EFFECTS OF TRAINING ON HIV AND AIDS-RELATED KNOWLEDGE AND SEXUAL BEHAVIOUR AMONG FISHERFOLKS IN SELECTED RIVERINE COMMUNITIES OF KOGI STATE, NIGERIA

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DEDICATION

This work is dedicated to the Almighty God, the All in All, the I am that I am, Omnipotent, the one who was, who is and the one that is to come, the great God and the one that decrees and it comes to pass. The worthy God, worthy, worthy, worthy is His name.

ABSTRACT

Fisherfolks participate in unsafe sexual behaviours which can predispose them to HIV infection. However, this population has been neglected with respect to HIV and AIDS prevention interventions because they are highly mobile and hard to reach. This research was, therefore, designed to assess the effects of training on HIV and AIDS-related knowledge and sexual behaviour among fisherfolks in Ajaokuta and Lokoja Local Government Areas (LGAs), Nigeria.

The study was quasi-experimental in design. Systematic random sampling was used to select and allocate 208 respondents into Experimental Group (EG, n=103) in Ajaokuta and Control Group (CG, n=105) in Lokoja LGAs, Kogi State, Nigeria. Data were collected at baseline using a pretested interviewer administered questionnaire which included questions for eliciting the following information: socio-demographic characteristics; sexual behaviour; a 21-point HIV and AIDS knowledge and 26-point risk-perception scales. Knowledge scores <10, ≥10-15 and >15 were categorized as poor, fair and good, respectively. Risk-perception scores <13, ≥13-20, and>20 were categorized as lowrisk, fairrisk and highrisk, respectively. Thirty questionnaires were pretested among fisherfolks in Idah. Baseline results were used to design a 3-day HIV and AIDS prevention training targeted only at fisherfolks in the EG. Six monthly continuing education meetings were also held with the fisherfolks in EG. A post-intervention survey, using the instrument used at baseline, was conducted among the two groups. Data were analyzed using descriptive statistics, Chi-square and student's t- tests at $\alpha_{0.05}$

Ages of respondents in EG and CG were 35.6±11.7 and 28.4±8.1 years, respectively. There were 89.3% and 92.4% males in EG and CG, respectively while there were 10.7% and 7.6% females in EG and CG, respectively. Fisherfolks in EG and CG with good knowledge were 16.5% and 54.3%, respectively at baseline. There was a significant difference between change in good knowledge of fisherfolks in EG (100.0%) compared with the CG (60.0%). Knowledge of EG and CG at post-intervention were 17.9±3.7 and 12.3±7.5, respectively with a significant difference. At baseline, fisherfolks in EG and CG with high risk-perception scores were 26.2% and 59.0%, respectively. At post-intervention, risk-perception of fisherfolks in EG increased to 100.0% compared with 70.0% in control. Fisherfolks that had two or more sexual partners apart from their spouses at baseline were 32.0% and 21.0% for EG and CG, respectively. At post-intervention, there was a reduction in the number of

sexual partners to 8.5% for EG and 7.7% for CG. Fisherfolks that used condom always at baseline constituted 26.6% and 30.8% for EG and CG, respectively. At post-intervention, significantly more fisherfolks in EG (58.5%) than control (33.0%) had used condom with non-primary partners. Knowledge scores at baseline were significantly different among EG (5.8±5.6) and CG (11.8±7.1).

The intervention improved fisherfolks' knowledge of HIV and AIDS, increased their risk-perception of HIV infection and may have led to a reduction in risky sexual behaviour. Therefore, HIV and AIDS education, public enlightenment and promotion of the adoption of HIV prevention technologies among fisherfolks are recommended to complement training as a strategy for HIV prevention and control.

Keywords: Sexual behaviour, Risk-perception, Fisherfolks, Riverine Communities, HIV and AIDS knowledge.

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AIYEDUN Sunday Abiodun

CERTIFICATION

I certify that this study was carried out by Sunday Abiodun Aiyedun in the Department of Health Promotion and Education, Faculty of Public Health, College of Medicine, University of Ibadan, Nigeria under my supervision.

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ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
ARFH	Association of Reproductive and Family Health
ATR	Anti – Retroviral Therapy
ASCO	Ajaokuta Steel Company
BCC	Behaviour Change Communication
CDC	Centers for Disease control
CHAN	Christian Health Association of Nigeria
CSW	Commercial Sex Workers
EFCC	Economic and Financial Crime Commission
EG	Experimental group
FAO	Food and Agricultural Organization
FGD	Focus Group Discussion
FMOH	Federal Ministry of Health
GDP	Gross Domestic Product
CG	Control Group
HIV	Human Imino Virus
HCT	HIV Counselling and Testing (HCT)
IDU	Injection Drug users
KOSACA	Kogi State Agency for the Control of AIDS
LACA	Local Government Action Committee on AIDS
LGA	Local Government Area
MARP	Most at Risk People
MSM	Men who have sex with men
NACAS	National Agency for the Control of AIDS
NARHS	National HIV/AIDS and Reproductive Health Survey
NGO	Non Governmental Organization
NSF	National Strategic Framework
OVC	Orphan and Vulnerable Children
PEPFAR	United States Presidents Emergency Plan for AIDS Relief.
PMTCT	Prevention of mother to child Transmission
STI	Sexually Transmitted Infection
UNAIDS	Joints United Nations Programme on HIV/AIDS

