carbon) is recorded in Tables 2, 3, and 4. The mean organic carbaon (matter) for stations N_A, N_m, N_I, N_K and N_{AF} are 12.13±.1.71, 1.31 ± 1.50, 2.2 ±1.30, 5.07 ±12. 15 and 2.93 ±0.60 respectively. Station N_A recorded the highest organic matter content as a result of the nature of soil and level of anthropogenic inputs to both decay materials and faecal waste. Most food waste from mechanics and mobile food sellers are dumped around this area. Similarly, a lot of land reclamation through dredging was done also around this station. The above result shows a significant difference of organic matter content along the stream depths of the Ntawogba and river water. According to Chiawolamoke (2007), the high organic matter content recorded around N_A station especially at both the top and middle surfaces can be attributed to quantity of organic waste being deposited into the stream when compared to bottom surface. This was in agreement with Davis, Eagle and Finney (1993) on a similar environment.

The particle size distribution of the filtered water and dredge spoil shows that stations in Table 5, sandy soil predominates immediately followed by clay composition. Strikingly, in station N_I, a record of sandy–clay structure was observed in both top surface and middle surface with 46.40 and 48.42 ratios respectively. This is in agreement with the works of Chiawolamoke (2007) and Schubel, Wise and Schoof (1978) on particle size analysis on questions about dredging and dredged materials. The recorded mean values for sand, silt and clay for the top, middle and bottom surfaces in stations N_A, N_m, N_I, N_K and N_{AF} are 48.67 ± 6. 51, 14. 33 ±2.52, 22 ± 6.08; 69.67 ± 2.52, 6 ± 3.60, 14.33 ± 2.52, 60 ± 22.54, 17 ± 7.55, 30.33 ± 18.50; 63 ±6.11, 17.33 ± 6.81, 21.33 ± 1.53 and 72.33± 14.47, 11.67± 5.77, 18.67± 9.45 respectively.

The heavy metals studied include Cu, Fe, Mn, Cd and Pb as shown in Table 6. The mean heavy metal content for the study according to the stations (N_A, N_m, N_I, N_K, and N_{AF}) and the metals (Cu, Fe, Mn, Cd, Pb) are shown also in table 6. The mean values (N_A) are Cu (3.01± 0.31), Fe (7.11± 3.32), Mn (3.71 ±1.02), Cd (0.14 ± 0.03), Pb (0.75 ±0.68); for N_m, Cu (1.37 ± 0.08), Fe (2.93 ±3.61), Mn (1.97 ±2.05), Cd (0.03± 0.02), Pb (0.46 ± 0.59); for N_I, Cu (14.33± 14.19), Fe (5.45±3.35), Mn (2.11±1.73), Cd (0.49 ±0.31), Pb (6.72± 4.92); for N_k, Cu (10.54±6.07), Fe (7.27± 2.84), Mn (5.57 ±2.33), Cd (0.56 ±0.19), Pb (99.07 ±83.93) and for N_{AF}, Cu (4.95± 2.98), Fe (1.72±0.82), Mn (2.04±1.17), Cd (0.18±0.12) and Pb (2.4±0.63) respectively. The result of heavy metal analysis shows that Cu had the highest recorded value of 30.40 in the bottom surface water in station N_I and the least of 1.28 in station N_m at the bottom surface. This is at variance with those recorded by Opp, Hahn, Zitzer and Laufenberg (2015) on heavy metal concentration in pores and surface water during the emptying of a small reservoir. The ranges shown for Cu in station N_A (2.71-3.32), N_m (1.28.1.44), N_I (3.50-30.40), N_K (3.63-15) N_{AF} (1.54-7.10); for Fe, N_A (4.20 -10.73), N_m (0.83-7.10) N_I (2.20-8.90) N_K (4.10-9.69), N_{AF} (0.81-1.95); for Mn, N_A (2.79- 4.81), N_m (0.10 –5.32), N_I (0.15 -3.41), N_K (3.51- 8.10), N_{AF} (0.69-2.84); for Cd, N_A (0.10 -0.16), N_m (0.02-0.05/), N_I (0.25- 0.840), N_K (0.35-0.70), N_{AF} (0.04- 0.26); for Pb, N_A (0.30 -1.53), N_m (0.10 – 1.14), N_I (1.10-10.22), N_K (2.20-150), N_{AF} (1.85 – 3.10). The heavy metal content for Cu in station N_A (30.40) may be due to the high acidic content leading to high solubilization as corroborated by Opp *et al.,* (2015) on similar water bodies. All the values for Cu, Cd, Pb, Mn were higher than stipulated limits by WHO (2006) standards. The heavy metals concentration in the surface water samples from the Ntawogba Creek increased in the following order: Cd < Mn < Fe < Cu < Pb which did not exactly follow that previously recorded for similar surface water in Warri River, Niger Delta (Wogu & Okaka, 2011; Iyama & Edori, 2013).

Table 2: Physico-chemical status of Ntawogba Dredge Spoils at Abacha Road Station (N_A)

Stations /Parameters	Top surface	middle surface	bottom	mean
P^H (unit)	4.4	4.9	4.9	4.73. ±0.92
Organic Carbon (matter)	14	13	9.4	12.13±1.71
Total Nitrogen %	0.8	0.8	0.5	0.7±0.17
Available Phosphorus Molder 3)	10	9	30	16.33±11.85

Table 3: Physicochemical status of Ntawogba Dredge Spoils at stations N_m and N_I

Stations /Parameters	Top surface	middle surface	bottom	mean
N_K				
P^H (unit)	5.0	5.5	7.4	5.97. ±1.25
Organic Carbon (matter)	7.2	5.1	2.9	5. 07±2.15
Total Nitrogen %	0.4	0.2	0.5	0.37±0.15
Available Phosphorus (Molder ^{3})	78	63	33	58±22.91
N_I				
P^H (unit)	5.4	5.2	7.7	6.1. ±1.39
Organic Carbon (matter)	3.7	1.5	1.4	2.2±1.30
Total Nitrogen %	0.24	0.43	0.11	0.26±0.16
Available Phosphorus	55	50	27	44±14.93

Table 4: Physicochemical status of Ntawogba Dredge Spoils at stations N_K and N_{AF}

Stations /Parameters	Top surface	middle surface	bottom	mean
Nm				
P^H (unit)	5.0	5.0	5.6	5.2. ±0.35
Organic Carbon (matter)	0.78	0.14	3.0	1. 31±1.50
Total Nitrogen %	0.35	0.02	0.14	0.17±0.17
Available Phosphorus Molder 3)	12	8	25	15±8.89
N_I				
P^H (unit)	7.5	7.5	7.2	7.4. ±0.17
Organic Carbon (matter)	2.6	2.56	3.62	2.93±0.60
Total Nitrogen %	0.00	0.00	0.00	0.00±0.00
Available Phosphorus	49	43	41	44.33±4.16

Table 5: Particle size distribution for Abacha Road (N_A) Dredge Spoils of Ntawogba Stream

	Soil type	Top surface	Middle surface	Bottom	Mean
	Sand	55	42	49	148.67±6.51
	Silt	12	14	17	14.33±2.52
N_A	Clay	18	29	19	22±6.08
	Sand	67	72	70	69.67±2.52
	Silt	9	2	7	6± 3.60
N_m	Clay	12	17	14	14.33±2.52
N_I	Sand	46	48	86	60±22.54
	Silt	24	18	9	30.33 ±18.50
	Clay	40	42	9	30.33±18.50
N_K	Sand	57	65	69	63.67±6.11
	Silt	25	12	15	17.33±6.81
	Clay	20	23	21	21.33±1.53
N_{AF}	Sand	65	63	89	72.33±14.47
	Silt	15	15	5	11.67±5.77
	Clay	22	26	8	18.67±9.45

Table 6: Heavy metal compositions of Dredge spoil for Ntawogba Stream

	Sampling Surface Station N_A	Cu	Fe	Mn	Cd	Pb	Mean
	Top	3.00	4.20	2.79	0.15	0.43	
N_A	Middle	2.71	6.40	3.54	0.16	0.30	
	Bottom	3.32	10.73	4.81	0.10	1.53	
	Mean (x)	**3.1±0.31**	**7.11±3.32**	**3.71±1.02**	**0.14±0.03**	**0.75±0.68**	
	Top	1.44	0.83	0.50	0.02	0.14	
N_m	Middle	1.39	0.85	0.10	0.02	0.10	
	Bottom	1.28	7.10	5.32	0.05	1.14	
	Mean (x)	**1.37±0.08**	**2.93±3.61**	**1.97±2.05**	**0.03±0.02**	**0.46±0.59**	
N_I	Top	9.10	8.90	0.15	0.84	10.22	
	Middle	3.50	5.25	3.41	0.39	8.85	
	Bottom	30.40	2.20	2.78	0.25	1.10	
	Mean (x)	**14.33±14.19**	**5.45±3.35**	**2.11±1.73**	**0.49±0.31**	**6.72±4.92**	
N_K	Top	15	9.60	3.51	0.70	145	
	Middle	13	8.10	5.10	0.63	150	
	Bottom	3.63	4.10	8.10	0.35	2.20	
	Mean (x)	**10.54±6.07**	**7.27±2.84**	**5.57±2.33**	**0.56±0.19**	**99.7±83.93**	
N_{AF}	Top	7.10	1.95	2.58	0.26	2.25	
	Middle	6.20	2.41	2.84	0.23	1.83	
	Bottom	1.54	0.81	0.59	0.04	3.10	
	Mean (x)	**4.95±2.98**	**1.72±0.82**	**2.04±1.17**	**0.18±0.12**	**2.4±0.63**	

Conclusion

The studies of the Ntawogba Creek dredge spoil and surface water indicate high organic matter content and heavy metal load. This is an indication of rich organic matter for agricultural purpose but high metal level is a threat to public health either for surface water or potable water uses. There is great need for further studies or more water quality parameters and in depth study of soil particle analysis.

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Malaria Prevalence and Treatment Regimen Compliance among Pregnant Women in Onuebum and Okodi Communities in Bayelsa State, Nigeria

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Abstract

The study was conducted to determine malaria prevalence and treatment regimen compliance among pregnant women in Onuebum and Okodi communities in Bayelsa State, Nigeria between August 2014 and January, 2015. Of the 120 pregnant women recruited for the study and examined, 102 (85%) were tested positive for malaria. The result showed that malaria was prevalent during pregnancy and the age group 15 - 20 years recorded the highest rate (100%) of malaria. The primigravidae were more susceptible to malaria with a high prevalence rate of (100%). The multigravidae were the lowest with a prevalence rate of (71.2%). The result also showed that 81(79.4%) of those tested positive of malaria complied fully with treatment regimen. The chi-square was used to test the null hypotheses of no relationship. The study found a significant association between prevalence of malaria in relation to age at (P – value < 0.05). It also found a significant association between prevalence of malaria in relation to parity. Similarly, in relation to treatment regimen compliance, the study found a significant relationship between treatment regimen compliance and educational status at (p – value < 0.05). It also found a significant relationship between treatment regimen compliance in relation to occupation.

Keywords: Prevalence, malaria, treatment regimen compliance, pregnant women

Introduction

Malaria is a life threatening parasitic disease transmitted by female *Anopheles* mosquitoes. Malaria is the highest prevalent tropical disease, with high morbidity and mortality and high economic and social impact (WHO, 2001).

It has been noted (WHO, 2000) that malaria is one of the world`s greatest killer diseases placing more than half of the world`s population at risk. It is estimated that the number of cases of malaria rose from 233 million in 2000 to 244 million in 2005 but decreased to 225 million in 2009 (WHO, 2010). Over 90% of all deaths caused by malaria occur in Sub-Saharan Africa and about 85% of deaths globally were in children under five years of age (WHO, 2010).

Malaria infection during pregnancy is a major public health problem in tropical and subtropical regions throughout the world (WHO, 2010). The burden of malaria infection during pregnancy is caused mainly by *Plasmodium falciparum*, the most common malaria species in Africa (WHO, 2010). Each year at least 3 million pregnancies occur among women in malaria's areas of Africa, most of who reside in areas of relatively stable malaria transmissions (Brabin,

2000). The symptoms and complications of malaria during pregnancy differ with the intensity of malaria transmission and thus with the level of immunity the pregnant woman has acquired (Perlmann & Troye-Blomberg, 2000). Pregnant women and the unborn children are particularly vulnerable to malaria, which is a major cause of prenatal mortality, low birth weight, and maternal anaemia (Greenwood, Alonso, Terkuile, Hill & Steketee, 2007). Beyond the impact of malaria on children and pregnant women, it affects the general population. The entire Nigeria population is at risk of malaria and at least 50% of the total population suffers from at least one episode of malaria each year (WHO, 2010).

About 51% of malaria cases and deaths in Nigeria occur in rural villages away from effective diagnostic or treatment facilities (WHO, 2010). Malaria cases and deaths have been increasing in the country, mainly due to injudicious use of anti-malarial drugs, delayed health seeking, and reliance on the clinical judgment without laboratory confirmation in most of the peripheral health facilities (Vander, Presmasiri & Wickremasinghe, 2005). Despite evidence of the cost effectiveness of improving treatment access and compliance (Goodman, Coleman & Mills, 1999), most victims of malaria still die because of a lack of health care close to their homes or because their condition is not diagnosed by health workers (WHO, 2000; Armstrong- Schellenberg ,1994). The main aim of the study is to ascertain malaria prevalence and treatment regimen compliance among pregnant women in Onuebum and Okodi communities in Bayelsa state, Nigeria.

Study Area

The study was conducted Onuebum and Okodi communities in Ogbia Local Government Area of Bayelsa State, Nigeria. Bayelsa State is geographically located within latitude 04^0 15^1 - 05^0 23^1 North and longitude 05^0 22^1 - 06^0 45^1 East. It shares boundaries with Delta State on the North, Rivers State on the East and the Atlantic Ocean on the West and South.

Research Design

For this study a prospective cohort study design method was employed. The study was conducted between August 2014 and January, 2015.

Study Population

Study population comprised 120 recruited pregnant women in Onuebum and Okodi communities in Bayelsa State, Nigeria.

Sample and Sampling Techniques

The population of study comprised 120 recruited pregnant women in Onuebum and Okodi communities in Ogbia Local Government Area of Bayelsa State, Nigeria. A population based (census) study was carried out. It is a population based study and not sampling because all the recruited pregnant women were examined and kept under surveillance for a period of six (6) months.

Instruments for Data Collection

The instruments used for the research study were questionnaire and Rapid Diagnostic Tests (RDTs) kits. The questionnaire used is of the structured fixed-response type called close – ended questionnaire.

Procedure for Rapid Diagnostic Test kits (RDTs) for Malaria

Peripheral blood samples were collected from pregnant women by finger prick and described as follows: The third finger of the left hand to be lanced was cleaned with an alcohol swab, the finger was then pricked with disposable blood lancet, the first drop of blood was wiped away with sterile cotton wool, pressure was applied to the finger for blood to ooze out, a pipette gently squeezing the bulb was immersed into the open end in the blood drop and then gently release the pressure to draw blood into the sample pipette up to 5ul mark.

It was ensured that the device and assay diluents are at room temperature before starting the test procedure. Then the test device was removed and labelled with the patient's name. The test device was placed on a flat surface and 5ul of whole blood was added into the sample well of test device. Also two drops of assay diluents was added into the assay diluents well. The test result was read within 20 minutes. If only one colour band appear, at control line "C", the specimen is negative. But if two colour bands appears, one at control line "C" and the other at test line "T", indicates the specimen is positive.

Administration of Drugs

The pregnant women with a positive test result in addition to malaria symptoms were subjected to treatment with oral quinine 600mg, three times daily for seven days.

Administration of Questionnaires

For this study, the researcher used a structured fixed response type called close ended questionnaire to collect the baseline information on malaria morbidity and treatment regimen compliance from the recruited pregnant women.

Method of Data Analysis

The data collected from this study were subjected to statistical analysis using Statistical Package for Social Sciences (SPSS) for windows (version 20.0). The statistical significance of variables was estimated using Chi-square test.

Ethical Consideration

The study received ethical approval from the Ethical Committee, Department of Public Health, Federal University of Technology Owerri.

Results

Malaria Prevalence in Relation to Age group of Pregnant Women

Table 1: Malaria Prevalence in Relation to Age group of Pregnant Women

Age group (years)	No. Examined of Malaria (%)	No. Examined Positive (%)	No. Examined Negative (%)
15 – 20	13(100)	13(100)	0(0)
21 – 25	30(100)	29(96.7)	1(3.3)
26 – 30	18(100)	17(94.4)	1(5.6)
31 – 35	22(100)	15(68.2)	7(31.8)
36 – 40	22(100)	17(77.3)	5(22.7)
41 – 45	15(100)	11(73.3)	4(26.7)
Total	**120 (100)**	**102 (85)**	**18 (15)**

The prevalence of malaria among pregnant women in relation to age is shown in table 1. The 15 – 20 years age group had the highest rate of malaria prevalence (100%), followed by the 21 – 25 years age group (96.7%), the 26 – 30 years age group (94.4%), the 36 – 40 years age group (77.3%), the 41 – 45 years age group (73.3%) and the 31 – 35 years age group (68.2%), respectively. There was significance relationship between malaria prevalence and age group of the studied pregnant women ($P = 0.014$, $\chi 2 = 14.268$). Pregnant women aged 15 – 20 years had the highest malaria prevalence during pregnancy.

Malaria Prevalence in Relation to Parity

Table 2: Malaria Prevalence in Relation to Parity

Variables (Parity)	Number Examined of Malaria	Number Examined Positive (+)	Number Examined Negative (-)
Primigravidae	*41(100)*	41(100)	0 (0)
Secundigravidae	20 (100)	19 (95)	1 (5)
Multigravidae	59 (100)	42 (71.2)	17 (28.8)
Total	**120 (100)**	**102 (85)**	**18 (15)**

Prevalence of malaria in relation to parity is shown in table 2. There was a reduction in the proportion of those with malaria as gravidae increased, with the primigravidae having the highest (100%), followed by secundigravidae having (95%) and the lowest was seen in the multigravidae having (71.2%). There was significance relationship between malaria prevalence and parity among the pregnant women studied ($P = 0.001$, $\chi 2 = 16.731$). Those at first pregnancy had more malaria compared to secundigravidae and multigravidae.

Malaria Treatment Regimen Compliance in Relation to Occupation

Table 3: Malaria Treatment Regimen Compliance in Relation to Occupation

Variable (Occupation)	Number administered anti-malarial drugs (%)	Number completed treatment regimen (%)	Number not completed treatment regimen (%)
Civil servant	37(100)	33(89.2)	4(10.8)
Trader	12(100)	11(91.7)	1(8.3)
Farmer	21(100)	10(47.6)	11(52.4)
Unemployed	32(100)	27(84.4)	5(15.6)
Total	**102(100)**	**81(79.4)**	**21(20.6)**

Compliance with treatment regimen in relation to occupation is shown in table 3. The traders had the highest rate of malaria treatment regimen compliance (91.7%), followed by the civil servants (89.2%), unemployed house wives (84.4%) and farmers (47.6%) had the lowest treatment regimen compliance rate. There was a significance relationship between treatment regimen compliance and occupation ($P = 0.001$, $\chi 2 = 16.731$).

Malaria Treatment Regimen Compliance in Relation to Educational Status

Compliance with treatment regimen in relation to educational status is shown in table 4. Those with tertiary education had the highest rate of malaria treatment regimen compliance (97%), followed by secondary education (86.8%) and primary education (50%), respectively. All those with no formal education did not complete their treatment regimen. There was significance relationship between malaria treatment regimen compliance and educational status ($P = 0.000$, $\chi 2 = 49.734$).

Table 4: Malaria Treatment Regimen Compliance in Relation to Educational Status.

Variables (educational status)	Number administered antimalarial drugs (%)	Number completed treatment regimen (%)	Number not completed treatment regimen (%)
No formal education	10(100)	0(0)	10(100)
Primary education	6(100)	3(50)	3(50)
Secondary education	53(100)	46(86.8)	7(13.2)
Tertiary education	33(100)	32(97)	1(3)
Total	**102(100)**	**81(97.4)**	**21(20.6)**

Compliance with treatment regimen in relation to educational status is shown in table 4. Those with tertiary education had the highest rate of malaria treatment regimen compliance (97%), followed by secondary education (86.8%) and primary education (50%), respectively. All those with no formal education did not complete their treatment regimen. There was significance relationship between malaria treatment regimen compliance and educational status ($P = 0.000$, $\chi 2 = 49.734$).

Discussion

Pregnant women living in malaria endemic regions, particularly in sub-Saharan Africa are associated with a high frequency and density of *Plasmodium falciparum* parasitaemia, with high rates of maternal morbidity (Mkandala, 2003). The result of this study shows an overall malaria prevalence of (85%) among the pregnant women studied for a period of six months. This high morbidity rate could largely be due to the fact that the study is a prospective cohort study and the fact that it was conducted during rainy season and early part of the dry season when the vector for malaria parasite is most likely rampant. The result of this study is in consonance with the 76.92%, 72% and 73.9% prevalence recorded by Houmson et al., (2009) in Gboko, Benue State and Adefioye et al., (2007) in Osogbo, South - East Nigeria. Though the malaria morbidity of this study

is higher than these three studies mentioned above, this may be attributed to the fact that the pregnant women were under surveillance for a period of five months. But much more higher than 32.2% recorded in Ogoja, Cross River State by Etim et al., (2007). The lower prevalence rate in these places could be due to the combination of factors like good environmental hygiene, literacy and or urban control efforts.

The highest malaria prevalence among the pregnant women for this study in relation to their ages was recorded among age group 15 -20 years (100%), followed by the 21 – 25 years age group (96.7%), the 26 – 30 years age group (94.4%), the 36 – 40 years age group (77.3%), while the least were 31 – 35 years. This contradicted the findings of Adefioye et al., 2007 that found 36 – 39 years old group to be more susceptible, but agreed with the findings of Dicko et al., (2003) who opined that adolescents and young adult pregnant women were more susceptible to malaria than older pregnant women because of continuous development of malaria immunity in older women.

Prevalence of malaria in relation to parity in this study shows that the malaria rate decreased as parity increases and the primigravidae had the highest morbidity rate of (100%). This is due to the lack of immunity gotten from previous exposure. This is similar to cases reported by Chimere et al., (2008) and Houmsou et al., (2009), where primigravidae had the highest prevalence rate of 91% and 71.1% respectively. The second malaria morbidity rate was recorded amongst the secundigravidae (95%) and the lowest (71.2%) was recorded amongst the multigravidae.

Furthermore, the result of this study shows an overall compliance to malaria treatment rate of (79.4%) among pregnant women with cases of malaria attack that correctly followed the prescribed treatment regimen. The remaining (21.6%) reported non – compliance to prescribed treatment regimen. The result of this study is in consonance with the findings of study conducted in Brazilian Amazon region which reveal that 242 of the 280 malaria patients reported having correctly followed the prescribed instructions and represented a malaria treatment adherence frequency of 86.4% (Pereira et al., 2011).

Treatment regimen compliance in relation to occupation and educational status in this study indicate a significance relationship between treatment regimen compliance with occupation and educational status. But this contracted the findings of Yepez et al., (2000) who opined that non – compliance was not significantly related to educational level, age, sex, level of income, occupation, but learning about seriousness of infection did help to compliance with the therapy. The reasons in the differences might be due to the fact that this study was carried out in the rural area in which the women were not well informed about the consequence of non – compliance while his studied was carried out the developed country in were which all the citizens were well informed about consequence on non – compliance to treatment regimen.

Conclusion

Malaria infection is dangerous, especially an infection with *plasmodium falciparum* (which is the commonest in Nigeria). It is more hazardous in pregnancy, as pregnancy appears to interfere with the immune processes, especially when infected with malaria, a disease which itself alters immune reactivity (Chessed et al., 2013). The high malaria morbidity among pregnant women in the study area could be due to poor environmental hygiene, which makes the environment more conducive for the parasite vector to multiply and the tropical rain forest belt. The high morbidity recorded in the study could lead to maternal anaemia as reported by other researchers (Mockenhaupt et al., 2000), although the hemoglobin concentration of the recruited pregnant women was not included in this study. In area endemic for malaria like this study area, plasmodium *falciparum* infection during pregnancy increases the likelihood of maternal anaemia, abortion, stillbirth, prematurity, intrauterine growth retardation, low birth weight and even death of mother and child (Chessed et al., 2013).

Finally, malaria morbidity and mortality can be control through intervention measures like; the use of preventive intermittent treatment, chemoprophylaxis and the use of insecticide treated bed nets.

Recommendations

Since malaria morbidity among pregnant women in the study area is high, it is recommended among others that:

- Pregnant women should be encouraged to use insecticide treated bed nets which reduced both the number of malaria morbidity cases and mortality rates among pregnant women.

- Intermittent treatments with curative anti-malarial drugs should be administered at least twice during pregnancy (second and third trimesters) in order to reduce the incidence of low birth weight and anaemia.

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Assessment of the Patronage of Alternative Medicine by People in Bayelsa State, Nigeria

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Abstract

Alternative medicine is a common practice among low and middle income earners in Nigeria. The study examined the assessment of the patronage of complementary and alternative medicine by people in Bayelsa State, Nigeria. A cross-sectional survey was used for the study. A total of four hundred (400) respondents were selected using simple random sampling technique. The findings revealed that 260 (65%) of the respondents patronized alternative medicine. The study also revealed that over 70% of those who patronized alternative medicine considered the modalities they have used to be effective and safe. Findings on the rationales for the patronage revealed that cheaper fee/affordability recorded (42.3%), proximity/easy accessibility (27.3%), quick services (22%) and only (8.1%) responded other reasons for their patronage of alternative medicine. One major setback, however, is the fact that the dispensation of traditional medicine or alternative medicine is mostly in the hands of illiterates who may have the knowledge of types of herbs and other medicinal stuff, but not well trained enough to have effective delivery skills. It is imperative that government should collaborate with modern practitioners to organize training for the complementary and alternative medicine practitioners.

Keywords: assessment, patronage, alternative medicine.

Introduction

Since time immemorial, mankind has developed unique indigenous health systems, practices, and products which are outside conventional scientific medicine collectively known as Complementary and Alternative Medicine (CAM) (Bodeker & Kronenberg, 2002). Complementary practices are healthcare interventions that are used together with conventional medical practice whilst alternative health practices are considered to be an option to conventional medical practice (Peter & Abdulai, 2014). This form of healthcare is greatly influenced by cultures and tradition of society and is known to play a great role in the delivery of healthcare in many countries around the world (Bodejer & Kronenberg, 2002).

Complementary and Alternative Medicine encompasses natural products (herbs, vitamins, and probiotics), mind and body practices (acupuncture, massage therapy, chaichi etc) and other traditional medical practices such as African traditional medicine, traditional Chinese medicine in China and Ayurvedic medicine in India (Bodeker & Kronenberg, 2002). The use of Complementary and Alternative Medicine has increased dramatically in the developed and developing world due to its accessibility, affordability as well as its perceived efficacy and safety in treating diseases as compared to allopathic medicine. For instance, in Italy, Germany, Canada, and France the percentage of CAM use within their populations ranges from 70% to 90% (Robinson & Zhang, 2011). In the African region, 70% to 95% of its population relies on traditional healing methods, including herbal remedies, for maintenance of health and well-being (WHO, 2002).

In Nigeria, even though the conventional medical practice is the main form of healthcare, Complementary and Alternative Medicine (CAM) especially traditional medicine, still enjoys widespread popularity and usage among the population. Anecdotal evidence suggests at least 70% of the population use Complementary and Alternative Medicine of which biologically based therapies are the most common. In response to the Beijing Declaration (WHO, 2008) and the WHO Regional Committee for Africa resolution (WHO, 2000), a national traditional medicine policy was developed that serves to promote traditional medicine development and integration into the health system as well as promoting its rational use among health service providers. Achieving this goal requires health professionals to be well knowledgeable about Complementary and Alternative Medicine practices and products with regard to their quality, effectiveness, and safety and so be better equipped to advise patients.

Use of herbal remedies is not a strange phenomenon in the African society. For instance, 80% of Africans (Falodun, 2010) and about 27 million South Africans (54%) have been identified as herbal remedy users (Afolayan & Sunmonu, 2010). General use of herbal medicine amongst Nigerians is also well documented. Ezeome and Anarado (2007) stated that use of herbs and other forms of CAM was common among cancer patients in Nigeria. Other studies have revealed its use in children (Oshikoya, Senbanjo, Njokanma & Soipe, 2008), asthma patients (Adeyeye, Onadeko, Ogunieye, Bamidile & Olubusi, 2011), hypertensive patients (Nwako & Fakey, 2009), pregnant women (Fakeye, Adisa & Musa, 2009), as well as medical in-patients and out-patients (Fakeye, Tijani & Adebisi, 2007; Yusuff & Tayo, 2011). However, no studies exist presently to determine the use of herbal medicine among the pre-surgical patient population for ambulatory or day case anesthesia in Nigeria.

Alternative medicine has contributed immensely to healthcare delivery in Bayelsa State. Despite its efficacy, alternative medicine is often used as a last resort when compared to the biomedical healthcare or orthodox medicine. This is very much acute in the Yenagoa metropolitan area where there are many modern biomedical health or orthodox medical facilities. Some people in Bayelsa State regard traditional medicine as inferior and belonging to the lower class of society.

There are several reasons given as to why people contemplate alternative medicine or herbal medicine use. While some consider it to be natural and therefore safe (Constable, Ham & Pirmohamed, 2007), others put economic reasons into consideration; high cost of healthcare and poor access to conventional medication. Protracted health issues (Collins, Oakey & Ramahnan, 2011), religion and traditional or cultural beliefs have been known to play a role as well as dissatisfaction with efficacy of conventional medications (Ernst & Pittler, 2002) and the perception that herbal remedies are much more efficacious than the former (Graver, 2003). The main aim of the study is to ascertain the patronage of alternative medicine in Bayelsa State, Nigeria.

Study Area

The study was conducted in Bayelsa State, Nigeria. Bayelsa State is geographically located at latitude 04^{O} 15? North, 05^{O} 23? South and longitude 05^{O} 22? West and 06^{O} 45? East. It shares boundaries with Delta State on the North, Rivers State on the East and the Atlantic Ocean on the West and South.

Research Design

For this research, a cross-sectional survey study design method was employed. The study was conducted between November 2014 and February 2015 to assess the patronage of complementary and alternative medicine in Bayelsa State Nigeria.

Study Population

The study population comprised adults both male and female residing in Bayelsa State, Nigeria. The total population of Bayelsa state is 2,000,000 persons.

Sample Size/ Sampling Techniques
A total of 400 persons were sampled for the assessment of the patronage of alternative medicine in the study area using the formular below.

The formular

Sample size; $n = \frac{\square}{1+\square\ (\square^2)}$

Where

n = minimum sample size
N = total population is about 2,000,000 million persons
e = error term at 5% (95% confidence interval) was used to arrive at the sample size.

Simple random sampling was used to select the participants

Instrument for Data Collection
The instrument used for data collection was questionnaire. It is of the structured fixed-response type called close-ended questionnaire.

Method of Data Collection
The researcher went to the villages and cities within the study area and the questionnaire was administered face-to-face to all the participants. Copies of the questionnaire were collected on the spot.

Method of Data Analysis
The data collected from this study were subjected to statistical analysis using Statistical Package for Social Sciences (SPSS) of windows (version 20.0). Frequency table and percentage were used.

Results

Patronage of Alternative Medicine
Table 1: Patronage of Alternative Medicine

Patronage of CAM	Frequency	Percentage (%)
Patronized	260	65
Not patronized	140	35
Total	**400**	**100**

The patronage of complementary and alternative medicine of the participants as represented in Table 1 reveals that 260 (65%) of the participants patronage complementary and alternative medicine while 140 (35%) did not patronage complementary and alternative medicine.

Form of Complementary and Alternative Medicine (CAM) Patronized

Table 2: Forms of Alternative Medicine (CAM) patronized

Patronage of CAM	Frequency	Percentage (%)
Spiritualist	20	7.7
Herbalist	135	51.9
Bone setters/massage	105	40.4
Total	**260**	**100**

Table 2 shows that 20 (7.7%) patronized spiritualist, 135 (51.9%) patronized herbalists and 105 (40.4%) patronized bone-setters/massage. This shows that majority of the respondents (51.9%) patronized herbalists or herbal medicine.

Source of Acquiring Complementary and Alternative Medicine (CAM)

Table 3: Source of acquiring Alternative Medicine (CAM)

Place	Frequency	Percentage (%)
Clinic centres	89	34.2
Faith healing centres	12	4.6
Shrines	6	2.3
Public places	131	50.4
Others	22	8.5
Total	**260**	**100**

Table 3 shows that 89 (34.2%) acquired their medicine from clinic centres, 12 (4.6%) acquired from faith healing centres, 6 (2.3%) acquired from shrines, 131 (50.4%) acquired from public places while 22 (8.5%) acquired their treatment or medicine from other sources. This shows that majority of the respondents acquired complementary and alternative from public places.

Effectiveness of Complementary and Alternative Medicine (CAM)

Table 4: Effectiveness of Alternative Medicine (CAM)

Effectiveness CAM of	Frequency	Percentage (%)
Very effective	82	31.5
Effective	113	43.5
Less effective	50	19.2
Not effective	15	5.8
Total	**260**	**100**

Table 4 shows that 82 (31.5%) of the participants responded that complementary and alternative medicine is very effective, 113 (43.5%) responded that it is effective, 50 (19.2%) of those who patronized complementary and alternative medicine responded that it is less effective and only 15 (5.8%) of the participants responded that complementary and alternative medicine is not effective.

Safety of Alternative Medicine (CAM)

Table 5: Safety of Alternative Medicine

Safety	Frequency	Percentage (%)
Very safe	88	33.8
Safe	104	40.0
Not safe	68	26.2
Total	**260**	**100**

Table 5 shows that 88 (33.8%) of those who patronized complementary and alternative medicine responded that it is very safe, 104 (40.0%) responded that complementary and alternative medicine is safe while 68 (26.2%) of those who used complementary and alternative medicine responded that it is not safe.

Rationale for the Patronage of Alternative Medicine (CAM)

Table 6: Rationale for the Patronage of Alternative Medicine (CAM)

Reasons	Frequency	Percentage (%)
Cheaper fee/affordable	110	42.3
Proximity/easy accessibility	71	27.3
Quick services	58	22.3
Other reasons	21	8.1
Total	**260**	**100**

The reasons for the patronage of complementary and alternative medicine as represented in Table 6 reveals that "cheaper fee/affordable" recorded the highest number with 110 (42.3%), 71 (27.3%) of the participants "responded proximity and easy accessibility" as the reason for the patronage of complementary and alternative medicine, 58 (22.3%) responded for "quick services" and only 21 (8.1%) gave other reasons for their patronage of complementary and alternative medicine.

Discussion

Alternative medicine has been around for a long time and happened to be the origin of scientific medicine as we know it today. The evolution of modern medicine has confined alternative medicine to the backstage. In recent times, however, complementary and alternative medicine has been growing in popularity and interest as earlier noted (Stephen, Margaret & Robert, 2003). The common forms of complementary and alternative medicine include herbal medicine, spiritual healing, local orthopedic (bone-setters) and massage services. These services are carried out mostly by unregistered practitioners in their houses.

The result of this study shows an overall complementary and alternative medicine patronage of 65% among the respondents, while the rest 35% did not patronize complementary and alternative medicine. The findings differ with those of Naasegnibe and Paul (2012) that recorded 29% patronage of CAM, but similar to the findings in South Africa where the

consumption of CAM was reported to be widespread and growing, with consumer demand for better quality medicinal plant products increasing (Mander et al., 2008). The results in Table 3 show that the most common form of alternative medicine patronized was herbalist, which accounted for 51.9% of the 65%, while the least patronized was spiritualist which accounted for 7.7%.

The safety and efficacy of alternative medicine practices remain largely unknown, advising patients who use or seek alternative treatments, should be based on scientific knowledge and experience of users. Over 60% of the participants in this study considered the alternative medicine modalities they have used to be effective and save. The findings of this study are in consonance with the findings of Calixto (2000) who noted that nearly three-quarters of the students considered the alternative medicine modalities they have used to be effective and not harmful despite limited scientific knowledge.

The result of this study revealed that a lot of rationale or factors facilitate people to patronize complementary and alternative medicine. *Cheaper fees/affordable* recorded highest with 42.3%, followed by *proximity and easy accessibility* (27.3%), *quick services* (22.3%) and only 8.1% gave other reasons or factors as conditions that facilitate the patronage of alternative medicine. The result is similar to a previous research carried out by Dada, Yinusa, and Giwa (2011) where *easy accessibility*, *cheaper fees*, and *quick service* were revealed as part of the reasons why traditional bone setters enjoy enormous patronage from patients. The closeness of alternative medicines to the residence of the patients means that they are easily accessible. The result of the study is also in consonance with the findings of both Olaolorun , Oladiran and Adeniran (2001) and Omololu, Ogunlade and Alonge (2002) who noted that the high cost of treatment in the modern way may be a major factor for the patronage of alternative medicine especially traditional bone-setters.

Conclusion

Alternative medicine has contributed immensely to the treatment of health related problems including spiritually, mentally, socially, psychologically and bone related diseases. Their relevance is not only revealed in their effectiveness and efficacy but also in the fact that they are affordable and close to the patients in the community. Unfortunately the poor recognition and support the alternative medicine healers deserve still remains a huge challenge in their bid to contribute their own quota to the healthcare system in Nigeria. Thus, while complications of traditional healthcare systems are overemphasized and their efficacy is down-played, the complications and loss of lives that occur in modern healthcare are excused and its efficiency overemphasized.

One major setback, however, is the fact that the dispensation of traditional medicine or alternative medicine is mostly in the hands of illiterates who may have the knowledge of types of herbs and other medicinal stuff, but not well trained enough to have effective delivery skills. Secondly, there are many quack traditional medicine men in the system who sell just anything to make money. This is attributed to the fact that there is no regulating nature of traditional medicine or alternative medicine.

It is also self-evident that patronage of complementary and alternative medicine is not mainly by the relatively not-too-well-to-do people in the society. It is imperative to know that even the highly educated group in society use complementary and alternative medicine as their counterparts on the other side and their reason is definitely justifiable: complementary and alternative medicine is very effective and potent.

Recommendations

Fundamental to the health of the people is the provision and utilization of adequate, effective and efficient healthcare system with alternative medicine playing a major complementary role. To

realize this dream, therefore, the following recommendations have been made based on the findings from the study.

I. Alternative medicines should be given maximum support from individuals, communities, governments and other health stake holders in order to bring out the best in them.

II. It is imperative that government should collaboration with modern practitioners to organize training for the complementary and alternative medicine practitioners. This will go a long way in ensuring a cordial relationship among practitioners and will also assist in referrals to the modern practitioners when treatment cannot be guaranteed by the alternative medicine practitioner.

III. The government also needs to set up guidelines for the establishment of alternative medicine clinic or centre stating the minimum standard that must be met by the practitioners. This will reduce the rate at which the clinics or centres are being established and may possibly reduce the rate of complications that do arise from treatment.

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Knowledge, Attitude and Practices of Modern Family Planning Methods among Married Couples in Bayelsa State

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Abstract

Family planning has attracted attention all over the world due to its relevance in decision making, population growth and development. The study was conducted between June, 2016 – November, 2016 to determine the knowledge, attitude and practices of modern family planning methods among married couples in Bayelsa State, Nigeria. A cross-sectional survey study design method was employed. The respondents were selected using probability sampling techniques specifically, the stratified sampling technique. The result of this study showed an overall awareness of modern family planning methods of 97% among the married couples used for the study. Majority of the participants (41.6%) had detailed knowledge of condom. The result of this study also showed that married couples had a favourable attitude toward modern family planning methods of 51%. The study also revealed that 57% of the married couples practice modern family planning methods. The chi-square was used to test the null hypotheses of no relationship. The study found a significant association between the practices of modern family planning methods in relation to age group of the married couples at (P – value < 0.05). It also found a significant association between the practice of modern family planning methods and educational status of the married couples at (p – value < 0.05). Married couples varied in their responses to attitude and practices of modern family planning methods, therefore, there is need to expand and intensify education on modern family planning programmes.

Keywords: Knowledge, attitude, practices, modern family planning methods, married couples.

Introduction

Family planning has attracted attention all over the world due to its relevance in decision making, population growth and development. Samuel (2010) defined family planning as the practice that helps individuals or couples to attain certain objectives such as avoiding unwanted pregnancies, bringing about wanted babies at the right time, regulating the interval between pregnancies, controlling the time at which birth occurs in relation to the ages of the parents and determining the number of children in the family.

Family planning is a means of reproductive health. In-spite of the hue and cry in and outside Nigeria about family planning or birth control, many people are still confused about its meaning, the methods involved, the advantages and disadvantages and the factors hindering its wide application in Nigeria (Iffih & Ezeah, 2004). Research has shown that culture is a determinant for acceptance and non-acceptance of family planning. Women's education resulted in woman

empowerment and it enables them to use family planning services more effectively. WHO (1993) found out that women's education is in line with lower fertility which constitutes management of reproductive resources. Maternal education has once been linked to the reduction of child mortality among rural dwellers. Women's education enhances their capability and also their reproductive rights to decide freely and responsibly the number, spacing and timing of their children and to have other necessary information regarding reproductive rights.

Studies have shown that education is a determinant of awareness of family planning practices in Nigeria, for instance; Olaitan (2011) conducted a study on factors influencing the choice of family planning among couples in the South West, Nigeria. The findings revealed that the educational background of the couples significantly influenced the choice of family planning among couples. Recent studies have also shown that religion is a good determinant of family planning practices. Iffih & Ezeah (2004) asserted that the Catholic Church is rigid in their views of family planning. Catholics hold the view that the application of artificial method is wrong and should not be allowed. The Catholic Church is said to be comfortable with the use of Billings's ovulation method which is rather natural.

Igbudu, Okoedions, Peremene and Eghafona, (2011) conducted a study on the relationship between religious beliefs and family planning practices of married women in Zone 5 barracks of the Nigeria Police, comprising Edo, Delta, and Bayelsa States commands. The findings of the study revealed that attitudinal factor such as the strong religious desire for more children prevented women in these barracks from using family planning. It has been noted that women of high socio-economic status are likely to engage in family planning practices than women of low socio-economic status in Nigeria. Most of the women with high socio-economic status are linked to the knowledge/awareness and acceptance of family planning practices because they can foot the bills associated with family planning. Family planning has a great potential for reducing mortality in Nigeria. The main objective of the study was to ascertain the knowledge, attitude and practice of modern family planning methods among married couples in Bayelsa State, Nigeria.

Study Area

The study was conducted in Bayelsa State, Nigeria. Bayelsa State is geographically located within latitude $04^0$15' North, 05^0 23' South and longitude $05^0$22' West and $06^0$45' East. It shares boundaries with Delta State on the North, Rivers State on the East and the Atlantic Ocean on the West and South.

Research Design

For this study, a cross-sectional survey study design method was employed. The study was conducted between June, 2016 – November, 2016 to evaluate the knowledge, attitude and practices of modern family planning methods among married couples in Bayelsa State, Nigeria.

Study Population

The study population comprised married couples both male and female currently residing in Bayelsa State, Nigeria.

Determination of Sample Size

The sample size for the study was determined by the formulae;

$n = N/1+N(e)^2$ where

n = Sample size, N = Total population, e = Margin error of 5%. The total adult population of Bayelsa State residents = 2,000,000 million persons.

The formulae above gave a sample size of approximately 400 persons.

Sampling Techniques
The respondents were selected using probability sampling techniques specifically, the stratified sampling techniques. The basis of stratification was marital status.

Instrument for Data Collection
The instrument used for data collection was questionnaire. It was of the structured fixed-response type called close-ended questionnaire.

Method of Data Collection
The researcher went to the villages and cities within the study area and copies of the questionnaire were administered on face-to-face basis to all the participants. The copies were collected on the spot.

Method of Data Analysis
The data collected from this study were subjected to statistical analysis using Statistical Package for Social Sciences (SPSS) for windows (version 20.0). The statistical significance of variables was estimated using chi-square test. Frequency table, percentage, pie-chart and bar-chart were also used.

Results
Awareness of Family Planning

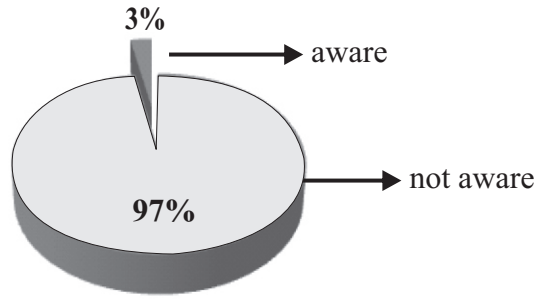

Figure 1: Awareness on Family Planning

Figure 1 shows that the majority of the participants 389 (97%) were aware of family planning, while only 11(3%) of the participants responded that they were not aware of family planning

Knowledge on Family Planning Methods
Table 1: knowledge on Family Planning Methods

Variables	Frequency	Percentage
Pills	141	36.2
Condom	162	41.6
Sterilization	1	0.3
Injection	63	16.2
Intra-uterine Device	16	4.1
Withdrawal Method	6	1.5
Total	**389**	**100**

Table 1 shows that out of the 389 participants that responded they were aware or heard of family planning, 14 (36.2%) responded that they had detailed knowledge of pills, 162 (41.6%) responded that they had knowledge of condoms, 63 (16.2%) had knowledge of injection, 16(4.1%) had knowledge of IUD, 6(1.5%) had knowledge of withdrawal method, while only 1(0.3%) had knowledge of sterilization method.

Table 2: Attitude toward Family Planning

Variables	Frequency	Percentage
Attitude toward Family Planning		
Favourable	202	51.9
Unfavourable	187	48.1

Table 2 shows that out of the 389 participants, 202(51.9%) responded that they had favorable attitude toward family planning, while 187 (48.1%) responded that they had an unfavourable attitude toward family planning.

Practice of Modern Family Planning Methods

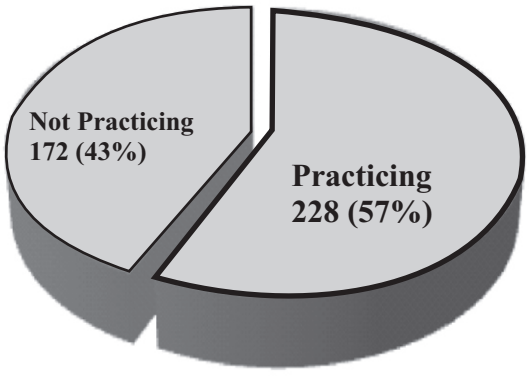

Figure 2: Practice of Modern Family Planning Methods

Figure 2 shows that out of the 400 participants used in this study, 228(57.0%) had used or are currently using a modern family planning method, while 172 (43.0%) had not used any of the modern family planning methods.

Modern Family Planning Methods Practices

Table 3: Modern Family Planning Method Practice

Variables	Frequency	Percentage
Pills	81	35.5
Condom	52	22.8
Sterilization	1	0.4
Injection	71	31.1
IUD	15	6.6
Withdrawal Method	8	3.5
Total	**228**	**100**

Table 3 below shows that out of the 228 participants that practice modern family planning methods, 81(35.5%) used pills, 52(22.8%) used condom, 1(0.4%) used sterilization method, 71(31.1%) used injections, 15(6.6%) used IUD, while 8(3.5%) used withdrawal method.

Practice of Modern Family Planning Methods in Relation to Age

Table 4: Practice of Modern Family Planning Methods Relation to Age

Variables	Married Couples	Practicing Family Planning	Not Practicing F.P		P - value
15 – 20 yrs.	4(1)	2(0.5)	2(0.5)		
21 – 25 yrs.	28(7)	21(5.3)	7(1.8)		
26 – 30 yrs.	85(21.3)	54(13.4)	31(7.8)		
31 – 35 yrs.	111(27.8)	68(17)	43(10.8)		
36 – 40 yrs.	108(27)	52(13)	56(14)		
41 – 45 yrs.	64(16)	31(15.5)	33(8.3)		
Total	**400(100)**	**228(57)**	**172(43)**	**11.449**	**0.043**

The practice of modern family planning methods among married couples in relation to age is shown in table 4. The 31 – 35 years age group had the highest practice rate of (17%), followed by the 41 – 45 years age group (15.5%), the 26 – 30 years age group (13.5%), the 36 – 40 years age group (13%), the 21 – 25 years age group (5.3%) and the 15 – 20 years age group (0.5%), respectively. There was significant relationship between the practice of modern family planning methods and age group of the studied married couples ($P = 0.043$, $\chi 2 = 11.449$).

Practice of Modern Family Planning Methods in Relation to Educational Status

Table 5: Practice of Modern Family Planning Methods Relation to Educational Status

Variables	Married Couples	Practicing Family Planning	Not Practicing F.P	$\chi 2$	P - value
No Formal Education	5(1.3)	0(0)	5(1.3)		
Primary Education	13(3.3)	5(1.3)	8(2.0)		
Secondary Education	221(55.3)	126(31.5)	95(23.8)		
Tertiary Education	165(41.3)	97(24.3)	64(16)		
Total	**400(100)**	**228(57)**	**172(43)**	**9.144**	**0.027**

The practice of modern family planning methods in relation to educational status is shown on table 5. Those with secondary education had the highest practice rate of modern family planning methods (31.5%), followed by tertiary education (24.3%) and primary education (1.3%), respectively. All those with no formal education did not practice modern family planning methods. There was significant relationship between malaria treatment regimen compliance and educational status ($P = 0.027$, $\chi 2 = 9.144$).

Discussion

The continued growth of the world's population has become an urgent global problem. Most of these growths are occurring in developing countries where fertility rates are very high (Bandura, 2002). The result of this study shows an overall awareness of family planning of (97%) among the married couples used for the study. Majority of the participants (41.6%) had detailed knowledge of condom. The result of this study is in consonance with a study on awareness of contraception in Ghana by Aryee, Kotoh and Hindin (2010). They reported that in a survey of 332 women in the Gaeast used for the study, knowledge of family planning was universal (98%) although knowledge of more than three methods was 56% (Aryee, Kotoh. & Hindin, 2010). The study also agreed with the findings of Onyuzurike and Ozuchukwu, (2001) who opined that the level of awareness of

contraceptives have been found to be high in some communities in Nigeria, but good knowledge of different contraceptive methods is very low.

Furthermore, the result of this study shows that married couples had a favourable attitude toward modern family planning methods of 51%, out of the married couples that were aware of modern family planning methods. The result of this study is similar to the study carried out by Almualm (2007) on knowledge, attitude and practice (KAP) towards modern family planning in Mukalla and Yamen which revealed that most of the women (89.3%) had positive attitude towards modern family planning and agreed that modern methods were more effective than traditional methods. The findings of this study are also in consonance with a study carried out by Underwood (2000), on Islamic precepts and family planning in Jordan, comprising 630 respondents, reported that among women of reproductive age reporting on the acceptability of specific modern methods, 65% said the pill was acceptable, 70% the IUCD, 16% tubal ligation and 63% injectables.

In addition, the study also revealed that 57% of the married couples practice modern family planning methods. The finding of this study is similar to the study conducted by Olenicks (2000) which revealed that 69% of married women had ever practiced modern contraception; the pill and the male condom were the methods reported by the largest proportion of women (36% and 14% respectively). This may be due to the fact that, majority of the married couples were literate.

Furthermore, the practice of modern family planning methods in relation to the age group of the married couples, the study revealed that there is a significant relationship between married couples and age group ($P = 0.043$, $\chi 2 = 11.449$). The study also indicates a significant relationship between the practice of modern family planning methods and educational status of the married couples ($P = 0.027$, $\chi 2 = 9.144$). The finding of this study is in consonance with the result of Almualm (2007) which revealed that contraceptive use was found to have strong association with women's educational status and contradicts his finding which revealed that age did not show strong association with women's use of contraception.

Conclusion

Knowledge of modern contraceptives is high in the study population. Substantial proportion of married couples had positive attitude towards modern contraceptives and hence more room for increasing modern contraceptive use in the study population, though negative attitude of spouse towards modern contraceptive and lack of spousal communication on family planning could be a limitation. Regarding modern contraceptive prevalence rate, although there was some improvement compared to the past national averages, however, the current figure for prevalence rate is still low when compared to the national target. Likelihood (chances) of being current user of modern contraceptives by couples increased with increase in education level, having higher number of living children, spousal communication on modern contraceptives, (i.e. frequently talking/discussing family planning/modern contraceptives between spouse), women participation in decisions making regarding fertility in a family, husband's approval of modern contraceptives and having positive attitudes towards modern contraceptives (i.e., thinking that benefits of modern contraceptives outweighs negative effects). Encountering side effects and living far from health facility by couples were associated with reduction in the odds (chances) of being current user of modern contraceptives.

Recommendations

Based on findings of this study, to enhance contraceptive use by married couples in the study population, the following recommendations were made.

I. Married couples varied in their responses to the attitude and practices of modern family planning methods, therefore, there is need to expand and intensify education on modern

family planning programmes.

II. Non-Governmental Organizations (NGOs) and community based organizations (CBOs) should embark on behaviour change programmes to educate married couples and the general public on the importance of family planning.

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Post Ebola Disease Preventive Behaviour among Inhabitants of Ogbogu Community in Ogba/Egbema/Ndoni Local Government Area, Rivers State

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Abstract

Ebola viral disease is caused by the Ebola virus which may lead to haemorrhagic fever in humans and has been a public health concern since its re-emergence in Sub-Saharan Africa as declared by the World Health Organization. Concern on it draws from the fact that it spreads easily, has a short incubation period, no vaccine for prevention and no drug for its cure. The public was educated on preventive measures such as the use of sanitizers and regular and proper washing of hands while the outbreak was on. This study was however aimed at investigating the post Ebola preventive behaviour of indigenes of Ogbogu community in Ogba/Egbema/Ndoni Local Government Area (ONELGA), Rivers State. Self-administered questionnaire was used to obtain demographic and related data from 250 randomly selected respondents in the community. The study showed that although a good number of them (98%) were aware of these preventive measures. 67.2% of the respondents did not practice them as some believed the outbreak was over and as such it was needless to continue practicing them. It also showed that there was no relationship between the socio-demographic features assessed and their practice of post-ebola preventive measures, with the exception of religion which had a strong relationship with the practice of these measures.

Keywords: Ebola viral disease, public health, preventive behaviour, haemorrhagic fever

Introduction

Ebola disease is caused by Ebola virus which is a single-stranded non-infectious genome. It belongs to the family Filoviridae (Filovirus) and is made up of five different species – Reston, Bundibugyo, Sudan, Zaire and Cote d'Ivoire. Whereas the species Cote d'Ivoire and Reston have not been associated with viral haemorrahagic fever (VHF) outbreaks in humans, Bundibugyo, Sudan and Zaire have been implemented in VHF outbreaks causing death of 25-90% of the infected persons. Like all filoviruses, ebola viruses are filamentous particles that may appear in the shape of a shepherd's crook, "U" or a "6" and they may be coiled or branched (Ascenzi *et al.,* 2008). Generally, they are 80nm in width and may be as long as 14,000 nm (Chippaux, 2014). Similar to other filoviridae, Ebola Virus (EBV) replicates very efficiently in many cells, producing large amounts of virus in monocytes, macrophages, dendritic cells and other cells including living cells, fibroblasts and adrenal gland cells (Ansari, 2014). Viral replication triggers the release of high level of inflammatory chemical signals and leads to Sepsis (Tosh & Sampathakumar, 2014). Macrophages are the first cells to be infected with the virus and this result in programmed cell death (Chippaux, 2014). Other white blood cells including lymphocytes also undergo programmed cell death leading to an abnormally low concentration of lymphocytes in the blood which contributes to the weakened immune response evident in those infected with EBV (Funk & Kumar, 2014).

The natural reservoir for EBV is yet to be confirmed but three species of fruit bats (*Hypsignathusmonstrosus, Epomopsfranqueti* and *Myoncteristorquata*) were found to possibly carry the virus without falling sick (Lampland & Valiquette, 2014). In a 2002 – 2003 survey of 1030 animals including 679 bats from Gabon and the Republic of Congo, 13 fruit bats were found to

contain EBV (Leroy *et al.,* 2005). In addition, antibodies against Zaire and Reston EBV have been found in fruit bats in Bangladesh, suggesting that these fruit bats are potential hosts of the virus and that the virus is present in Asia (Olival *et al.,* 2013). Between humans, EBV spreads by direct contact with the body fluid or blood of a person who has manifested symptoms of the disease (Funk & Kumar, 2014). Body fluids that may contain EBV include tears, breast milk, urine and semen. Entry points for the virus include the nose, eyes, cuts, mouth, abrasions and open wounds (CDC, 2015).EBV may persist in the serum of survivors 8 weeks after they have recovered which could lead to infection during sexual intercourse (WHO, 2014). Sixty-one percent of Ebola cases in Guinea during the 2014 outbreak are believed to be contracted through unprotected contact with infected corpses during burial rituals (Chan, 2014).

Filovirus haemorrhagic fever was first documented in primates which were not humans brought into Germany for vaccine production in the 1960s (Fisher-Hoch, 2005). Ebola Virus Disease (EVD) was however first described in 1976 in two simultaneous outbreaks in Sub-Saharan Africa. The 26th outbreak occurred in West Africa beginning in December, 2013 where it spread to Liberia and Sierra Leone (WHO, 2014b). A small outbreak of 20 cases occurred in Nigeria and one in Senegal, both are now declared disease-free (WHO, 2014a). Several cases were also reported in Mali and one isolated case in the United Kingdom (WHO, 2014a; WHO, 2015). Imported cases in the United States and Spain have led to secondary infection of medical workers but have not spread further. As February 3, 2015, the WHO and the respective governments have reported a total of 22,560 suspected cases and 9,019 deaths (WHO, 2014b).

The high risk of death as a result of the disease is due to low blood pressure from fluid loss and typically follows 6-16 days after symptoms first appear (Sigh & Ruzek, 2014). The symptoms include and begin with a sudden influenza-loke stage characterized by fatigue, fever, decreased appetite, muscle and joint pain, headache and sore throat (Goeijenbier *et al.,* 2014). This followed by vomiting, diarrhoea, abdominal pain, shortness of breath, chest pain may occur, swelling and confusion (Mogil, 2013). The skin develops a maculopapular rash (a red flat area covered with small bumps); in about half of the cases, this may be seen 5-7 days after symptoms begin (Lampland & Valiquette, 2014). In some case, internal and external bleeding may occur (WHO, 2014a). Those who survive these develop antibodies against EBV that lasts for at least years but it is unclear if they are immune to repeated infections (CDC, 2015). When a person survives EVD, he can no longer transmit the virus. In the last outbreak in Nigeria, there were 7 deaths (5 in Lagos and 2 in Rivers) and 11 survivors.

EVD has been a threat to different countries especially in the aspect to healthcare workers considering the recent outbreak of which Nigeria had its firs outbreak on the 24th of July, 2014 following the arrival of a Liberian male passenger to the Lagos International Airport. Options for control and prevention of this disease include regular hand washing with antiseptic soap, use of sanitizer, use of digital thermometers for checking the body temperature before walking into the hospital, bank, school or any public place. Although Nigeria was declared Ebola-free on the 20th of October, 2014 by the WHO's representative to Nigeria, this research aimed at assessing the post Ebola disease preventive behaviour of inhabitants of Ogbogu Community in Ogba/Egbema/Ndoni Local Government Area of Rivers State in Nigeria.

Methodology

Sampling

The sampling location was Ogbogu Community in Ogba/Egbema/Ndoni Local Government Area of Rivers State. Sample size used was 250 randomly selected males. Self-administered questionnaire made up of two sections (part A for demographic data and part B for related questions

on variables under study) was used as the instrument for data collection. Data received was analyzed using Chi-square on the Statistical Package for Social Sciences (SPSS 22) and represented with tables.

Results

Table 1: Relationship between socio-demographics characteristics and post Ebola preventive measures

Socio-demographic characteristic		No (%)	Yes (%)	Total	X^2	P-value
Age group	Less than 20	11 (26.8%)	30 (73.2%)	41	2.549	0.769
	20-29	23 (23.7)	74 (76.3)	94		
	30-39	13 (26.5)	36 (73.8)	49		
	40-49	5 (16.1)	26 (83.9)	31		
	50-59	4 (25.0)	12 (75.0)	16		
	60 and above	2 (12.5)	14 (87.5)	16		
Sex	Male	30 (25.8)	87 (74.2)	117	0.735	0.39
	Female	28 (21.1)	105 (78.9)	133		
Occupation	Artisan	8 (28.6)	20 (71.4)	28	10.726	0.216
	Trading	17 (78.2)	45 (44.4)	62		
	Civil servant	9 (19.5)	33 (80.5)	42		
	Farming	20 (20.0)	80 (80.0))	100		
	Fishing	3 (23.1)	10 (76.9)	13		
	Housewife	5 (55.6)	4 (44.4)	9		
	Student	20 (20.0)	80 (80.0)	100		
Education	None	9 (28.1)	23 (71.9)	32	5.617	0.312
	Primary	1 (6.7)	14 (93.3)	15		
	Secondary	32 (28.1)	82 (71.9)	114		
	Tertiary	16 (18.0)	73 (82.0)	89		
Marital status	Divorced	4 (23.5)	13 (76.5)	17	5.916	0.116
	Married	19 (17.3)	91 (82.7)	110		
	Single	29 (26.6)	80 (73.4)	109		
	Widowed	6 (42.9)	8 (57.1)	14		

The above table, shows the relationship between the socio-demographic characteristics assessed and their practice of post Ebola preventive measures. From the table, there was no relationship between the features and the people's behaviour towards the practice of Ebola preventive measures. There was however a strong relationship between the religion of the people and their practice of Ebola preventive measures at a 0.05 significance level.

Table 2: Relationship between awareness, knowledge and current practice of EVD preventive measures

Question	No (%)	Yes (%)
Awareness about EVD	5 (2.0)	245 (98.0)
Knowledge of EVD	17 (6.8)	233 (93.2)
Currently practicing EVD preventive measures	58 (23.2)	192 (76.8)

The above table shows that a good percentage (93.2%) of the study population are aware and have knowledge of EVD preventive; although only 76.8% of them practised them.

Table 3: Research questions aimed at assessing their knowledge of EVD preventive measures

Question	Response	Number (%)
Source of information	Health centre	11 (4.4)
	Neighbour	19 (7.6)
	Radio	50 (20.0)
	Television	170 (68.0)
Means of contracting EVD	Breastfeeding	1 (0.4)
	Through air	72 (32.8)
	Through curses	11 (4.4)
	Through sexual intercourse	1 (0.4)
	Through urine, sweat or blood	155 (62.0)
Factors that encourage respondents to practice preventive behaviour	To avoid contact with infected persons	24 (12.5)
	To maintain healthy lifestyle	149 (77.6)
	To promote frequent washing of hands	19 (9.9)
Factors that discourage respondents to practice preventive behaviour	Availability of vaccine for EVD	6 (10.3)
	Because the country has been declared ebola-free	39 (67.2)
	Frequent washing of hands and maintaining high personal hygiene	8 (13.8)
	Provision of medical equipment and surveillance centre	4 (6.9)
	No ebola case has been recorded in Ogbogu community	1 (1.7)
Ways of preventing EVD	Avoid hand shaking and hugging	15 (6.0)

The above table indicates that a good number of them got information on EVD preventive measures from the television. This shows that access to power and media encourage the dissemination of information. Also 68% of them believed the best means of preventing EVD is by avoiding contact with a supposed infected person. Generally, this shows that the people had a good awareness of the preventive measures. However, most of them felt that since the nation was declared Ebola-free, it is needless to practise these measures.

Table 4: Relationship between knowledge of EVD and post Ebola preventive measures

Knowledge of EVD	Currently practicing EVD preventive measures		Total
	Yes	No	
No	13 (76.5)	4 (23.5)	17
Yes	179 (76.8)	54 (23.2)	233
Total	192	58	250

$X^2 = 0.01$, P-value = 0.97 (at 0.05 significance level)

The above table indicates that a good number of the respondents have knowledge of EVD and practice the preventive measures while 23.2% of them even with their knowledge of EVD, do not practice the preventive measures. At a significance level of 0.05, there is however no relationship their knowledge of EVD and practice of the preventive measures.

DISCUSSION

Ebola virus disease (EVD) is caused by the Ebola virus and is able to cause haemorrhagic fever in infected individuals. The virus is easily contacted through physical contact with infected persons or their secretions. A WHO report showed that the persons most affected by EVD are the health workers (WHO, 2015). This may be due to the fact that they are more often in contact with sick persons most of whom they may not know the cause of the illness. This however, is not to say that persons other than health personnel cannot be affected. Practising preventive behaviours is thus a good means of preventing the spread of the disease, morbidity and mortality resulting from its infection. Although the virus has been supposedly eradicated, it is important that we continue to practice these preventive measures as they are not only preventive against EVD but also against other haemorrhagic fever-causing diseases such as Lassa and Marburg viral diseases as well as other enteric diseases.

Based on this study, 220 of the respondents were Christians and 60% of them practiced these preventive measures. Awareness during religious meetings may have and can still play a huge role in encouraging the people to practice these measures as each of the respondents admitted to being a member of one of the three major religions in Nigeria which are Christianity, Islam or the African Traditional Religion. Religious organizations should not just preach the message of their religion but also give their followers information on public health issues. That also goes to say that

the leaders should always have knowledge of these issues so as to be able to pass it on to their congregation.

Of the respondents, 23.2% have actually given up continuing with these practices.Some of them believe the virus has been eradicated from the nation, some feel there is a vaccine against the virus while some feel no case of EVD has been recorded in Ogbogu community and as such it is needless to practice them. This should be discouraged as there may be a case of re-emergence. The measures, especially washing of hands and the use of sanitizers should be a regular daily practice.

CONCLUSION

This study was carried out among the people of Ogbogu community in Ogba/Egbema/Ndoni Local Government Area of Rivers State.In this study, most of respondents were within ages 20-29, were females, majorly Christians, farmers and had good knowledge of ebola and post-ebola preventive behaviour. Preventive measures such avoiding physical contact with infected persons as well as their secretions, are known by these people. They however do not practice these often because they believe the country has been declared Ebola-free and as such, it is no longer necessary to practice these.

Recommendations

Based on the above findings, the following recommendations are made:

i. The general public should be encouraged to carry on with these preventive measures as most of them help in the prevention of disease transmission.
ii. A surveillance center, standard laboratory and medical equipment for determining the presence of EBV should be provided.

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Occupational Health Practices of Woodworkers at Iloabuchi Timber Market in Port Harcourt, Rivers State

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Abstract

The sawmill industry is one industry, whose workers pay little or no attention to the risks associated with the work; they are more often interested in earning a living than providing themselves materials needed to stay safe such as handgloves, nose masks and goggles. This study was thus aimed at knowing the attitude of woodworkers to occupational health knowledge and practice. The study location was the Iloabuchi timber market located at Mile 2 in Port Harcourt. 200 randomly selected wood workers were administered questionnaires from which their response was drawn. The study showed that 183 out of the 200 respondents had knowledge of the safety measures yet only 6 out of the 183 practice these measures with a *p*-value of 0.000 ($P < 0.05$). There was thus a relationship between their knowledge and practice of these safety measures. There was no relationship between the age group, educational attainment and years in occupation and the practice of safety; there was however a relationship between marital status and the practice of safety.

Keywords: sawmill, woodworkers, occupational health, safety measures

Introduction

Occupational health refers to the identification and control of the risks arising from physical, chemical and other workplace hazards in order to establish and maintain a safe and healthy working environment. It involves the procedures and practices involved in keeping fit and safe at work. The timber industry around the world over the years has been a major source of employment and income of which Nigeria is not an exception. The timber industry or sawmill is a facility where large logs of wood are cut into boards in forms that are useable. This usually takes place after felling of trees, cutting of the logs to length and transportation to sawmill.

The first power-driven sawmill was installed in the beginning of the 20th century by the Atlantic Lumber Company in South Carolina (Akachukwu, 2000). Wastes generated from sawmills include plain shavings, saw dusts, wood rejects, wood off cuts and wood backs; the disposal of these wastes is a major challenge (Dosunmu & Ajayi, 2002; Akinbode & Olujimi, 2014). These processes put the woodworkers at a potential risk of health challenges such as dermatitis, asthma, hearing defects, conjunctivitis and other health defects. The barks of these logs usually harbour pathogenic bacteria and fungi which could result to ocular infections during debarking. Exposure to wood dust could lead to both acute and chronic ocular irritations and conjunctivitis due to the volatile compounds in it such as ketones, aldehydes and monoterpenes (Itiyafa, Oarrosa, Omolabake, Oseluese, & Afekhide, 2011). These workers experience tearing, redness and itching of the eyes (Demers, 1998).

It is known that most of the tree species used in making woods are highly allergenic (able to stimulate allergy). It is worthy of note that the timber industry over time has been considered one of the most dangerous for artisans due to the challenges encountered by these workers including fractures, injuries, sprains, waist pains, respiratory illnesses and dizziness (Judd, 2004). In addition to these, they are exposed to noise pollution (Bello, 2010).

It has been estimated that about 2.34 million people die from work-related accidents or diseases each year while 317 million suffer from work-related accidents or injuries (ILO, 2012). The accidents or hazards do not only affect the workers but also their productivity, cost and reputation (Mohammed, 1999). Studies have however shown that woodworkers suffer from different health challenges which they may or may not know as some may be silent till later in their lives. Some of them do not practice safety measures because they are ignorant while some feel it is cost effective. In a study conducted in Ghana, it showed that not all the workers practice work safety but the ignorant ones were willing to be informed (Stephen, 2015). Anaele, Adelakun and Olumoko (2014) suggested that safety practice skills are needed by woodworkers for effective and efficient work against health risks and hazards. Occupational health and safety measures are however not routinely practiced and encouraged by employers of labour which puts the workers at risk (Omoti, Waziri-Erameh & Enock, 2008).

The Iloabuchi Timber market is a major timber market in Port Harcourt where sawing and sale of wood takes place. These processes generate noise as well as dust particles which can cause both hearing and respiratory defects. Sequel to previous studies highlighting the fact that most wood workers pay little or no attention to carrying out safety measures while at work, this study was aimed at knowing the attitude of woodworkers in this timber market towards health and safety especially while at work.

Methodology

Sampling

Respondents used for this study were woodworkers from the Iloabuchi Timber market located at Mile 2 Diobu, Port Harcourt. The timber market is an area known widely in Port Harcourt for the sawing and sale of timber/wood and it was observed that most of these workers not health conscious, their concern is mainly on the profit from the business. The market is a popular one were several persons from different parts of the city come to purchase wood as it is large and provides the opportunity for buyers to have a wide choice of whom to purchase the product from. Port Harcourt is the capital city of Rivers State and home to several industries including fertilizer, petrochemical and cement industries.

The sample size for this study was 200 men who were randomly selected. Most of the respondents were within ages 30-39 and had been in this occupation for a period of 6-10 years. The questionnaires were self-administered to the respondents. The reliability of the questionnaire was tested using the Cronbach Alpha and the data obtained were analyzed using Chi-square done on SPSS 22. The hypotheses tested were:

i. H_0: There will be no relationship between the demographic profiles of the respondents and the practice of safety at the workplace;
   H_a: There will be a relationship between the demographic profiles of the respondents and the practice of safety at the workplace.
ii. H_0: There will be no relationship between their level of knowledge about safety measures and the practice of safety measures;
   H_a: There will be a relationship between their level of knowledge about safety measures and the practice of safety measures.

Results

Respondents for the study were randomly selected from the timber market at Iloabuchi, Port Harcourt City Local Government Area in Rivers State. From table 1, 94.1% of them had knowledge of the safety measures but yet, do not practice them. The study showed that 195 (97.5%) out of the

200 respondents are willing to receive information on safety measures. The results are presented in the tables below:

Table 1: Relationship between knowledge and practice of safety measures among respondents

Practice of safety	Knowledge of safety measures		Chi-square (X^2)	P-value
	No	Yes		
Yes	6 (50%)	6 (50%)	28.269	0.000
No	11 (5.9%)	177 (94.1%)		

X^2 (1, N=200) =28.269, p<0.05 (where 1 is the degree of freedom, N the number of samples and p the probability value.

Table 1 show that, the number of respondents who have knowledge of safety measures and do not practice them, is much more than those who have knowledge of these and practice them. This thus point to the fact that some persons are aware of these measures, but choose not to be safety-conscious. The alternative hypothesis which states that there is a relationship between their knowledge and practice of safety measures was retained at 0.05 alpha level.

Table 2: Safety materials used at work

Safety Material	Used	
	No	Yes
Hand gloves	23	177
Safety boots	31	169
Ear protectors	64	136
Face masks	73	127
Helmets	151	49

Table 2 above indicates that a good number of the respondents have the safety materials such as hand gloves, safety boots, ear protectors, facemasks and helmets. The table also shows that the number of persons who use hand gloves and ear protectors are more than those who have them; this may be due to the fact some of them borrow from their colleagues when they need the safety material.

Table 3: Health challenges experienced by respondents

Health challenge	No	Yes	Total
Hearing difficulty	97	103	200
Chest pain/ running nose	36	164	200
Skin rash	175	25	200
Severe headache	128	72	200
Joint/muscle pain	78	122	200
Eye defect	146	54	200
Fire accident	162	38	200
Injury	53	147	200

In table 3 above, most of the respondents experience chest pain/running nose which may be as a result of the inhalation of inhalation of dust particles during work. They also have joint/muscle

pain which may be as a result of lifting heavy logs of wood either before or after sawing. Hearing difficulty is another major health challenge they experience which is most likely due to the noise from the equipment used in sawing.

Table 4: Measures taken to resolve felt problems

Solution to health challenge	No	Yes	Total
Local remedies	134	66	200
Chemist	51	149	200
Health centre	151	49	200
Hospital	71	129	200
Fire fighters	77	123	200
Pray to God	195	5	200

Table 4 indicates that most of the respondents depend on chemists, hospitals and fire fighters when there are safety issues. Some of them however turn to local remedies, health centres and some prayer.

Table 5: Relationship between demographic profile and practice of safety

Demographic profile		Practice of Safety	
	Range	No	Yes
Age group	20-29	7 (14.6%)	41(85.4%)
	30-39	8 (11.6%)	61 (88.4%)
	40-49	1 (1.5%)	65 (98.5)
	50 and above	1 (5.9%)	16 (94.5%)
Marital status	Divorced	0 (0.0%)	4 (100%)
	Married	6 (4.8%)	118 (95.2%)
	Single	11 (15.3%)	61 (84.7%)
Educational attainment	None	3 (21.4%)	11 (78.6 %)
	Primary	1 (5.9%)	16 (94.1%)
	Secondary	12 (8.3%)	133 (91.7%)
	Tertiary	1 (4.2%)	23 (95.8%)
Years of Occupation	1-5	4 (12.9%)	27 (87.1%)
	6-10	7 (11.5%)	54 (88.5%)
	11-15	3 (7.1%)	39 (92.9)
	16 and above	3 (4.5%)	63 (95.5%)

Table 5 above shows that most of the respondents were married men whose highest educational qualification was the Senior School Certificate Examination (SSCE) and had been in this occupation for about 16 years and above. Also most of the respondents were within ages 30-39 while the least was within ages 50 and above indicating that they grow older they tend to leave the occupation. 118 of the respondents are married which leaves them with families they have to fend for.

Table 6: Chi-square result showing the relationship between the demographic profiles and practice of safety measures.

Demographic profile	X2	P value	Result	decision
Age group	6.423	0.060	X^2 (1, N=200) = 6.423, p>0.05	Retain H_0
Marital status	6.762	0.034	X^2 (1, N=200) = 6.762, p>0.05	Fail to retain H_0
Educational attainment	3.747	0.290	X^2 (1, N=200) = 3.747, p>0.05	Retain H_0
Years of occupation	2.894	0.408	X^2 (1, N=200) = 2.894, p>0.05	Fail to retain H_0

The P-values obtained when the demographic profile of the respondents were matched against their practice of safety were all greater than 0.05 except that of marital status which was less than 0.05. We thus retained the null hypothesis for age group, educational qualification and years of occupation and failed to retain the null hypotheses for marital status.

Discussion

The results above results indicate that not the woodworkers in the Iloabuchi wood market practice safety. A look at table 2 shows that the relationship between knowledge and practice of safety measures among respondents has a P value of 0.000 at a 0.05 significance level. This indicates that there is a relationship between their knowledge of safety measures and their practice of it. Table 5 however shows that at a significance level of 0.05, there is no relationship between the age groups, educational status and number of years in occupation and their practice of safety measures, while there is a relationship between their marital status and their practice of safety measures.

The result in table 4 which showed that respiratory illness (check pain or running nose), body pain and hearing are some of the health challenges that may result from sawmill activities is in agreement with the study conducted by Akinnubi (2015), who studied the influence of sawmill industries on the health of sawmill workers in Ondo State. A study conducted by Ige and Onadeko (2000) also showed that running nose and sneezing are common respiratory illnesses among woodworkers may be due to inhalation of dust particles which are able to cause irritation in the respiratory tract..

Table 4 indicates that even when these health hazards are felt, some of the woodworkers visit patent medicine stores and pray rather than seeking proper medical care in hospitals and health centres. This may be due to the high cost of receiving medical care or distance from their home to where the medical facility is.

Table 5 shows that a greater number of them have been in this business for at least 16 years which means long term exposure to workplace hazards. Amongst the ones who practice the safety measures, a large number of them are married and may have wives who are concerned with their health and safety, as such may be educated them on the hazards associated with woodwork.

Conclusion

The questionnaire method was used to get the response of woodworkers in Iloabuchi Timber market on their attitude towards safety measures. Most of the respondents were married, had the SSCE as their highest educational qualification, had been in the occupation for 16 years and above

and were within ages 30-39. A good number of them had knowledge of these safety measures but some did not practice them. There was no relationship between age group, years in occupation and educational qualification and their practice of safety measure but there was a relationship between marital status and the practice of safety. There was a however a relationship between their knowledge of and practice of safety measures.

Recommendation

The use of self-administered questionnaires proved to be effective in obtaining the needed information from the respondents. Although wood and its products are useful and valuable, woodworkers must ensure that they have and make use of their safety gadgets daily, as well as practice workplace safety to prevent occupational hazards. Public awareness on the health hazards associated with woodwork should be carried especially among the woodworkers as well as carpenters too.

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Breast Cancer Awareness among Women in a Rural Community in Niger Delta of Nigeria

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Abstract

Breast cancer is a form of cancer caused by the uncontrolled growth and spread of cells in the breast. It is common in women and is a leading cause of female mortality in developed nations and of recent in developing countries. This study was carried out in order to determine breast cancer awareness among women in Ibotirem community in Andoni Local Government Area of Rivers State, Niger Delta in Nigeria towards breast cancer. It is a rural community and majority of the respondents were within age 33 and above (49.5%); 67.5% of them were married; 36.5% of them were farmers. 95.5% of the respondents had knowledge of breast self-examination but only 4% of the respondents practice it daily and 47.5% of them do not practice it at all. In general, 52.5% of the respondents practice breast self-examination while the remaining 47.5% did although some of them had knowledge of breast cancer. 63.5% of the respondents however believe breast cancer is either caused by an evil spirit or sin committed. There was however no significant difference between their practice and knowledge of breast self-examination. Breast cancer awareness and its preventive measures such as regular self-breast examination and detection should be carried out in this community as well as in other communities to reduce morbidity and mortality resulting from breast cancer.

Keywords: Breast cancer, awareness, breast examination, mortality

Introduction

Cancer is a group of diseases identified by the uncontrolled growth and spread of abnormal cells. Causes of cancers are unknown but the predisposing factors include excess body weight, genetic mutations, hormone and immune conditions and the use (smoking) of tobacco. These predisposing factors may act simultaneously or individually to encourage the growth of cancer and detectable cancer may take ten or more years to surface from the time of exposure to its predisposing factor (American Cancer Society, 2017). Cancers are named based on the site on which they occur (e.g. Cervical or Prostrate cancer). An estimation of 23.7 million new cancers and 13 million deaths are expected by 2030 as a result of aging and growth of human population (Bray, Grey, Ferlay & Forman, 2012). This estimation may however be higher due to increased unhealthy behaviour that predispose one to cancers such as poor diet, smoking and physical inactivity. The three most commonly diagnosed cancers in developed countries are lung, prostrate and colorectal among males while in females, they are lung, colorectal and breast cancers. In developing countries, lung, stomach and liver cancers are common in males while lung, breast and cervical cancers are common in females. If preventive measures are not put in place, the cancer rates in developing countries may continue to rise (American Cancer Society, 2015).

Prevention of cancers such as those predisposed by tobacco and heavy alcohol consumption are completely preventable. About 1.5 million out of the 8 million total cancers were attributed to tobacco smoking in 2010 (Perou, Sorlie & Eisen, 2000; Tamimi, Colditz & Hazra, 2012). According to the World Cancer Research Fund, about one-fourth to one-fifth of worldwide

cancers is related to physical inactivity, obesity or overweight and poor nutrition which are preventable (Yang et al., 2011). Others which are attributable to infectious agents such as *Helicobacter pylori,* human papillomavirus, and hepatitis B and C viruses can be prevented through vaccinations, treatment of infection, infection control procedures and behavioural changes. Protecting of skin from excessive sun exposure and avoiding indoor tanning can prevent many cases of skin cancer. Breast, rectum, lung, cervix, colon cancers can be prevented by early screening (American Cancer Society, 2015).

The most commonly diagnosed cancer among women worldwide (140 out of 184 countries) is breast cancer as it is the only cancer common among women in all regions of the world (Bray et al*.,* 2012). It was initially referred to as the disease of the rich and developed nations but has now become popular in developing countries. In developing countries such as Nigeria, more often breast cancer is diagnosed when it has progressed and survival is poor (American Cancer Society, 2015). Gene profiling of breast cancers help in classifying tumors and this explains the variation in behaviour and response to treatment (Perou et al*.,* 2000). In 2012, an estimated 1.7 million new cases were diagnosed which accounted for 25% of all new cancers in women. About 53% of these cases were from developing countries (American Cancer Society, 2015).

A common symptom of breast cancers is the presence of a mass or lump in the breast which is most times painless. However, the presence of a pain in the breast is not always a sign of breast cancer. Mammograms are used in most developed countries to identify breast cancers before the symptoms develop. Pulling or tugging within the breast may be felt at the early stage of the cancer. As it progresses, swelling, fullness and visible swelling of the breast occur. In advanced stages, skin ulceration can occur, creating sores that may bleed and become infected. Late cancers involve its spread to the lymph nodes and/or distant organs (American Cancer Society, 2015).

Studies have shown that females who have their first full pregnancy before age 30 and have more childbirths are less likely to develop breast cancer; in women who have their first full child birth after 30, there is a risk of their developing breast cancer 5 to 10 years after the pregnancy (American Cancer Society, 2015). Also, studies suggest that breastfeeding for a year or more thinly reduces a woman's chance of developing breast cancer (Faupel-Badger et al*.,* 2013). Several reports have revealed that women who started menstruating at an early age (before age 12) have a slightly higher risk of developing breast cancer (CGHFBC, 2012). In some cases, it may be genetic that is inherited or passed down from either her mother or father.