UNFPA	United Nation for Population Activities
UNICEF	United Nation International Children Emergency Fund
USAIDS	United States Agency for International Development
WHO	World Health Organization

OPERATIONAL DEFINITIONS OF TERMS

Fisherfolks: Fisherfolks are men and women engaged in fishing activities.

Migrant fisherfolk: A fisherfolk who leaves his natural community and moves from one habitation to another in fulfillment of his fishing occupation.

Fishing: The exertion of activities which, with the aid of appropriate tools, aim at catching fish.

Fisherman: A man that takes fishing as an occupation.

Transactional sex: This is the exchange of money, favours or gifts for sexual intercourse.

Fish for sex: It is a form of transactional sex in which a fisherman gives fish to a lady and the lady pay with sex

Artisanal Fisheries: A type of fishery involving fishing households using relatively small amount of capital and small fishing vessels if any. Artisanal fisheries can be subsistence or commercial fisheries.

Gears: These are fishing equipment used by fisherfolks in catching fish like; nets, hook

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background to the Study

HIV and AIDS have continued to constitute serious health and socio economic challenges since HIV was first reported in the 1980s. In underdeveloped and developing countries, it has reversed many of the health and developmental gains as reflected by indices such as life expectancy at birth and infant mortality rate among others (FMOH, 2010a). AIDS has claimed the lives of millions of people in the world. AIDS-related death in the world got to its peak in 2005 with an estimated death of 2.2 million people (UNAIDS, 2011). There were estimated 2.1 million people newly infected with HIV in the world in 2015. However, there had been an improvement in the number of people on HIV treatment as from 2012 as 8 million people were on treatment out of 14 .8 million people that were eligible for treatment. Sub-Saharan Africa was the most affected region with 25.6 million people living with HIV virus in 2015 (WHO, 2016).

In Nigeria, HIV and AIDS is a health problem affecting people in various strata of the population (Olowosegun *et al*, 2008). As at 2016, there were approximately 3.2 million people living with the virus in the country. However, the HIV prevalence rate in the country now is 2.9% and since 2005, the reduction in the number of annual AIDS-related deaths had been minimal (NACA 2015; UNAIDS, 2017).Although HIV and AIDS have become a health problem among the people, there are certain groups of persons in the population that are very vulnerable to HIV infection. These people are referred to as Most At Risk Population (MARP). Personscategorized as MARP include the following; Men that have Sex with Men (MSM), Female Sex Workers (FSW), Injection Drug Users (IDU), long distance truck drivers, the prisoners, truckers, solders, internally displaced and fisherfolks (Beryrer et al, 2012).

Fisherfolks, who are men and women engaged in fishing activities, play significant roles in the economy of any nation. Fisherfolks and their associated economic activities make crucial contributions to household incomes in many developing countries including Nigeria as well as boosting food security and providing a healthy diet to the people. Fish and fish products form about 49% of the animal protein consumed in Nigeria. Also, fishing serves as a means of livelihood to the fisherfolks and members of the fishing communities. Fisheries provide income to many people in riverine communities; the occupation serves as the last social safety net when crops fail. Fisheries are one of the crucial strategies for food insecurity and encouraging a self-sustaining solution to hunger and poverty (Global Fish Alliance, 2010). But the spread of HIV and AIDS in fishing communities is, however undermining this vital role of food production system and adversely impacting on local economies (Ajani,

2008). This is why attention must be focussed on fisherfolks because of the potential effect the disease can have on their physical, psychological and social health.

Studies of high-risk sexual behaviour in fishing communities and health service project on fisherfolks suggest that this population are significantly more at risk of HIV infection (Allison and Seeley 2004; Merten, 2006; Lampinen et al, 2005; Markussen, 2002; Husken and Heck, 2012). For example, the Kenya AIDS Indicator Survey carried out in 2007 showed that the HIV prevalence among fisherfolks in Nyanza province which hosts the largest proportion of the fishing community in Kenya was 15.3%; this was higher than the national average of 7.4% (Allison and Ellis, 2000; Sergon et al, 2010).