Recent use of Menopausal Hormone Therapy (MHT) combined with progestin and estrogen is another factor which increases development and death resulting from breast cancer (Chlebowski et al*.,* 2010). Also, those who commence MHT just after menopause starts are at a greater risk compared with those begin its use at a later time (Beral, Reeves, Bull & Green*,* 2011; Chlebowki & Anderson, 2011). Discontinuation of hormone use five years after however reduces the risk (Chlebowski et al*.,* 2010; Beral et al*.,* 2011). Women who started smoking before the birth of their first child have also been found to have a 21% chance of having breast cancer compared with those who have never smoked (Gaudet et al*.,* 2013). There are also increasing reports relating secondhand smoking with breast cancer; mainly among premenopausal breast cancer patients. A whole lot of studies have affirmed that alcohol consumption increases the risk of breast cancer in women by 7 – 10% for every 10g (one bottle of drink) consumed per day (Hamajima et al*.,* 2002; Chen, Rosner, Hankinson, Colditz & Willet*,* 2011; Allen et al*.,* 2009).

Although obesity has been linked with high blood pressure, it appears to prevent premenopausal breast cancer. A study carried out on women from 15 different countries found that a 5 kg/m² increase in BMI (body mass index) was linked with a 5% reduced risk for African women, 7% for Caucasians but a 5% increased risk for Asian women (Amadou et al*.,* 2013). It is

therefore important that women be aware of the risk factors of breast cancer and possible means of preventing it.

This study was carried out in Ibotirem Community in Andoni Local Government Area of Rivers State. It focused on the awareness of women in the community towards breast cancer and its preventive measures such as early detection. The study was conducted among women within the age 13-45. It was aimed at evaluating the knowledge of the women, their attitude and practice in relation to prevention of breast cancer and this was achieved by determining the socio-economic level of the women, identifying the knowledge of the women towards breast cancer prevention, determining the attitude of the women towards breast cancer prevention and determining the rate at which lbotirem women practice prevention measures of breast cancer. The hypothesis tested was that, there will be no significant difference between knowledge of preventive measures to breast cancer and their practice.

Methodology

This study was carried out in Ibotirem Community in Andoni Local Government Area of Rivers State in Nigeria. Indigenes of this community are predominantly fishermen and traders. They engage in fishing. The fishes, crayfishes and prawns when caught are sun-dried or smoke-dried and thereafter packed into baskets to the market where they are sold in bulk. The women are thus exposed to smoke which they use in drying the fish which is a predisposing factor for breast cancer. Self-administered questionnaires were used to obtain the information needed in this study. 200 randomly selected respondents were used. Respondents were within ages 13 years and above. EPI-INFO and SPSS statistical softwares were used in analyzing the data and represented in charts and tables.

Results

The data obtained shows that 49.5% of the respondents were within ages 33 and above; 41.5% within 28-32; 5.5% within 23-27; 5% within 18-22 and 3% within 13-17 years of age. Based on marital status, 67.5% of them were married; 20.5% were divorced, 7% were single and 5% were widowed. Based on their occupation, 36.5% of them were farmers, 30.5% were traders; 24% were civil servants and 9% were students.

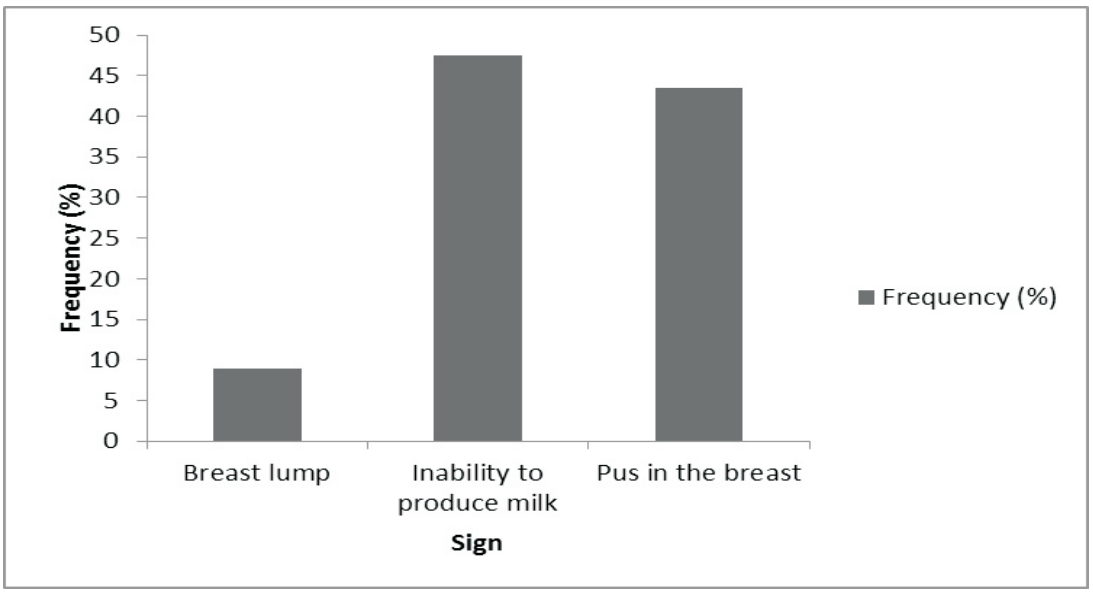

Figure 1: Respondent's level of knowledge on signs and symptoms of breast cancer

Data on the respondents' knowledge of the signs of breast cancer from figure 1 above showed that 47.5% believe it is evidenced by their inability to produce breast milk; 43.5% by pus in the blood and 9% by breast lump.

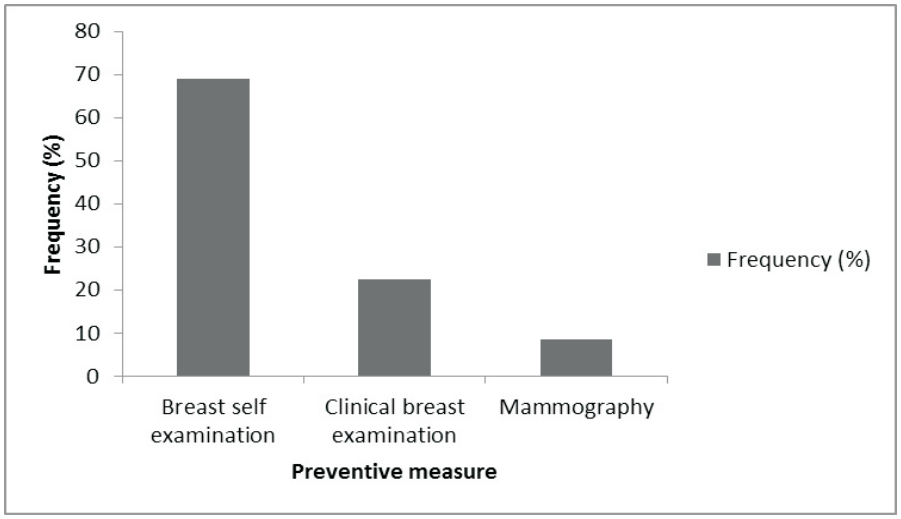

Figure 2: Respondent's knowledge on detection of breast cancer

From figure 2 above, 69% of the sample population believes breast cancer can be detected through breast self-examination (BSE), 22.5% by clinical breast examination (CBE) and 8.5% by mammography.

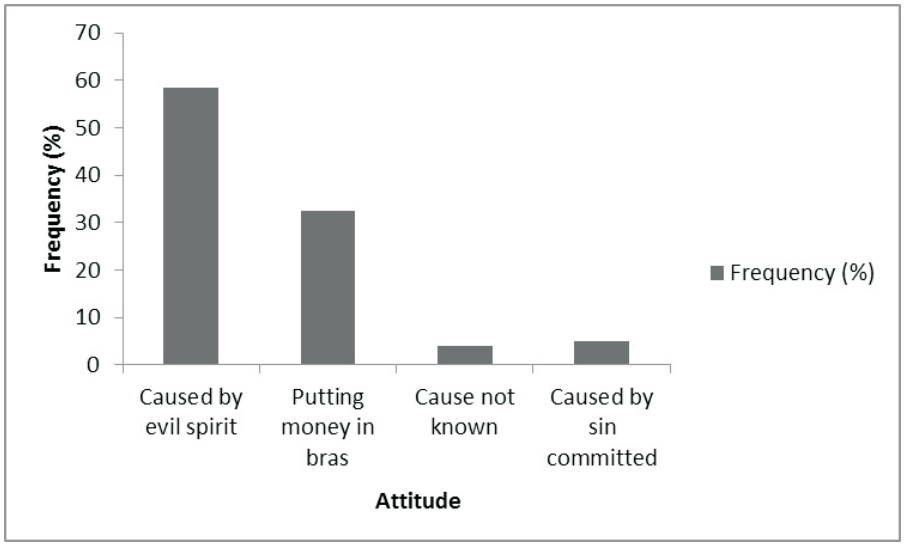

Figure 3: Respondents attitude towards breast cancer

On their knowledge of the cause of breast cancer, 58.5% of them believe it is caused by an evil spirit; 32.5% by putting money in bras; 5% by sin committed by the person and 4% had no knowledge of its cause. 53.5% of them practice BSE although only 2% practice it every day as evidenced in figure 3 above.

Table 1: Test of Hypothes is

Frequency of Practice of Breast Examination	**Knowledge of Breast Cancer**		**Total**	X^2	**P-value**
	Yes (%)	No (%)			
Daily	4 (2.0)	0 (0)	4 (2.0)		
Weekly	55 (27.5)	1 (0.5)	56 (28.0)		
Monthly	36 (18.0)	0 (0)	36 (18.0)	5.92	0.242
Yearly	9 (4.5)`	0 (0)	9 (4.5)		
Never	87 (43.5)	8 (4.0)	95 (47.5)		
Total	**191 (95.5)**	**9 (4.5)**	**200 (100)**		

The above table shows that 95.5% of the respondents have knowledge of breast cancer; however 47.5% of them do not practice breast examination at all. The percentage of those that practice it monthly is actually more than those who practice it daily, weekly and yearly. The *p*-value was 0.242 ($p>0.05$), which makes us retain the null hypothesis which states that; there will be no significant difference between knowledge of breast cancer and their practice of breast examination.

Discussion

Breast cancer is one cancer that affects females especially those in their postmenopausal age. It is however, detected early as a lump in the breast which can be removed by the use of drugs or surgery. This study was carried out in Ibotirem community to determine the level of awareness of the women to breast cancer. Data obtained included age, marital status, occupation, knowledge of signs and symptoms, cause and prevention of breast cancer, and the frequency of their practice of Breast Self-Examination (BSE).

Among the respondents, 49.5% were between 33 years above and 41.5% of them within ages 28 and 32. This may be due to the fact that most young ladies migrate to the city in search of better jobs or for academic purposes leaving behind the elderly ones and the ones whose husbands are in the community. 36.5% of them were farmers and 30.5% traders which could mean that many of them are not knowledgeable of breast cancer and even if they are, the excuse of having a busy schedule may be a reason for their inability to practice regular BSE. Only 9% of the respondents believe the sign of breast cancer is lump in the breast while majority of them believe the inability to produce breast milk and pus in the breast are the signs of breast cancer. According to the American Cancer Society (2015), the last sign may be prevented if the breast lump is detected early enough and removed. 8.5% of them believe mammography is a means of detecting the presence of a lump and as such a means of preventing breast cancer. Mammograms however do not detect all forms of cancers and on rare occasions give a false positive result (American Cancer Society, 2015). Self or Clinical breast examination still remains the best method of detecting breast lumps. Also, in most developing countries, mammograms are either not available or too expensive to carry out (WHO, 2014).

In many parts of Nigeria, illnesses are often seen as a punishment from a deity and this explains the 58.5% and 5% that believe breast cancer is caused by an evil spirit or as a result of sin committed by the person. However, 32.5% also believe it is caused by putting money in bra which is general practice of women especially those in the rural areas. At a 0.05 significance level, there was no significant relationship between their knowledge of breast cancer and their practice of self-breast examination.

Conclusion

Breast cancer can be genetically acquired or as a result of unhealthy lifestyles and therefore there is the need for regular breast examination and mammography where possible. Unhealthy lifestyles such as smoking, alcohol consumption and inactivity (laziness) should be discouraged. In cases where breast lump is found, the patient should be made to know that it is not the beginning of the end but that the lump can be removed and breast cancer prevented. In some cases, chemotherapy and/or drugs can serve as a cure to destroy the cancer cells. Adequate awareness on breast cancer cause, preventive, diagnosis and cure is thus important.

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Public Perception and the Practice of Impact Assessment in Nigeria

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Abstract

This work is focused on the public perception and practical trend in the evolution of impact assessment in Nigeria. It is aimed at comparative analysis of the development of impact assessment in Nigeria as it concerns those of the regulators and the practitioners. It also studied the relevance of impact assessment to the principle of sustainable development. The results showed that $r_{s\ and}\ t_{score}$ were 0.7 and 4.04 respectively based on the evolution of impact assessment in Nigeria. This implies that both the government regulators and the practitioners show a high correlation on that concept of the extent of implementation of environmental management plan. The relevance of impact assessment relative to the principle of sustainable development has r_s as 0.9 and t_{score} is 10.56. This was by the use of simple random sampling technique where 225 questionnaires were retrieved out of 250 issued to both the regulators and the practitioners. Non parametric statistics was used which showed that there was good relationship between the EIA practice in Nigeria and Asia.

Key words: impact assessment, regulators, practitioners, evolution, policies

Introduction

Environmental Impact Assessment (EIA) according to Munn (1979) is an activity to identify and predict on the bio-physical environment and on man's health and well-being of legislative proposals, policies, projects and operational procedures, and to interpret and communicate information about the impacts. It is also an assessment of all relevant and resulting social effects which would result from a project (Battelle Institute, 1978). The main objective is to provide the decision makers with an account of the implications of alternative course of action before, during and after action (Herr and Hagerty, 1977).

The National Environmental Policy Act (NEPA) of 1969 was the first project-level EIA guideline produced in the world. At the dawn of the 21st century, EIA has sufficiently developed the capacity to enable the procedure to help move forward the practical essence of environmental management from the recognition and reflection of environmental consideration at every stage of the development process to addressing the causes of unsustainable development (Sadler, 1994: World Bank, 1997). EIA started under Town Planning in Land Uses before the Passage of FEPA (Caldwell, 1988; Goodland &Tillman, 1995). An EIA examines problems, conflicts or natural resources constraints that could affect the viability of a project (UNEP, 1988). The evolution of EIA started in the early 1970's in Nigeria. This followed a fast growing trend of initial integration which ended up in a cumulative effect and final policy integration in the 1990's.

In Nigeria, impact assessment is a statutory requirement for certain categories of projects. This is contained in Decrees 58 of 1988 as amended by Decree 59 of 1992. To ensure environmental sustainability of all sectors of the national economy, Decree 86 of 1992 was promulgated which makes environmental impact assessment (EIA) mandatory for all new major projects (FEPA,1995). This is contained in the natural environmental protection (Pollution Abatement in industries and facilities generating wastes) regulation 1991 No 21 (FEPA, 1991).

The major aim of impact assessment were improving family and community welfare, building social capital in host communities, decreasing level of poverty, enhancing production

capacity, strengthening community relation through vocational training and provision of social infrastructure (SPDC, 2001). The target is to improve the socio-economic lives of the people and sustainability of the environment other than looking at and considering the physical environment. Besides, communities began to see serious dislocation of their basic norms and values as invasion of foreign culture (Orubu, 2000). The problem led to crimes, prostitution, youth restiveness, weak traditional authority, family disintegration, poverty, health and environmental hazard (Osuntoku, 1986). The case study is on the contemporary issues in impact assessment and its implication for sustainability in Nigeria.

There is a wide threat to wild-life, ecosystem, fauna and flora and indeed the security of the human race. The environment and the need for its preservation took centre stage after the momentous and singular event of the secret dumping of toxic waste in Koko Port, Bendel State (the present Delta State) in May, 1988 by foreign parties. The waste was reported to have come from Italy in five shipment loads totaling 3,884 metric tones. For the then military government, it was a national embarrassment. This ugly incident awoke the consciousness of government and the people to environmental protection. This led to the promulgation of the harmful wastes (Special Criminal Provisions) Act Cap 165. Subsequently, the Federal Environmental Protection Agency (FEPA) Decree No.58 of 1988 (now Cap 131). All these actions led to the Environmental Impact Assessment Act of 1992. This is the core legislation that governs impact assessment in respect of proposed projects in Nigeria and flows directly from the provisions of principle 17 of Rio declaration.

All this activities led to the setting up of an institutional framework to deal with the problems of our environment. FEPA; established by Decree 58 of 1988 of the same name and amended by Decree 59 of 1992, was bestowed with the responsibility to control our environment and for the development of processes and policies to achieve this. However, in a similar fashion, the oil sector uses the Petroleum Act 1969 and all derivative regulations charged DPR among others with pollution abatement. Under Decree 59 of 1992, states and local government councils were encouraged to set up their own environmental protection agencies.

The EIA Decree 86 of 1992 was promulgated establishing FEPA as the apex regulator. Under this act, FEPA has published various sectoral EIA procedures together with EIA procedural guidelines in 1995. It is very pertinent to mention that FEPA has been replaced by the Federal and States ministries of environment. The impact assessment structure is best glimpsed through report writing format. The following format shall be followed as much as possible in developing an EIA report. It is the format laid down by the Federal Ministry of Environment and also accepted by DPR. During report review, the format will first be assessed. It is only when the report conforms to the approved format that further assessment will be carried out.

I) Title page
ii) Acknowledgements
iii) List of EIA preparation team
iv) Table of contents
(a) Chapters., their titles and pagination (b) List of maps, illustrations and figures, List of tables, List of acronyms and abbreviations
(v) Executive summary
vi) Chapter One: Introduction Background information, administrative and legal framework, terms of reference, declaration.
vii). Chapter Two: Project Justification ,background, objectives, need for the project, value of the project, envisaged sustainability, alternatives considered (including no project alternative), development options considered, site selection,
viii) Chapter Three: Project Description - type of project, scope, location, material input/output

and by products, waste generation, technical layout and process, operation and maintenance, schedule.

ix) Chapter Four: Description of the physical and social environment: study approach, literature review, baseline data acquisition method and QA/QC, geographical location,, field data, climatic conditions, air quality, noise level, vegetation cover characteristics, land use and landscape pattern, ecologically sensitive areas, terrestrial fauna and wildlife, soil studies, aquatic studies including hydrobiology and fisheries, ground water resources, social economic and health studies, prediction of changes in the baseline condition within the development in place. Where separate SIA or HIA are carried out, it could be presented in the appendix.

x) Chapter Five: Consultation - identification of stakeholders, consultation with regulators, consultation with communities, community concerns and observations, and Participatory Rural Appraisal (PRA). Where continuous consultation relating to social issues has been carried out, this must be clearly indicated and agreements reached properly documented. Proof of community consultation must be attached,

xi) Chapter Six: Associated and potential environmental impacts, scooping, impact prediction methodology, impacts of project activities (site clearing, dredging, construction, transportation excavation, sand-filling, *etc*), impacts on resource utilization, process impacts (operation). Short-term/long- term impacts, reversible/ irreversible impacts, cumulative impacts, direct/ indirect impacts, adverse/beneficial impacts, risk assessment (HAZOP, HAZID, QRA), social and Health impacts *etc*.

xii) Chapter Seven: Mitigation measures and alternatives-control technology, compensation, alternative site, alternative route or location, compliance with health and safety hazards requirement (five table showing impacts with corresponding mitigation measures.

xiii) Chapter Eight: Environmental Management and Community Development Plan; guidelines for specific project activities, emergency response procedures, mitigation plan, costing of alternatives and budget requirements, monitoring program (scope, parameters, frequency, location, methodology), auditing and inspection procedures, waste handling procedures, training program, roles and responsibilities (sponsors and contractors); decommissioning plan (remediation measures after closure). Here a link should also be made to the HSE case remedial Work Plan (RWP) and the ISO 11001 Aspects.

xiv) Chapter Nine: Conclusion and Recommendation

xv) Bibliography/ references

xvi) Appendices

Similarly in some developed countries, (Asia), the EIA report can take the following format below:

i Introduction

ii. Description of Project

iii. Description of Environment

iv. Anticipated Environmental Impacts and mitigation
Measures Alternatives

v. Cost-benefit Analysis

vi Institutional Requirement and Environmental Monitoring Program

vii. Public Involvement viii. Conclusions

Materials and Methods

There are basically two sources of data for this study; they are the Primary source and Secondary sources. The primary source was established from the issuance of expert-based questionnaire. The secondary data entailed analysis of impact assessment reports of between 5-10 years and

comparing the issues of interest. It also involved previous works done in related areas, especially governmental agencies.

This research was primarily centred on the two major proponents of the EIA process. They included the state and Federal Ministries of Environmental consultants' agency, the world watch consultants and Man's World environmental agency all resident in Port Harcourt. Out of this only 225 questionnaires were retrieved and used for the research. The simple random sampling technique was applied giving each person in the Ministries and practitioner's equal chances of being administered a questionnaire. The questionnaire was the major instrument for data collection. Sections of the questionnaire were devoted to tackling respondent's experience of the impact assessment procedure and observed shortcomings in Nigeria. The relevance of the impact assessment and what improvements can be introduced in the process for Nigeria was also highlighted. Data was collected from the expert respondents by direct issuance of the questionnaires and instant collection. No questionnaire was issued in absentia. Pre-coded questionnaire items were keyed-in directly to database managed through the Statistical Package for Social Sciences (SPSS). The statistical data analysis depended on the final data quality, trend and the perceived orientation. The subjective nature of some impact assessment report attributes tend towards non-parametric statistical techniques of data analysis. The chi-square was to determine the correlation between the two variables of regulators and practitioners. The t-test and Spearman' coefficient for correlation was used to test for the significant of the correlations.

Discussion of Findings

Hence, the critical value for 20 degrees of freedom and at χ^2 is 0.95 was 31.4and X^2 0.05 was 10.9 and since $X^2 = 1.04.1 > 31.4$, the null hypothesis at X^2 0.95 or 0.95 level. Similarly, X^2 being 104 > 10.9 and is also rejected. The decision shows that at both 0.95 and 0.05 significance level, the null hypothesis H_0 is rejected. Therefore the conclusion is that there is no significant relationship in the opinions of both respondents of the Ministry of Environment and the practitioners. This implies that the substantive hypothesis holds as there is a significant relationship. Similarly, this is reflected in the mean values of responses of both respondents of the Ministry and that of the practitioners. Both ministry of environment and the practitioners accept the fact that evolution of impact assessment necessitated the harmful wastes Act Cap 165 and the issue of Koko waste dump.

Table 1: Evolution of Impact Assessment by regulators.

Research/Question	VT	T	VUT	UN	UD	MEAN	STADV
When EIA started	2	3	25	190	5	2.14	12.62
Harmful waste Act Cap							
165	180	30	1	10	4	4.65	11.82
EIA as a result of Koko							
Dump	182	15	10	13	5	4.58	11.87
Establishment of EIA							
act before 1993	3	10	35	172	5	2.26	11.54
The relevant issues in the EIA process	130	70	10	9	6	4.37	9.46
EIA due to ozone layer Depletion	3	20	35	162	5	2.35	10.93

$X^2 = 104.1$

Table 2: Practitioners on Evolution of EIA in Nigeria.

Research Question/	VT	T	VUT	UN	UD	MEAN	STADV	VT
1	60	20	5	12	3	1.88	6.18	60
2	60	25	5	5	5	1.91	6.27	60
3	80	10	5	3	2	2.06	7.84	80
4	80	15	0	0	5	0.96	3.25	So
5	15	30	5	40	10	1.33	5.09	15
6	40	43	5	5	7	1.80	5.66	40

$X^2 = 61.29$

X^2 computed is 74.89. The value of X^2 0.95 and X^2 0.05 at (5-l)(6-l) degree of freedom is 31.4, since $X^2 = 74.89 > 31.4$ at X^2 0.95 and also greater at X^2 0.05, the decision is to reject both. This means that at both 0.05 and 0.95 significance levels, the null hypothesis is rejected. Therefore the conclusion is that there is no significant relationship existing between the opinions of the ministry and those of the practitioners. This also means that the substantive hypothesis is true (see Table 2). The means show that both respondents agree to a high degree that there is need for EIA process for sustainable development. This is accepted due to the fact that both respondents also agree that negative EIA report can halt a project. The substantive hypothesis of the significant relationship between the opinions of the ministry and the practitioners on the determination of the relevance of impact assessment process and subsequent support for sustainable development was adopted. The tabulated or critical value of X^2 at 0.95 and 0.05 significance levels and (5-l) (6-l) degrees of freedom are 26.3 and 7.96 respectively.

Table 3: EIA Process and the Principles of Sustainable Development in Nigeria.

Research Questions	VT	T	VUT	UN	UD	MEAN	STADV
Necessity of EIA before project execution.	125	65	11	20	4	4.28	9.08
Specific projects and EIA	20	170	10	15	5	3.76	11.17
EIA set backs	20	40	8	155	2	2.65	10.53
Source of economic empowerment	85	120	5	11	4	4.20	9.42
Toxic waste and EIA process	160	40	9	10	6	4.50	10.64
Halt in project to execution due to lack of EIA	175	115	10	20	5	6.27	13.42

$X^2 = 74.89$

Table 4: Relevance of EIA process and the Principle of Sustainable development in Nigeria

Research Questions / Responses	VT	T	VUT	UN	UD	MEAN	STADV
1	60	20	5	12	3	1.88	6.18
2	60	25	5	5	5	1.91	6.27
3	80	10	5	3	2	2.06	7.84
4	80	15	0	0	5	0.96	3.25
5	15	30	5	40	10	1.33	5.09
6	40	43	5	5	7	1.80	5.66

$X^2 = 70.98$

X^2 was 46.55 so greater than 26.3 and 7.96. The null hypothesis is also rejected at the 0.95 and 0.05 significance levels. The decision shows that both at 0.95 and 0.05, the difference in value is so large that there is no significant relationship. Therefore the conclusion is that the substantive hypothesis is accepted relative to the concept. This means that there is a significant relationship between the opinions of the ministry of environment and those of the practitioners on the determination of the extent of implementation of the EMP for specific projects (see Tables 3 and 4).

Table 5: **Responses** of the Ministry of Environment on the of **EMP** implementation for specific projects.

Research Questions	**VT**	**T**	**VUT**	**UN**	**UD**	**MEAN**	**STADV**
Public knowledge of EMP implementation	144	35	4	15	6	1.72	5.26
Continuation of project with negative EIA report	40	7	43	5	5	1.65	5.68
Government implementation of EMP	65	20	4	5	6	1.92	6.58
Brunt of failure	30	22	15	30	3	1.54	4.71
Project failure due to EMP non compliance	40	5	10	40	5	1.49	5.53

Similar, X^2 was 46.55 (Table 5) using 24 degrees of freedom for critical values of X^2 0.95 and X^2 0.05, it is 36.4 and 13.8 respectively. This large value difference between the computed and the critical shows high discrepancy hence the null hypothesis is rejected. This infers the acceptance of the substantive hypothesis (H_1).

Table 6: Evolution of Impact assessment in Nigeria

	Attitude										
Respondents	Very True (VT)		True (T)		Very untrue (VUT)		Untrue (UN)		UD		Row Total
	Fo	F_e	Fo	F_e	Fo	F_e	Fo	F_e	Fo	Fe	
Ministry of Environment	83	70	25	45	19	18	93	85	5	6	225
Practitioners	20	33	42	22	8	9	33	41	4	3	107
Column Total	103		67		27		126		9		332

X^2 calculated is 12.09 but X^2 0.95 at 4df was 9.49 where X^2 0.05 at 4df is 0.71. This means rejecting the null (Ho) hypothesis if X^2 (calculated) exceeds X^2 0.95 or X^2 0.05 at 4df. Since X^2 calculated is greater than critical value of X^2 at both 0.05 or 0.95 levels of significant, the null hypothesis (H_0) rejected. This implies that Hi is accepted. This means that impact assessment is necessary and relevant to sustainable development in Nigeria (Table 6).

Table 7: Relevance of EIA and Principle of Sustainable Development in Nigeria.

	Attitude										
Respondents	Very True (VT)		True (T)		Very untrue (VUT)		Untrue (UN)		UD		Row Total
	Fo	Fe	Fo	F_e	Fo	Fe	Fo	F_e	Fo	F_e	
Ministry of Environment	96	107	92	82	9	9	39	35	4	6	240
Practitioners	56	44	24	34	4	4	11	15	5	3	100
Column Total	152		116		13		50		9		340

At 0.05 level of significance, the null hypothesis is accepted meaning (X^2-12.09) that there is no significant relationship on the extent of implementation of the environmental management plan (EMP) for specific projects by both ministry of environment (regulators) and the practitioners (regulated). But X^2 0.95 at 4df, the null hypothesis is rejected as X^2 0.95 is 9.49 implying the acceptance of the substantive hypothesis (H_1). This means that at the 0.95 level of significance, both the respondents at the ministry of environment and the practitioners agree on the extent of implementation of environmental management plans (EMP) for specific project.

Table 8: Spearman's Coefficient on the Evolution of Impact Assessment in Nigeria.

Attitude	E	P	$R(E_i)$	R(Pi)	d_i (RB-RP)	di^2
VT	83	20	4	3	I	1
T	25	42	3	5	-2	4
VUT	19	8	2	2	0	0
UN	93	33	5	4	1	1
UD	5	4	1	1	0	0
						6

Ministry of Environment = E, Practitioners = P

For the relevance of the impact assessment and the principle of sustainable development in Nigeria (Table 8), the r_s was 0.9 and the calculated t-score was 10.56. Using 0.05 level of significance and 4df, the tabulated score is 2.35. This values show perfect positive correlation and high for the spearman's correlation coefficient. Hence, the null hypo thesis is rejected (H_0) while the substantive hypothesis (H_1) is accepted meaning that there was a positive perfect correlation on the relevance of impact assessment and the principle of sustainable development in Nigeria.

Table 9: The r_s for the Relevance of EIA and the Principle of Sustainable development in Nigeria.

Attitude	E	P	$R(E_i)$	R(Pi)	d_i (RB-RP)	di^2
VT	96	56	5	5	0	0
T	92	24	4	4	0	0
VUT	9	4	2	1	1	1
UN	39	11	3	3	0	0
UD	4	5	1	2	-1	1
						2

The r_s was 0.9 whereas the t_{score} became 10.56 as shown in Table 9. Figures 1,2,3,4 and 5 gave graphical illustrations of the trends in impact of EIA practice and sustainable development in Nigeria.

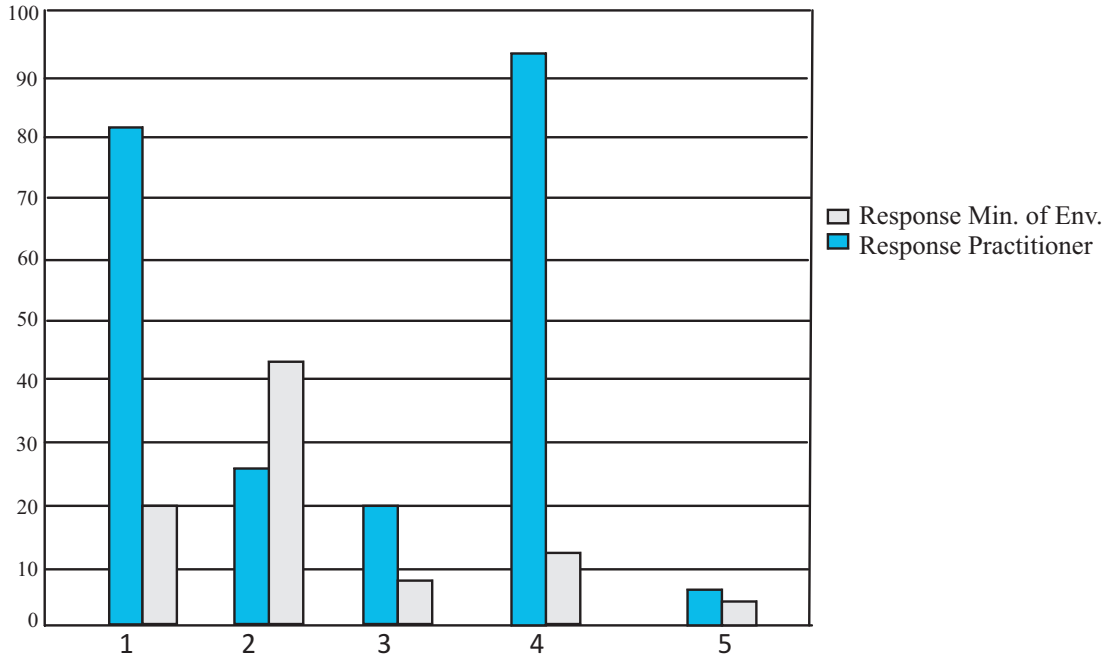

Fig 1: Response of the Ministry of Environment against practitioners on the evolution of EIA in Nigeria.

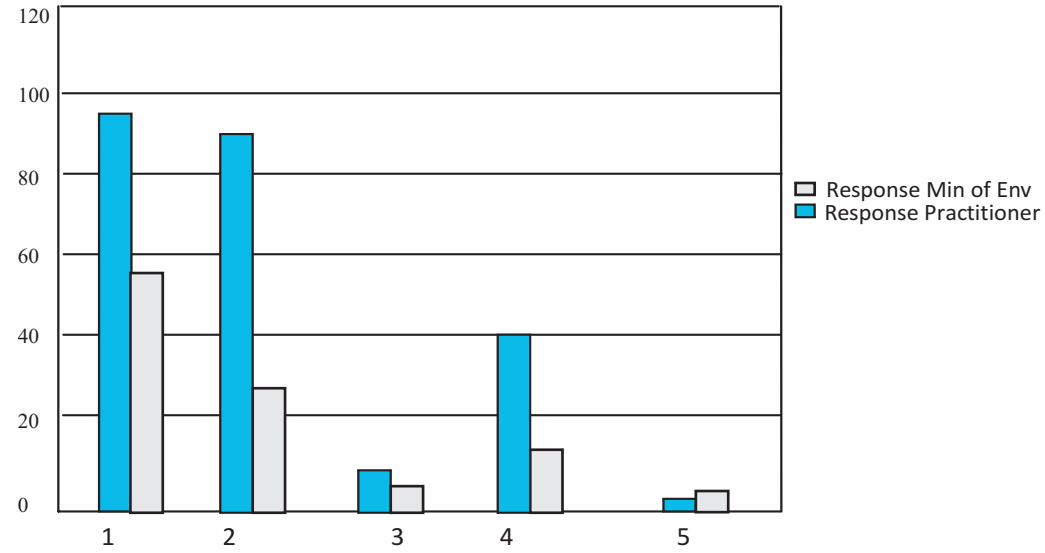

Fig 2: Response of the Ministry of Environment against Practitioners on the relevance of EIA.

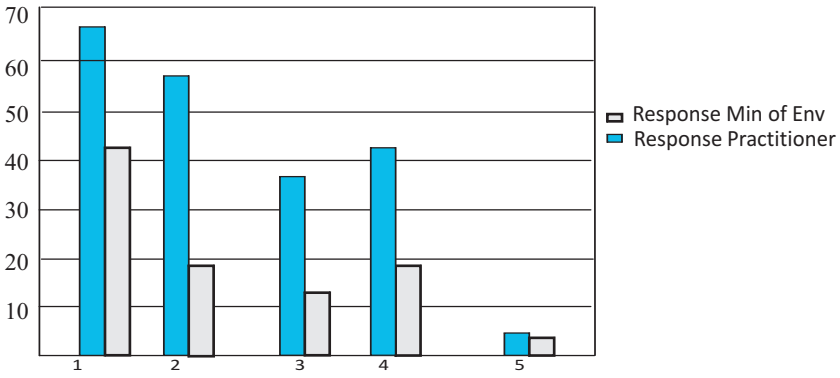

Fig 3: Response of the Ministry of Environment against Practitioners on the Extent of Implementation of EMP for Specific Projects.

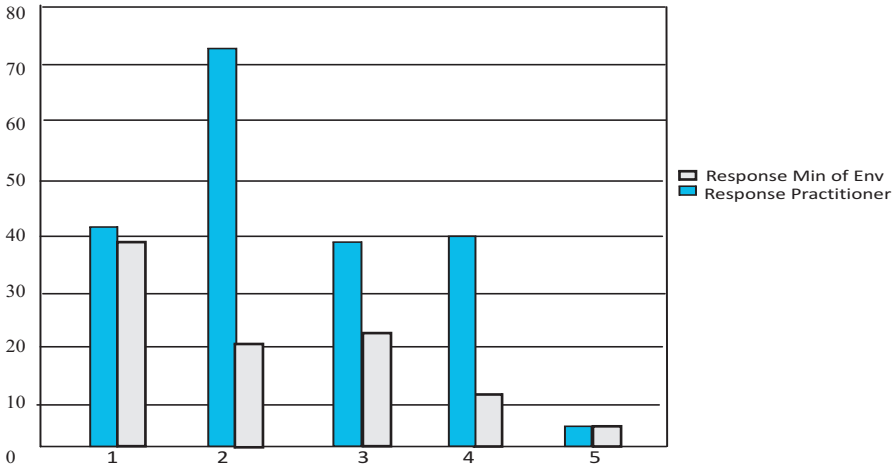

Fig 4: Responses of ways for Improving and Managing EIA for Sustainable Development in Nigeria.

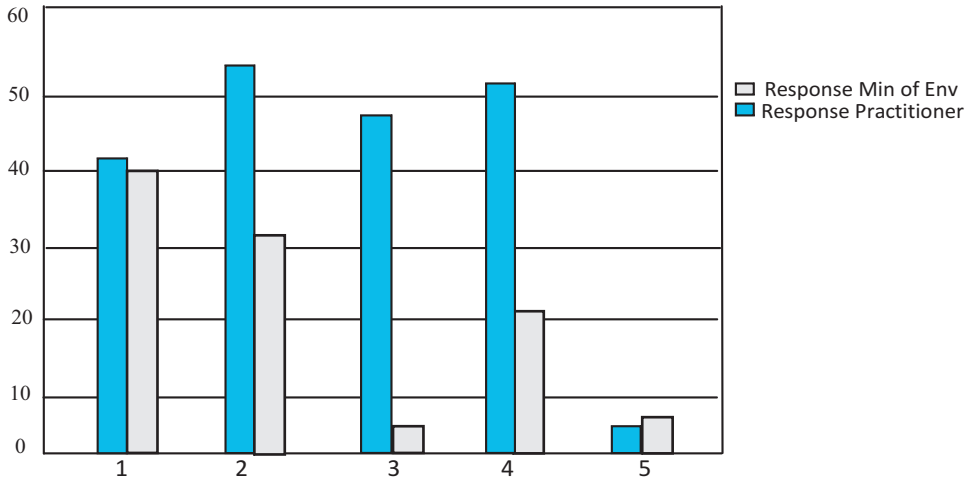

Fig 5: Responses of the Ministry of Environment and Practitioners on the EIA practice in Nigeria and Asia.

Conclusion

This work was based on expert judgment hence questionnaires were only issued to those knowledgeable and the practitioners of environmental management. This has been able to explain and tactically reveal the practice of impact assessment in Nigeria. It has also shown that there is clear knowledge of the evolution of impact assessment by both regulators and practitioners. There were certain factors that necessitated the fast evolvement and use of the impact assessment. There was a strong relationship between the practitioners and the regulatory agency on the primary aim of environmental protection. There is also a good relationship between the EIA process and the principle of sustainable development. Similarly, there is a great need for further improvement, maintenance and management of EIA process in Nigeria. Impact assessment has started a long time ago in Nigeria but without relevant youth backings hence ways of improvement should include the youths of the host communities since host communities might not be able to stop whose EIA failed. Though this work has looked at an angle of the EIA process from the expert judgment there is need to incorporate the non professionals and novices in the field to be able to have a thorough overview of the entire concept. Similarly, the youths of every community should be incorporated when drafting, organizing and preparing the EIA documents and process exposing them to its relevance perhaps clear doubts where possible. The public may not know their right in terms of the development of the EIA process, hence there is need for practicable enlightenment and education before the process starts.

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Determination of Students' Academic Performances in National Examination at College Of Health Technology, Ogbia

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Abstract

Academic achievement is a measure for an institution's rate of performance in order to make valid evaluation of educational programmes. This study determined the academic performance of students in their National (Board) Examinations at Bayelsa State College of Health Technology, Otuogidi, Ogbia Town. The study made use of a retrospective archival design on 225 candidates sampled by census from those who partook in the national examinations of 2013 to 2016. The sample was drawn from the Community Health Extension Worker examination records. A box diagram was used to present performance of students per year. Data obtained were analyzed with analysis of variance at 0.05 level of significance. Findings showed that there was no statistically significant difference on students' performance from year to year and as well as no gender difference in their performances. The study concludes that Community Health National Examination was gender-bias free. Thus, we recommend among others that the college management should ensure the policy that will improve performance of students from year to year.

Keywords: Community Health Extension Worker, academic performance, national examinations,

Introduction

Academic achievement also known as academic performance is the attainment of excellence in all academic disciplines in class as well as co-curricular activities. It includes excellence in sporting behaviour, confidence, communication skills, punctuality, arts, culture and which can be achieved only when an individual is well adjusted (Ganai & Ashraf, 2013). It is the outcome of education, the extent to which a student, teacher or institution has achieved their educational goals . It has a great influence on a student's self-esteem, motivation, and perseverance in higher education which changes the behavioural pattern of the students through different subjects.

Moreover, academic performance is characterized or measured in several ways by the overall performance in each year which culminates in a grade-point average and their test results (Jayanti, Balaknzhnan, Ching, Latiff & Nasirudeen, 2014). The grade-point average score of the student's performance would be in test of course work, continuous assessment and examination. The minimum and maximum grade-point average score are 0-grade F and 5.0 Grade A respectively in a five-point scale, it implies that the higher the score, the better the student's performance academically (Jayanti et al., 2014).

Due to high premium placed on academic performance, individuals do everything possible to obtain excellent results (Iroegbu, 2013). Schools, colleges and universities have no worth without students, because students are the most essential asset for any educational institute (Mushtaq & Khan, 2012). Ideally, school is a place that makes students feel competent and successful, which breeds motivation and self-confidence . It is believed that a school with adequate

learning environment contributes to stir-up expected outcome of learning that will facilitate good academic performance by encouraging effective teaching and learning (Duruji, Azuh & Oviasogie, 2014).

Over the years in College of Health Technology, Otuogidi in Ogbia Town, students' academic performance was high. However, recently, several comments and observations had flooded the college community of low standard or low performance in both internal and external examinations. This ugly trend seems visible in the Department of Community Health which is saddled with the responsibility to train community health workers. The term community health workers embrace a variety of community health aides selected, trained and working in the community. Their roles are very sensitive and important to human life. Therefore, it became imperative to determine the academic performance of such cadre of workers

Though, previous studies conducted on students' performance in their internal examinations in Bayelsa State College of Health Technology, Ogbia Town had observed a falling academic performance of students (Queensoap, Aroggo, Memory, Ogbari, & James, 2017; Osokolo, 2016). Consequently, management in 2014 called for several brain-storming meetings with both students and staff on the same issue. Presently, complain of falling standard is no longer hidden. Is this a true reflection even in their National Examination? No research documents have answered this question hence this research is to assess the academic performance of students of community health in their national examination from 2013 - 2016.

Methods

This study adopted a retrospective archival design to determine the academic performance of students in their National Examinations from 2013 to 2016. The population of the study comprises all the students who partook in the Community Health Extension Workers National Examination for the years 2013 to 2016. This figure was found to be 225 and it served as the study population as well as the sample size. The instrument for data collection was a record /documentary source which was obtained from the Head of Department Community Health Sciences. Permission was sought for and was granted by the Ethical Committee of the College. Obtained data were analyzed with Graph Pad Prism 5, using box diagram for the research question and One-way Analysis of Variance (ANOVA) to test the two hypotheses at 0.05 alpha level of significance.

Results/Discussion

Research Question 1: How did the performances go from year to year?

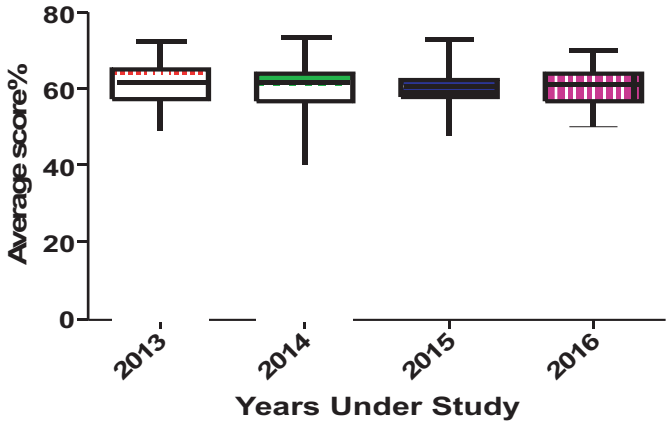

Figure 1: A box graph showing performance of candidates from year to year.

A critical look at *figure 1* showed that all the graphs are almost on the same level. In all the years, candidates scored an average score little above 60%, this therefore implies that performance in all the years was good and above average (50%). This finding does not underscore the findings of (Jayanthi, et al., 2014) and that there are several factors that can influence academic performance. This study revealed that performances over the years remained similar, implying that such factors like socio-economic status, gender, attendance, etc. can only influence the distribution but may not have significant difference on performance.

Research Hypothesis 1: There is no significant mean performance difference between years under study (2013, 2014, 2015 & 2016).

Table 1: Summary of One-Way Analysis of Variance (ANOVA)

Source of variances	Sum of square	Degree of freedom	Mean square	F-Ratio	*P value*	Decision *P <0.05?*
Treatment	8.655	3	2.885			No
Residual	5914	203	29.13	0.099	*0.9605*	Not sig.
Total	5923	206				

It has been observed in table 1 that sum of square treatment (SSbetween) was 8.655, SS within was 5914, mean square between was 2.885 and mean square within (Residual) was 29.13. Meanwhile, the table revealed that the F-ratio was 0.099 with a degree of freedom 3 and 203 resulting a *P value* of 0.9605, that is, *P>0.05*. Thus, the null hypothesis that there is no significant mean performance difference between years under study was accepted. This implies that performances of candidates in different years showed no difference. This suggests that all factors affecting students' academic performance had little or no effect on the students as contrary to the findings of Ogunshola and Adewale (2012) who in their findings stated that socio-economic factors like family income, attendance in class and mother's and father's education, teacher - student ration, sex of the student and distance of school affect the performance of students

Research Hypothesis 2: There is no significant performance difference between male and female candidates who partook in the examinations

Table 2: Summary of One-Way Analysis of Variance

Source of variances	Sum of square	Degree of freedom	Mean square	F-Ratio	*P value*	Decision *P <0.05?*
Treatment	101.9	7	14.56			No
Residual	7850	217	36.18	0.4024	*0.9002*	Not sig.
Total	7952	224				

Table 2 above showed that SS between and SS within were 101.9 and 7850 respectively while the mean squares of treatment (between) and residual (within) were 14.56 and 36.18 respectively. The table indicated F-ratio of 0.4024, degree of freedom 7 and 217 with a *P value of 0.9002*, that is, *P>0.05*. This means that the null hypothesis of no gender performance difference was accepted. It implies therefore that male performance and female performance in their national examinations have no statistically significant difference. It was observed contrarily to Iroegbu (2013) that gender has influence on academic performance. It was noted that the female students performed better than the male students academically. However this study did not show significant gender difference in their national (Board) examinations.

Conclusion

Based on the findings from the data analysis and discussion, the study concludes that the performance of students in their national (Board) examinations has no significant difference, indicating that the standard of performance established from 2013 had neither improved nor diminished. Also, male and female performances remained parallel. So, the national examination has no gender bias.

Recommendations

Following the conclusion of the study, we recommend that:

- government, non-governmental organizations and other education stakeholders should not perceive academic performance as a gender issue rather both male and female should be encouraged to excel academically and equal opportunities be provided for them.
- college management should create a hall of fame for students in order to motivate them.
- college management should develop a proper policy that will address better performances in national examinations in future.

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*** International Environmental Law: The Nigerian State of Affairs

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Abstract

Environmental law has evolved over the years. From the mid19th century to the present day, environmental protection, which is the focus of environmental law has become a trending issue in most parts of the world. This is not unconnected to the truism that a healthy environment promotes optimal development of the people and the state. Whereas it is the view of some that it has helped to combat global environmental challenges, others differ in their views. Nigeria, a member of the United Nations and other international organisations, has performed creditably in her attendance of international conventions and the ratification of agreements emanating therefrom. The issue however, is whether such ratifications have translated to domestication and enforcement, considering the state of the Nigerian environment, especially the oil producing communities.

1.1 Environmental Protection: Historical Evolution

Environmental law has its roots in environmentalism, a value system, seeking a redefinition of the relationship of human kind to nature.[1] It seeks to persuade or cause men to be stewards rather than exploiters of the environment.[2] By way of definition, it can be said to be an aspect of international law that seeks to regulate the behaviour of states as well as international organisations in matters relating to the environment,[3] in an attempt to 'control pollution and the depletion of natural resources'[4]. Its major objective, which includes protecting the health of the public and preserving the natural environment,[5] it achieves through the instrumentality of treaties, conventions and laws.

Throughout history, environmental protection has been a concern of international law, albeit a minor one, prior to the 20th century[6]. It can be said to have 'evolved as a by-product of the development of law in areas of law like fisheries, navigation', wildlife conservation, etc.[7] They were efforts aimed at managing shared resources of nature in order to ensure continual harvest over time.[8] Environmental protection was therefore, more of an afterthought, or incidental to some other end.

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[1]Dan Tarlock, History of Environmental Law (vol. 1) *Encyclopedia of Life Support Systems* <www.eolss.net.sample-chapters> accessed 10/1/16.

[2]ibid

[3]Phillipe Sands, Principles of International Environmental Law (2nd edn CUP 2003).

[4]OluwaleRotimi, 'Domesticating International Treaties in Nigeria' Punch, February 16,2016. <punchng.com/domesticating-in..>

[5]Dan Tarlock,' The Future of Environmental Rule of Law Litigation' (2002)19 *Pace Envt Rev,* in Elizabeth Fisher and Elizabeth Charlott Fisher and Bettina Lange, *Environmental Law : Text ,Cases & Materials* (OUP Oxford 2013)9 <https://books.google.combooks> accessed 15/1/16.

[6]Aaron Schwabach, *International Environmental Disputes: A Reference Handbook* (ABC CLIO 2006)3 <https://www.books.google.com.ngbooks> accessed24/1/16.

[7]Ibid.

[8]Elizabeth R. Desombre, 'Evolution of International Environmental Cooperation' (2004) Vol. 1 (1-2)*Journal of International Law and International Relations* 75 <www.org1_7DESOMBRE_FINAL> accessed 12/1/16

1.2 Different Stages of the Evolution of Environmental Law

Some accounts of the historical development of international environmental law distinguish three or four periods, viz the traditional era that lasted until about 1970 (or a sub division of pre and post 1945 period); the modern era from 1972 to 1992, that is from Stockholm Conference[9], to the UN Conference on Environment and Development in Rio de Janeiro, and the postmodern era.[10]
The traditional era can be said to have commenced with the proposal of the Swiss government for an International Regulatory Commission to protect migratory birds in Europe. The instrument or medium Chosen for the initial international cooperation was the non-governmental international conferences which took place and became frequent after the mid-19th century.[11]

The era can be said to have started precisely in 1872, a century before Stockholm, with particular concern for migratory wildlife, marine animals and fisheries[12]. Early in the 20th century congresses like the International Congress for the Protection of Nature, the International Congress for Flora, Fauna and National sites and Monuments and the second International Congress for the Protection of Nature, among others, were held in Paris in 1909, 1923 and 1931. A Consultative Commission was also established for the International Protection of Nature in 1913 at Berne, with seventeen European signatories. Even though the commission was never functional by reason of the First World War, it retained its legal status between the two world wars.[13]

In 1949, a conference was sponsored by the Swiss League for the protection of nature at Brumen, Gambia. It was attended by delegates from 24 countries and nine international organizations. It was at that meeting and the follow up one called by UNESCO [14]in 1948 at Fontainebleau in France, that the International Union for the Conservation of Nature and Natural Resources (IUCN), the principal non-governmental organization for environmental protection was established.[15]

A landmark event that could be described as the herald of the new dawn in environmental protection was the publication of the book 'the Silent Spring' by Rachel Carson in 1962[16]. A scientist and writer, the author warned about the use of chemical pesticides in agriculture, stressing the need for protection of the ecosystem, human health and the environment[17]. Her passionate and persuasive presentation of the subject matter led to an awakening of the international community to the actual and potential hazards the use of such chemicals (Chlorinated hydrocarbons) posed to the environment.[18]

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[9]United Nations Conference on the Human Environment , held in Stockholm from 5 to the16 of June 1972
[10]Peter H. Sand, *The Evolution of International Environmental Law* (the Oxford Handbook of International Environmental Law, 2012) <www.oxfordhandbook.com>oxfordhb> accessed 28/12/2015; Simone Schiele, Evolution of International Environmental Regimes: the Case of Climate Change (CUP 2014)22 <> accessed20/1/16.
[11]Lynton Keith Caldwell & PS Weiland, *International Environmental Policy from the Twentieth to the Twenty- first Century* (Duke University Press 1996) 49 <https://books.google.com.ngbooks> accessed 4/3/16.; The proposal was not successful;
[12]Ibid Page 49
[13]Ibid; After the second world war, International Congresses for the Protection of various aspects of nature resumed
[14]UNESCO-United Nations Educational Scientific & Cultural Organization established in 1945.
[15]The IUCN has a membership of over 1200 governmental and nongovernmental organizations; see About IUCN <www.IUCN.orgabout> accessed 28/12/15.
[16]Global Issues <un.org/en/global/issues> accessed 28/12/15.
[17]Ibid.
[18]Celia Campbel-Mohn, 'Environmental Law' <> accessed 28/12/15.

Initially, industries and businesses resisted efforts aimed at environmental protection and resource conservation due to the mindset that resources expended on such efforts would diminish profit[19]. However, as the rape of the earth's natural resources continued, and the negative consequences became more obvious, the international community rose up to the challenge and countries through their representatives came together under the auspices of the United Nations to find the means of combating the already bad situation.

1.3 Modern Trends in International Environmental Law

The United Nations Conference on the Human Environment held in Stockholm in 1972 marked the first organized international effort at environmental protection[20]. The conference produced the Stockholm Declaration which adopted an anthropocentric approach to the protection of the environment[21]. An approach that puts the human being at the Centre of environmental protection, claiming that all regard for the environment are actually obligations owed to the human components of the environment[22]. The declaration in its preamble proclaimed that 'man is both the creature and molder of his environment, which gives him physical sustenance and affords him the opportunity for intellectual, moral, social and spiritual growth'[23]. It went on to declare that the natural resources of the earth and the ecosystems must be safe guarded and managed for man's benefit, both now and in the future[24].

The declaration is made up of a set of principles for the inspiration and the guidance of man in the preservation and enhancement of the human environment[25]. After the Stockholm Conference of 1972, other conferences followed, including the UN Habitat Conference on Human Settlement of 1976, Vancouver; World Water Conference of 1997, Mardel Plata; the Paris Conference of 1986 for Saving of Trees and Forests; the UN Environmental Education Conference 1977, Louis Georgia[26].

Another important milestone in the development of environmental law is the report of The World Commission on Environment and Development of 1987 tagged 'Our Common Future.[27]' The commission was created in 1983 by the UN to evaluate the global environment, reassess and proffer solutions to critical problems[28]. The report, which was written by 23 experts from 22

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[19]NK Uberoi, *Environmental Management* (2nd edn, Excel Books New Delhi 2003)36.

[20]NK Uberoi, *Environmental Management* (2nd edn, Excel Books New Delhi 2003)36..

[21]Elli Louka, *International Environmental Law: Fairness, Effectiveness &World Order* (CUP2006) 30 <https://books.google.com.ngbooks> accessed 27/12/15.

[22]Internet Encyclopedia of Philosophy, 'Environmental Ethics' <>accessed 11/1/16; Baird Callicoth 'Non-anthropocentric Value Theory and Environmental Ethnics (October 1984) Vol. 21 No 4 American Philosophical quarterly. <philpapers.org>rec>CALNVT> accessed 23/12/15.This is in contrast with ecocentric or non-anthropocentric approach that confers value on other components of the environment, both living and nonliving.

[23]Stockholm 1972- Declaration of the United Nations Conference on the Human Environment www.Unep.orgdocuments.muchlinggual> accessed 10/1/16: David R Boy, The Environmental Rights Revolution: A Global Study of Constitutions, Human Rights & the Environment (UBC press 2011)13 <https://books.google.com.ngbooks> accessed 16/1/16.

[24]Ibid, Principle 2

[25]Louis B Sohn, 'The Stockholm Declaration on the Human Environment [1973] Vol.14 No.3 the *Harvard International Law Journal*<resources.Spaces3.com> accessed 11/1/16.

[26]Uberiori (n74) 36.

[27]It is also referred to as the Brundtland's Report, named after the chairman of the commission, Gro Harlem Brundtland.

[28]OUP Academic, Our Common Future: World Commission on Environment and Development, (OUP, 1987) <... > accessed 28/8/16.

countries, gave the first official definition of sustainable development[29]. The report also drew a link between poverty and environmental degradation and called for cooperation among governments, citizens, non-governmental organizations and institutions in the quest for development and environmental protection[30].

The UN in 1989, sequel to the Brundtland's Report called for the Conference on Environment and Development in Rio de Janeiro[31], also known as the Earth Summit. The goal of the summit, which was held in June 1992, was inter alia, to ensure a healthy future for the planet by promoting socio-economic development that would prevent the continued deterioration of the environment[32]. Three major agreements were adopted at the conference. Agenda 21 – a programme of action for sustainable development[33]; the Rio Declaration on Environment & Development – 'a set of principles that define the rights and responsibilities of states'; the statement of forest principles – a set of principles for the sustainable management of forests worldwide[34].

Additionally, two conventions were opened for signature, first, the UN Framework Convention on Climate Change (UNFCCC). The convention which came into force on 21 March 1994 'recognizes that the climate system is a shared resource' and that the emissions of carbon-dioxide and other greenhouse gasses from industries affect its stability. Parties to the convention were expected to inter alia, launch strategies aimed at addressing greenhouse gas emissions. They are also expected to come together to share information on how best to tackle the problem[35]. Secondly, the Convention on Biological Diversity represents a positive step in the conservation of the diverse life forms on earth and their sustainable use[36]. The convention and its protocols have succeeded in generating an 'enormous amount of interest in biodiversity globally'. The treaty is one of the most widely ratified[37].

It can be said that the achievements of the Stockholm Conference include inter alia, the establishment of the UN Environment Programme (UNEP), an agency of the UN for the setting of environmental agenda and coordination of the implementation of environment programmes, serving as an authoritative advocate for the international environment[38]; the encouragement and support for NGOs and civil society's participation in matters relating to the environment[39].

[29]It defined such development to be "the development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

[30]Our Common Future: Report of the World …www.UN-documents.netour-common-t….> accessed 29/12/15 see also the Bundtland Report, a 25-year-old milestone <downtoearth.danone.com>2012/04/04> accessed 29/12/15

[31]Philippe Sands, *Principles of International Law*, (CUP2003) 52 <https://books.google.com.ngbooks> accessed 29/12/15.

[32]The Earth Summit Agreements > accessed 29/12/15

[33]Agenda 21 is a programme of action to be taken globally, nationally and locally by organisations of the UN, systems governments and major groups in every area in which human activities impact on the environment.

[34]Earth Summit, > accessed 22/6/16.

[35]The United Nations Framework Convention on Climate Change <unfcc.int>convention>items> accessed 11/1/16.

[36]Global Biodiversity Outlook <https//www.cbd.int> accessed 12/1/16.

[37]Convention on Biological Diversity (www. biodiv.be>convention) accessed 8/1/16.

[38]Rose Buss, 'United Nations Conference on Human Environment (UNCHE) Stockholm in Sweden' [2007] www.eoearth.org/view/article/156774 accessed 19/1/16; www.unep.org/about 11/1/16.

[39]Ministry of External Affairs, 'Stockholm, Johannesburg, Brazil and the three UN Conferences on the Environment' [August 12,1988] <funag.gov.bisloja>download-528-st-> accessed 11/1/16.

Other international environmental conventions and treaties include the Vienna Convention on the Protection of the Ozone Layer, 1985; Basel Convention on the Control of Trans-boundary Movement of Hazardous Wastes and their Disposal, 1989; the Kyoto Protocol to the UN Framework Convention on Climate Change, 1997 and the Paris Accord of 2016, among others.

A study by Oran Young about the effectiveness of the different environmental regimes posit that they have made contributions to the development of practices that have impacted positively in trans boundary air pollution in Europe', the depletion of the stratospheric ozone layer, the management of commercial fisheries in the Berents sea[40], among others.

Jesse Ausubel and David Victor however, are skeptical in their analysis of levels of compliance and the general efficacy of environmental regimes. This, according to them is based on the fact that 'monitoring and verification' are not a major part of most environmental issues. They posited that although compliance seems to be high, the source of such reports may be inaccurate due to conflict of interest on the part of the reporters who are nationals of the states reported[41]. Alex Scrivener, vehemently arguing on the same side posited that the problem of climate change cannot be solved only by negotiations carried out by governments, most of which are also involved in corporate deals that benefit polluting industries[42].

1.4 Nigeria: Position and Practices

Nigeria is a sovereign state and has the right to permanent sovereignty over her natural resources[43]. This also includes the responsibility to exercise such rights in such a way that the interest and well-being of the people and the state, as well as their development are protected[44].

Prior to 1988, the Federal Government of Nigeria was complacent over matters relating to the environment. However, upon the discovery of an Italian ship loaded with toxic waste in Koko, a small town in the South-South (former Bendel state) of Nigeria[45], the government woke up to her responsibility towards the environment.

Catalyzed by the foregoing and taking into consideration the need for preventive action, (a principle of international environmental law that advocates for legislating for the purpose of preventing, instead of responding to 'environmental catastrophes'[46]), Nigeria has ratified and domesticated some international treaties and also enacted some local laws aimed at environmental protection and sustainable development. These laws include International Convention on Civil Liability for Oil Pollution Damage (Ratification and Enforcement) Act 2006 and International Convention for the Prevention of Pollution from Ships 1973 & 1978 Protocols(Ratification and Enforcement) Act 2007.Others include Oil in Navigable Waters Act CAP O6 LFN2004;Harmful Wastes (Special Criminal Provisions) Act CAP H1 LFN 2004; National Environmental Standards and Regulation Enforcement Agency (NESREA) Act 2007;Environmental Impact Assessment Act[47] CAP E12 LFN 2004, among others.

[40]Oran R Young, 'Effectiveness of International Environmental Regimes: Existing Cutting-edge Themes & Research Strategies (2011) Vol. 108 No 50 *PNAS*<M.Pnas.org>Content> accessed 12/1/16.

[41]Jesse H. Ausabel& David G. Victor, 'Annual Review of Energy Environment' (1992) 17:1-43, <phe.recketeller.edu/verification> accessed 12/1/16.

[42]Alex Scriveneer, 'Global Justice now' (14th August 2015) www.theecologist,org/News/news_analysis accessed 28/8/16.

[43]UN Resolution 1803 (XVII) – Declaration on Permanent Soverigntyover Natural Resources of December, 1962.

[44]Ibid.

[45]Jumoke Kola-Balogun, 'Legal Aspects of International Environmental Protection'. www.mondaq.com/Nigeria/x/2. Accessed 28/08/17.

[46]Federico Cheever, Celia I. Campbell-Mohn, 'Environmental Laws' <https:www.britannica.com/top >.Accessed 28/08/17

[47]The act replaced the FEPA Act of 1988, which was the foremost environmental legislation in Nigeria

1.5 Walking the Talk

Implementation of international treaties has been a subject matter of major concern in Nigeria, especially as it relates to the environment[48]. This is in spite of the enormous damage and destruction of the land and livelihood of the people and communities, especially the oil producing communities, by the oil prospecting companies, as revealed by studies[49], and evidenced by environmental conditions prevailing around us. This clearly violates the principle of *pactasunctservander*[50], a principle that compels Nigeria, being a state party and having ratified most of the international treaties on the environment, to not act in ways that violate the agreements contained in any particular treaty.

It has been argued though, that Nigeria ranks high in the implementation of 'environmental multilateral agreements' to which she is a party. According to the view, appreciable progress has been made by the country in the implementation of the Basel Convention, Stockholm Convention and Montreal Protocol, among others[51]. In opposition to that view, another legal analyst insists that in matters relating to the maritime sector and the 'protection and development of the environment', Nigeria appears to demonstrate a particular lack of capacity, and/or unwillingness to meet international standards and expectations'[52].

Conclusion

If the present condition of the environment is anything to go by, it must be said that the country is still a long way from meeting her treaty obligations. The environment is not reflective of the number of treaties to which Nigeria is a party and has ratified. Beyond being a state party to international conventions and ratification of agreements emanating therefrom, the government needs to be seen to be committed to meeting the environmental needs of the people by domesticating and enforcing them. The health and livelihood of the people must take precedence over national economic concerns.

The agitations of the people of the Niger Delta of Nigeria is not unconnected to the destruction and utter neglect of their environment by the federal government and her oil prospecting partners. Agitations that have now become widespread, with other regions clamouring, not just for resource control but for regional independence, which have led to colossal loss of lives, money, man-power and man-hours, including a general feeling of insecurity that has also driven away investors.

The writer is of the view, that if the Federal Government of Nigeria were alive to her responsibility in meeting her treaty obligations to the people and to their environment, there would be general feeling of satisfaction among the people and less agitation among the regions and she can occupy a position among states who live up to their treaty obligations to the people and to their environment.

*** The reference style used here is the Oxford Standard for the Citation of Legal Authorities.

[48] Aliyu Ahmed Hameed, 'The Challenge of Implementing International Treaties in Third World Countries: the Case of Maritime and Environmental Treaties in Nigeria. Vol. 50 (2016) *Journal of Law Policy and Globalization*. www.iiste...Accessed 27/08/17

[49] Ibid. A case in point is the destruction of Ogoni land by Shell.

[50] Article 26, Vienna Convention on the Law of Treaties between States and International Organisations or between International Organisations1986. Un.org. see also Olawale Rotimi, 'Domesticating International Treatise in Nigeria Punch February 16, 2016 <punchng.com/domesticating..>

[51] Vanguard September 3, 2013. <www.vanguardngr.com/2013/0 >

[52] Aliyu Ahmed Hameed, (n46)

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Risk Factors, Prevention and Control of Hypertension

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Abstract

Hypertension is a major public health problem in Nigeria and Rivers State is not an exception. This paper revealed the statistics on hypertension in Obio-Akpor Local Government Area of Rivers State. The statistics showed that the number of cases of patients reported monthly for treatment at the health facilities from January 2014 - March 2016 was on the increase. This paper investigated risk factors of high blood pressure and prevention of hypertension. The study recommends that the Nigerian government should provide hypertension education programme on the detection and management of hypertension.

Keywords: Risk factors and hypertension.

Introduction

Hypertension could be described as one of the risk factors for cardiovascular disease which can cause morbidity complications, disability, and sudden mortality which can devastate families resulting in stress, and trauma to loved ones. However, it can be prevented by avoiding the risk factors. According to the World Health Organisation (2017) hypertension also known as high blood pressure is a condition in which blood vessels have persistently raised pressure putting it under increased stress. Approximately 20% of the world adults are estimated to have hypertension. The prevalence dramatically increases in patients older than 60 years; in many countries, 50% of individuals in this age group have hypertension. Approximately, about one billion people have hypertension, which contributes to more than 7.1 million deaths per year (WHO, 2017).

Hypertension is among the several known ailments that plague our society. It is a major health problem in the developed and developing countries. It contributes directly to millions of deaths each year around the world and Nigeria is not an exception (Achalu, 2008). Studies revealed that one out of every three adults worldwide has high blood pressure, a development that has become a public health issue and threatens the national economy (WHO, 2016). Cardiovascular Disease (CVD) today is responsible for about one-third of deaths worldwide and that figure will surely increase in both developed and developing counties (WHO, 2016).

In Nigeria most cases of sudden deaths are wrongly attributed to either witchcraft or poisoning by enemies. The consequence of high blood pressure if not controlled can damage the vital organs of the body: the heart, brain and the kidney, including the eyes. Untreated high blood pressure has serious consequences, causing heart attack, strokes and kidney failure, (Achalu, 2004, Akubue 2009). Federal Ministry of Health has revealed that a total of 4.5 million Nigerians are living with hypertension (FMOH, 2015). Therefore, there is the need to educate Nigerians about the dangers of high blood pressure and its risk factors and complications.

Classification of Hypertension by National Heart, Lung, and Blood Institute

Classification	Systolic BP (mmHg)	Diastolic BP (mmHg)
Normal	<120	*And*<80
Pre-hypertension	120-139	*Or* 80-89
Stage 1 hypertension	140-159	*Or* 90-99
Stage 2 hypertension	≥160	*Or* ≥100

The Risk Factors of Hypertension

Risk factors that cannot be modified

Age: The risk of high blood pressure increases with age (Mayo, 2008). The older a person is, the greater the likelihood that he or she will develop high blood pressure. Especially, elevated systolic reading. Benjamin (2010) reported that this is largely due to arterioscleoris, or hardening of the arteries. Studies conducted by Guademaries (2002), revealed that the morbidity and mortality rates of hypertension increase steadily with advancing age through early middle age to about age 45 is more likely to develop high pressure after age 65.

Race: High blood pressure is particularly common among blacks, often developing at an early age than it does among whites (Mayo, 2008). He explained that serious complications of hypertension are also more common among blacks, e.g. heart attack and kidney failure.

Family history: High blood pressure tends to run in families (Mayo, 2016; Benjamin, 2010). People who have family history of hypertension are more prone to be hypertensive than those who do not. If a parent is hypertensive, there are about 30 percent chances that her children would be hypertensive and this value increases to about 45-50 percent if both parents are hypertensive.

Sex: Achalu (2008) said that researches have shown that the incidence of heart attack is lower in women at 45 years of age than men of comparable age. Men have more heart attacks at an early age than women.

Risk factor that can be modified

Smoking: Achalu (2008) and Mayo (2015) reported that people who smoke cigarettes have more heart attack and stroke than those who do not smoke and chewing tobacco not only raise your blood pressure temporarily, but the chemical in tobacco can damage the lining of your artery walls. This can cause your arteries to narrow, increasing your blood pressure. Second hand smoking can also increase your blood pressure.

Lack of physical activity: Sedentary lifestyle due to inactivity or lack of exercise has been linked to the risk of heart disease. Achalu (2008) and Mayo (2016) opined that people who are inactive tend to have higher heart rate. The higher your heart rate, the harder your heart must work with each

contraction and the stronger the force on your arteries. Lack of physical activity also increases the risk of being overweight.

Too little potassium in your diet: Potassium in your diet can cause your body to retain fluid, which increases blood pressure. Potassium helps balance the amount of sodium in the cells if one does not consume or retain enough potassium; it may lead to accumulation of too much sodium in the blood (Mayo 2015).

High salt intake: Achalu (2008) opined that there is some evidence that in many people, salt contributes to high blood pressure. According to Mayo (2016), too much sodium in your diet can cause your body to retain fluid, which increases blood pressure. Chemically, salt is made up of sodium and chloride. Sodium is of higher concentration than water, thus can easily draw from the surrounding to dilute itself. Studies have shown that high salt intake (7-8gm a day) increases blood pressure proportionately (Chhadra, Lai & Sharma, 2002). Benjamin (2010) attested that some people have high sensitivity to salt and their blood pressure increases if they use salt. He explained that fast foods and processed foods contain particularly high amounts of sodium. Many over-the-counter medicines also contain large amounts of sodium. He suggested that we read food labels and learn about salt content in foods and other products as a healthy first step to reducing salt intake.

Excessive alcohol: High alcohol intake is associated with increases of risk of hypertension and overtime, heavy drinking can damage your heart (Mayo, 2008). Having more than two drinks a day for men and more than one drink a day for women may affect your blood pressure. Mayo (2016) Onuzulike (2006) acknowledge that the risk of hypertension has been raised among heavy alcohol drinkers. They explained that in some of the larger population based surveys, the role of regular alcohol intake in the development of cerebra vascular episodes has been examined and most of the results suggest that there is a positive association.

Stressful living: High level of stress can lead to a temporary increase in blood pressure (Mayo, 2016). The stress associated with poverty and deprivation can predispose one to illnesses. For example, stress has been known to suppress the immune system and make the body susceptible to a variety of infection and chronic diseases including CADs (Achalu, 1995). In fact chronic stress can be regarded as the single most important factor in the development of high blood pressure among Nigerians because of stressful living associated with wide-spread poverty and deprivation, unemployment, lack of basic needs of life and insecurity of life and property. During stress, the body system produces chemical, substances called catecholamine adrenalin and nor-adrenalin. These substances when released cause generalized vasoconstriction (contraction) and narrowing of the blood vessels, which can produce transient hypertension.

Certain chronic condition: Certain chronic conditions also may increase your risk of high blood pressure, such as kidney disease, diabetes (NHLBI, 2015)).

Obesity: Obesity according to Benjamin (2010) is defined as having a body mass index (BMI) greater than 30kg/m^2. A body mass index of 25-30kg/m^2 is considered over weight. Onuzouke (2006) noted that obesity is increase in weight of over 10 percent above normal body index due to general deposition of fat in the body. Excess weight promotes hypertension and lipid abnormalities. Benjamin (2010) pointed out that being overweight increases the rise of high blood pressure. It predisposes the individual to diabetes, which in turn accelerates coronary artery

disease and increases the risk of the factors that lead to arthrosclerosis which is one of the well-recognized causes of hypertension.

Social-economics status: high blood pressure is found more commonly among the less educated and lower socio-economic groups. Black people from south-eastern United States suffer more of hypertension than people from other regions (Benjamin, 2010).

Certain medications: certain drugs such as amphetamine (stimulants), diet pills and some medications used for energy tend to raise blood pressure.

Elevated level of plasma lipid (saturated fats): According to Burt, et al. (2004), raised serum cholesterol and triglyceride are found to be closely related to the development and maintenance of hypertension. When there is excess fat in the body, the ability of the enzyme lipase to breakdown the fats are over whelmed, thereby leading to the accumulation of excess fats in the cells, a disorder called cholestesterol Esther storage disease.

Cough and cold medication: Cough and cold medicine frequently contain decongestants such as pseudoephedrine and Phemylephrine. These pressure heart rate to rise by contracting all your arteries. When blood pressure stags high over time, it can damage the blood and cause complications, and their signs and symptoms include: aneurysms, chronic kidney disease, cognitive changes, eye damage, heart attack, heart failure, peripheral artery disease, stroke (National Heart Lung and Blood Institution, NHLBI, 2015)

Consequences of hypertension

Hypertension places stress on several organs (target organs), including the kidneys, eyes and heart, causing them to deteriorate over time. High blood pressure contributes to 75% of all stroke and heart attack. It is particularly deadly in African-Americans (UNICEF). Klaus (2007) opined that hypertension is the most important risk factor for death in industrialized countries. It increases hardening of the arteries, thus predisposing individuals to heart disease, peripheral vascular disease and stroke.

Complications affecting the heart: Coronary artery disease, high blood pressure contributes to the thickening of the blood vessel walls, which can cause or worsen arteroclerosis (accumulating deposits of cholesterol in the blood vessels) the end result of coronary artery disease, (CAD), also called ischemic heart disease, which increases the risk for angina (chest pain). High blood pressure is the most common risk factor for heart attack and stroke. (National Heart Lung and Blood Institution, NHLBI, 2015).

Aneurysm: Aneurysm most often occurs in the arteries at base of the brain and in the aorta, that is, the main artery coming out of heart when acolonermal bulge forms in the wall of an artery. Aneurisms develop and grow for years without causing signs enough to press on nearby body parts, or block flow. (National Heart Lung and Blood Institution, NHLBI, 2016)

Complications affecting the kidney: Achalu (2008) stated that untreated or uncontrolled high blood pressure can cause progressive damage to the kidney. High blood pressure speeds up narrowing and thickening of the blood vessels thereby reducing the amount of liquid that kidney can filter out. These waste products accumulate resulting in Kidney failure with a disease called ureamia

Complications affecting the eye (hypertensive retinopathy: This is a condition characterized by a spectrum of retinal vascular sign in people with elevated blood pressure. Retinopathies with hemorrhages are often noticed in malignant hypertension where there is sudden sharp elevation in blood pressure. (NHLBI, 2016)

Peripheral artery: This is a disease in which plaque builds up in leg arteries and affects blood flow in legs. When people have the disease, the most common symptoms are pain, cramping numbness, aching, or heaviness in the legs, feet and buttock after walking or climbing stairs. (NHLBI, 2016)

Cognitive change: Research shows that over time, high blood pressure can lead to cognitive changes, sign and symptom including memory loss, difficulty in producing words and losing focus during conversation (NHLBI, 2016).

Heart failure: When the heart cannot pump enough blood to meet the body's needs. Common sign and symptoms of heart failure include shortness of breath or trouble breathing: feeling tired, and sudden and swelling in the ankles, feet, legs, abdomen and vein in the neck. (HLBI, 2016).

Stroke: Stroke may occur when the blood supply to a part of the brain is reduced or completely blocked. Stroke also results from blood vessel damage in the brain. Stroke occurs when the supply of oxygen and nutrition to the brain is disturbed or stopped. In a short time, usually a few minutes, the nerve cells and tissues in affected part of the brain die (Achalu, 1998, Payne & Kahn, 2002). Stroke involves some form of paralysis of extremities that result from damage to the brain due to and interruption in its blood supply. The effect of the brain is secondary and the primary cause lies in the heart or blood vessels and may be a thrombosis embolism or haemorrhage. The severity of stroke varies depending on the extent of damage to brain cells. When oxygen-rich blood to a portion of the brain is blocked, then symptoms of a stroke including sudden onset of weakness, paralysis or numbness of the face, or legs; difficulty in speaking or understanding are noticed (NHLBl, 2015).

Control and prevention of hypertension

To prevent and control hypertension,

- avoid eating too much fatty foods or diet as much as possible.
- avoid overeating and reduce weight if you are overweight or obese.
- avoid smoking.
- avoid excess alcohol consumption.
- avoid excess salt intake by reducing the amount of salt in your food.
- avoid too much sugar in food.
- exercise regularly by jogging gently, brisk walking, playing tennis, squash, etc. strenuous physical activities should be avoided.
- control stress and get adequate sleep and rest.
- check blood pressure at least once a year or every month if you are over 50.
- take drug or treatment always as prescribed if you are hypertensive.
- vegetables and fruits, tomatoes, okra, onion bulbs, melon and spices should be taken regularly.
- eat more of fish, poultry, lean meats and low fat diary foods.
- only low fact margarine, cheese, milk should be taken.

Recommendations

Consequent upon the findings and conclusions of this study, the following recommendations are made:

1. There is need for the Nigerian government to have hypertension programme on her health agenda and guidelines for the detection and management of hypertension.
2. There should be rigorous health education on risk factors, avoidance and reduction among workers.
3. Periodic community survey for adulthood hypertension and mandatory routine blood pressure measurement in all adults is suggested.
4. There should be urgent public health actions (such as health education and early detection of cases) taking into account their relationships with gender and socio-economic status.

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Teenage Pregnancy and Girl-Child Education in Etche Local Government Area of Rivers State

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Abstract

The study investigated teenage pregnancy and girl-child education in Etche Local Government Area of Rivers State. Four research questions were raised to guide the study. The population of the study comprised 140 teenage mothers/expectant mothers in the LGA. The questionnaire was used for collection of data. Reliability of the instrument was determined using the test-retest method and the reliability index was found to be 0.76 using the Pearson Product Moment Correlation statistic. Mean and percentages were used to analyse the data. The findings of the study showed that their secondary education was affected as a result of early pregnancy. They suffered various complications of teenage pregnancy such as hypertension, anaemia and premature labour. One implication of the study was that parental role in terms of educating the girl-child on sex education was not effectively carried out. Based on the results of the study, it is recommended that parents, schools and other agents of socialization should provide for teenagers facts and information at early and appropriate age regarding their sexuality and the consequences of sexual activities.

Keywords: teenage pregnancy, teenage mother and girl-child education.

Introduction

Teenage pregnancy is one of the problems confronting families and government because of its socio-economic consequences especially in developing countries. The girl-child who is the victim of this social malady faces other social injustices such as rejection by family members, stigmatization by friends, expulsion from school, forced marriage, unsafe abortion, etc. Agina (2013) reported that the National Population Commission (NPC) identified teenage pregnancy as the biggest killer of young girls in Nigeria. She sees teenage mothers as women who are within the ages of 15-19 who have had children, or are currently pregnant. Teenage pregnancy rates vary between countries because of differences in levels of sexual activity, general sex education provided and access to affordable contraceptive options (Loccoh, 2002).

Adebayo (2013), stated that an estimated 16 million girls, ages 15 to 19 give birth every year, with 95 per cent of these births occurring in developing countries. This makes up 11 per cent of all births worldwide. Globally, two per cent of adolescent births take place in China, 18 per cent in Latin America, while 50 per cent of all adolescent births occur in seven countries of the world, viz: Bangladesh, Brazil, DR of Congo, India, Nigeria and USA. The Netherlands is one of European countries with lowest adolescent pregnancy rate, with a mere four adolescent births per 1,000 women. Perhaps this is because sex education in The Netherlands begins from primary school. Teenage pregnancy has contributed to the growing rate of girls who are out of school in Nigeria.

Girl-child education is key to the empowerment of female children; it allows them to claim their rights and prepare them for the future, to assume responsibility as duty bearers for the next generation. In most societies, the female child is often discriminated upon, right from birth to adulthood due to some traditional and cultural practices. As a result of prevailing gender discrepancies, most girls are excluded from school and end up uneducated. It is sad to note that the

exclusion of girls is as a result of ignorance on the part of some parents who see the education of the girl-child as a "waste of resources". They believe strongly that there is no point in educating a girl who sooner or later would be married off.

Another major setback in the educational development of the girl-child is poverty. The low economic status of the rural and urban poor has often resulted in many families withdrawing their female children from school to give room for their male counterparts. Most times, the female child is subjected to street hawking or other petty economic activities so as to raise money to educate her male siblings. These social factors have made girls vulnerable to early pregnancy.

Teenage pregnancy is defined as a pregnancy in a young woman who has not reached the age of twenty years (Matthew, 2005). It is a condition in which a young woman becomes pregnant unintentionally. There are factors responsible for teenage pregnancy. According to Black and De Blassie (2005), the main factors of teenage pregnancy are inadequate sex education among the teenagers, alcohol abuse, sexual abuse, high rate of poverty, lower level of education, domestic or sexual violence, child marriage, media exhibiting sex and pornography to sell their stuffs.