Nigeria supports the fight against HIV and AIDS. However, various health programmes for the eradication of HIV and AIDS have not been well extended to fishing communities (Olowosegun et al, 2008). Therefore, it has become imperative for governments at all levels, local and international Non Governmental Organizations (NGOs), corporate organizations, philanthropists, and policy makers and researchers should focus their attention on preventing HIV and AIDS among the fisherfolks in the country.

1.2 Statement of the Problem

A number of lifestyle related factors explain why fishing communities are prone to HIV infection. Fisherfolks' susceptibility to HIV is influenced by combinations of biological, social, cultural and economic factors. According to Gordon (2006), several HIV risk factors often converge around fishing activities. One of the factors is that fisherfolks are within the age group (15-35 years) that are sexually active and most vulnerable to sexually transmitted diseases (STD).

Another factor is that fisherfolks and other people that are in fishing activities are mobile and therefore less constrained by family influences at home. Migration of fishes and low water level account for fisherfolks' mobility which may normally leadsto establishment of new sexual partnership (Mojola, 2011). It has been speculated that since fishing itself is a high risk occupation, a culture of risk denial may extend to other dimensions of fisherfolks' lives which may account for their involvement in multiple sexual partners (Kissling *et al*, 2005). Similarly, availability ofdaily disposable cash, irregular working hours, involvement of fisherfolks in consumption of alcohol and prostitution particularly when not fishing are some of the other factors that make fisherfolks to be vulnerable to HIV infection. Acategory of persons who are involved in fishing business are low-income women who buy fish directly from fisherfolks, sell alcohol and food to them or even sell sex to men in exchange for fish. The chance of being exposed to HIV is increased when a small number of women have unprotected sex with a large number of men or vice versa (Leovinsohn and Gillepse; Kissling et al, 2005; Allision and Seeley, 2004; Markussen, 2002).

Also, the practice of transactional sex which is popularly called “fish for sex” in fishing communities can not be ignored. This is a situation in which women, who are involved in fish selling trade sex in exchange for fish. In Kenya, for example, women fish traders regularly buy fish from specific fishermen and in the process develop relationship which is locally called “Jaboya” in Luo language in Kenya (a customer who is also a lover) (Plus News, 2005). Observations of activities of fisherfolks along the bank of River Niger in Geregu, Ajaokuta (which is one of the study areas of this study) shows various types of activities similar to what other studies have shown. There is the problem of gender inequality among the people in most fishing communities which is compounded by poverty that puts women at risk of exploitation and makes it difficult for women to insist on condom use. Equally, fisherfolks have limited access to sexual health services in fishing communities (Gordon, 2006; Allison and Seeley, 2004).

Fisherfolks deserve the attention of fishery policy makers as regard their vulnerability to HIV and AIDS going by aforementioned factors that put them at risk of HIV infection. The disease also threatens the sustainability of fisheries by eclipsing the future of many fisherfolks. Yet fisherfolks have been largely overlooked with respect to interventions since the virus began raging over twenty years ago (IPPF, 2007). If the fishing communities in Nigeria whose inputs in fish supply accounts for over 90% of the annual fish supply are adversely impacted by HIV and AIDS; then the National supply of fish, particularly to lower-income consumer may be jeopardized (Duwal,*et al*, 2015). Hence it has become necessary to conduct an HIV prevention programme among these high risk fisherfolks in order to reduce the spread of the disease among this group of people in Ajaokuta and Lokoja Local Governments.

1.3 Justification of the Study

This study is significant because of the following three reasons: firstly, the outcome of this study can be used in the formulation of HIV and AIDS prevention, care and mitigation guidelines for national and international fishery policies for this group of people. This is more so since key national and international fisheries policies so far had not addressed the issue of HIV and AIDS among fisherfolks. Equally, UNAIDS and International LabourOrganization (ILO), Occupational Health and Safety Guidelines for the fishery sector did not address HIV and AIDS as it affects fisherfolks (DFID/FAOSustainable FisheriesLivelihoods Programme,2009). Also, this study can be used to enhance the incorporation of HIV and AIDS as it affects fisherfolks into Nigeria National Fisheries Policies.

Secondlly, this study can also be used to plan health promotion and education programmes on HIV and AIDS for other most at risk people MARP like Commercial Sex Workers (CSW), long distant truck drivers, migrant farmers, Men who have Sex with Men (MSM) and Injection Drug Users (IDU). Finally, since HIV and AIDS have no cure, however there is treatment, any intervention that would reduce the spread of this deadly disease particularlyamong at risk population like fisherfolks is a good one. This is particularly because it has been established that fisherfolks serve as bridge for thetransmission of Sexually Transmitted Infection (STI) including HIV to other group of people in the general population (Mojola, 2011).