According to Adebayo (2013), culture, tradition and religion play a significant role in issues that may lead to teenage pregnancy. Girls in many countries marry very early, even before they start menses. Others have it as a tradition that the first menses should be in the girl's husband's house, even if she starts menstruating at 10 or 11 years of age. In most poor nations of the world, poverty also plays a significant role in young girls getting pregnant. Unfortunately, that will start another vicious cycle, because early motherhood often compromises a girl child's education. As bad as it is, the majority cannot even learn any trade and so, their children also continue the poverty line from one generation to another.

Matthew (2005) stated the causes of teenage pregnancy as follows: early marriage, traditional gender roles, lack of education on safe sex, lack of information about natural method of birth control and how to deal with peer group pressure, pressure from boyfriends to have sex, etc. In developing countries, teenage pregnancies are associated with many social issues including lower educational levels, high rate of poverty and other poorer life outcome in children of teenage mothers. And teenage pregnancy carries a social stigma in many communities and cultures (Treffer, 2003).

Etche Local Government Area of Rivers State has its own share of prevalence of teenage pregnancy because government has not made concerted efforts towards tackling the problem. We hardly hear of court sentences on the perpetrators of this evil on the girl-child. Worse still, outright sexual abuses such as rape, forced prostitution, etc. are covered by family members for fear of public stigmatization. Therefore, it seems teenage pregnancy is a threat to human race since women constitute two-thirds of the world population. The prevalence of teenage pregnancy should be investigated to underscore its causes and effect on the educational development of the girl-child in communities such as Etche Local Government Area of Rivers State.

Statement of the Problem

Lack of moral values, parental care and adequate enlightenment campaigns have compounded the increasing problem of teenage pregnancy in Etche Local Government Area of Rivers State. The obvious consequences of teenage pregnancy such as untimely death, obstructed labour, infections, VVF, malnutrition, poverty, dropping out of school, single parenting which can lead to juvenile delinquency, uncontrolled population growth rate, etc. have constituted greater percentage of social risks confronting the local government area. Therefore, any study which is aimed at tackling this social menace such as this present study cannot be ignored.

Purpose of the Study

The study was aimed at investigating teenage pregnancy as an inhibition to the educational development of girls in Etche Local Government Area of Rivers State. It specifically:

1. investigated the factors contributing to teenage pregnancy in Etche Local Government Area;
2. determined the effects of teenage pregnancy on the girl-child education;
3. ascertained the knowledge of the teenagers on the complications of pregnancy; and
4. identified effective ways of preventing teenage pregnancy.

Research Questions

1. What factors contribute to teenage pregnancy in Etche Local Government Area?
2. What are the effects of teenage pregnancy on the girl-child?
3. What is the level of the knowledge of the teenagers on the complications of pregnancy?
4. What are the ways of preventing teenage pregnancy?

Conceptual Framework

Factors contributing to teenage pregnancy

There are so many factors that contribute to teenage pregnancy. Paul (2013) reported that National population Commission (NPC) sees poverty as the key factor responsible for the high incidence of pregnancy among teenage girls. The following factors also contribute to teenage pregnancy.

- Spontaneous curiosity towards sex and a desire to taste it in the proximity. Some boys exhort the teenage girls to get involved in doing whatever they find most enjoyable with their opposite sex, leading to teenage pregnancy.
- Freedom to interact with boys and pass time with them for several hours in seclusion has resulted in teenage pregnancy.
- Frustration as a result of carelessness on the part of parents causes great frustration amongst the adolescents or teenagers, compelling them to seek affection and love from their boyfriends.
- Sex abuse occasioned by lack of awareness of sexual impact has made many teenage girls go for sex for the sake of enjoyment only, which often results in teenage pregnancy.
- Lack of sex education especially to the girls can lead to teenage pregnancy.

According to Rawat (2013), the following factors are also responsible for teenage pregnancy: psychological factors, impact of mass media, substance and alcohol abuses, economic and social factors, not enough sex education, young age at first intercourse and lack of use of contraceptives methods. Similarly, Spaulding (2006) revealed that girls go to any length to make their new found love happy, especially when they find serious boyfriends. Consequently, they have sex with their boyfriends because they think that is the only way to make them happy.

Effects of teenage pregnancy

Medical Billing and Coding Organisation (2013) stated the following effects of teenage pregnancy: (a) teenage mothers are more likely to drop out of school, (b) they are also less likely to go to college, (c) teenage mothers are more likely to commit suicide, (d) siblings of teenage parents are more likely to become teenage parents, (e) children of teenage parents are at a higher risk of teenage pregnancy, (f) teenage mothers are more likely to live in poverty, (g) children of teenage mothers often perform at a lower level academically, (h) teenage pregnancy often leads to another pregnancy within two years, (i) teenage pregnancies come with higher mortality rates, (j) sons of teenage mothers are more likely to end up in prison, (k) teenage mothers are less likely to marry and teenage pregnancies carry a higher risk of health problems.

Part of what boosts the rate of mortalities in teenage births is that, worldwide, teenagers have a higher rate of premature birth and low birth-weight babies. Many researchers believe that this is due to a lack of adequate prenatal care, either because teenage mothers are too scared or lack the financial resources to seek out medical help. Many wait until the third trimester to see a doctor, which raises levels of anemia and nutritional deficiencies in young mothers. Because of this lack of early care, children of teenage mothers are more likely to suffer from health issues and to be hospitalized within their first year of life.

Complications of teenage pregnancy

Expectant teenage mothers are at risk of various complications in pregnancy and during childbirth because of lack of physical and biological readiness for pregnancy and childbirth. Adebayo (2013) listed the following complications of teenage pregnancy:

- The teenage mother may fall in labour below 37 weeks gestation.
- Worse still, sexually transmitted diseases are common with teenage pregnancy and this may also predispose to preterm delivery.
- High blood pressure is another major risk often faced by teenage mothers.
- Apart from developing gestational hypertension, teenage pregnancy is also associated with increased incidence of pre-eclampsia (high blood pressure with protein in the urine), which may progress to eclampsia where convulsion is also associated.
- The increased tendency for high blood pressure in teenage pregnancy may also predispose her baby to low birth weight, especially when the mother is below 15 years of age.
- Anaemia (shortage of blood) may also be associated with teenage pregnancy than those pregnant women in their 20s and above.
- Obstructed labour can lead to uterine rupture and high risk of death of both the baby and the mother.
- The majority of these girls with fistula suffer psychological problems, that is inability to control urine leakage, or faecal matters; while many are sometimes abandoned by family and friends and even their husbands, leading to eventual isolation in the society.
- Long term complications of fistula may include infections, ulcer, amenorrhea (absence of menstrual flow) and infertility. All these are as a result of subjecting the immature reproductive system to pregnancy and childbirth.

Though many countries forbid early marriage, the violation of the law is usually the rule. For example, in Ethiopia, the law of the country allows marriage only when a girl is 18, but about half of the adolescent girls get married before age 15. In Nigeria, Cultural and religious dispositions, especially in the northern part, have made teenage pregnancy an issue that calls for more education and support, if only to encourage girls to delay motherhood until they are ready.

Prevention of teenage pregnancy

The unprecedented increase in teenage motherhood in our society today has been a source of concern to the general public which calls for adequate counselling to all stakeholders. Ayuba and Gani (2012) affirmed that teenage pregnancy in the Niger Delta is concentrated among girls with less formal education, who are unemployed, unmarried and with inadequate antenatal care and obstetric risks for poor pregnancy outcome. However, they suggested that the adverse outcomes

can be ameliorated by free and compulsory education for the girl-child, education of the populace about the social and medical consequences of teenage pregnancy, making contraceptives available to teens, especially emergency contraceptives, quality antenatal care, and provision of essential obstetric care.

Theoretical Framework

This work was premised on the Problem Behaviour Theory (PBT) of Jessor (1991). It is an extensively used theory to explain dysfunction and maladaptation in adolescence. The fundamental principle is that all behaviour emerges out of the structure and interaction of three systems: behaviour, personality and perceived environment.

Problem behaviour is defined as the behaviour which departs from social and legal norms of society and causes social-control responses from external sources. Under-age drinking, risky and impaired driving, violating the rights of others, irresponsible sexual activity, abuse of illicit drugs and gang affiliation are seen as problem behaviours. Conventional behaviours are those that are socially and normatively expected and accepted.

The personality system involves a composite of persistent, enduring psychological factors and includes the motivational-instigation structure, determined by value placed on achievement and independence. Problem behaviour in a personality often results in low achievement, favourable attitudes towards deviancy, adoption of values that are counter to social expectations, and lower self-esteem.

The perceived environment system deals with a person's environment in relationship to available models of behaviour. Problem behaviour in the environment is often associated with high peer approval; peer models; low parental control, support, and influence; and incompatibility between parental and peer expectations.

From the foregoing explanation, PBT holds that when the personality system and perceived environment system clash, behavioural problems become manifest. The core features of the adolescent personality such as: risk taking, errors in thinking, rebellion towards authority clash with the norms and expectations of the culture and society (e.g. positive peer culture and healthy sexual adjustment) and may result in problem behaviour (e.g. gang membership and teenage pregnancy).

Review of Empirical Studies

In this subsection, the empirical studies capture works on teenage pregnancy in Nigeria. In a study carried out by Ogori, Ajeya and Yunusa (2013), the cause and effect of teenage pregnancy among teenagers in Kontagora Local Government Area of Niger State were identified. The study adopted the simple percentage survey research design involving 40 teenagers. Simple percentage rate was used to analyze the data collected. The result revealed that the age at which teenagers engaged in sexual intercourse was too early, socio-economic background, early marriage and traditional gender roles, peer pressure, lack of sex education and non-use of contraceptive during sexual intercourse were the causes of teenage pregnancy. Also that incomplete education, isolation and rejection by parents, mother's health risk during childbirth and financial handicap were effect of teenage pregnancy. Based on the findings, they recommended that teenagers should be enlightened about the consequence of having sex at early stage at their lives and parents should stand out to meet the needs of the teenage girl.

In another study entitled "Finding the Causal Relationship between Child Abuse and Teenage Pregnancy: Perspectives of the Crawford University Students in Nigeria", Okunola and Ojo (2012) stated that child abuse and teenage pregnancy were overwhelmingly acknowledged as social problems in Nigeria. The hypotheses tested showed a causal relationship between poverty

and teenage pregnancy, child neglect and teenage pregnancy, and child abuse of all forms and teenage pregnancy. The study recommended proactive interventions from the parents, the government, the non-governmental organizations and religious bodies in Nigeria, in curbing the problem of child abuse and teenage pregnancy. The study was carried out in a private university in Nigeria that was purposively selected with 180 students as sample size.

Onyeka, Miettola, Amobi, Ilika and Vaskilampi (2011) carried out a research on unintended pregnancy and termination of studies among students in Anambra State. The study evaluated efforts of secondary schools to prevent unintended pregnancy among students and their reactions to pregnant students before and after delivery. A cross-sectional survey of 46 teachers in three public and two private schools in Anambra State was carried out. Information was collected using self-administered questionnaire. Of all the teachers in the study, 87% reported unintended pregnancies among students in previous three years. Expulsion (43%) and suspension (28%) were the most common reactions. Private schools were more likely to expel pregnant students than public schools. Following the delivery of their babies, 43% discontinued their education in same school, whereas 37% continued their education in a different school. Counselling was given before suspension or expulsion 4% of public schools and 15% of private schools. Majority of the schools (61%) did not have sex education as part of their school's curriculum. Students should be re-admitted in order to ensure continuity of their academic development, prevent unemployment and mitigate poverty.

The Incidence of Teenage Pregnancy in Ekiti State, Nigeria was studied by Odu and Ayodele (2006). This study investigated the incidence of teenage pregnancy in Ekiti State. Two research hypotheses were formulated. The research design used for the study was the descriptive research design of the survey type. 120 pregnant teenagers aged between thirteen and nineteen years of age selected through purposive sampling technique formed the sample for this study. The samples were taken from five randomly selected Local Government Areas of Ekiti State. The research instrument used in this study was a self designed instrument titled "Questionnaire on Teenage Pregnancy". Face and content validities of the instrument was determined by test experts and the reliability of the instrument was established at reliability value of 0.98 using the test re-test reliability method. The inferential statistical technique used for data analysis in this study was Pearson Product Moment Correlation Coefficient. The study revealed that there was significant relationship between Parental Socio Economic Status and the involvement of teenagers in teenage pregnancy. It also found that significant relationship existed between the Media and the involvement of teenagers in teenage pregnancy in Ekiti State. Based on these findings it was recommended that parents should endeavour to provide the basic needs of their children adequately.

It was recommended further that government should legislate against the indiscriminate advertisement of brands of contraceptives in our print and electronic media regulate and censor sex related programmes and movies. It is known that children who watch a lot of television develop more stereotypical sex role attitudes than those who watch only a little and therefore check the time their children spend watching television.

Ronke, Ihuoma, and Temitope (2013) did a research on attitude and perception of adolescents towards teenage pregnancy in Makurdi metropolis. The aim of this study was to assess the attitudes and perceptions of teenagers in Makurdi metropolis regarding teenage pregnancy. A total of two hundred and eighty six adolescents (286) participated in this survey which included 119 (40.8%) males and 164 (56.2%) females. Also 199 (68.2%) of the adolescents are In-school while 87 (29.8%) are Out of school. A self developed questionnaire was used to collect data. Four hypotheses were generated and tested using independent t-test, and the findings indicated that there was significant difference between male and female adolescents on attitude towards teenage pregnancy ($t(281) = 1.90$, $P<0.05$) and their perception of teenage pregnancy ($t(275) = -1.99$,

P<0.05). Also it was found that there is no difference between In School and Out of School adolescent attitudes towards teenage pregnancy (t (284) = 0.024, P>0.05). Equally, male and female adolescents share similar perceptions of the causes of teenage pregnancy. Based on the findings, it was recommended that multi faceted and multi-sectoral approaches be used in tackling the issues of teenage pregnancy in Nigeria. It was also suggested that sexuality education should not only be included in the school curriculum but be made functional both at primary and secondary school level.

Methodology

The design of the study was a descriptive survey which enabled the researcher to obtain information concerning the current status of the phenomenon. 140 teenage mothers were purposively and conveniently selected across the five clans of the local government area. The instrument used for data collection was a self-structured questionnaire, and the respondents were required to respond to the questions in the questionnaire without disclosing their personal identity. The Part B of the instrument has a total of 20 questions from the four sections of the questionnaire which have five questions each with response options of "SA", "A", "D" and "SD". The "SA" response has a scoring value of 4, "A" response has the value of 3, "D" has 2, while the "SD" response has a value of 1. The four sections cover the four research questions. Any research question is positive if it has mean of 2.50 and above; and negative if it scores less than 2.50.

In order to ascertain the reliability of the instrument, the researcher used test-retest method with 10 respondents outside the district of the study. After two weeks interval, the same instrument was administered to the same respondents. From their responses, the researcher determined the reliability of the instrument using Pearson Product Moment Correlation (r) which yielded a correlation coefficient of 0.76.

The researcher and two research assistants, who were prepared beforehand on the objectives of the research, administered the instrument to the respondents face-to-face, and questions not understood were explained to the respondents. The copies of the questionnaire were collected on the spot. Mean was used in analysing the data collected for the research questions.

Result

Research Question 1

What factors contribute to teenage pregnancy?

Data collected in respect of this research question are presented and analysed below.

Table 1: Mean ratings of the respondents on factors contributing to teenage pregnancy

Factors of teenage pregnancy ***N = 140***			
S/N	***Item (Question)***	***Mean***	***Decision***
1	Lack sex education by parents	3.20	positive
2.	Frequent interaction with boys	3.50	positive
3	Frustration from parents	3.46	positive
4	Nice things said about sex	3.46	positive
5	Watching love films	3.75	positive
	Overall mean	**3.47**	**positive**

From the table above, it is shown that the respondents affirmed that they had no sex education from their parents because the item scored a mean of 3.20 which is above the criterion mean of 2.50. The respondents also agreed that they had frequent interaction with boys as indicated by the mean score of 3.50. Frustration from their parents was also a factor responsible for their pregnancy as revealed by the mean score of 3.46. Items 4 and 5 were positive having attracted mean scores of 3.46 and 3.75 respectively. The overall mean of 3.47 from the above table indicates that all the generated items contributed to their pregnancy.

Research Question 2

What are the effects of teenage pregnancy?

Data collected in respect of this research question are presented and analysed below.

Table 2: Mean ratings of the respondents on effects of teenage pregnancy

Effects of teenage pregnancy			
N = 140			
S/N	***Item (Question)***	***Mean***	***Decision***
1	Affects secondary education	2.85	positive
2.	Affects higher education ambition	2.56	positive
3	Likely to commit suicide	2.36	negative
4	Daughter likely to become teen mother	2.22	negative
5	Ending up not being married	2.54	positive
	Overall mean	**2.50**	**positive**

From the above, it is indicated that the respondents confirmed that teenage pregnancy affected their secondary education, higher education ambition and chances of getting married having produced mean scores of 2.85, 2.56 and 2.54 respectively. Items 3 and 4 had no much effect on the respondents because their mean scores were less than the criterion mean of 2.50. The overall mean of 2.50 is an indication of effect of teenage pregnancy on the respondents.

Research Question 3

What is the level of the knowledge of the teenagers on the complications of their pregnancy?

Data collected in respect of this research question are presented and analysed below.

Table 3: Mean ratings of the respondents on complications of teenage pregnancy

Complications of teenage pregnancy			
N = 140			
S/N	***Item (Question)***	***Mean***	***Decision***
1	Lack of appetite	2.67	positive
2.	High blood pressure	2.83	positive
3	Low birth weight	2.56	positive
4	Prolonged labour	2.74	positive
5	Preterm delivery	2.28	negative
	Overall mean	**2.61**	**positive**

The results in Table 3 above indicate that items 1- 4 were among the complications experienced by the respondents having produced mean scores above the criterion mean of 2.50. However, preterm delivery (item 5) was not a significant complication because it had a mean score of 2.28. Conclusively, the overall mean of 2.61 is an indication of the fact the respondents experienced complications of teenage pregnancy.

Research Question 4

What are the ways of preventing teenage pregnancy?

Data collected in respect of this research question are presented and analysed below.

Table 4: Mean ratings of the respondents on prevention of teenage pregnancy

Prevention of teenage pregnancy			
N = 140			
S/N	***Item (Question)***	***Mean***	***Decision***
1	Sex education by parents/teachers	2.56	positive
2.	Use of condom	3.03	positive
3	Knowledge of its effects	2.34	negative
4	Parental protection	2.56	Positive
5	Avoiding steady dating	2.53	Positive
	Overall mean	**2.60**	**positive**

The results in Table 4 show that all the questions asked in respect of prevention of teenage pregnancy had positive responses having produced mean scores above the criterion of 2.50. The overall mean of 2.60 is an indication that the respondents accepted all the items as ways of preventing teenage pregnancy having scored above the cut off point.

Discussion of Findings

(a) Factors contributing to teenage pregnancy

Results of the study indicated that all the variables under investigation were accepted by the teenage mothers as factors responsible for teenage pregnancy in Etche Local Government Area of Rivers State having produced mean scores above 2.50. This finding is in agreement with Paul (2013), Rawat (2013), and Spaulding (2006) who noted that lack of sex education by parents, frequent interaction with boys, frustration from parents, nice things said about sex and watching love films are contributors of teenage pregnancy.

(b) Effects of teenage pregnancy on the girls

Results of the study proved that greater number of the variables investigated under research question 2 established that the girls, on the aggregate, experienced effects of teenage pregnancy. In other words, the respondents affirmed that their pregnancy would affect their secondary education and ambition for higher education, they would likely commit suicide. However, their children are not likely to be teenage mothers. This finding is not in agreement with Medical Billing and Coding Organisation (2013). This is not surprising because of the cultural background of the respondents. Their culture forbids suicide. Again, teenage mothers aggressively ensure that their daughters do not become teenage mothers otherwise the society will look down on their families or associate them with teenage pregnancies.

(c) Complications of teenage pregnancy on the girls

The results of the variables investigated under research question 3 revealed that the girls had complications such as lack of appetite, high blood pressure, low birth weight, and prolonged labour. This result confirms the opinion of Adebayo (2013) who opined that these complications come as a result of lack of physical and biological readiness for pregnancy and childbirth. Preterm delivery was not one of the complications experienced by the girls because they were not subjected to sexually transmitted diseases that could have predisposed them to preterm delivery.

(d) Prevention of teenage pregnancy

The results of the variables investigated under research question 4 indicated that the girls accepted all of them as means of preventing teenage pregnancy. They include:

- sex education by parents/teachers
- use of condom,
- knowledge of its effects,
- parental protection and
- avoiding steady dating.

All the items scored above the criterion mean of 2.50. This finding corroborates the opinion of Denise (2000) when he gave the tips for parents in preventing teenage pregnancy such as discouraging early steady dating; talking with their teenagers early and often about sex, contraception, morals and values; making their future attractive by teaching them their dreams, etc. The finding also agrees with Ayuba and Gani (2012) who stated that teenage pregnancy can be ameliorated by free and compulsory education for the girl-child, education of the populace about the social and medical consequences of teenage pregnancy, making contraceptives available to teenagers, especially emergency contraceptives, quality antenatal care, and provision of essential obstetric care.

Conclusion

The study has proved that teenage pregnancy has educational, cultural and health effects on the girl-child. The girls affirmed that their secondary education was affected. Therefore, this ugly development has undermined the successes of the Universal Basic Education programmes which are targeted at keeping teenagers in school. Teenage pregnancy is one of the factors responsible for the increasing rate of out-of-school syndrome among the girls. In order to tackle this situation, issues of teenage pregnancy must be addressed.

The study also revealed that the girls manifested complications of teenage pregnancy which include: anemia due to loss of appetite, pregnancy induced hypertension and prolonged labour due to cephalic pelvic disproportion. If the factors responsible for teenage pregnancy such as revealed by the study are addressed by stakeholders the prevalence of teenage pregnancy will be reduced.

Recommendations

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

1 Parents should educate their teenagers on sex, and should create time for their children.
2 Mass education of teenagers should be done in schools, highlighting the effects of getting pregnant as a teenager.
3 Fliers on the effects of teenage pregnancy should be provided regularly for the teenagers in order to increase awareness about effects of teenage pregnancy.
4 Health workers in the district should mount intensive mobilization campaign to encourage women to participate in health programmes being organized for them.
5 Counselling unit should be created in schools to counsel teenagers on the effects of teenage

pregnancy.

6 Parents should provide the needs of their daughters in order to remove their attention from men who mislead them with money.

7 Some cultures and traditions that support early sexual activities and early marriage should be reviewed.

8 Government should formulate policies and approaches to stop teenagers from early indulgence in sexual activities such as free education, employment and training of the youths in skills and professions.

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The Nigerian Juvenile Justice System: Need for Re-Evaluation

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Abstract

Throughout the world, children are seen as the most vulnerable and powerless members of the society. Because of this, society evolves means to protect and promote the interests and rights of children and correct the erring ones. Evidently, as far back as 2270 BC, references were made to children and young persons in law. This recognition notwithstanding, the child has throughout the history of mankind, been abused, treated unkindly and their rights violated. Juvenile justice system is established to address and deal with youths who are caught and convicted of crimes. But the juvenile justice system in Nigeria is a colonial heritage. Its outward orientation predisposed it to several inadequacies such as, legal, policy, planning, implementation, education and research. The juvenile justice system lack well-established and adequately equipped distinct institutions and coherent programmes for dealing with juvenile justice offenders and preventing juvenile delinquency in the country. There is therefore the need to re-evaluate the laws, policies, programmes and institutions dealing with juvenile offenders in Nigeria.

Keywords: Juvenile, delinquency, Juvenile delinquency

Introduction

Children form an integral part of any society, and are special gifts from God. So, they are to be protected, guided and guarded. However, it is not in doubt that they constitute one of the most vulnerable and powerless members of the society. They require gentle handling and special attention in the protection and promotion of their interests, welfare and rights (Okonkwo, 1997). The United Nations at the Seventh Congress approved the Standard Minimum Rules for the Administration of Juvenile Justice in 1985. In the preamble, it is stated that the United Nations recognizes: "*That the young, owing to their early stage of human development, require particular care and assistance with regard to physical, mental and social development and require legal protection in conditions of peace, freedom, dignity and security".* At the regional level, the African Charter on the Rights and Welfare of the Child reiterated the above statement.

However, despite this special position, the child has, throughout the history of mankind, been abused, treated unkindly and their rights violated. This is one of the world's social problems and it has attracted serious concerns. As far back as the 2270 BC, references were made generally to children and young persons in laws and the law provided for ways of dealing with erring children. This did not mean that at that period in time there was a separate law or system for this category of persons within the society (Bamgbose, 2014).

The Code of Hammurabi over four thousand years (4000) ago in 2270 BC included references to runaways, children who disobeyed their parents and those who cursed their fathers. The Roman Civil Law and the Church Law over 2000 years ago distinguished between juveniles and adults based on the age of responsibility. Early Jews Law, the Talmud gave conditions under which immaturity was to be taken into account in giving punishment (Lawrence and Hemmen, 2008). Bernard (1992, cited in Bamgbose, 2014) in his book also stated that Moslem Law provided for leniency in awarding punishment to a young offender and they were also not to be punished to death. Under the Roman Law, children under the age of seven were classified as infants and not criminally responsible. The provisions providing for ways of dealing with children were based in

part on the idea that young offenders were particularly malleable and would be more responsive than adults to individualized treatment efforts. The modern Juvenile Justice System is a relatively recent invention as the history can be traced to the late 1800s. This was a period in the history of Britain, that crimes and misbehavior by children and young were redefined as separate and distinct from adult offender *(Whitehead & Lab,* 2006*)*.

In the Nigeria, at the Federal and State levels, steps have been taken and are still being taken to ensure that the rights of children and young persons are enforced in order to meet the international standards on the rights of the child as provided for by the United Nations and other International and Regional bodies. Despite all the efforts at the various levels, children and young persons are yet to be properly positioned. The protection of children is still an issue of concern. This paper focuses on the need to re-evaluate Juvenile Justice in Nigeria.

Conceptual Issues

Juvenile Delinquency

Juvenile delinquency refers to the violation of the criminal codes regulating the behaviour of young persons in the society. There is no universal definition of a juvenile or delinquency. The laws of different nations stipulate different age brackets for the juveniles. Besides, the concept of a juvenile is sometimes used interchangeably with other concepts like a child, an adolescent and a youth. But the law is usually more specific in its definition of a child or juvenile or youth. The Children and Young Persons Act (hereafter referred to as CYPA) defines a child as "a person under the age of fourteen years". The CYPA was initially enacted as a colonial Ordinance in 1943, and severally amended in 1945,1947,1950,1954 and 1955. The law made "provision for the welfare of the young and the treatment of young offenders and for the establishment of juvenile courts". Also, the law defines a young person as "a person who has attained the age of fourteen years". The law did not define a juvenile. However, other indicators in the law show that the term refers to a person under the age of seventeen years.

Juvenile delinquency broadly defined refers to any act in violation of criminal law, committed by a person defined under law as a juvenile, which if had been committed by an adult will be treated as crime or criminal conduct (Alemika 1978; Muncie 1999). In addition, to such conducts which constitute delinquency for the juveniles and crime for the adults. There are other behaviours that do not constitute crime for adults but which are defined as delinquency, when manifested by children and young persons. These are referred to as status offences. Such behaviours are prohibited among juveniles because of the status of the young person. Status offences under juvenile delinquency laws of different countries include diverse behaviours like truancy from school, running away from home, drinking alcohol in public, associating with disrepute persons - criminals, prostitutes, etc.

Juveniles are subjected to wider legal restrictions and differential treatment within the criminal justice system. As a result, it has been argued that juvenile delinquency laws are "overbroad, discriminatory and vague" (Scutt 1978). The vague, discriminatory and over broad definitions of juvenile delinquency have been variously described as a product of humanitarian motive or repressive intent (Platt, 1969; Muncie, 1999). No doubt, the vague definition of delinquency leads to wide discretionary and discriminatory powers on the part of law enforcement officers and juvenile justice administrators. Block and Flynn (1956, p.6) argued that "not only do legal authorities and so-called experts disagree over the definition of delinquent behaviour, they also have serious differences as to where delinquency under the law begins and where it should end".

Juvenile delinquency has elicited many images of the child. Delinquency has been variously portrayed and defined as a condition of drift, maladjustment, pathology, disturbance, moral depravity and unruly behaviour. But the definition of juvenile delinquency as well as concern about its manifestation, and control are influenced by a configuration of historical, political, social and economic conditions. According to Muncie (1999:80-81), "what actually constitutes 'young offending' is in a constant process of (re) invention and (re) definition. In the early nineteenth century, the juvenile delinquent was created in the midst of wider concerns about unemployment, lack of discipline and moral degeneration. In the early twentieth century the troublesome adolescent was invented in the midst of concerns for 'boy labour' street leisure and imperialism. In the mid twentieth century notions of troubled offenders were constructed reflecting the increased presence of welfare agencies and professionals at the time. Social concern may be persistent and recurring but the practices, issues and concepts through which it is articulated are subject to change".

There is no clear-cut definition of delinquency. The definition of delinquency and the scope of behaviour covered by the term vary over time and across societies. Delinquency and crime are morally, politically, economically and socially constructed symbols and conditions. Furthermore, the definition of delinquency and concern about it usually reflect the confusion over such terms like a child, a teenager, an adolescent, a juvenile and a youth. There is also confusion about how to deal with problems of adjustment to the various pressures encountered by children and young persons. The society selectively attributes equal as well as diminished responsibility to young persons in different areas of life, resulting in confusion over appropriate behaviour expected of young persons. According to Scranton (1997), there is the denial of children as rational, responsible persons able to receive information, participate in frank and open discussions and come to well reasoned and appropriately informed decisions about their interpersonal relationship (family, friends, sexual), about school and about developing sexuality. On the other hand, there is the imposition, using the full force of law of the highest level of rationality and responsibility on children and young people who seriously offend. The paradox is that the same sources appear to propose that childhood represents a period of diminished adult responsibility governing certain actions while being a period of equal responsibility governing others (Quoted in Muncie 1999, p.40).

The ambivalence of society over the status and expectation of the child is also reflected in the various international Charters and Conventions on the Rights of the Child. For example, the Preamble to the Declaration of the Rights of the Child adopted by the General Assembly of the United Nations on 20 November 1959 stated that the child by reason of his physical and mental immaturity needs special safeguards and care including appropriate legal protection before as well as after birth (UN Declaration, 1959). Thus, the child is viewed as a vulnerable and dependent being, deserving of special care. This perception of the child gave rise to the creation of a different track within the criminal justice system to handle cases of children and the young persons who violate the law.

Juvenile Justice System

Juvenile justice system may be regarded as a track within the criminal justice system of a society. The criminal justice system consists of several tracks –adult and juvenile process, and the rich and poor tracks to justice. Adult and juvenile tracks of justice administration were purposively designed and officially recognized. However, the differential tracks for the poor and wealthy are invisible and formally unrecognized, indeed denied, because to recognize class-based tracks of justice, will negate the ideology of equality of all (poor and rich) before the law. But in all societies, the poor are more likely to be arrested, detained, denied bail, convicted and sentenced to severe or

harsh terms of punishment more than their wealthy and politically influential counterparts.
The juvenile justice system is guided by a philosophy of concern, care and reformation. Young offenders are deemed to be immature and should not be treated as adult offenders. On the contrary, juvenile delinquents should be considered 'misguided' and therefore rescued or subjected to treatment, or reformation and rehabilitation programmes within correctional institutions.

Juvenile Justice System in Nigeria

The police, courts and prisons are the pillars of the Nigerian criminal justice system. Although there are many other quasi-police and judicial institutions in the country, they more or less complement the roles of these "pillars of criminal justice administration" in the country. The juvenile justice system is an integral part of the nation's criminal justice system. Nigerian criminal justice system was created as an important instrument of oppression by the British colonial government. The British colonizers created Nigeria over 53 years (1861-1914) period, through conquest, deception and manipulation of about four hundred nationalities (Otite, 1991). Prior to their colonial subjugation, these nationalities maintained different types and scale of social, political and economic organizations. They were relatively independent of one another, although some of them maintained political and economic relationships. In 1861, British colonizers seized Lagos as a colonial territory, and by 1903 when the Sokoto caliphate fell; the various societies that make up contemporary Nigeria had been brought under British colonial rule. Through conquests and series of amalgamation between 1861 and 1914, the Northern Nigeria and Southern Nigeria Protectorates were created. In 1914, The Northern Nigeria Protectorate and Southern Nigeria Protectorate were amalgamated as a single political entity known as Nigeria.

The British colonial government, in order to promote and protect its economic interests, created the Nigerian criminal justice system, of which the juvenile justice system is a component. Colonial penal system was designed to promote British economic interests. Historically, therefore, the Nigerian criminal justice agencies were created, not as instruments of security and justice, but as weapons of oppression (Odekunle 1979; Alemika 1983, 1988, 1993a, Ahire 1991; Adewoye 1977, Tamuno, 1970; Alemika & Chukwuma 2000).

There are several fundamental defects in the philosophy and practice of juvenile justice in Nigeria. These defects are to be understood, largely in terms of the evolution of the country's legal system as a colonial institution designed to take control of 'deprived and destitute' natives, including children, so that they do not constitute a threat or nuisance to the colonial order. Unfortunately, since independence, successive Nigerian governments have failed to effect fundamental restructuring of the Nigerian criminal justice system towards making it serve as instrument for the promotion of security and justice as well as the protection of human dignity and rights of the citizens.

The continuity of colonial forms of repressive legal and penal powers and institutions, for fifty-seven years after independence in 1960, is due to the nature, character and intrinsic logic of the post-colonial state in the country. What took place on October 1, 1960 was not an end to colonial rule and the beginning of national independence, development and democracy. On the contrary the event meant a change of personnel from white colonialists to indigenous rulers. More fundamentally, the event was a transmutation of colonialism to neo-colonialism. Thus, the concern of post-colonial rulers has been to preserve public service culture, including the arsenal of repressive power, institutions and privileges transferred to them by the foreign colonizers.

The logic of colonialism is the political subjugation and domination of a people in order to exploit their labour and resources. Colonial rule, therefore, required repressive legal system, especially vicious and oppressive penal institutions with effective capacity to repress, punish and deter individuals and groups that engage in activities that are deemed detrimental to colonial

political and economic interests. Thus colonial legal and penal institutions were not designed to protect the interests of the generality of citizens but rather to defend the political and economic interests of the rulers. For the Nigerian legal system to serve promote and protect the interest of the citizens, it needs proper reorganization and restructuring.

Re-Evaluating the Juvenile Justice System in Nigeria

The essence of any juvenile justice system is to reduce juvenile offences through reformation, rehabilitation and reintegration of juveniles. The Nigerian juvenile justice system lacks evidence to show concrete achievement in this regard. This therefore informs the need to reevaluate the juvenile justice system as presented below.

Enactment of the Laws

The Convention of the Rights of the Child is said to be the most ratified human rights documents and also the most violated (John, 2014). The provision in the Child.s Rights Act establishing the Family Court is laudable. There are similar provisions in the laws of states that have enacted or adopted the Act, for example, Lagos, Ogun, Akwa Ibom and Oyo States. Some States in Nigeria have not enacted the Child's Rights Act.

Implementation of the Child's Rights Legislation

The full implementation of the Child's Rights Legislation is a serious problem in nearly all the States of the Federation including the Federal Capital Territory to which the Child's Rights Act applies. Funding/budgeting allowance has been a major problem of many of the States. The result is the establishment of a family court only in principle as it is in Oyo State, or conversion of the old juvenile court to a family court as it is in some family courts in Lagos (though there are some newly built courts). According to Alemika and Chukwuma (2001), an unstructured interview with some magistrates manning family courts in different states shows that Section 154 (1) and (2) of the Child's Rights Act similar to Section 143 (1) and (2) of the Child's Rights Law of Lagos State is not complied with as much as it should be. This has to do with professionalization and training of court personnel. This is more so with the situation where magistrates and judges are not appointed to the family courts but are posted.

Governmental Bureaucratic/Proactive Action

The actions of government may hamper or enhance the effective running of the juvenile justice system in the States in Nigeria, creating a hybrid structure of family courts. According to a report by Ogunsola (2014), the Child's Rights Law in Oyo State has been passed twice in less than ten years and yet the Law is not being implemented in the State. In 2003, a Child's Rights Law of Oyo State was passed. In 2006, a review of that law was done under another government. Presently, the Family Courts provided for under the 2006 Law has not been created. A hybrid structure is in existence. This is because the Juvenile Courts as operated under the Children and Young Persons Law still exist in structure, layout and composition. However, the magistrates in charge of the court try as much as possible to adopt some provisions of the Child's Rights Law as much as it is feasible.

Rather than being bureaucratic, a proactive action on the part of government will enhance the juvenile/child justice system. For example in Ogun State, a new Child's Rights Law was passed in August 2013. This new law in 2013 removed the flaws and lacuna in the 2006 Child's Rights Law of the State. A major flaw and a lacuna in the 2006 Law of Ogun State was the non-provision for the establishment of a family court. The 2013 law has taken care of this *"first and major step towards the protection of Child's Rights in the State"* and the Ogun State government has constructed a family court (Segun, 2013). This proactive step is commendable. In contrast, the extent of government intervention or bureaucratic stud is highly minimized.

Overriding Child Interest versus Religious Interest

The introduction of Sharia Law has brought about a new dimension to the juvenile/child justice system in Nigeria. This new dimension is in conflict with the aim that "in every action concerning a child undertaken by any individual, public or private body, institution, court of law, Administrative or Legislative authority, the best interest of the child shall be the primary consideration". The implication of the conflict arising from cultural and religious interest and the child's interest is the non passage of the Child's Rights Law in some States in the Northern part of Nigeria.

The argument is that some provisions of the law contravene the Islamic religion especially in relation to marriage. The bone of contention is that whilst the Sharia Law provides for the age of puberty in defining a child, the Child's Rights Act on the other hand defines a child as one under the age of eighteen years. It should be taken into cognizance that culture is dynamic. While realizing that children belong to the society where law will be operated, the child's best interest should override culture and religious interest that may hinder the full harmonious, physical, mental development of the child.

Importance of Parental, Family and Community Values

The question arises if there can be a viable juvenile/child justice system without reference to the values from parents, family and the community. As far back as 1870, the role of the parents in the socialization of a child was reiterated. In the case of *People v. Turner*, the Illinois Supreme Court said: "*In our solicitude to form youths for the duties of civil life, we should not forget the rights which inhere both in parents and children. The principle of the absorption of the child is and its complete subjection to the despotism of, the State, is wholly inadmissible in the modern civilized world. The parent has the right to the care and custody and assistance of his child. The duty to maintain and protect it is a principle of natural law. All the courts or probation scheme on earth, can never effectively correct the faults of the child as long as there remains the fault of those who dealt with children in the home, schools, in neighborhood – in the community itself* (Becroft & Rhonda, 2006).

The importance of the family as a social unit cannot be overemphasized especially in the treatment of delinquent children and those in need of protection. Many countries of the world have incorporated the ideals of the family into the child justice system. The Child's Rights Act recognizes the importance of parents in Section 174 (5) of the Child's Rights Act and family ties in Section 178 (2) (a) (i) & (ii) in the treatment of a child under the child justice system.

Funding

Studies show that institutional facilities for children in Nigeria are in very deplorable conditions and generally lack the minimum comfort. The States are finding it difficult to fund and build new facilities (Akinseye, 2009). There is a disparity between the care promised juveniles or children in court and the care actually provided.

Conclusion and Recommendations

Juvenile justice system in Nigeria has colonial history. However, regardless of the bottlenecks in the juvenile justice system in Nigeria, a lot of improvements have occurred in the juvenile justice system in Nigeria. There is however need for a periodic review of the law relating to children and young persons in Nigeria and an adoption of a holistic approach in addressing issues of these category of persons in Nigeria in order to fully achieve the aims of and philosophy behind the legislations protecting them. According to Alemika and Chukwuma (2001), juvenile justice administration in Nigeria suffers from several inadequacies: legal, policy, planning, implementation, education and research. As a matter of fact, there are no well-established and

adequately equipped distinct institutions and coherent programmes for dealing with juvenile offenders and preventing juvenile delinquency in the country. The existing legislative and institutional frameworks were inherited from the colonial government. Moreover, the laws predated the evolution of contemporary international standards in the form of the United Nations Conventions and Charter on the Rights of the Child, the United Nations Standard Minimum Rules for the Treatment of Offenders; the United Nations Standard Minimum Rules for the Administration of Justice (the Beijing Rules), and the United Nations Guidelines for the Prevention of Juvenile Delinquency (The Riyadh Guidelines). As a result, many of the laws on the treatment of juvenile offenders do not conform to these international standards. They do not only violate the rights of the child or young person brought within the criminal justice system, existing juvenile law and related process deny him or her the benefits of humane treatment, and relevant educational, vocational, social, recreational and spiritual or religious opportunities for his or her self actualization. Therefore, a critical evaluation of the laws, policies, programmes and institutions dealing with juvenile offenders in Nigeria is long overdue.

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Policing and Nigerian Society: An Impact Factor Analysis

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Abstract

This paper made an impact factor analysis on policing and society. It was argued that the police exist and serve the public. In their operations, the police rely heavily on the cooperation and support of the public to achieve success. The Nigeria Police Force is a colonial heritage. It was established by colonial administration to ensure order, prevent crime and arrest offenders and thereby protect the colonial economic and commercial interests. Policing is imperative in modern Nigeria characterized by diversities and contradictions arising from population heterogeneity, urbanization, conflicting ideologies on appropriate socio-political and economic form of organization. The Nigeria police are statutorily required to fight crime through detection, investigation, apprehension and prosecution of offenders in law court and protection of lives and property through proactive policing. The analysis like other studies revealed that the Nigeria Police Force is beset with numerous problems such as inadequate manpower, inadequate funding, poor crime and operational information management, inadequate analysis and infrequent publication of criminal statistics, poor enumeration and general condition of service. It was also shown that the police have nearly impacted on the society through their responsibilities, but have not met the minimum demands of democratic policing which has its cardinal elements i.e., justice, equality, accountability and efficiency. Efforts should therefore be made to overcome the challenges beclouding the operations of the Nigeria Police Force in order to reposition it to serve the Nigerian society in appreciable ways.

Keywords: police, policing , society.

Introduction

The police do not exist in isolation and cannot operate on their own. Police exist and serve the public, and in the final analysis, are supposed to be accountable to the people they serve. However, the police as a public institution rely heavily on the cooperation and support of the public to achieve success in the performance of their duties. This is due primarily to the reactive nature of police work (Chow, 2010). A fundamental assumption of these cooperative efforts between the police and the community is that such cooperation hinges on, and in turn shapes, the attitudes that community residents hold toward the police (Friedmann 1992). Doubtlessly, individuals who trust the police are more willing to call when they require assistance, to cooperate as a witness in court proceedings, to provide information on crime conditions, and to cooperate with police during an involuntary contact (Sampson, Raudenbush, & Earls 1997; Skogan and Frydl 2004; Tyler 2004).

The Nigeria Police Force is a colonial heritage. Scholars have documented the history of police forces in Nigeria from the beginning of colonialism in 1861 to the present (Tamuno 1970; Ahire 1991, 1993; Rotimi 1993; Alemika 1993a). The establishment of police force in colonial Nigeria reflected administrative policy and concerns. The indirect rule system was adopted as a means of reducing the cost of running the colonial bureaucracy. Police forces were therefore established along the lines dictated by the indirect rule policy. According to Tamuno (1970: 90), "the Native Authority Ordinance (No. 4 of 1916) conferred on the Native Authorities the responsibility for maintaining order in their respective areas. Under it, they were allowed to prevent crime and arrest offenders by employing 'any person' to assist them in carrying out their

police duties. Their police powers were increased under the Protectorate Laws (Enforcement) Ordinance (No. 15 of 1924)".

The main thrust of this paper is to examine an impact factor analysis of policing and society.

Conceptual Issues

Society

Sociologists define society as the people who interact in such a way as to share a common culture. The cultural bond may be ethnic or racial, based on gender, or due to shared beliefs, values, and activities. Auguste Comte, the father of sociology, saw society as a social organism possessing a harmony of structure and function. Emile Durkheim treated society as a reality in its own right. Talcott Parsons sees it as a total complex of human relationships in so far as they grow out of the action in terms of means-end relationship intrinsic or symbolic.

Society is the complex of organized associations and institutions within a community. It is a system of usages and procedures of authority and mutual aid of many groupings and divisions, of controls of human behavior and liberties. This ever changing complex system which is called society is a web of social relationship. Society is a collection of individuals united by certain relations or mode of behavior which mark them off from others who do not enter into these relations or who differ from them in behavior.

The term *society* can also have a *geographic* meaning and refer to people who share a common culture in a particular location. For example, people living in arctic climates developed different cultures from those living in desert cultures. In time, a large variety of human cultures arose around the world. Culture and society are intricately related. A culture consists of the "objects" of a society, whereas a society consists of the people who share a common culture.

Sociologist Geraldd Lenski (1974) differentiates societies based on their level of technology, communication, and economy: (1) hunters and gatherers, (2) simple agricultural, (3) advanced agricultural, (4) industrial, and (5) specialized (e.g. fishing societies or maritime societies). This is similar to the system earlier developed by anthropologists Morton H. Fried, a conflict theorist, and Elman Service, an integration theorist, who have produced a system of classification for societies in all human cultures based on the evolution of social inequality and the role of the state. This system of classification contains four categories: hunter-gatherer bands (categorization of duties and responsibilities), tribal societies in which there are some limited instances of social rank and prestige, stratified structures led by chieftains, and c, with complex social hierarchies and organized, institutional governments.

Societies are social groups that differ according to subsistence strategies, the ways that humans use technology to provide needs for themselves. Although humans have established many types of societies throughout history, anthropologists tend to classify different societies according to the degree to which different groups within a society have unequal access to advantages such as resources, prestige, or power. Virtually all societies have developed some degree of inequality among their people through the process of social stratification, the division of members of a society into levels with unequal wealth, prestige, or power. Sociologists place societies in three broad categories: pre-industrial, industrial, and post-industrial.

Police and Policing

The police play important roles without which the sustenance of order, legality, development and democracy may be difficult. Therefore, any pro-poor change initiative must take account of the facilitative and inhibitive roles of the police in society. The primary role of police is policing –

securing compliance with existing laws and conformity with precepts of social order. But the police are not the only agency involved in policing, in the broad sense of the term. Policing has always been necessary in all societies for the preservation of order, safety and social relations. The necessity of policing becomes even more evident in modern societies characterized by diversities and contradictions arising from population heterogeneity, urbanization, industrialization, conflicting ideologies on appropriate socio-political and economic form of organization. However, the emergence of the police, a body of men recruited and paid by the state to enforce law and maintain order, is a recent development in human history (Reiner, 2000).

Traditionally, policing was the responsibility of all adults in community. In medieval society, all adult males were obliged to contribute towards the prevention and control of crime and disorder under the systems of 'hue, cry and pursuit' and the 'watch and ward that preceded the emergence of specialized police forces as organs of the state. But the emergence of the state, with its vast bureaucracies anchored on centralization, hierarchical authority/power structure, and professional staff (Weber 1968) changed the traditional policing philosophy rooted in the idea of policing as everybody's business.

The emergence of the state as an entity with claim to the monopoly over the means of legitimate violence in society (Weber 1968) resulted into the creation of specialized agencies such as the police and the armed forces for controlling the use of violence by other groups. According to Susan Martin (1990:6), "police work involves a variety of tasks and responsibilities. Officers are expected to prevent crime, protect life and property, enforce the laws, maintain peace and public order, and provide a wide range of services to citizens … A common trend unifying these diverse activities, however, is that potential for violence and the need and right to use coercive means in order to establish social control (Bitner, 1970). Understanding that the police act as the representatives of the coercive potential of the state and the legitimate users of force helps explains a number of their attitudes and characteristics.

Broadly, modern police forces are assigned the primary duty of law enforcement and order maintenance. But the content of law and what constitute order vary widely across time and nations, and are determined by the political economy of societies. The concrete roles played by the police are defined by law and conception of order in accordance with the political and economic interests of the dominant or ruling groups in society. Robert Reiner (1993) stresses that the police are the specialist carriers of the state's bedrock power: the monopoly of legitimate use of force. *How and for what this is used speaks to the very heart of the condition of a political order.* The danger of abuse, on behalf of particular partisan interests or the police themselves are clear and daunting.

Police are organized to defend and preserve the interests of the dominant groups and classes in society. Consequently, the significance of police as either facilitators or inhibitors of pro-poor change initiatives will depend on the character of their society. In a totalitarian and economically inequitable society, police role will be more to defend the *status quo* of political oppression and economic injustice. In contrast, in a democratic society the police are more likely to provide services that will enhance development and democracy (Alemika 1993b). By maintaining order and enforcing law in consonance with the principles and practices of a democratic society, police will foster entrepreneurial initiative and public safety, which are critical to development and human cooperation in general. It is in these respects that the police can make positive contributions towards pro-poor change initiatives. Some of the major concerns of the poor apart from material deprivations and lack of access to services are their vulnerability to insecurity, crime, police brutality and denial of due process rights (World Development Report 2000/2001). In Nigeria, police are described more in negative terms by major segments of the population.

Theoretical Underpinning

Analysis of police and policing should begin with careful delineation of the two interrelated concepts and phenomena. Police refers to a socio-political and quasi-legal institution – state agencies charged primarily with the enforcement of criminal law and the maintenance of order. Many quasi-police agencies such as the Custom and Immigration organizations and economic regulatory agencies are also involved in public policing. Analytically, policing refers to measures and actions taken by a variety of institutions and groups (both formal and informal) in society to regulate social relations and practices in order to secure the safety of members of community as well as conformity to the norms and values of society. It is therefore a "sub-set of control processes" which involves "the creation of systems of surveillance coupled with the threat of sanctions for discovered deviance – either immediately or in terms of the initiation of penal process or both (Reiner 2000:3). State agencies designated as police as well as community groups are involved in policing. But community policing groups who carry out activities aimed at safety and social order do not constitute police. No society can do without policing. However, historical evidence indicates that societies have existed without formal police forces. The danger of 'police fetishism' should be avoided so that the capacity of society for evolving variety of policing organization and strategies is not undermined. According to Reiner (2000, pp. 2-3), modern societies are characterized by what can be termed *'police fetishism, the ideological assumption that the police are a functional prerequisite of social order so that without a police force chaos would ensure.* In fact, many societies have existed without a formal police force of any kind, and certainly without the present model. … It is important to distinguish between the ideas of 'police' and 'policing'. 'Police' refers to a particular kind of social institution, while 'policing' implies a set of processes with specific social functions. 'Police are not found in every society, and police organizations and personnel can have a variety of shifting forms. 'Policing', however, is arguably a necessity in any social order, which may be carried out by a number of different processes and institutional arrangements. A state-organized specialist police organization of the modern is only one example.

The police are agents of the state, established for the maintenance of order and enforcement of law. Therefore, like the state, the character, roles and priority of police forces are determined by the political and economic structures of their nations. Similarly, the form and activities of policing by state and non-state agencies are also dependent on the character and composition of the political economy of society. The tasks of police are dictated by the contradictions and conflict of interests among groups and classes in society which if not regulated can threaten the preservation of the prevailing social order or *status quo.* In very substantive ways, the police mirror the contradictions and conflicts as well as human cooperation in society. According to Coatman (1959: 8), "a student of the political institutions of any country desirous of understanding the "ethos" of any country's government can hardly do better than make a close study of its police system, which will provide him with a good measuring rod of the actual extent to which its government is free or authoritarian".

The political economy frame of analysis is therefore appropriate to the analysis of police and policing in any society. There are different political economy models of analysis. However, there are common grounds among them, the principal ones being (1) that there is intricate linkages between political and economic structures of society; (2) that the political and economic structures of a society determine its general values, cultures and norms as well as the direction and practice of governance, and (3) that a more robust analysis of society is provided by an understanding of the linkages between the economy and polity and their dialectical interrelations with other structures and social institutions.

The most popular strand of political economy is the Marxist model. Its main argument is summarized by the famous statement by Karl Marx in the Preface to *A Contribution to the Critique of Political Economy* (1970). According to Marx, "in the social production of their existence, men inevitably enter into definite relations, which are independent of their will, namely relations of production appropriate to a given stage in their development of material forces of production. *The totality of these relations of production constitutes the economic structure of society, the real foundation, on which arises a legal and political superstructure and to which correspond definite forms of social consciousness. The mode of production of material life conditions the general process of social, political and intellectual life* (pp. 20-21).

Marx strongly argued that the economic structure of society determines the character of the superstructure which includes the political, legal, cultural and religious relations and institutions of society. But this does not imply a unidirectional model. Account is also taken of dialectical relations a form of feedback process in which the superstructure also influences the economic substructure.

Applied to police and policing, the model suggests that the problems of order, law and lawlessness are to be understood as the reflections or products of the way the society organizes its economy, especially the dominant interests that drive it. Criminal law, which enforcement constitutes the rationale for the establishment and sustenance of police and judicial institutions, contains rules prohibiting the behaviours and activities deemed detrimental to the dominant economic and political interests of society. However, societies are constituted into classes and groups with varying degree of power or influence over political and economic decision-making. Classes and groups with dominant economic power control political decision-making, including the enactment of criminal law by the legislature, its enforcement and interpretation by the police and judiciary respectively.

Several studies (Schwartz & Miller 1964; Robinson & Scaglion 1987, Robinson, Scaglion & Olivero 1994) have established linkages among economic and political structures, form and character of policing, and the development of police forces. Reiner (2000, p.5) suggests that "While policing may originate in collective and communal processes of social control, specialized [police] forces develop hand in hand with the development of social inequality and hierarchy".

Robinson and Scaglion (1987, p.109) advanced this argument further that the evolution or emergence of specialized and state police forces "is linked to economic specialisation and differential access to resources that occur in the transition from a kinship- to a class-dominated society (cited in Reiner 2000, p.5). There are also common grounds on police and policing between the political economy theorists and social conflict theorists. The two groups of theorist argue that society is divided into groups and classes with common interest in some areas and conflicting interests in many fundamental areas, including the organization, mobilization and distribution of economic and socio-political resources. But generally, they argued "that the Police were not created to serve "society" or the "people" but to serve some parts of society and some people at the expense of others" (Institute for the Study of Labor and Economic Crises, 1982, p. 12).

Police roles vary across societies with different political and economic organizations. According to the Institute for the Study of Labor and Economic Crises (1982, p.12), in capitalist societies, "the main function of the police has been to protect the property and well-being of those who benefit most from an economy based on the extraction of private profit. The police were created primarily in response to rioting and disorder directed against oppressive working and living conditions". Similarly, Bowden (1978, p.19) argues that the roles of police include the repression of the poor and powerless in order to protect the interests of the rulers. The police, therefore, stand as a "buffer between elites and masses". As a result the police perform "the

essential holding operation against the mal-contents until military force could be applied in a punitive and salutary manner" by the state. Brodgen put this view more forcefully, stating that "Police forces are structured, organizationally and ideologically to act against the marginal strata" (1982, p.203).

Contrary to the picture that a perfunctory reading of radical political economy and social conflict paradigms on police and policing may produce, the role of the police is not limited to repression. No government governs by repression alone, precisely because this renders governance unstable, expensive and unacceptable. Consequently rulers also enforce compliance, law and order by means of persuasion, indoctrination and incorporation of diverse interests into public crime control and law enforcement policies. A holistic view is that police forces repress and at the same time serve the public. The priority attached to repressive and service functions vary across societies and even between regimes within society. As has been argued, police work embodies ironies. Police are instrument of oppression and exploitation in totalitarian and unjust social systems. Yet they are essential to the preservation of justice and democracy. The police are guardians of social order. As an institution the police force, helps to preserve, fortify and reproduce the prevailing social order, and are hardly catalyst for its charge. Thus when a social order is oppressive, exploitative and unjust, the police preserve it by suppressing and defusing demand for democracy and elimination of oppression and injustices. Similarly, in a democratic, just and equitable society, police have greater chances of serving as vanguard for social democracy, human rights and socio-economic justice (Alemika 1993b).

Analysis of the roles of state police must be located within the social, political and economic order that police forces are required to secure, preserve and fortify. Consequently police roles and performance as well as police violence must be seen as the product of interaction among political, economic, legal, institutional and personality factors. Generally, police bureaucracies are organized to manage (detect, investigate, sort out, sieve, arrest, detain, prosecute, harass) those considered to be dangerous for the preservation of the *status quo*. But as Carter and Radelet (1999, p.9) have argued, the police "are *part of* and not *apart from* the communities they serve".

Policing and the Nigerian Society: An Impact Factor Analysis

The reality of policing is that the police play an extremely complex role in today's society. This role involves many different tasks. Herman Goldstein (1979) warns that "anyone attempting to construct a workable definition of the police role will typically come away with old images shattered and a new-found appreciation for the intricacies of police work." The American Bar Association's *Standards Relating to the Urban Police Function* illustrates the complexity of the police role by identifying eleven different police responsibilities. These include:

1. Identify criminal offenders and criminal activity and, when appropriate, apprehend offenders and participate in subsequent court proceedings.
2. Reduce the opportunities for the commission of some crimes through preventive patrol and other measures.
3. Aid individuals who are in danger of physical harm.
4. Protect constitutional guarantees.
5. Facilitate the movement of people and vehicles.
6. Assist those who cannot care for themselves.
7. Resolve conflict.
8. Identify problems that are potentially serious law enforcement or government problems.
9. Create and maintain a feeling of security in the community.
10. Promote and preserve civil order.
11. Provide other services on an emergency basis.

There is a nexus between policing and social control in the society. In fact, the police are part of the broader system of social control. Cohen (1985, p.1) defines social control as "the organized ways in which society responds to behavior and people it regards as deviant, problematic, worrying, threatening, troublesome or undesirable in some way or another." There are three different types of social control: private, parochial, and public. The most basic form of social control is at the private level. This is also referred to as a primary form of social control. At the private level social control is carried out by family, friends, and other informal social groups that have the capacity to exercise social control through criticism, praise, ostracism, and even violence. The second form of social control is at the parochial level and is also known as *secondary social control.* At the parochial level social control is exercised by community organizations such as schools, churches, neighborhood groups, and businesses that often have a stake in individual behavior, but do not have the same sentimental attachment as those at the private level. Social control levied by those at the parochial level, for example, can take the form of a verbal reprimand by a neighbor or sanctions meted out by a school principal or church official. The third form of social control is exercised at the public level. At the public level social control is exercised by governmental organizations such as the police and regulatory agencies. This form of social control is often called to action when other strategies exercised by the private and parochial levels have failed.

The police are part of several different systems of social control. First, and most important, they are the "gatekeepers" of the criminal justice system. The decision by a police officer to make an arrest initiates most criminal cases. The decision not to arrest keeps the incident out of the system. Thus, the police determine the workload for the criminal justice system. At the same time, police efforts are deeply affected by the actions of other criminal justice agencies.

Second, the police are an important part of the social welfare system. They are often the first contact that official agencies have with social problems such as delinquency, family problems, drug abuse, and alcoholism. The police often refer individuals to social service agencies. The police are also an important part of the mental health system. Patrol units are routinely called to situations where someone is believed to be mentally ill. The officer has the responsibility of determining whether the person is in fact mentally ill and requires hospitalization. Goldstein (1990) argues that we need to recognize the fact that this is what police actually do, and we should develop alternatives to the criminal justice system for dealing with these situations. Third, the police are an important part of the political system. In a democratic society, the political system ensures public control and accountability of the police. The people, acting through their elected representatives, determine police policy, such as community policing, or not, and aggressive enforcement of traffic laws, or not. In the case of the sheriff, the people directly elect the top law enforcement official.

In general, the police contribute to social control through both their law enforcement and order maintenance responsibilities. Their task is to preserve the norms of society by deterring crime and arresting people who violate the criminal law, which embodies those norms. The police presence in society is also intended to preserve order by serving as a deterrent to misconduct and by providing a quick-response mechanism for potential or low-level problems. The capacity of the police to exercise complete social control is extremely limited, however.

Traditionally, policing was the responsibility of all adults in community. In medieval society, all male adults were obliged to contribute towards the prevention and control of crime and disorder under the system "hue, cry and pursuit". But the emergence of the state, with its vast bureaucracies anchored on centralisation, hierarchical authority/power structure, and professionalism changed the traditional policing method of policing being every one's business (Weber 1968). The emergence of an entity with its claim to the monopoly over the means of legitimate violence in society resulted into the creation of specialized agencies such as police and

the Armed Forces charged with the responsibility of controlling the use of violence by other groups. By this therefore police was scheduled to perform the following responsibilities or duties: prevention of crime, protection of lives and properties, enforcing law, maintenance of peace and public order, and providing a wide range of services to the citizens. By doing this it has the potential for violence and right to use coercive means in order to establish social control (Bitner, 1970).

According to Yecho (2004), the Nigeria Police is statutorily required to fight crime through detection, investigation, apprehension and prosecution of offenders in law court and the protection of lives and property through proactive policing. For Tinubu (1993), the place of police in Nigeria cannot be compromised; their constitutional and statutory functions according to him are well defined so that the force can manage crisis situation, maintain peace and security.

The Principles of Democratic Policing

In recent times and as most societies are increasingly becoming democratic, policing is also becoming democratic. This, according to Travis (2000), results from the conflict in Bosnia and Herzegovina, where the warring factions and several other interested parties came together in Youngstown, Ohio, to discuss the principles to guide the development of a new police force in the country. As part of what was later called the "Youngstown Accord," seven principles were established to guide policing in both established and emerging democracies across the world. These seven principles were:

1. The police must operate in accordance with democratic principles.
2. The police as recipients of public trust should be considered as professionals whose conduct must be governed by a professional code.
3. The police must have as their highest priority the protection of life.
4. The police must serve the community and consider themselves accountable to the community.
5. The police must recognize that protection of life and property is the primary function of police operations.
6. The police must conduct their activities with respect for human dignity and basic human rights.
7. The police are expected to discharge their duties in a nondiscriminatory manner.

However, political control of law enforcement agencies represents one of the central dilemmas of policing a democratic society. On the one hand, the people have a fundamental right to control their government agencies. At the same time, however, politics have historically been the source of much corruption and abuse of law enforcement powers. Striking the balance between popular control and professional standards is one basic tension in modern policing. In important respects, the police are symbols of the political system. They are the most visible manifestation of power and authority in society.

The Nigeria Police Force is beset with certain peculiar inadequacies or challenges: inadequate manpower, both in terms of quantity, but more especially of quality; inadequate funding; poor crime and operational information management, including inaccurate recording and collation, poor storage and retrieval, inadequate analysis and infrequent publication of criminal statistics; poor remuneration and general condition of service; inadequate initial and on-the job training and deficient syllabi which places too much emphasis on law enforcement and order maintenance without adequate liberal and broad training that can illuminate the nature and sources of law and criminality; poor resource management; inadequate logistic, arms and ammunition, uniform and accoutrement, telecommunication and transportation facilities - both in terms of quality and quantity; inadequate office and residential accommodation; inhuman conditions under which suspects are held in police cells; un-hygienic working environment; limited contacts or relationship with the citizens outside law enforcement and order maintenance

functions; low commitment; indiscipline and involvement in crime or collusion with criminals; lack of integrity; perversion of the course of justice (i.e. procuring and supplying false evidence, tampering with exhibit, and false accusations); poor knowledge of law and disregard for human rights; c*orruption and extortion; and brutality* (Osoba, 1994; Alemika, 1988, 1997, 1998, 1999; Alemika & Chukwuma, 2000; Balogun, 2003; Human Rights Watch, 2010).

Mammus (2010) further stressed that the major challenge of policing is the manpower shortage, inadequate funding, inadequate logistic support and infrastructure, lack of serviceable information and technological equipment to cover all the areas of the State are responsible for the current state of the police in Nigeria. Also, institutional constraints have constituted challenge to the police functions (Onyeozili, 2005; Dufka, 2010; Okeshola & Mudiare, 2013).

Conclusion and Recommendations

The Nigeria Police Force has really impacted the society through its responsibilities which have been shown in the foregoing. However, the NPF has not met the minimum demands of democratic policing which has as its cardinal elements "justice, equality, accountability and efficiency". Justice means that all individuals ought to be treated fairly and their rights are respected. Equality means, first, that all … ought to receive policing service sufficient to feel safe in their community. Equality also means that there ought to be representative participation from all members of society in the delivery of policing services, i.e. that it requires equal and inclusive security force. Accountability means that the actions of a body are subjected and that there are formal channels that individuals can use to lodge a complaint. Finally, efficiency means that services are provided in a cost effective manner.

Given the history and character of the Nigerian Police Force and Policing in the country as derived from the nature of the economic system, obviously the police force is confronted with a lot of problems since the colonial era. These challenges are in the area of accountability, effectiveness and efficiency in the detection, prevention and control of crime, apprehension and prosecution of offenders, scrupulous observance of the rule of law and concern for the general welfare of the citizens it protects. Also, the significance of police as either facilitators or inhibitors of pro-poor change initiative is largely dependent on the nature and character of the inherent society or economic system. The Nigerian Police Force is therefore a reflection of the Nigerian state. This explains why measures in fighting crime often fail. This calls for a restructuring of the force to instil positive values in order to ensure effective service delivery on the part of the police force.

The Nigerian Police is an institution that is statutorily scheduled with the responsibility of ensuring peace and security of Nigerians. It is an indispensable institution of social control and maintenance of peace and stability. There is every need to reposition the police in Nigeria to conform to what is obtainable in other countries of the world and secure us well. The role of the Force therefore cannot be undermined. It is on this basis that the following recommendations are made:

i. The act of policing should not be left in the hands of the Nigerian police force alone. States and other organs like the traditional institution, the clergy and civil organizations should be actively involved.

ii. The Federal Government should, as a matter of urgency, equip the police with ultra modern arms and ammunitions as well as security gadgets to perform its functions well and in compliance with the rule of law. This has become necessary now more than ever to enable the force fight the gruesome scourge of armed robbery and orchestrated kidnappings ravaging the entire length and breadth of the country.

iii. Presently, the police are highly and visibly subservient to the rich and powerful politicians. Policies should be put in place to withdraw police men attached to these politicians. In fact, the

police should be shielded from political appointments. The role of law enforcement in any civilized society is to serve and protect the citizens. This is because political appointments corrupt the officials, destroy espirit de corps, skew their sense of neutrality and impartiality, and infuse a sense of allegiance to appointing authority. It is a major obstacle to police effectiveness and must be discouraged at all cost if improved police performance must be achieved.

iv. Sensitization exercise should be taken as a priority in addressing relationship that exists between the public and personnel of the Nigerian police force. In other words, there is need for the police to improve its public relationship. They should see Nigerians as their fellow human beings who deserve to be treated with a high level of courtesy and decorum.

v. As a matter of urgency, police personnel who are no longer productive as well as those who are corrupt should be retrenched and more skilled youths be injected into the system.

vi. There should be serious retraining towards attitudinal change and professional efficiency and proficiency among both the rank and file and other officer cadre of the police.

vii. Also, Nigerians should help the police to discharge their duties optimally. They could do this through giving vital information to them on the activities of undesirable elements in the society. Such invaluable information could help the police to perform creditably.

viii. There is the need for Government to steadily increase logistic funding, so that the police can work towards attaining the standard patrol practice of developed countries. There should be a massive injection of funds into the police force so that operational and logistics equipment can be acquired. Crime in our society has become rather sophisticated. The police should, therefore, acquire up-to-date weapons and equipments, which it deems necessary for the successful performance of its duties.

ix. There should be an improvement in the conditions of services of policemen. Police authorities should put in place structures to motivate honest, dedicated and hard working policemen. Promotion should be giving to deserving officers as at when due. This is because denial of promotion is a major cause of the low morale and that seems to have permeated and pervaded the entire force. In summary, efforts should be made by the Force to overcome the challenges beclouding its operations in order to be positioned to serve the Nigerian society in appreciable ways.

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Occupational Stress among Pastors in Nyo-Khana District of Khana Local Government Area of Rivers State

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Abstract

The purpose of this study was to investigate occupational stress among Pastors in Nyo-khana District of Khana Local Government Area of Rivers State. The study used descriptive survey design. All pastors except assistant pastors in Nyo-khana District constituted the population for the study. The whole population of 520 pastors was used for the study since it was not too large. A structured questionnaire with reliability co-efficient of 0.81 was developed and used to gather data for the study. Data obtained for the study were analyzed with descriptive statistics of frequency distribution, tables and percentage. Cronbach Alpha was employed in calculating the reliability coefficient (r) of the research instrument used for the study. The study revealed sources of occupational stress among pastors in Nyo-khana District to include salary, condition of service, working condition and so on. Also revealed was the fact that the level of stress among pastors in Nyo-khana was very high, while the sign and symptoms of stress among the pastors were noticed in over reaction to small irritation, feeling vague anxiety, and sleep disturbance among others. Among coping strategies which pastors adopted to deal with stress as revealed by the study were exercise, proper time management, sharing problems with other people and so on. The study recommended that pastors should ensure adequate rest and leisure, adequate sleep, proper time management, exercise among other recommendations to cope with occupational stress in the District.

Keywords: stress, occupation,

Introduction

Stress is common to all occupations. However, the amount of stress people at work are exposed to differ from one occupation to another. Pastors are people that are not spared by stress. As noted by Kumar (2014) nearly 3 in 4 pastors regularly consider leaving due to stress. While stating the position of a study by a leading "Christian think tank", Kuma observed that stress and exhaustion (burn out) in pastoral ministry causes as many as 70 percent of pastors to regularly consider leaving, and many of them actually quit. Stress is a response your body makes to demands placed upon it.

Stress, according to Lozanski (2007), is the result of any emotional, physical, social, economic or other factors that required a response or change. It is generally believed that some stress is helpful (sometimes, referred to as "challenge" or "positive stress"), but when stress occurs in excessive amounts both mental and physical changes may occur (Lozanski, 2007). Similarly, Fahey, Insel and Roth (2003) observed that stress refers to two different things: situations that trigger physical and emotional reactions and the reactions themselves. A situation that triggers physical and emotional reactions is described as stressor, and stress responses for those reactions. Also, Orime (2006) defined stress as any stimulus that disturbs the biological or psychological equilibrium of an organism. Stress is no doubt part of everyday living. We need a certain amount of tension in order to perform our tasks effectively. Too little stress makes life bored which in itself may lead to stress. Too much stress may affect our performance adversely and we may become exhausted or ill.

As pointed out by Naidoo and Wills (2001) there are basically two categories of stress: one is positive and beneficial or good called "eustress" while the other is harmful and damaging or bad called "distress". Pastors are exposed to these categories of stress. While the former urges and propels them towards land-breaking achievement the later has been found to leave them disappointed, confused, exhausted and sick.

The Baltzell, et al., (2004) defined occupation as an activity by which one earns one's living or fills one's time, or an instance of this, while occupational is seen as arising from, pertaining to one's occupation or an occupation. However, occupational stress or workplace stress is defined by Lozanski (2002), as the harmful physical and emotional responses that can happen when there is conflict between job demands on the employee and the amount of control the employee has over meeting these demands. In general, the combination of high demands in a job and a low amount of control over the situation can lead to the greatest amount of stress. Faber and Reinhardt (1989) gave a twenty one list of factors which causes job stress. These include time pressures and deadliness, boredom, exorbitant work demands, role ambiguity, under promotion, overload, lack of participation in management of the organization, responsibility for people, territorial boundaries, role conflict, poor relationships with peers, subordinates and boss, threats from below, bureaucratic pettiness, pressure of job security, pressure towards conformity, lack of responsiveness, and job design and technical problems .

Similarly, Gaultere (2009) said pastors and other ministry leaders are often under much stress that they find themselves just hanging on by a thread, about to burn out from exhaustion or blow out morally, adding that pastor stress today is enormous. The main source of pastoral stress according to Gaultere is the expectations that people put on their pastors today – and that pastors put on themselves – are debilitating, stressing that everywhere pastors go they are expected to be "on" ready to give stellar leadership, unending compassion, and inspiring message, anointed prayer or words of encouragement. Yet, like anyone else, Gaultere observed, perhaps more so because of the nature of their work and the expectations people have for them – may become overstressed, depressed, or caught in compulsive and sinful behaviour. Or they may find themselves feeling spiritually dry, tired of ministry, angry at God stuck in their spiritual life or burned out. Looking at the source of stress from another angle, Bickerton (2011) submitted that for those who served Jesus in paid church leadership roles, stress from the demands of vocational ministry can considerably impede not only their zeal and fervour, but also the health and longevity of their service.

In the same vein, Pastoral Care Incorporated (2017) identified the many reasons for stress among pastors to include the disparity between idealistic expectations and reality, lack of clear defined boundaries, tasks never get done, workaholic ("I have to do everything" mentality), Peter Principle – feeling inadequate in leading an army of volunteers, conflict in being a leader, trying to please everyone, trying to be a servant to everyone, time management problems, problems with self-esteem, multiplicity of roles, inability to produce "a win-win" conflict resolution, clergy being basically insecure, lonely and too serious. While looking at contributors to stress among pastors, Pastoral Care Incorporated said bio-ecological factors related to poor diet – too much caffeine, refined white sugar, processed flour, salt and poor exercise habits; vocational factors include career uncertainty, role ambiguity, role conflicts, role overload and many more listed above; psychological factors which relate principally to the great life stressors – loss of loved ones, divorce, personal injury or illness, financial difficulties, and so on. Spiritual factors that cause stress among pastor according to Pastoral Care Incorporated include temptations of all kinds, pornography, sexual fantasies or sexual inappropriateness, despair if your church is not growing, jealousy of the success of others and any other way you feel the devil can get to you.

When stress becomes chronic there are possibilities for the following health outcomes as noted by Pastoral Care Incorporated (2017): heart problems, high blood pressure, stroke, rapid heart beat, headaches, jaw pain, arthritis, allergies, colds, nervous tics, anxiety, hives, diarrhoea, sexual problems, eating problems, insomnia, immuno-system problems, cancer, mental lapses and infections.

Since stress is part and parcel of pastoral work, sincere efforts should be directed at managing it so that it does not get the better part of pastors. To this end, ten ways for ministers to manage stress as put in place by Elder (1996) become apt and relevant. According to Elder the following ways should be observed:

1. **Faith**: Practice what you preach. This is achieved through living out on daily basis your own Christian faith, which is demonstrated in loving others, living by faith and not by sight, following examples of Christ (whoever claims to live in him must walk as Jesus did, (I John 2:6), having fruit of the spirit which is love, joy, peace, patience, kindness, goodness, faithfulness, gentleness and self control (Galatians 5:22-23), saying your prayer (Philippians 4:6), follow his word (Psalm 119:10 - your word is a lamp to my feet and a light for my path), positive confidence (Philippians 4:1-3 – I can do everything through him who gives me strength, Trust in the Lord (Proverbs 3:5-6 – trust in the Lord with all your heart and lean not on your own understanding, in all your ways acknowledge him, and he will make your path straight and reflection by claiming the promise" cast all you anxiety (stress) on him because he cares for you" – I Peter 5:7.

2. Approaches: Define you stress response. Pick your dominant approach to stress which will most often help you to establish how well you are doing. "Coping" may often be the most useful approach. Only two out of ten points offered by Elder (1996) could be considered here because of space as the opinions of other writers and contributors are also relevant. In the opinion of Xpastor (2014), pastors are told to find time to rest as it helps take away stress. Similarly, Rainer (2013) suggested that pastors should endeavour to share their responsibilities with other pastors or church workers and also endeavour to have peacemaker ministries including a clearly written job description.

Embarking on this research in Nyo-khana became necessary as there had not been an attempt by anybody to look into the issue of stress among pastors in the District even when it was glaring that pastors in the area were being subjected to stress.

The following research questions were formulated to guide the study:

1. What are the sources of occupational stress among pastors in Nyo-khana District?
2. What is the level of occupational stress among pastor in Nyo-khana District?
3. What are the signs and symptoms of occupational stress among pastors in Nyo-khana District?
4. What are the coping strategies for occupational stress among pastors in Nyo-khana District?

Methodology

Population of the study

The population for the study consisted of all pastors (both orthodox and protestant) in Nyo-khana District of Khana Local Government Area of Rivers State. However, the study did not include Assistant Pastors who were serving in the area of the study as they appeared to lack the necessary experience to warrant their inclusion.

Sample Size and Sampling Techniques
A sample size of 520 pastors consisting of the entire population was used for the study. The reason for this was because the population for the study was not too large to necessitate sampling. According to Eke (2004), the whole population of the study can be used as sample for the study when it is not too large.

Instrument for Data Collection
The instrument for data collection for this study was a structured questionnaire. The questionnaire was prepared in two sections: A and B. Section A contained questions which took care of demographic data of respondents while section B focused on questions having to do with the research proper. Also modified Likert Scale questionnaire type was adopted in framing some of the questions in section B which took the response format of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD). They were rated 4,3,2, and 1 depending on whether the questions were negative or positive. Again, in the questionnaire, were questions with "Yes" or "No" response options among others.

Method of Data Collection
The researcher served copies of the questionnaire on the respondents through personal contact. 520 copies of the questionnaire were served on 520 respondents (pastors) by the researcher himself. Out of those copies, nine (9) copies were not properly filled while eleven (11) copies could not be retrieved, bringing the total to twenty (20). So, the actual number of copies of questionnaire used for analyses was 500 and not 520.

Method of Data Analysis
Data for this study was analyzed with the aid of descriptive statistics of simple percentages and frequency distribution tables, while the reliability coefficient (r) for the study was done with the use of Cronbach Alpha.

Results
The result presented in Tables 1 – 4 were strictly based on the research questions.

Table 1: **Sources of occupational stress among pastors in Nyo-khana districts (N= 500)**

S/N	ITEM	Response, frequency and percentage			
		Very stressful	Moderately stressful	Mildly stressful	Not stressful at all
1.	Salary	400 (80%)	100 (20%)	-	-
2.	Condition of service	300(60%)	100(20%)	100(20%)	-
3.	Working condition	300(60%)	100(20%)	-	100(20%)
4.	Time pressure	200(40%)	100(20%)	200(40%)	-
5.	Community attitude	400(80%)	100(20%)	-	-
6.	Career developmen t	-	100(20%)	200(40%)	200(40%)
7.	Relationship with church council	200(40%)	200(40%)	100(20%)	-
8.	Workload	300(60%)	100(20%)	-	100(20%)
9.	Church crises	200(40%)	200(40%)	-	100(20%)
10.	Size of church	400(80%)	-	100(20%)	-

Table 4.1 above identifies the sources of occupational stress among pastors in Nyo-khana District to include:

a. **Salary**: 100 respondents representing 20% stated that they were moderately stressed as a result of salary while 400 (80%) of them stated that salary made them very stressful.

b. **Condition of service:** 100 (20%) respondents stated that condition of service gave them mild stress, while 100 (20%) moderate stress and 300 (60%) very stressful.

c. **Working condition:** 100 (20%) respondents said that it was not stressful at all; another 100 (20%) moderately stressful and 300 (60%) very stressful.

d. **Time pressure**: 200(40%) respondents said that time pressure made them mildly stressful, 100 (20%) moderately stressful, 200(40%) very stressful.

e. **Community attitude**: 100 (20%) respondents stated that it gave them moderate stress as against 400(80%) who said that it made them very stressful.

f. **Career development:** 200(40%) respondents said that it was not stressful at all; 200(40%) said it made them mildly stressful, and 100(20%) of them stated that it made them moderately stressful.

g. **Relationship with church council**: 100 (20%) respondents stated that it gave them mild stress, 200(40%) moderate stress while 200(40%) very stressful.

h. **Workload:** 100(20%) respondents stated that it was not stressful at all, another 100(20%) moderate stress while 300 (60%) very stressful.

i. **Church crises:** 100(20%) respondents stated it was not stressful at all, 200 (40%) moderately stressful and 200(40%) very stressful.

j. **Size of church**: 400 (80%) respondents stated that it was very stressful and 100(20%) stated that it was mildly stressful.

Table 2: Level of occupational stress among pastors in Nyo-khana District (n = 500)

S/N	Response	Frequency	Percentage
1	Very stressful	300	60
2.	Stressful	200	40
	Total	**500**	**100**

Table 2 above considers the level of occupational stress among pastors in Nyokhana District. 300 respondents, representing 60% of the total respondents stated that they were very stressful which indicates very high level of stress, while 200 (40%) respondents stated that their job made them stressful. The responses by the respondents show that the level of occupational stress among pastors in Nyo-khana District was very high.

Table 3: The signs and symptoms of occupational stress among pastors in Nyo-khana District (n = 500)

S/N	Signs and symptoms of occupational stress among pastors	Frequency	Percentage
1	Overreacting to small irritation	200	40
2.	Feeling vague anxiety	70	14
3.	Boredom	80	16
4.	Sleep disturbance	50	10
5.	More frequent headache	75	15
6.	Forgetfulness	25	05
	Total	**500**	**100**

Table 3 above shows the signs and symptoms of occupational stress among pastors in Nyo-khana District. It is crystal clear from the Table that 200 (40%) respondents stated that they overacted to small irritation, 70 (14%) respondents opined that feeling vague anxiety was part of their experience, 80(16%) respondents stated that boredom was a symptom of stress in their lives, for sleep disturbance 50(10%) respondents said that they experienced it while more frequent headache and forgetfulness as symptoms of stress among pastors in Nyo-khana District attracted 75 (15%) respondents and 25 (05%) respondents respectively.

Table 4: Coping strategies employed by pastors in Nyo-khana District to cope with stress. Each of the following items is assessed on the basis of total respondents and 100 percent.

S/N	Response (n = 500)	Frequency	Percentage
1	Exercise	40	8
2.	Laughing always when the need arise (n = 500)	300	60
3.	Proper time management (n = 500)	375	75
4.	Taking annual leave (n = 500)	160	32
5.	Sharing problems with other people (n = 500)	270	54
6.	Being member of support group (n = 500)	140	28

Table 4 above shows the coping strategies that were employed by pastors in Nyo-khana Districts to cope with occupational stress. 40 (8%) respondents said that they used exercise to cope with their job stress, 300 (60%) respondents said that they coped with job stress by laughing always when the need arose, 375 (75%) respondents said that for them to cope with pastoral stress they employed proper time management. While 160 (32%) respondents admitted that they coped with their occupational stress by taking annual leave. 270 (54%) respondents stated that their ability to cope with pastoral stress was found in sharing their problems with other people. 140 (28%) respondents posited that they coped with occupational stress by being a member of support group.

Discussion

From the results of the analysis of the data collected, it is evident that there were many sources of occupational stress among pastors in Nyo-khana District in Khana Local Government Area of Rivers State. The sources of occupational stress among pastors as revealed by the study include salary, condition of service, working condition, time pressure, community attitude, career development, relationship with church council, work load, church crisis and size of church. These findings are in line with the opinions of Reinhardk (1982) who gave a twenty-one list of factors which causes job stress to include time pressure, deadlines, boredom, exorbitant work demands among others. These findings also collaborate with the views of Gaulterre (2009) and Pastoral Care Incorporation (2017) who opined that sources of stress among pastors include the expectations that people put on their pastors today and that pastors put on themselves, disparity between idealistic expectations and reality, workaholic and so on.

Also, the result of the study shows that the level of occupational stress among pastors in Nyo-khana District was very high as indicated by the responses that came from most of them. This finding is in line with the assertion of Kumar (2014) who stated that nearly 3 in 4 pastors regularly consider leaving due to stress. This is a very disturbing trend as it shows that all is not well with pastors in the District.

Again, the study has made clear the effects of occupational stress on pastors in Nyo-khana District in signs and symptoms as in overreactions to small irritation, feeling vague anxiety, boredom, sleep disturbance, more frequent headache and forgetfulness. These findings are in agreement with the statement of Pastoral Care Incorporation (2017) who noted that when stress becomes chronic, there are the possibilities for health outcomes such as high blood pressure, stroke, headaches and so on. These signs and symptoms as shown by the study are very serious and should not be taken lightly as they have the potential to initiate more negative health outcomes if timely interventions are not embraced.

As a results of the fore-going development, the results from the study disclose coping strategies which pastors in Nyo-khana District employed to deal with stress as it concerns their job. These include laughing always when the need arose, exercise, proper time management, taking annual leave, sharing problems with other people and being members of support group. These findings agree with the views of Rainer (2013) who suggested that pastors should endeavour to share their responsibilities with other Pastors and Church workers and also endeavour to have peacemaking ministries including clearly written job description to reduce stress. Also, the findings agree with the opinions of Xpastor (2014) who stated that for pastors to handle stress effectively, they should find time to rest. Considering the very high level of stress among pastors in Nyo-khana District despite the interventions by pastors as revealed by the study, much needs to be done to reduce the level of stress among pastors in the District.

Conclusion and Recommendations

The study has shown that there are many sources of occupational stress among Pastors in Nyo-khana District. The sources of stress for pastors in the District include salary, condition of service, working condition, relationship with church council among others. Not only is the level of occupational stress among pastors in the District very high, it is also manifested in signs and symptoms such as overreaction to small irritation, vague anxiety, boredom, sleep disturbance and so on. Since there exist a serious gap between very high level of pastoral stress and what pastors themselves do to cope with stress, it becomes expedient to make the following recommendations to help in reducing pastoral stress in Nyo-khana District.

1. Pastor's welfare should be treated with seriousness and given the desired attention. Pastors should not be subjected to lack simply because they are working in the Lord's vineyard. Why should pastors be made to suffer by their churches before they get to heaven?
2. Pastors should create enough time for rest and leisure. A workaholic lifestyle is one that encourages and enhances stress.
3. Pastors should endeavour to have enough sleep. The importance of sleep to the body cannot be overstressed. Studies have it that an adult needs to sleep for 6-8 hours in a day. Sleep gives vitality and freshness to the body.
4. Pastors should always laugh when there is the need to do so. Laughter relieves stress.
5. The importance of proper time management in pastoral ministry should not be treated with levity. Pastors should not allow themselves to be swallowed up by stress because of lack of proper timing of their activities.
6. Pastors should ensure that they observe their annual leave and take time off their work no matter what they stand to loose in terms of monetary and material rewards.
7. Delegating responsibility to others and sharing work with other leaders help a lot in reducing stress. Doing so will not spoil the work as some pastors may be tempted to think.
8. Pastors should develop the habit of sharing their problems with other people. There is the saying that, "Problem shared is problem half-solved". There is no doubt that as you share your problems with people, there comes relief and assistance. Remember, you can do so with people you can confide in and not those that will turn around to make you a laughing stock.
9. Pastors should have regular exercise as it does a lot of good to the body. A brisk walk can prepare the body well for great exploits in the ministry. Three times of exercise in a week will undoubtedly put your body in good stead. Exercise is not only for sportsmen and women, it is also for others including pastors.

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Psychoactive Substance Abuse and Relapse of Psychiatric Patients

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Abstract

This study sought to find out psychoactive substance abuse and relapse among psychiatric population in Neuro-Psychiatric Hospital, Rumuigbo, Port Harcourt in Rivers State of Nigeria. Three research questions guided the study. One hundred respondents who were relations of patients on admission were purposively selected for data collection. Questionnaire was the instrument used and administered by the researcher and retrieved on the spot. Data collected were analysed using percentages. The result showed that tramadol was the most abused psychoactive substance. Such abuse was common among the lower class, while poor institutional support was the major cause of the relapse among patients. Among the recommendations made was that while patients are receiving treatment in institutions, they should be trained in skills that could help them maintain some level of livelihood after leaving the hospital

Keywords: Drug abuse, psychoactive substance, relapse, social worker

Introduction

Drug or substance abuse has continued to be a source of concern to care-givers, family members, and the broad spectrum of people around the globe. Several studies have shown that drug abuse is a problem that has spread and increased rapidly in recent years across diverse segments and countries of the world, constituting a threat to the effective function and survival of the society (United Nation Office and Drug Control (UNODC), 2013).

According to Emila (2012) drug abuse is an excessive or inappropriate use of a drug so as to cause behaviour which adversely affects the person's health. It also means using a drug for the purposes for which the drug was not manufactured. However, there are terms used in describing abuse or misuse of drugs, such as drug dependence, tolerance, and physical dependence, emotional or psychological dependence.

The treatment of psychiatric orders in the past had often constituted of merely institutionalization, but recently, emphasis is shifted to the use of pharmacological preparations. According Jaypee (2005), psychoactive substance is a substance which acts primarily on the central nervous system, where it alters the functioning of the brain which results in temporal changes in perception, mood, consciousness and behaviour. On the other hand, relapse is the return of illness or ill-health after apparent recovery (Nurses Dictionary, 2002). In this context, it is the return of psychiatric illness of a drug abuse patient after treatment of substance abuse in a psychiatric institution.

Relapse of patients can be avoided if a patient adheres to medical instructions. Beyond this, it is the duty of a social worker to act as a "change agent" (Jaja, 2013). He becomes so because of his professional training and skills acquired overtime. Social workers intervene and monitor crisis situations or people in imminent danger with the sole aim of assisting them (either as an individual, group or community) to solve problems.

Research has shown that people abuse substances such as cocaine, morphine, pethadine, alcohol and tobacco for varied and complicated reasons as the specific drug or drug use also varies from country to country as well as from region to region. The problem of psychoactive substance and or drug abuse is a global phenomenon. In its recent report, UNODC (2013) clearly reviewed

that at the global level there has been an increase in the production and misuse of psychoactive substances, especially those not under international control, and that the trend in drug supply and demand had been unequal across regions and countries, and across drug types. In the case of Nigeria, psychoactive substance abuse and addiction is a major problem and this has led to a substantial percentage increase in the allocation of the country's budgetary health allocation focusing on the treatment and rehabilitation of people with a history of substance use (Adelekan, 1999; Makonjuola, Ademola & Obembe, 2007).

Unfortunately, the health and indeed the mental effect of psychoactive substance abuse is particularly worrisome as 72% of young people involved in substance abuse have been associated with one psychiatric disorder or the other globally (WHO, 2013). Although there is a history of available treatment for psychological problems associated with substance abuse most of which rely on psychiatric expertise. However, given the incidence of relapse among patients with a history of psychoactive substance abuse, there is need for the engagement of social workers in the rehabilitation process of such patients.

Statement of Problem

The issue of relapse among psychiatric patients with history of psychoactive substance abuse has become a social malady. More worrisome is the fact that this menace is visibly seen in neuro-psychiatric hospitals such as found at Neuro-Psychiatric Hospital, Rumuigbo, Port Harcourt in Rivers State of Nigeria. It is therefore pertinent to investigate the psycho-social reasons for the occurrence of relapse among psychiatric patients in the hospital.

Research Questions

1. What are the types of psychoactive substance abused by patients?
2. What categories of persons are involved in psychoactive substance abuse?
3. What socio-economic and environmental factors influence relapse among patients of psychoactive substance abuse?

Theoretical Framework

Following the above objectives and a close examination of theoretical literature within the field of psychiatry, the Biographic theory was adopted as a theoretical framework and applied as an analytical premise for data presented in this paper. The adoption of the theory rests on the basic assumptions highlighted by Zneniki and Thomas in 1918. They used the Biographic theory to explain the effect of modernization on Polish peasants in Europe and America. In their study, they found that the environment influences the behavioral pattern of individuals in the society. The theory is used here to explain how the environment influences the behavioural pattern of individuals in the society such as the abuse of psychoactive substances.

Method

The survey design was adopted in course of this study. 100 male psychoactive relapse patients were studied at the Neuro-psychiatric hospital Rumuigbo. To effectively elicit information for the study their relatives were sampled.

Data Presentation/Findings

Table 1: Types of psychoactive substance abused by patients

Substances abused	Frequency	Percentages(%)
Tramadol	**41**	**41**
Arabic gum (shoe gum)	**2**	**2**
Vulcanize gum	**0**	**0**
Crack cocaine	**5**	**5**
Pure cocaine	**2**	**2**
Amphetamine	**13**	**13**
Heroine	**0**	**0**
Gas from soak away	**0**	**0**
Dried paw-paw leave	**0**	**0**
Dried scent leave	**0**	**0**
Cigarette	**7**	**7**
Tobacco (snuff)	**0**	**0**
Cannabis	**30**	**30**
Total	**100**	**100%**

Field work, 2016

Table 1 above indicates that tramadol was the most abused psychoactive substance by the relapsed patients sampled in this study, given that 41% of the patients attested to this. This is followed by 30% of the patients involved in the taking of cannabis (Indian hemp). Amphetamine was also one of the most psychoactive substances abused by patients studied, with a 13% of respondents attesting to this.

Table 2: Category of persons involved in psychoactive substance abuse

Category of persons	Frequency	Percentages(%)
Upper class(affluent	9	9
Middle class(rich)	21	21
Lower class (poor)	70	70
Total	**100**	**100%**

Field work 2016

From Table 2 above, information indicating the category of persons involved in psychoactive substance abuse shows that 70% falls within the lower class (poor). It is followed by the middle class at 21% who are involved in psychoactive substance abuse. A smaller proportion of the categories of person involved in psychoactive substance abuse are found in the upper class (affluent).

Table 3: Why the relapse

Reasons	Frequency	Percentages (%)
Poor institutional support	61	61
Attitude of relation	4	4
Stigmatization	6	6
Poverty	19	19
Poor adherence to medical prescription	14	14
Total	100	100 %

Field work 2016

Table 3 above shows that poor institutional support is responsible for the relapse among patients studied. 61% of the respondents attested to this. It is followed by 19% of the patients who said that poverty is also a cause of relapse among patients. It is closely followed by 14% of the respondents who believed that poor adherence to medical prescription is responsible for the relapse among patients.

Conclusion

The study has established that among all the psychoactive substances, tramadol and cannabis were the most abused by patients. The abuse was common among the lower class. The study also revealed among others that poor institutional support was the major cause of relapse among patients of psychoactive substance abuse. Based on the assumption of the biographic theory as postulated by Zneniki in 1918, that situations in the history of an individual can influence his lifestyle. The need for social workers to play a key role in the rehabilitation of patients of psychoactive substance cannot be underscored.

Recommendations

This study made the following recommendations based on its findings.

1. While patients are receiving treatment in institutions, they should be trained in skills that could help them maintain some level of livelihood after leaving the hospital.
2. There is need for collaboration between drug counselors, family members and social workers to work hand in hand to support patient treated of substance abuse.
3. It is important to counsel substance abuse patients to maintain a very strong determination to stay away from the abuse of substances.

4. There are environmental influences on the abuse of psychoactive substances. This study, therefore, recommends that parents and guardians of substance abuse patient should consider moving them out of their pre-treatment environment in order to prevent them from returning to their old friends.
5. Health education should form part of the school curriculum both in primary and secondary school levels. It will afford them the opportunity to know the consequences of abusing drugs.
6. Psychiatric hospitals should make public the number of youths admitted in psychiatric units, and the various complications due to abuse of psychoactive substances.

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Health Implications of Rural-Urban Migration

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Abstract

Any organism that is removed from its natural environment is faced with many problems. The same is applicable to man, whether, the movement is voluntary or involuntary. Rural-urban migration discussed in this paper is the type for seeking of greener pastures. Therefore the movement is voluntary. Whichever form it takes, the migrants will face various problems among which are health issues. The researcher has recommended among others that government should control the siting of buildings and construction to ensure that public health issues are checked and approved for habitation, and diseases associated with poor housing such as tuberculosis, measles, etc. would be prevented.

Keywords: rural, urban and migration.

Introduction

Migration is the movement of individuals or groups from one society to another for the purpose of residing either temporarily or permanently. It is a general phenomenon that involves most categories of people, rich and poor, educated and illiterate from all parts of the world. Migration can be group or individual or family. Individual or family migration is the type resulting from declining conditions in the rural areas – the type the author would like to emphasize in this paper. Group migration is the one that took place during the pre-industrial times. Migration can be voluntary or involuntary, internal or international. Most migration today is internal migration in which individuals or families make a voluntary movement based on the reason for that movement (Denisoff & Wahrman, 1975).

Recently, people have attempted to explain migration by a combination of the two theories and it is only through this process that it can have a meaning for explanation. And this can be got by using the push and pull factors of explanation. By that, we mean some variables that tend to push away the individuals from their location while other factors in another region tend to pull or draw them towards the centre of that region. For example, the lack of employment, natural or artificial disaster, drought, flood, epidemics, etc. tend to push people to another location while the availability of social amenities, high pay jobs, etc. pull or attract people to the area.

In Nigeria, there is rural-urban migration either as a result of push and pull factors. However, whichever one that is considered has some health implication on the life of the people and community development. Therefore the focus of this paper is to identify these health implications, and recommend solutions for the improvement of the society.

Rural-Urban Migration

In Nigeria the dichotomy between rural urban areas was the colonial creation. The development of the urban areas and the neglect of the rural areas created stagnation nation-wide. This is because of migration of the rural people to urban areas. This led to the explosion of population in the cities. The competition for the scarce resources that arose in urban areas led to different types of crime, health problems and other social vices.

Secondly, the decline of agricultural production that caused hunger. This is because as the colonial masters came, they settled in a separate area and established modern facilities for their convenience and neglected the native settlements. Their area was regarded as urban and the native settlements termed rural areas. This situation attracted people from rural areas to urban areas to enjoy those facilities there and do nothing but to depend on the food produced by the peasant farmers. Anikpo (2006) said that, the paradox was that the people produced cash crops which they did not eat and ate what they did not produce. The people remaining in the rural areas are mainly the vulnerable groups: the aged and the young ones who are not productive. The depletion of labour force affects production. And hunger trailed them to the urban areas. This led to importation of foods which people rushed to buy, and abandoned the ones produced locally. As the local producers migrated to urban areas in order to benefit from the urban areas, hunger increased.

Causes of Rural-Urban Migration

In Nigeria the main causes of rural-urban migration as stated by Ekpenyong (1999) as follows:

1. **Rural underdevelopment:** Rural areas have been underdeveloped due to inequalities in terms of income and employment that are higher in the urban areas and lower in the rural areas.
2. **The effect of Nigeria-Biafra civil war:** Before this period in Rivers State, Port Harcourt was a growing city in the eastern region occupied by the major ethnic groups doing business and occupying the seat of government to the neglect of the Rivers indigenes. When this city was made the capital of Rivers State, newly created in 1967, real indigenes started rushing to the city to replace the positions and houses left by the strangers and neglected their natural and traditional occupations of farming and fishing. This situation has affected agricultural production and brought hunger and poverty (Omodu, 1987).
3. **Oil Boom of 1970s**: The oil itself is said to be got from the rural areas but much of the benefits go to towns and cities. While rural land is being acquired or polluted, the urban areas are becoming more and more developed. Ekpenyong (1992) said that before the discovery of oil, in Rivers State, agriculture was the major source of exchange but with the arrival of oil boom over 90% of the revenue needed by the government was provided by oil. This also resulted in agricultural neglect and further neglect of the rural areas. With the collapse of agriculture, rural youths had no choice but to migrate for alternate sources of livelihood. This brought problems of housing, high cost of living, etc.
4. **Land acquisition:** Government had developed a policy of acquiring land from the rural areas for public use. This includes building of schools, airport, offices, others for churches/mosques, etc. The rate at which land is acquired today is much more than what it was during the era. Most rural peasants have been rendered 'landless' and the 'landless', peasants have no choice but to migrate to become urban proletariat.
5. **Ever increasing population:** The rural population is growing while its resources are dwindling. Today, most rural areas are no longer able to support their population. The excess population on land must therefore migrate for livelihood to other areas.

Inter-Dependence between Rural and Urban Areas

Rural areas do not exist in isolation. They exist in inter-dependence with the urban sectors. As Girigiri (2000) pointed out in Idachata (Olayide, et al, 1981), the areas of inter-dependence between the rural and urban sectors include the following.

1. **Product markets**: Rural communities usually engage mainly in primary production of farming, fishing, lumbering, etc; employing low yielding traditional inputs. Such primary production, however, normally yields a marketable surplus that is ultimately sold to the

urban areas. Income earned from the sale of this marketable surplus is used to finance purchases of other essential goods such as textiles, furniture, and imported materials to the rural areas.

2. **Factor markets:** Rural labour migrates to the urban sectors in search of better employment opportunities. Such migration is accompanied by income remittances to the rural sector to develop it and take care of the dependants in the area. The regular salary increase of unskilled workers and those in the public sector attracts rural labour to migrate to the area.
3. **The source of innovation:** The introduction and application of new equipment into urban production to maximize production have been useful in the rural areas. Such innovation in the areas of introducing agro-chemicals like fertilizers, insecticides, improved crop varieties, etc have been transferred to the rural sector to maximize their production too. This also transfers new culture of application rates of chemicals and preventive measures.
4. **Value system:** The urban value system permeated into rural social system. The first is the degree of urbanization taking place in the rural areas resulting from the modern facilities transferred to the area which attract people from diverse ethnic groups. The communication links between the two sectors have affected the rural dwellers in which the rural dialects are being replaced by the use of pigin English which is causing loss of traditional dialects in rural areas.
5. **The field of political institution**: The present political system that runs a 3-tier system of administration makes and implements the rules and regulations under which rural political system operates. Modern bureaucracies define the framework within which rural areas especially, the local government institutions can function.

The Health Implications

The following are the health implications of rural-urban migration.

a. **Population increase**: Industrial revolution and use of modern facilities in the cities encouraged rural-urban migration. The city of Port Harcourt saw the influx of people after the civil war in Nigeria and the establishment of oil industries. The city dwellers were from different ethnic groups with their various cultures. And for sameness, they clustered at a place trying to live or create an environment that approximates their home environment. In these areas, solid wastes are dumped indiscriminately. Unless the force of law is applied on the people by the law enforcement agents there will be no clean environment. In another development, population increase over-stretches the facilities available making the users uncomfortable which will cause various diseases.
b. **Socio-cultural problems**: An urban centre is a conglomerate of local cultures and value systems. Many migrants in the cities revolt against urban values, they resist change and tend to remain in their primitive lives. Most of such people live in squatter settlements and other unauthorized places that approximate their home environment. To them to throw refuse on the road is traditional or to throw into moving water (whether in the gutter or river) is a way of life. This improper disposal of wastes constitutes nuisance and causes health problems.
c. **Housing problems**: The movement of the rural dwellers to the urban areas increases the population of the urban dwellers. Lack of sufficient decent accommodation makes the urban poor to seek for accommodation at the water fronts and squatter settlements. Usually, such settlements are built with temporary materials such as plywood, corrugated iron sheet, sticks, bamboos or grasses, etc. These poorly constructed houses will enhance spread of diseases such as tuberculosis, measles and rheumatic problems. It also gives rise

to juvenile delinquency and high crime rate. It encourages prostitution, broken homes, drunkenness, drug abuse and other health problems (Omodu, 2005).

d. **Environmental sanitation problem:** There is always the problem of environmental sanitation in urban areas due to the attitude of migrants from different ethnic groups with diverse cultural practices that enhance the creation of nuisances. In the cities, enforcement is through the force of law since the migrants regard the area as the government area that is owned by nobody. Therefore, nuisances are committed indiscriminately unless the law enforcement agents are there. It was because of the nuisances created by these urban migrants that made Port Harcourt city to lose its name "Garden City" of Nigeria which the government and its health agencies are trying to recover.

e. **Nutritional problem:** The introduction of cash crop production made the peasants to stop producing food crops. And by so doing, the people eat what they do not produce and produce what they do not eat. Therefore, the people fail to engage in their traditional occupations of fishing and farming. Too much consumption of foreign foods or synthetic foods leads to the problems of malnutrition and the prevalence of diseases of affluence or diseases of civilization.

f. **Mental problems:** The bustling and hustling of urban life resulting from unemployment, hunger and frustration make the migrants to resort to alcoholism and drug abuse. This condition leads them to abnormal behaviours and criminal tendencies.

Recommendations

From the foregoing, the following recommendations are made.

1. **Byelaws**: Laws and rules are used to control the activities of migrants in the urban areas since relationship is based on contract unlike in the rural areas where the relationship is based on personal face-to-face contact. Bye-laws are used to control the following:
   - **a.** **Slaughter house bye-laws:** Slaughter house establishment and operations to ensure that animals slaughtered and meat presented for sale are fit for human consumption.
   - b. **Environmental sanitation bye-laws**: These bye-laws are made to prevent nuisance from the environment. Environmental Health Officers are saddled with the responsibilities of detecting nuisances, and abating them.
   - c. **Industrial establishment:** Industries are sited far away from residential areas to make sure that pollution emanating from them does not affect the residents. Bye-laws made are to prevent air, water and land pollution which in the long run will directly or indirectly affect man. Noise pollution can also be controlled.
   - d. **Building bye-laws:** This is to control siting of buildings and construction to ensure that public health aspects will be checked and approved for habitation, and diseases associated with poor housing such as tuberculosis, measles, etc. will be prevented.
2. **Construction of low cost houses:** In an attempt to solve urban housing problems, government has come up with many housing policies. The houses are of three categories:
   - a. low cost housing units in high-density areas,
   - b. medium cost housing units in medium density areas, and
   - c. high cost housing units in low-density areas.

   Although, these houses only make limited impacts on the people, especially the poor. The allocation of the houses after construction is always biased against the poor because even if they win the allocation, they may not have the initial deposit to pay; if they pay, they can not afford to pay the cost of the building (Omodu, 2005).
3. **Rent control:** One of the obvious manifestations of urban crisis is rent for accommodation

that is very anti-social. The main cause is the continuously widening gap between supply of and demand for houses at rents which the economically weak section of the city cannot afford. The government can improve on the subsidies granted to the tenants and landlords. Subsides can be in the form of cash to workers and interest rebate, tax exemption, etc. It can also set up a Rent Control Tribunals to settle rent related cases and task force to enforce compliance.

4. **Skill acquisition programmes:** The government should make arrangement to establish skill acquisition centres to take care of the unemployed youths that commit various crimes in the city, especially, the repentant cultists. And after training, fund should be created to settle them as Police Commissioner Fidelis Oyakhilome, the then Governor of Rivers State did in 1984, christened School-To-Land Programme.
5. **Offensive trade:** Some by-products are injurious or likely to be injurious to the health of man, animals or property, e.g. tanning industry, bone-boiling, industry, skin-scraping, leather making, (including burning skins with tyres) paint industries, etc. These business operations should be sited far away from residential areas to prevent pollution of the environment.

Conclusion

Migration is the movement out of one's natural environment for the purpose of residing. The reasons for this movement may be voluntary or involuntary. Whichever way it takes, one will be affected in various ways. Although, not all the world's social ills result from a loss or breakdown of primary associations. The necessity of abandoning familiar surroundings for a new and perhaps strange environment often leads to personal and social disorganizations. So, it is not surprising to find that migrants are often characterized by higher rates of delinquency, adult crime, mental illness, prostitution, divorce, and other social vices.

Thus human migration may be regarded as a major mechanism of social and cultural diffusion. As improved agricultural techniques reduce employment opportunities in rural areas, surplus farm workers move to the cities where the growth of non-agricultural industries creates jobs to absorb them. This influx creates both social and health problems in which solutions have been recommended.

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Systematic Review of Breast Self-Examination for Prevention of Cancer among Women

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Abstract

Breast cancer ranks as one of the leading cancer types in the number of cases diagnosed. Breast cancer is the most prevalent cause of cancer death in women. Breast self-examination is a great potential value for the early detection of breast cancer especially in areas where mammography and regular examination by physician are not handy. Breast self-examination is aimed at reducing cancer cases among women and eventually prevents untimely death. At the end of the review, women will know how to examine themselves to ensure that they are free from lump or breast cancer. This study was aimed at ensuring that a woman who discovers lump in her breast will go for further investigation; it instructs women on vital information about breast cancer and in conclusion, advises women to always have breast self-examination.

*Keywords***:** breast self-examination and cancer.

Introduction

Cancer as posited by Agu, Agbaje and Agbaje (2015), is a generic term for a large group of diseases that can affect any part of the body; and one defining feature of cancer is the rapid creation of abnormal cells that can grow beyond their usual boundaries, which can then invade adjoining parts of the body and spread to other organs (metastasized). Cancer arises from genetic changes in one single cell, which may be started by external agents (radiation, chemical carcinogens and viruses) and inherited genetic factors. It comprises a large group of diseases and has a sizable contribution in the total number of deaths.

According to Ruthledge and Ewis (2008), cancer is the second largest non-communicable disease and can affect any part of the body. Worldwide, around 12.7 million new cancer cases and 7.6 million deaths were reported in 2008 and the most commonly diagnosed cancers include lungs, breast, and colorectal cancers. More than 70% of all cancer death occurs in low and middle-income countries. The deaths from cancer worldwide are projected to continue rising, with an estimated 12 million deaths in 2030.

A breast cancer is a malignant tumour that has developed from cells of the breast (Achalu, 2008). Breast self-examination is an inspection by a woman of her breast to detect breast lumps/cancer and any other (break) abnormalities that can endanger her health. It is a simple voluntary examination carried out by a woman on her own breast to detect change that may have occurred. It is a potential life-saving procedure that is not expensive (Lee, 2003). It is recommended from the age of adolescent, which is the period between puberty and maturity, within the rank of 12 - 21 years in females and continues until adulthood to menopause and even after menopause.

Breast self-examination is important in the prevention of breast cancer. A malignant tumour is a group of cancer cells that may invade surrounding tissues or spread to distant area of the body. It can occur in both men and women (Lee, 2003).

According to the American Academy of Family Physicians (AAFP, 2010), breast cancer is one of the most feared diseases among women. The statistics are alarming: one in nine women will have breast cancer before age 85. It can also occur in men but is 10 times more likely in women. Rather than ignore the possibility of the disease, try to realize that breast cancer is a treatable disease. With early detection, it is often curable.

Staging of Breast Cancer

According to Breastcancer.org (2017), stage is usually expressed as a number on a scale of 0 through IV, with stage 0 describing non-invasive cancers that remain within their original location and stage IV describing invasive cancers that have spread outside the breast to other parts of the body. The stages identified are:

- Stage 0
- Stage I
- Stage II
- Stage III
- Stage IV

Stage 0

Stage 0 is used to describe non-invasive breast cancers, such as DCIS (Ductal Carcinoma In Situ). In this stage 0, there is no evidence of cancer cells or non-cancerous abnormal cells breaking out of the part of the breast, in which they started, or getting through to or invading neighboring normal tissue.

Stage I

Stage I describes invasive breast cancer (cancer cells are breaking through to or invading normal surrounding breast tissue). Stage I is divided into subcategories known as IA and IB.

Stage IA describes invasive breast cancer in which

- the tumour measures up to 2 centimeters and
- the cancer has not spread outside the breast; no lymph nodes are involved.

Stage IB describes invasive breast cancer in which

- there is no tumour in the breast; instead, small groups of cancer cells – larger than 0.2 millimetre but not larger than 2 millimetres – are found in the lymph nodes or
- there is a tumour in the breast that is no larger than 2 centimetres, and there are small groups of cancer cells – larger than 0.2 millimetre but not larger than 2 millimetres – in the lymph nodes.

Microscopic invasion is possible in stage I breast cancer. In microscopic invasion, the cancer cells have just started to invade the tissue outside the lining of the duct or lobule, but the invading cancer cells cannot measure more than 1 millimetre.

Stage II

Stage II is divided into subcategories known as IIA and IIB.

Stage IIA describes invasive breast cancer in which

- no tumour can be found in the breast, but cancer (larger than 2 millimetres) is found in 1 to 3 axillary lymph nodes (the lymph nodes under the arm) or in the lymph nodes near the breast bone (found during a sentinel node biopsy) or
- the tumour measures 2 centimetres or smaller and has spread to the axillary lymph nodes or
- the tumour is larger than 2 centimetres but not larger than 5 centimetres and has not spread to the axillary lymph nodes.

Stage IIB describes invasive breast cancer in which

- the tumour is larger than 2 centimetres but no larger than 5 centimetres; small groups of breast cancer cells -- larger than 0.2 millimetre but not larger than 2 millimetres - are found

in the lymph nodes or
- the tumour is larger than 2 centimetres but no larger than 5 centimetres; cancer has spread to 1 to 3 axillary lymph nodes or to lymph nodes near the breastbone (found during a sentinel node biopsy) or
- the tumour is larger than 5 centimetres but has not spread to the axillary lymph nodes

Stage III
Stage III is divided into subcategories known as IIIA, IIIB, and IIIC.
Stage IIIA describes invasive breast cancer in which either
- no tumour is found in the breast or the tumour may be any size; cancer is found in 4 to 9 axillary lymph nodes or in the lymph nodes near the breastbone (found during imaging tests or a physical exam) or
- the tumour is larger than 5 centimetres; small groups of breast cancer cells (larger than 0.2 millimetre but not larger than 2 millimetres) are found in the lymph nodes or
- the tumour is larger than 5 centimetres; cancer has spread to 1 to 3 axillary lymph nodes or to the lymph nodes near the breastbone (found during a sentinel lymph node biopsy)

Stage IIIB describes invasive breast cancer in which:
- the tumour may be any size and has spread to the chest wall and/or skin of the breast and caused swelling or an ulcer and
- may have spread to up to 9 axillary lymph nodes or
- may have spread to lymph nodes near the breastbone.

Inflammatory breast cancer is considered at least stage IIIB. Typical features of inflammatory breast cancer include:
- reddening of a large portion of the breast skin
- the breast feels warm and may be swollen
- cancer cells have spread to the lymph nodes and may be found in the skin

Stage IIIC describes invasive breast cancer in which
- there may be no sign of cancer in the breast or, if there is a tumor, it may be any size and may have spread to the chest wall and/or the skin of the breast and
- the cancer has spread to 10 or more axillary lymph nodes or
- the cancer has spread to lymph nodes above or below the collarbone or
- the cancer has spread to axillary lymph nodes or to lymph nodes near the breastbone

Stage IV
Stage IV describes invasive breast cancer that has spread beyond the breast and nearby lymph nodes to other organs of the body, such as the lungs, distant lymph nodes, skin, bones, liver, or brain. You may hear the words "advanced" and "metastatic" used to describe stage IV breast cancer. Cancer may be stage IV at first diagnosis or it can be a recurrence of a previous breast cancer that has spread to other parts of the body.

Cancer Stage Characteristics
The characteristics of breast cancer are determined by:
- the size of the cancer,
- whether the cancer is invasive or non-invasive,
- whether cancer is in the lymph nodes,
- whether the cancer has spread to other parts of the body beyond the breast.

Other words used to describe breast cancer include:

- **Local:** The cancer is confined within the breast.
- **Regional:** The lymph nodes, primarily those in the armpit, are involved.
- **Distant:** The cancer is found in other parts of the body as well.

The stage of the breast cancer can help you and your doctor understand your prognosis (the most likely outcome of the disease) and make decisions about treatment, along with all of the other results in your pathology report. Cancer stage also gives everyone a common way to describe the breast cancer, so that the results of your treatment can be compared and understood relative to that of other people.

Some doctors may use another staging system known as **TNM** to describe the cancer. This system is based on the size of the tumour (T), lymph node involvement (N), and whether the cancer has spread, or metastasized, to other parts of the body (M).

TNM Staging System

TNM (Tumor, Node, Metastasis) is another staging system researchers use to provide more details about how the cancer looks and behaves (Breastcancer.org, 2017). A doctor might mention the TNM classification for your case, but he or she is much more likely to use the numerical staging system. Sometimes clinical trials require TNM information from participants.

The **TNM** system is based on three characteristics according to Breastcancer.org. (2017):

- **size** (**T** stands for tumour)
- **lymph node involvement** (**N** stands for node)
- **whether the cancer has metastasized** (**M** stands for metastasis), or moved beyond the breast to other parts of the body.

The T (size) category describes the original (primary) tumor:

- **TX** means the tumour can't be measured or found.
- **T0** means there isn't any evidence of the primary tumor.
- **Tis** means the cancer is "in situ" (the tumour has not started growing into healthy breast tissue).
- **T1, T2, T3, T4:** These numbers are based on the size of the tumor and the extent to which it has grown into neighboring breast tissue. The higher the T number, the larger the tumour and/or the more it may have grown into the breast tissue.

The N (lymph node involvement) category describes whether or not the cancer has reached nearby lymph nodes:

- **NX** means the nearby lymph nodes can't be measured or found.
- **N0** means nearby lymph nodes do not contain cancer.
- **N1, N2, N3:** These numbers are based on the number of lymph nodes involved and how much cancer is found in them. The higher the N number, the greater the extent of the lymph node involvement.

The **M** (metastasis) category tells whether or not there is evidence that the cancer has travelled to other parts of the body:

- **MX** means metastasis can't be measured or found.
- **M0** means there is no distant metastasis.
- **M1** means that distant metastasis is present.

Once the pathologist knows your T, N, and M characteristics, he or she can use them to assign a stage to the cancer. For example, a T1 N0 M0 breast cancer would mean that the primary breast tumor is less than 2 centimeters across (T1), has not involved the lymph nodes (N0), and has not spread to distant parts of the body (M0). This cancer would be grouped as stage I.

Factors Associated with Increased Risk of Breast Cancer

According to WHO (2009), the factors are:

1) Being a woman - just being a woman is the biggest risk factor for developing breast cancer. There are about 190,000 new cases of invasive breast cancer and 60,000 cases of non-invasive breast cancer this year in American women.
2) Age-risk of breast cancer, increase goes up as you get older. About two out of three invasive breast cancers are found in women of 55 yrs or older.
3) Family history - women with close relatives who have been diagnosed with breast cancer have a higher risk of developing the disease. (sister, mother, daughter) diagnosed with breast cancer.
4) Genetics - about 5% to 10% of breast cancers are through to be hereditary, caused by abnormal genes passed from parents to child.
5) Personal history of breast cancer - if you have been diagnosed with breast cancer, you are 3 to 4 times more likely to develop a new cancer in the other breast.
6) Certain breast changes - if you have been diagnosed with certain benign (not cancer) breast conditions, you may have a higher risk of breast cancer. There are several types of benign breast conditions that affect breast cancer risk.
7) Being overweight - an obese woman have a higher risk of being diagnosed with breast cancer compared to woman who maintain a healthy weigh, especially after menopause
8) Breastfeeding history - a woman that breastfeed her baby longer than a year have lower risk of breast cancer.
9) Menstrual history - woman who started menstruation younger than age 12 have a higher risk of breast cancer later in life. The same is true for women who go through menopause when they are older than 55yrs.
10) Alcohol drinking - drinking alcoholic beverages e.g. beer, wine, and liquor increases a woman's risk of hormone-receptor-positive breast cancer.
11) Smoking-smoking causes a number of diseases and is linked to a higher risk of breast cancer in younger, premenopausal women.
12) Exposure to chemicals in cosmetics – research strongly suggests that at certain exposure levels, some of the chemicals in cosmetics may contribute to the development of cancer in people.
13) Eating unhealthy food - diet is responsible for about 30% to 40% of all cancers, no food or diet can prevent you from getting breast cancer but some food can make your body healthy and boost your immune system. And help prevent risk of breast cancer.

Signs and Symptoms of Breast Cancer

According to Achalu (2008), the following are the most common symptoms of breast cancer. However, each individual may experience symptoms differently as early breast cancer usually does not cause pain and may cause no symptom at all:

1) a breast lump or thickening that feels different from surrounding tissue,
2) bloody milky discharge from nipple,
3) change in the size, shape and appearance of breast,
4) change of skin over the breast (dumpling),
5) newly inverted nipple,
6) peeling, scaling or hardening of pigmented area of skin surrounding the nipple (areola) or break in skin and
7) redness or pitting of the skin over your breast like orange skin.

Steps in Breast Cancer Self-Examination

Breastcancer.org (2017) advanced that breast self-examination is a visual and manual examination of breast carried out by a woman to detect lumps and other changes that might be an indication of early breast cancer and listed the steps as follows:

STEP 1: Begin by looking at your breasts in the mirror with your shoulders straight and your arms on your hips.

Here are what you should look for:

- breasts that are their usual size, shape, and color, and
- breasts that are evenly shaped without visible distortion or swelling.

If you see any of the following changes, bring them to your doctor's attention:

- dimpling, puckering, or bulging of the skin,
- a nipple that has changed position or an inverted nipple (pushed inward instead of sticking out),
- redness, soreness, rash, or swelling.

STEP 2: Now, raise your arms and look for the same changes.

STEP3: While you are at the mirror, look for any signs of fluid coming out of one or both nipples (this could be a watery, milky, or yellow fluid or blood).

STEP 4: Next, feel your breasts while lying down, using your right hand to feel your left breast and then your left hand to feel your right breast. Use a firm, smooth touch with the first few finger pads of your hand, keeping the fingers flat and together. Use a circular motion, about the size of a quarter. Cover the entire breast from top to bottom, side to side - from your collarbone to the top of your abdomen, and from your armpit to your cleavage.

Follow a pattern to be sure that you cover the whole breast. You can begin at the nipple, moving in larger and larger circles until you reach the outer edge of the breast. You can also move your fingers up and down vertically, in rows, as if you were mowing a lawn. This up-and-down approach seems to work best for most women. Be sure to feel all the tissue from the front to the back of your breasts: for the skin and tissue just beneath, use light pressure; use medium pressure for tissue in the middle of your breasts; use firm pressure for the deep tissue in the back. When you've reached the deep tissue, you should be able to feel down to your ribcage.

STEP 5: Finally, feel your breasts while you are standing or sitting. Many women find that the easiest way to feel their breasts is when their skin is wet and slippery, so they like to do this step in the shower. Cover your entire breast, using the same hand movements described in step 4.

Breast Cancer Test: Screening, Diagnosis and Monitoring

Breastcancer.org (2017) stated that most breast-cancer-related tests fall into one or more of the following categories:

- **Screening tests:** Screening tests (such as yearly mammograms) are given routinely to people who appear to be healthy and are not suspected of having breast cancer. Their purpose is to find breast cancer early, before any symptoms can develop and the cancer usually is easier to treat.
- **Diagnostic tests:** Diagnostic tests (such as biopsy) are given to people who are suspected of having breast cancer, either because of symptoms they may be experiencing or a screening test result. These tests are used to determine whether or not breast cancer is present and, if so, whether or not it has traveled outside the breast. Diagnostic tests also are used to gather more information about the cancer to guide decisions about treatment.
- **Monitoring tests:** Once breast cancer is diagnosed, many tests are used during and after treatment to monitor how well therapies are working. Monitoring tests also may be used to check for any signs of recurrence.

Screening Examinations for Breast Cancers

Screening and diagnosis

Breast cancer screening refers to screen healthy women for breast cancer, in an attempt to achieve an earlier diagnosis. The assumption is that early detection will improve outcomes. A number of screening tests have been employed, which include clinical and self-breast examinations, mammography, genetic screening, ultrasound, and magnetic resonance imaging.

Mammogram

The most common procedure used to diagnose breast cancer is the mammogram, an x-ray of the breast that uses a very low dose of radiation. It can look at the tissues within the breast. A special machine holds the breasts in place with pressure (compression). This simple procedure can reveal cancerous growths that are too small to feel. The Susan G. Komen Breast Cancer Foundation and the American Cancer Society (2017) recommend annual screening mammography for women, starting at age 40, and a baseline examination between 35 and 40. Annual screening mammograms in women age 40-49 have been shown to lower a woman's chance of dying from breast cancer by 17%. For women between the ages of 50-70, a 33-60% reduction in mortality has been reported (Komen, 2017).

Ultrasound

Ultrasound is also called sonography. This procedure uses sound waves far above the range of normal hearing to view images of the body. No radiation is used in this examination and there are no known health risks. If a suspicious area is identified by mammogram, an ultrasound is often used to explore that area more thoroughly. Ultrasonography can distinguish between a fluid filled cyst and a solid mass which may or may not be cancer (American Cancer Society, 2017).

Aspiration

Fine needle is inserted in the lump to take the tissue or liquid out from the lump and then a biopsy is performed to test carcinoma. Remove a small part of lump by surgery and then the lump is tested for further diagnosis (American Cancer Society, 2017).

Dynamic Imaging

Dynamic imaging is the most specific and can help to distinguish between benign and malignant lesions, and is particularly useful in the assessment of the scarred breast when looking for turmor recurrence. Also, detecting axillary involvement and in equivocal cases of systemic metastases (American Cancer Society, 2017).

Breast Cancer Prevention and Control

Mayo Clinic Staff (2017), identified the following steps to lower the risk of breast cancer:

- **Limit alcohol.** The more alcohol you drink, the greater your risk of developing breast cancer. The general recommendation - based on research on the effect of alcohol on breast cancer risk - is to limit yourself to less than 1 drink per day as even small amounts increase risk.
- **Don't smoke.** Accumulating evidence suggests a link between smoking and breast cancer

risk, particularly in premenopausal women. In addition, not smoking is one of the best things you can do for your overall health.

- **Control your weight.** Being overweight or obese increases the risk of breast cancer. This is especially true if obesity occurs later in life, particularly after menopause.
- **Be physically active.** Physical activity can help you maintain a healthy weight, which, in turn, helps prevent breast cancer. For most healthy adults, the Department of Health and Human Services recommends at least 150 minutes a week of moderate aerobic activity or 75 minutes of vigorous aerobic activity weekly, plus strength training at least twice a week.
- **Breast-feed.** Breast-feeding might play a role in breast cancer prevention. The longer you breast-feed, the greater the protective effect.
- **Limit dose and duration of hormone therapy.** Combination hormone therapy for more than three to five years increases the risk of breast cancer. If you're taking hormone therapy for menopausal symptoms, ask your doctor about other options. You might be able to manage your symptoms with non-hormonal therapies and medications. If you decide that the benefits of short-term hormone therapy outweigh the risks, use the lowest dose that works for you and continue to have your doctor monitor the length of time you are taking hormones.
- **Avoid exposure to radiation and environmental pollution.** Medical-imaging methods, such as computerized tomography, use high doses of radiation. While more studies are needed, some research suggests a link between breast cancer and radiation exposure. Reduce your exposure by having such tests only when absolutely necessary.
- **Healthy Diet**: Eating a healthy diet might decrease your risk of some types of cancer, as well as diabetes, heart disease and stroke. For example, women who eat a Mediterranean diet supplemented with extra-virgin olive oil and mixed nuts might have a reduced risk of breast cancer. The Mediterranean diet focuses on mostly on plant-based foods, such as fruits and vegetables, whole grains, legumes and nuts. People who follow the Mediterranean diet choose healthy fats, like olive oil, over butter and fish instead of red meat.

. **Maintaining a healthy weight** is also a key factor in breast cancer prevention.

Chemo prevention

Chemo prevention is defined as the use of natural or synthetic agents to reverse, suppress or prevent carcinogenic progression. Chemo preventive agents can be placed into three broad categories. Blocking agents prevent carcinogenic agents from reaching or reacting with critical target site, thus act by exerting a barrier function. Resisting agents decrease the vulnerability of target tissue to carcinogenic stimuli. Suppressing agents prevents the evolution of neoplastic process in tissue that otherwise would become malignant (Achalu, 2008).

Biomarkers

Biomarkers are biochemical substances that can be used to measure different aspects of a disease. These biomarkers are used as end points in short-term chemoprevention trials. Prognostic biomarkers provide information regarding outcome irrespective of therapy, whereas predictive biomarkers provide information regarding response to therapy (Agu & Anjaha, 2015).

Conclusion

It has been reviewed that a healthy diet and exercise routine can reduce your chances for breast cancer by nearly 40%. Breast cancer is the leading cause of cancer mortality in women. Risk factors and environmental pollutants may increase a woman's chances of developing breast cancer. The key to successful management of breast cancer is awareness, screening and early detection of cancer.

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Mothers' Perception of Infant and Maternal Health Problems Associated with Patronage of Traditional Birth Attendants

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Abstract

This study investigated mothers' perception of infant and maternal health problems associated with patronage of traditional birth attendants in Omerelu community in Ikwerre Local Government Area of Rivers State. Two research questions guided the study. The sample comprised 100 women of childbearing age (15-50 years) who have ever used the services of Traditional Birth Attendants (TBAs), selected through simple random sampling technique. Data collected through questionnaire were analysed using percentages and tables. Results revealed reasons for patronizing TBAs and their complications. It was recommended, among others, that TBAs should be trained so that their knowledge, skill and performance will be improved.

***Keywords*:** mother, perception, infant and maternal mortality, TBA.

Introduction

The growing concern on improving reproductive health globally has created a demand for research especially in the area of maternal health. Maternal health, which is the physical well-being of a woman during pregnancy, childbirth, and postpartum period (WHO, 2011), has been a major concern of several international summits and conferences since the late 1980s, which culminated into the Millennium Summit in 2000. At that summit, it was generally agreed that maternal health care has a crucial role to play in the improvement of reproductive health and that women deserve to be well informed and empowered to have unhindered access to safe, effective, affordable, acceptable and appropriate health care service. These will enable them to go safely through pregnancy and child birth and provide couples with the best chances of giving birth to healthy infants (WHO, 2007).

While motherhood is often a positive and fulfilling experience, many women in Sub-Saharan Africa, associated it with suffering, ill-health, and even death. More pathetic is the fact that pregnancy-related complications are avoidable if appropriate measures are taken and adequate care is available (Idris, Gwarzo & Shehu, 2006). Yet every year, approximately 600,000 women die of pregnancy-related causes. Ninety-eight percent of these deaths occur in developing countries, and for every woman who dies, at least 30 others suffer injuries and, often, permanent disability (Ofili & Okojie, 2005). Each year, around four million newborns die in the first week of life, worldwide, and an estimated 529,000 mothers die due to pregnancy-related causes (Titaley, Hunter, Dibley & Heywood, 2010). In low and middle-income countries many deliveries still occur at home and without the assistance of trained attendants. This has generated serious concern, since women who develop life-threatening complications during pregnancy and delivery require appropriate and accessible care (Titaley, Hunter, Dibley & Heywood, 2010).

Experts on reproductive health have painted a grim picture of maternal and child health in sub-Saharan Africa. In 2005, WHO estimated that if nothing was done by 2015 there would be 2.5 million maternal deaths, 2.5 million child deaths, and 49 million maternal disabilities in the sub-Saharan region (Grieco & Turner, 2005). The increasing maternal and relatively high infant mortality rates in Africa call for collective efforts that should take cultural value on reproductive

health and child delivery components on board in order to meet the 4th and 5th Millennium Development Goals. Despite the significant role played by TBAs in assisting child deliveries and their rootedness in their societies' cultural beliefs and values, they have been neglected since the introduction of conventional medicine in sub-Saharan and other developing countries (Grieco &Turner, 2005).

Globally, Traditional Birth Attendants (TBAs) assist in 60–80% of all deliveries and even more in the rural areas of developing countries. Inclination towards home births supervised by TBAs is associated with cultural norms and religious beliefs as well as cost and accessibility of the services. TBAs speak the local language, have the trust of community members, provide psychosocial support at birth, and are thus an integral part of African medicine. Though their number in developing countries is not known, conservative estimates suggest that there will be about 180 million non skilled birth attendants in sub-Saharan Africa by 2015 (Naume, 2014).

In Nigeria, the choice to deliver outside hospital settings could be motivated by varying factors such as economic, social, physical, cultural, or institutional. Outside the hospital setting, women can be assisted by an attendant who may be unqualified. This attendant could be a traditional birth attendant (TBA), village midwife, member of the family, or neighbor. According to the Nigeria Demographic and Health Survey (2008) between 2003 and 2008, only 46% of women living in rural areas received antenatal care from a skilled provider (ie, doctor, nurse/midwife, auxiliary nurse/midwife), 28% of births were assisted by a skilled provider, and 25% of deliveries took place in a health facility. Expectant mothers who cannot access these services are left to make do with “alternatives” such as TBA services (Ebuehi & Akintujoye, 2012).

Surprisingly, studies have shown that despite their knowledge of the dangers involved in having their babies outside of the health facilities, they still patronize the TBAs. This is also the case with women in Omerelu community of Rivers State. It is therefore against this backdrop that this study investigated mothers' perception of infant and maternal health problems associated with patronage of traditional birth attendants in Omerelu Community in Ikwerre Local Government Area, Rivers State.

Research Questions

1. What is the level of knowledge of mothers on the role of TBAs in recognising and managing complications and making referrals?
2. What are the infant and maternal health problems that could arise when mothers patronize TBAs?

Area of Study

Omerelu community is located in Ikwerre Local Government Area of Rivers State. It is a boundary community between Rivers State and Imo State. It has boundary with Umapu in the North, Apani in the west, Egbedah/Omudioga on the east and Elele town on the south. The Community is made up of four villages viz: Omopi, Omuoporoga, Omuagwor and Omuohombia. The community has social amenities such as primary health care centers, four primary schools, one government secondary school and one private secondary school, link roads to neighboring communities, electricity and market. The main occupation of the people is farming.

Research Design

The descriptive survey was used. The purpose was to determine mothers' perception of infant and maternal health problems associated with Traditional Birth Attendants (TBAs) in Omerelu community of Rivers State.

Sample Size and Sampling Technique
Sampling of potential participants was done from the four villages. 100 women were chosen through **simple random sampling at** women meetings, markets and church gatherings within Omerelu community of Rivers State.

Instrument for Data Collection
A structured questionnaire consisting of two sections A and B was used to collect information from the respondents. Section A was designed to elicit information on respondents' socio-demographic characteristics, while section B was designed to elicit information on knowledge of mothers' perception of infant and maternal health problems associated with Traditional Birth Attendants in Omerelu community.

Data Presentation/Analysis
Table 1: ***Mothers' level of knowledge of the role of TBAs in recognizing and managing complications and making referrals***

Mothers' level of knowledge of the role of TBAs in recognising and managing complications and making referrals.	**No.**	**Percentage**
Did you face any problems during the delivery?		
Yes	43	43%
No	47	47%
TOTAL	**100**	**100%**
If yes, what problem(s) did you face? (tick as many as possible)		
a) Failure to dilate	15	34.9%
b) Transverse lie	11	25.6%
c) Breech baby	8	18.6%
d) Cord prolapsed	1	2.3%
e) Placenta prolapsed	2	4.7%
f) Excess postpartum bleeding	3	6.9%
g) Retained Placenta	3	6.9%
TOTAL	**43**	**100%**
How was this problem solved?		
a) I was refer to Health Facility	49	49%
b) The TBA used her skill and delivered the baby	35	35%
c) I was given concussion	18	18%
d) I was taken to another TBA	0	0%
e) I was kept in the church to be prayed for	8	8%
TOTAL	**100**	**100%**

Table 1 above shows responses on mothers' level of knowledge of the role of TBAs in recognising and managing complications and making referrals. 47 (47%) of the respondents reported that they had not faced problems during delivery, while less than half (43%) of the respondents claimed they had faced problems during delivery. Of the 43 (43%) who had faced problems during delivery, 15

(34.9%) claimed failure to dilate, 11 (25.6%) said transverse lie, 8 (18.6%) claimed breech baby, 3 (6.9%) maintained excess postpartum bleeding, 3(6.9%) stated retained placenta, 2(4.7%) asserted placenta prolapsed while only 1(2.3%) reported cord prolapsed.

On how this problem was solved, 49 (49%) of the respondents declared they were referred to a health facility, 35(35%) affirmed that the TBA used her skill and delivered the baby; 18 (18%) said they were given concussion, 8(8%) stated they were kept in the church to be prayed for, while none claimed was taken to another TBA.

Table 2: Mothers' knowledge of the infant and maternal health problems that may arise when they patronize TBAs

Mothers' knowledge of the infant and maternal health problems that may arise when they patronize TBAs and possible solution	**No.**	**Percentage**
Do you think women suffer any health problems when they patronize TBAs		
Yes	59	59%
No	41	41%
TOTAL	**100**	**100%**
Do you think babies of women who patronize TBAs suffer any health problems?		
Yes	59	59%
No	41	41%
TOTAL	**100**	**100%**
If yes, what are the most important Maternal health problems that women face when they patronize TBAs?		
a) Infection	28	34.6%
b) Sever bleeding	18	22.2%
c) Retained placenta	23	28.4%
d) Vagina tear	12	14.8%
TOTAL	**81**	**100%**
What are the most important infant health problems that children face when mothers patronize TBAs?		
a) Babies do not cry	4	6.8%
b) Cold	9	15.3%
c) Fever	19	32.2%
d) Infection	24	40.7%
e) Death	3	5.1%
TOTAL	**59**	**100%**
What do you think should be the solution?		
a) All TBAs should be trained	76	76%
b) TBAs should be discouraged	1	1%
c) TBAs should be incorporated into the health sector	12	12%
d) TBAs should be linked to health facilities in terms of referral of patients	11	11%
TOTAL	100	100%

Majority (59%) of the respondents stated that women and babies suffer health problems when they patronize TBAs, while 41(41%) disagreed. Of the 59 (59%) respondents who thought women and babies suffer health problems when they patronize TBAs; 28 (34.6%) reported that infection was the most important maternal health problem that women face when they patronize TBAs, 23 (28.4%) claimed retained placenta, 18 (22.2%) stated sever bleeding, while only 12(14.8%) mentioned vagina tear. And that the most important infant health problem that children face when mothers patronize TBAs was infection, 24 (40.7%); fever, 19 (32.2%); cold, 9 (15.3%); babies do not cry, 4 (6.8%); and death, 3 (5.1%).

On what respondents thought should be the solution to the infant and maternal health problems, 76 (76%) of the respondents said that all TBAs should be trained, 12 (12%) asserted that TBAs should be incorporated into the health sector, 11 (11%) said TBAs should be linked to health facilities in terms of referral of patients, while only 1(1%) said TBAs should be discouraged.

Discussion of Findings

The level of knowledge of mothers on the role of TBAs in recognising and managing complications and making referrals

47 (47%) of the respondents reported that they had not faced problems during the delivery, while less than half (43%) of the respondents claimed they had faced problems during the delivery. Of the 43 (43%) who had faced problems during the delivery, 15 (34.9%) claimed failure to dilate, 11 (25.6%) said Transverse lie 8 (18.6%) claimed Breech baby, 3 (6.9%) maintained Excess postpartum bleeding, 3(6.9%) stated retained placenta 2(4.7%) asserted placenta prolapsed while only 1(2.3%) reported cord prolapsed. On how this problem was solved, 49 (49%) of the respondents declared: "I was refer to a health facility", 35 (35%) affirmed that the TBA used her skill and delivered the baby. 18 (18%) said: "I was given concussion", 8 (8%) stated: "I was kept in the church to be prayed for", while none claimed she was taken to another TBA. From these findings, it is obvious that majority of the TBAs made referral to the health facility when complications arose.

Infant and maternal health problems that could arise when mothers patronise TBAs, and what are the possible solutions to them

Most (59%) of the respondents think women and babies suffer health problems when they patronise TBAs, while 41(41%) disagreed. Of the 59 (59%) respondents who agreed that women and babies suffer health problems when they patronise TBAs; 28 (34.6%) reported that infection was the most important maternal health problem that women face when they patronise TBAs, 23 (28.4%) claimed retained placenta, 18 (22.2%) stated severe bleeding, while only 12 (14.8%) mentioned vagina tear. And that the most important infant health problem that children face when mothers patronise TBAs are infection, 24 (40.7%), fever 19 (32.2%), cold 9(15.3%) babies do not cry; 4(6.8%), and death 3 (5.1%). The United States Agency for International Development (USAID) has also identified critical factors for improving adolescent maternal health: encouraging young women to use prenatal care to identify and treat malaria, anemia, and other health issues; providing obstetric care to ensure safe delivery for young mothers and their infants; and postnatal care to identify post-partum health issues, provide newborn care and offer contraception to accomplish birth spacing (Graczyk, 2007). These factors are also applicable to all women during pregnancy. Providing quality reproductive health services enable women to balance safe childbearing with other aspects of their lives and, it also helps protect them from health risks, facilitates their social participation, including employment, and allows girls to continue and complete their schooling (UNFPA, 2000).

On what respondents think should be the solution to the infant and maternal health problems, 76 (76%) of the respondent said that all TBAs should be trained. Although such training

has not contributed directly to reduction in maternal mortality, it does appear to improve their effectiveness in other areas such as the reduction of neonatal tetanus, increasing the provision and use of antenatal care, and increasing referrals in case of complications. TBAs would be the ideal group to use to increase awareness on family planning practices and fight female genital mutilation.

Conclusion

Based on the findings of this study, there is a positive perception and use of TBA services by the respondents and a high level of knowledge of TBAs roles in infant and maternal health care, as evidenced by their call for more training for TBAs to improve their knowledge and skills in maternal health care delivery. This confidence in TBAs care is further confirmed by their relatively high use of their services. This underlines the necessity for TBAs' knowledge and skills to be improved within acceptable standards through sustained partnership between TBAs and health systems which will provide better maternal and neonatal health outcomes.

Recommendations

Based on the findings of this study, it is recommended

1. that government should provide formal training for TBAs so that their knowledge, skill and performance will be improved, and link their services to health facilities for easy referral.
2. government should make provision of health facilities closer to the homes of these women. This will encourage these women to always go to hospital for child delivery.
3. medical personnel in collaboration with Non-Governmental Organizations (NGOs) should carry out enlightenment campaign where people will be educated on the health benefits of hospital delivery to the women in the community.
4. government in collaboration with Ministry of Health should organize orientation programmes to district leaders, religious leaders on the risks associated with home delivery with unskilled TBAs. These people will in turn pass this information to their wards.

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Organizational Communication: An Empirical Study of Preferred Channels of Communication in Rivers State College of Health Science and Technology, Port Harcourt

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Abstract

The study investigated organizational communication in Rivers State College of Health Science & Technology, Port Harcourt, Nigeria. Three research questions and one hypothesis were raised to guide the study. The population of the study comprised 198 staff, and a sample size of 138 staff, representing 69.69% of the parent population was investigated. The questionnaire was used for collection of data. Percentage, mean and z-test were used to analyse the data. The results revealed that *face-to-face* and *phone calls* were the most preferred channels of communication.

Keywords: organizational communication, channels of communication.

Introduction

Different modes of communication are found in different organizations. Churches, for example, use tracts, electronic media, crusades, sermons, etc. for conversion of souls; villagers use gongs for information dissemination, while primary and secondary schools use bells to gather students for announcements, tertiary institutions rely on issuance of circulars which are passed from office to office, or displaced on notice boards. Some tertiary institutions disseminate information through electronic means.

According to Ogwumike, Ndimele and Innocent (2015, p.683), communication is a "social transaction which involves getting one's ideas across. It means making oneself to be understood by the person or persons to whom the piece of information is addressed". Omego and Nwachukwu (2012, p.2) have defined communication as "the effective sharing of information or ideas from one person to another". This definition is similar to that of Hasan (2013). In his words, communication is "a process of sharing or exchange of ideas, information, knowledge, attitude or feeling among two or more persons through certain signs and symbols" (p.3). In the context of this study, communication is a give-and-take method of understanding our opinions, directives and goals. In general, communication connects people or places. In an organization, it is a key function of management. Communication helps an organization to reduce conflict within its workforce.

Consequently, organizational communication can be defined as the process whereby members of an organization receive important information about their organization and the changes occurring within it (Husain, 2015). According to McCroskey and McCroskey (2005, p.20), organizational communication is "the process by which individuals stimulate meaning in the minds of other individuals by means of verbal or non-verbal messages in the context of a formal organization". The word, *process* means that communication is dynamic, while the phrase, "stimulate meaning" indicates that it is through communication with others that we develop, shape and reshape ideas. Organizational communication has also been defined as the social glue that

keeps an organization tied together (Greenberg & Baron, 2000). They further state that "the basic functioning of organizations depends on the process of communication" and "without communication, organizations cannot exist" (p. 292). This assertion is believable because employees spend much of their time in office doing one form of communication or the other ranging from speaking to writing. The contention also insinuates that organizations should be mindful of their modes of communication in order to reduce possible barrier to effective communication vis-à-vis achievement of organizational goals.

The primary objective of organizational communication is to inform the workforce about their tasks and the policy issues of the organization. In the words of Greenberg and Baron (2000, p.294), "a key purpose of organizational communication is to direct action – that is, to get others to behave as desired. They note that verbal communication, which includes face-to-face chat, phone calls, e-mail messages, memos, etc., is common among organizations because of its capacity to convey rich information. They also note that newsletters and handbooks are used to describe basic information about an organization. Greenberg and Baron conclude that "communication is most effective when it uses multiple channels both oral and written messages" (p.294) because "a medium's effectiveness depends on how appropriate it is for the message being sent" (p. 296).

Similarly, Kibe (2014) posits that workers' communication needs and preferences differ as different messages require different methods, and messages need to be delivered several times in several ways to have the anticipated impact. This means that using many channels to communicate with different employees will increase the chances that information is received and understood. This view is further strengthened by Owusu-Bempah (2014) in his work on brand identity in Ghana. He confirmed that a combination of various channels in disseminating information about an institution could go a long way in attracting stakeholders' attention and interests in such an institution, thus affirming the advantages of using multiple channels for wider reach. In Nigeria, according to Olowole (2016), Nigeria is ranked 7th among the ten countries with the most internet users in the world, and that about 52% of her population use the internet which includes Facebook and social media platforms.

The foregoing discourse and other studies have situated the relevance of communication in every organization; and the Rivers State College of Health Science and Technology is not an exception. To state the obvious, the dynamism of communication in terms of different channels such as Facebook, Twitter, Whatsapp, Linkedin, memo, notice boards, etc. can determine the level of achievement of organizational goals and changes by staff of the college. The notable worry here is that the social media may have subverted the use of traditional channels of communication (printed information such as memos and letters). This position finds explanation in the fact that social networks have flexibility and plurality uses. For example, Snapchat and Instagram are used for simply sharing photographs and chat applications (such as Whatsapp) act primarily as a short message service (SMS) replacement device. It is therefore pertinent to provide an empirical data (which hitherto was lacking) on the preferred channels of communication among staff of the college for effective organizational communication.

Statement of the Problem

The introduction of social media platforms such as Facebook, Whatsapp, Twitter, Instagram, etc. has not only reduced visits to notice boards by staff of the Rivers State College of Health Science and Technology, but has also raised doubt on the achievement of organizational communication of the college through continued use of only printed circulars. It is worrisome to note that some members of staff are ignorant of some official directives by management because of failure to explore different channels of communication. It has not been established that members of staff have attuned themselves to different information channels for utilization by management in order to actualize the anticipated outcome of every message. This insinuation necessitated this study.

Purpose of the Study

The study was carried out to determine the preferred channels of communication for realization of organizational communication in Rivers State College of Health Science and Technology. Its specific objectives were to:

1. determine the percentage of the staff of the Rivers State College of Health Science and Technology that is on social media,
2. establish the percentage of the staff that has a functional email, and
3. determine the level of utilization of each channel of communication by the staff.

Research Questions

1. What percentage of the staff of the Rivers State College of Health Science and Technology is on social media?
2. What percentage of the staff has a functional email account?
3. What is the level of utilization of each channel of communication by the staff?

Hypothesis

Ho: There is no significant difference between the levels of utilization of Whatsapp and notice board channels of communication by the staff of Rivers State College of Health Science and Technology.

Ha: There is a significant difference between the levels of utilization of Whatsapp and notice board channels of communication by the staff of Rivers State College of Health Science and Technology.

Methodology

This study was a survey research. It was carried out in Rivers State College of Health Science and Technology, Rumueme, Port Harcourt, Nigeria. Based on the population of 198 staff (College Registry, 2017), a stratified sample size of 138 staff (male academic staff, 49; female academic staff, 35; male non-academic staff, 17 and female non-academic staff, 37) representing 69.69% of the parent population was generated for the study. A structured questionnaire which was validated by test re-test method was used to collect data from the respondents. The section A of the questionnaire was used to answer research questions 1 & 2, and percentage was used to analyse them. The section B, a Likert Scale structure of "Always (4)", "Sometimes (3)", "Hardly (2)" and "Never (1)," was used to answer research question 3 and the hypothesis. Mean, standard deviation and z-test were applied at 0.05 alpha level of significance. A criterion mean of 2.50 served as the basis of judgement of an item as positive or negative.

Results

Research Question 1

What percentage of the staff of the Rivers State College of Health Science and Technology is on social media?

Data collected in respect of this research question are presented and analysed below.

Table 1: Percentage of staff on social media

N = 138			
S/N	***Type of staff***	***Yes***	***No***
1	Male academic staff	40	9
2.	Female academic staff	30	5
3.	Male non-academic staff	14	3
4.	Female non-academic staff	26	11
	Total	**110 (79.71%)**	**28(20.29%)**

The above table shows that majority of the respondents were on social media. This is statistically represented by 110 respondents (79.71%) as against 28 respondents (20.29%) who were not on social media.

Research Question 2

What percentage of the staff has a functional email account?

Data collected in respect of this research question are presented and analysed below.

Table 2: Percentage of staff with a functional email account

N = 138			
S/N	***Type of staff***	***Yes***	***No***
1	Male academic staff	44	5
2.	Female academic staff	31	4
3.	Male non-academic staff	13	4
4.	Female non-academic staff	22	15
	Total	**110 (79.71%)**	**28(20.29%)**

The above table also shows that majority of the respondents had a functional email account. This is statistically represented by 110 respondents (79.71%) as against 28 respondents (20.29%) who did not have.

Research Question 3

What is the level of utilization of each channel of communication by the staff?

Data collected in respect of this research question are presented and analysed below.

Table 3: Utilization of each channel of communication by staff

N = 138							
S/N	**Channels of communication**	**4**	**3**	**2**	**1**	**Mean**	**Decision**
1	Face-to-face	111	19	6	2	3.73	Positive
2.	Whatsapp	63	53	11	11	3.21	Positive
3.	Facebook	30	42	26	40	2.44	Positive
4.	Snapchat	0	4	20	114	1.20	Negative
5.	Instagram	1	8	8	121	1.19	Negative
6.	Twitter	0	7	18	113	1.23	Negative
7.	Linkendin	0	7	16	116	1.22	Negative
8.	Text messages	88	45	2	3	3.57	Positive
9.	Phone calls	107	27	2	2	3.73	Positive
10.	Memos	34	86	7	11	3.03	Positive
11.	Letters	33	68	32	5	2.93	Positive
12.	Notice boards	35	75	20	8	2.99	Positive

The above table shows that the following channels of communication: *face-to-face, Whatsapp, Facebook, text messages, phone calls, memos, letters* and *notice boards* have positive utilization level in the college because their means exceeded 2.49. However, *face-to-face* and *phone calls* were the most preferred and utilized channels by the staff because they had mean rating of 3.73.

Hypothesis

Ho: There is no significant difference between the levels of utilization of Whatsapp and notice board channels of communication by the staff of Rivers State College of Health Science and Technology.

Ha: There is a significant difference between the levels of utilization of Whatsapp and notice board channels of communication by the staff of Rivers State College of Health Science and Technology.

In order to test the above hypothesis, mean, variance, standard deviation and z-test were applied at 0.05 alpha level of significance. The results obtained are presented in the table below.

Table 4: Mean rating, variance, standard deviation and z-test analysis of the respondents on utilization of each channel of communication.

Variable	Mean	Variance	SD	Population	Z-cal.	Z-crit.
Whatsapp	3.21	37611.3496	193.9364	138	0.0098	1.6449
Notice board	2.99	3748.1124	178.18			

From the table above, the z-calculated value (0.0098) is less than the z-critical value (1.6449). Therefore, our alternative hypothesis is rejected, while the null hypothesis is retained, meaning that there is no significant difference between the levels of utilization of Whatsapp and notice board channels of communication by the staff of Rivers State College of Health Science and Technology.

Discussion

The findings of this study revealed that majority of the respondents (79.71%) are on social media, and also have functional email accounts. This is not surprising because Nigeria was ranked 7th among the ten countries with the most internet users in the world as reported by Olowole (2016). The availability of smart phones has no doubt encouraged Nigerians including the staff of Rivers State College of Health Science and Technology to be on social media, and to also maintain functional email accounts.

From the results of the twelve channels of communication studied**,** *face-to-face, Whatsapp, Facebook, text messages, phone calls, memos, letters* and *notice boards* have high utilization level in the college. On the contrary, *Snapchat, Instagram, Twitter* and *Linkendin* had low utilization rates. This finding is a confirmation of the positions of Greenberg and Baron (2000), Kibe (2014) and Owusu-Bempah (2014) that workers' communication needs and preferences differ as different messages require different methods, and messages need to be delivered several times in several ways to have the anticipated impact. This means that using many channels to communicate with the employees of Rivers State College of Health Science and Technology, Rumueme, Port Harcourt will increase the chances that messages are received and understood.

Conclusion

This study has underscored the importance of organizational communication. In order to actualize organizational goals and policies, communication in an organization should follow a multifaceted approach such that social media platforms can be explored. One deducible implication of the findings of this study is that continued dissemination of information through only notice boards, memos and letters in Rivers State College of Health Science and Technology, Port Harcourt would not achieve organizational communication as majority of the staff indicated preference for *face-to-face discussion*, *Whatsapp, text messages* and *phone calls* as channels of communication.

Recommendations

1. Management of the Rivers State College of Health Science and Technology, should explore the advantages of using multiple channels of communication for wider reach and achievement of organizational communication.
2. Staff should be encouraged to link their email accounts to the college domain for the purposes of networking.
3. Management should create an official social media platform for short service messages.

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Sanitary Conditions of Food Vending Sites and Hygiene Practices of Food Vendors in Ahoada Urban Area of Rivers State, Nigeria

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Abstract

The purpose of this study was to determine the sanitary conditions of street-food vending sites and the hygiene practices of food handlers. The study was cross-sectional in design. A 23-item standardized checklist was used as a parameter for measurement. Findings revealed that food vending sites still operate below minimum standards while food handlers still lack basic hygiene practices. It was recommended that health seminars should be organized for proprietors and food handlers on a regular basis and that relevant law enforcement agencies should be encouraged to live up to their responsibilities.

Keywords: sanitary, conditions, hygiene practices, food, vendors

Introduction

Food vending is the practice of supplying ready-to-eat food services in the streets, along the highways or other public places such as markets, fair, shops, booths, food carts or food trucks in exchange for money or anything of value (Food and Agriculture Organization, 1989). In many countries all over the world, street food vendors have formed an integral part of the food supply chain following the rapid spate of urbanization (Okojie & Isah, 2014). In Nigeria for instance, there is a large number of local eateries almost at every corner of each street, where a substantial number of people stop by on a daily basis for food (Konwea & Akindutire, 2006). According to them, there has been an observed increase in the patronage of ready-to-eat food vendors within urban areas in Nigeria by nearly all categories of people including religious leaders.

Although the practice of food vending can be described as alien to the traditional African society in which the women had the primary responsibility of preparing and delivering food to their husbands in the farm and other work places, in recent times, food vendors are almost replacing the enjoyment of home-prepared meals following the increased engagements of both men and women in economic activities (Akintaro, 2012). Both men and women are now gainfully employed with similar work demands and challenges; they both hurry out together in the morning and also return late together at night; they must therefore either bear the inconveniences of rushing back home from work or look for other ways of catering for their food needs while away from home through the agency of food vendors (Ifenkwe, 2012). Thus, the street food industry is noted for its role in providing succor to people in times when they cannot readily access home-prepared food as a result of their busy daily routines (Omemu & Aderoju, 2008).

Beyond providing ready-to-eat meals, the street food industry has contributed immensely to human and economic development. Studies conducted in Nigeria and other African countries such as Morocco and Kenya respectively, have shown that major street food vendors usually earn above the countries' minimum wage (Barro, Bello, Salvadogo, Iboudu & Traore, 2006). The socioeconomic role of the street food vendors in terms of potential for job creation and provision of food at affordable cost cannot be overemphasized as men; women and young school leavers have become meaningfully engaged by this industry (Akinnubi and Adegboyega, 2015).

As with many developing countries, the street food vending business in Nigeria is confronted with several challenges which could endanger the health of consumers if adequate care is not taken (Ababio & Adi, 2012). Firstly, most of the food preparing processes and conditions do not meet with basic sanitary requirements (Oyencho & Hedberg, 2013). More so, there is inadequate supervision and monitoring by relevant authorities and weak enforcement of enabling laws; lack of training of food handlers on food hygiene and safety (Oyencho & Hedberg, 2013). Thus, street foods are at constant risk of contamination. Often at all stages of handling, street foods are exposed to unsanitary conditions and sometimes stored at improper temperatures. Okojie and Isah (2014) observe that street foods are prepared at very dirty surroundings with waste water and garbage disposed nearby, providing nutrient and breeding ground for rodents and vermin. They observe further that in most cases, running water is not available at vending sites, washing of hands and crockery are done in bowels or buckets and sometimes without detergents. This makes the consumption of such meals quite predisposing.

The area of this study is a fast growing urban center expanding rapidly in size and population and characterized by workers, businessmen and people on transit. This creates a suitable environment for street food trade which unfortunately operates under unsanitary conditions. These circumstances make a study on the sanitary conditions of vending sites and the hygiene practices of food handlers within the study area both timely and unavoidable. This study will be useful in generating information that can encourage relevant health authorities reinforce supervision of food vendors and enforcement of enabling laws, leading to a more effective regulation of the practice of street food vendors and protection of public health among the target population.

Concept of Food Vending

Modern food vending business can be traceable to the activities of the McDonald brothers of Great Britain in the early 20th century (Konwea & Akindutire, 2006). They began their business by selling roasted bread and tea to passengers at railway stations. This was later developed into a standard business outfit with a variety of menu for people on transit or those who may wish to sit out with loved ones.

In Nigeria, formal food vending is traced to the activities of foreign investors with the U.A.C, Kingsway, Leventist and U.T.C who provided quick food for the affluent and those who are not yet at home but needed something to eat for launch. Later, indigenous people started delving into the food business with the very popular Mr. Biggs in 1986. Since then, there has been a proliferation of the number of fast food joints opening up along the highways and several others occupying every slightest space at the corner of every street, worksites, marketplaces, campuses and so on (Health Fast, 2005 ; Adeniyi, 2005).

Materials and Methods

The study area was Ahoada East Local Government Area (AELGA) of Rivers State which has a population of about 166,324 (NPC, 2006). Ahoada town is a fast growing urban centre expanding rapidly in size and population and characterized by workers, businessmen and people on transit. This makes it quite suitable for the thriving of street food trade.

The study was cross-sectional in design. It utilized qualitative methods of observation and interview for data collection. A 23-item standardized checklist on the sanitary requirements of food vending sites and food handlers was adapted from the World Health Organization and ticked as appropriate at two highly-rated and patronized food vending premises. The consent of the managements of the two food vending premises was sought and relevant information volunteered after they were assured of their confidentiality. They however declined issuance of any written

approvals and insisted on anonymity. Data generated were presented using tables and analyzed accordingly using descriptive statistics.

Results

Research Question 1: What are the sanitary conditions of food vending sites at Ahoada?

Table 1: Showing the Essential Safety Checklist for Street-Vended Foods Sites

S/N	Water Requirements	Site A Yes	(A) No	Site B Yes	(B) No
1.	There should be independent source of potable water supply		×	×	√
2	Water used for preparation of beverages, washing of hands and utensils should not be inferior to the one used for drinking	√	×	×	√
3.	Water used for washing of utensils, food and hands should not be reused. Running water is recommended for these purposes as much as possible.	√	×	×	√
4	Ice to be used in beverages and food should be prepared from potable water	√	×	√	
Food Preparation And Processing Requirements					
5	The kitchen must be properly screened to prevent fly infestation	×	√	×	√
6	Avoid direct or indirect contact between raw and cooked foods which will be consumed without further heating	√	×	×	√
7	Foods to be eating raw such as salad or cut -fruits should be prepared with special attention to proper washing and cleanliness	×	√	×	√
8	Frozen foods should be thawed before cooking in order to ensure adequate heat penetration	√	×	√	×
9	If food is processed by heat, it should be thoroughly cooked in a temperature of not less than 70^{o}C	√	×	√	×
10	Excessive reuse of cooking oils should be avoided in order to prevent possible contamination and chemical hazards	×	√	×	√
11	If food is processed by fermentation, acidic conditions should be achieved as rapidly as possible to prevent growth of pathogens and toxin formation	×	√	×	√

Adapted from World Health Organization (WHO, 1998)

Item1 from table 1 above indicates that food vending site A has independent access to water supply while B does not. While vendor A uses same quality of water for both washing and drinking, vendor B uses inferior water for washing of utensils and other items. Item 3 shows that vendor A does not reuse water for washing but vendor B does. Both vendors in item 4 prepare their ice from potable water. Item 5 shows that there the kitchens of both vendors were not properly screened. While vendor A avoided contacts between raw and cooked food in item 6, vendor B does not. Item 7 show that none of the vendors paid special attention to washing of raw foods. Item 8 shows that both vendors melt their iced foods before cooking and also used appropriate boiling temperatures to cook their foods as shown in item 9. Both vendors in item 10 excessively reused their cooking oils and are not in a hurry while fermenting their yoghurts.

Research Question 1: What are the sanitary conditions of food vending sites at Ahoada?

Table 2: Showing the Essential Safety Checklist for Street-Vended Foods Sites

S/N	Requirement at Point of Sale	(A) Yes	(A) No	(B) Yes	(B) No
12	Food should be sold in a clean, well -lit place protected from strong sun, dust, rain and wind	√	×	×	√
13	Premises should not used for non-food practices	×	√	×	√
14	Sales point must not be located at a place where there is risk of contamination from rubbish, sewerage or noxious substances	×	√	√	×
15	When required, food should be wrapped in clean paper, plastic or suitable material. Newsprint or used paper should be avoided.	√	×	×	√
16	Food vendors should sanitize eating and drinking utensils between use or use disposable utensils as much as possible	√	×	×	√
Cleaning and Sanitizing					
17	Liquid waste (excluding oil and fat) should be emptied into the nearest sewer. Some forms of trap should be used to ensure that only liquid waste is discharged	√	×	×	√
18	Remains of food may be separated and kept for feeding animals. However, such animals should not be allowed to eat from utensils or within the premises	√	×	×	√
18	Other solid wastes should be kept in a fly -proof container and removed at least, once daily. The container should be always cleaned if not disposable	×	√	×	√

Adapted from World Health Organization (WHO, 1998)

Vendor A in item 12 sells food in a clean, well-lit place protected from adverse weather conditions while B does not. Again, both premises were mixed with other activities in item 13. Item 14 indicates that both premises are located where there is risk of contamination. While vendor A in item 15 uses disposables in wrapping 'take-away', vendor B makes use of newsprints. Vendor A sanitizes eating utensils between uses, while B does not as shown in item 16. Vendor A properly disposes liquid wastes in item 17 while B does not. Animals do not eat remnant food on the vending site of A while animals were seen feeding from vendor B's waste as shown in item 17. Finally, item 18 shows that both vendors accumulate wastes for days before they are evacuated.

Research Question 2: What are the Hygiene Practices of Food Handlers at Ahoada?
Table 3: Showing the Essential Safety Checklist for Street-Vended Foods Sites

S/N	Hygiene Requirements for Food Handlers	Site(A) Yes	(A) No	Site (B) Yes	(B) No
19.	Food handlers must stop business promptly anytime they have jaundice, diarrhea, vomiting, fever, sore throat, discharges from ear, eye, nose, open cuts or boils	×	√	×	√
20.	Food handlers should wear clean and proper clothing (apron) and hair coverings	√	×	×	√
21	Food handlers should wash their hands with soap and running water after engaging in activities such as handling of raw food, using the toilet, touching of animals, etc.	√	×	×	√
22	Food handlers must avoid talking in front of exposed food	×	√	×	√
23	They must be subjected to periodic medical screening and possess medical certificate of fitness before and during employment	×	√	×	√

Adapted from World Health Organization (WHO, 1998)

Both vendors do not stop their workers from handling food even when they have fever or open cuts in item 19. Item 20 shows that food handlers in site A wear clean and proper apron while those in B do not. Again, food handlers in site A wash their hands with running water after engaging in other activities but those in B do not as shown in item 21. Item 22 shows that food handlers from both sites talk freely even when in front of exposed foods. Finally, item 23 shows that no handler went for periodic check-up nor have medical certificates of fitness.

Discussion

The environment from which food meant for the public is prepared is a serious determinant of the health risk of consumers. This must include the constant availability of water for effective washing of condiments and sanitation of the environment. Evidences from this study show that not all food vending sites within the area of study has this essential amenity. Thus water from doubtful sources is sometimes used for washing of dishes and hands. According to the World Health Organization (WHO, 1998), this condition could compromise effective water usage and quality, lead to poor washing practices which will in turn lead to disease conditions.

Again, kitchens must be properly screened in order to prevent disease carrying vectors such as rodents from gaining entrance into the food house. Evidence from this study shows that this was completely absent from both vending premises. This is in line with the findings of previous studies in Ghana (Donkor, Kayang, Quaye & Akyeh, 2009). Results from this study also show that during the fermentation of materials for yoghurt, no proper caution was taken. WHO, (1998) notes that the fermentation process is a very fertile medium for the growth of microorganisms which may cause harm to man if not properly handled

The serenity of the environment from which food is prepared is also of utmost importance. The consumer while eating must not be exposed to adverse weather conditions such as heat or dust as applicable to one of the vending sites in this study. More so, the location of the business plays a prominent role. In cause of this investigation, the researcher observed that public waste collection centers were not far from the vending sites. This will make it convenient for the mechanical transportation of disease agents from the dump site. This is in line with the findings of previous studies (Barro *et al,* 2006). More so, allowing animals feed directly from the waste bin of a vendor

as observed in one of the sites puts the health of consumers at great risk since such dogs may also touch other items that may be used for food.

Another area of serious attention must be on the food handlers. It was observed from this study that even food handlers with boils and open sore were seen cooking and serving. This can easily transmit infectious agents to vulnerable consumers. More so, no attention was given to periodic medical examination in order to ensure the medical fitness of such workers. According to Bowman, Gortmaker, Ebbeling, Pereira and Ludwig (2004), this is more dangerous for children of primary and secondary school age brackets. Similarly, WHO (1998) warns that food handler who develops fever, jaundice or sore throat must be stopped immediately.

Conclusion

Food vending as a trade has come to stay in Nigeria. Regrettably most of these food vending environments are below minimum required conditions with regard to sanitation. Again, food handlers lack the needed personal hygiene to boost the confidence of the consumer and protect his health.

Recommendations

The following recommendations will be useful in ensuring that meals taken from food vending sites are safe for consumption.

1. Health education seminars should be organized for proprietors and food handlers or a regular basis
2. Only food vendors on approved sites should be allowed to operate. This will ensure that they meet up with the basic minimum requirements.
3. Environmental health officers empowered bylaw for the supervision of these premises must be encouraged to live up to their responsibilities/
4. There should be firmness in the prosecution of defaulters

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