1.4 Research Questions

The research questions of the study were as follows:

1. How much knowledge do fisherfolks have about HIV and AIDS?
2. What are the risk-perception of the fisherfolks as regard HIV infection?
3. What are the patterns of behaviour of the fisherfolks that favour spread of HIV?
4. Will training be effective as an HIV preventive strategy for improving knowledge, risk-perception and sexual behaviour among fisherfolks?
5. What would be the effects of intervention on research questions 1-3

1.5 Objectives of the Study

1.5.1 Broad Objective

The broad objective of the study was to evaluate the effectiveness of training intervention on HIV and AIDS related knowledge and sexual behaviour among fisherfolks in Ajaokuta and Lokoja Local Government Areas.

1.5.2 Specific Objectives

The specific objectives were to:

1. Assess the knowledge of the fisherfolks on HIV and AIDS.
2. Determine the HIV and AIDS related risk-perception among the fisherfolks.
3. Describe the pattern of behaviour of the fisherfolks that can favour the spread of HIV.
4. Design an HIV training intervention (based on the gaps identified in objectives 1-3) to promote HIV prevention among the fisherfolks

5. Evaluate the effects of the training intervention on knowledge of HIV and AIDS and risky sexual behaviour of the fisherfolks.

1.6 Hypotheses

The hypotheses of the study were as follows:

1. There is no significant difference in the knowledge of HIV and AIDS between the experimental group and control group before and after intervention.
2. There is no significant difference in the risk-perception toward HIV infection between the experimental group and control group before and after intervention.
3. There is no significant difference in the pattern of behaviour that canfavour the spread of HIV between the experimental group and control group before and after intervention

CHAPTER TWO

REVIEW OF LITERATURE

The review of literature in this chapter is divided into sections relating to Nature and extent of HIV and AIDS burden. Fishing industry, issues about fisherfolks as well as HIV and AIDS among others are also discussed. Thus the review is under the following headings:

1. Fisherfolks and fishing industry
2. Knowledge of Fisherfolks about HIV and AIDS.
3. Sexual Behaviour of Fisherfolks
4. Driving Forces of HIV and AIDS among Fisherfolks
5. Existing Interventions to Prevent HIV among Fisherfolks.
6. Nature and extent of HIV and AIDS Burden
7. Situation of HIV and AIDS in Nigeria
8. Prevention Interventions and HCT
9. Gaps in Knowledge
10. Conceptual Framework

2.3.1 History of Fishing

Perhaps it may be difficult to know exactly when fishing began and where it started from. But it can be assumed that people who lived near water (stream, rivers, lakes and sea) learned to catch fish, at about the same time as man began to hunt for wild animals on land. At first the catching implements (or gear) must have been simple tools such as arrows, spears and traps which were also used in hunting the land animals. Later, implements more specific for catching fish were made, thus, hooks were made progressively from wood, then bone and finally metals; plants fibres were woven into nets and used to trap, entangle, or surround a 'school' of fish. Much of the fishing gear in use today has been well known for centuries Before Christ (B.C). Nowadays, however, the fishing gear has generally undergone a lot of modifications and improvements in consonance with advances in modern technology although the basic principle of wounding, hooking, trapping (by the gills, fins and spines), encircling, scooping and filtering can still be detected (Moses, 1992).

2.3.2Small Scale Fisheries

Small scale fisheries is a practice involving the use of simple tools such as throw nets and drag nets and rod as well as the traditional fishing boats(Sowunmi *et al*, 2016). According to Faturoti (2010), small scale fisheries in Nigeria provide more than 82 per cent of the domestic fish supply, giving livelihoods to one million fishermen and up to 5.8 million fisherfolks in the secondary sector comprising processing, preservation, marketing and distribution.

2.3.3Subsistence Fisheries

Subsistence fisheries operations continue to play a critical role in supporting livelihoods, particularly rural livelihoods, contributing to food security and alleviating poverty. By the nature of subsistence operators' engagement, it is a challenge to accurately account for their participation, which is typically characterized by seasonal, occasional or part-time basis with operations in scattered and often remote locations (FAO, 2016). Subsistence fisheries make multiple contributions to local economies and society (Weeratunge et al, 2014; Jentoft, 2014)

2.3.4Artisanal Fisheries

Artisanal fishing are traditional fisheries involving fishing households (as opposed to commercial companies) using relatively small amount of capital and energy, relatively small fishing vessels, if any, making short fishing trips, close to shore, mainly for local consumption. Artisanal fisheries can be subsistence or commercial fisheries, providing for local consumption or export. They are sometimes referred to as small-scale fisheries. Artisanal fishery is a form of fishing that covers the operations of small-scale canoes, fisheries operating in the coastal areas, creeks, lagoons, inshore water and the inland rivers (Adedokun *et al*., 2006; Bolarinwa, 2012). The artisanal fishery is characterized by low capital outlay, low operational costs, low technology application and it is labour intensive. Cost associated with artisanal fishing tend to be lower than those of commercial fisheries due to lower fuel consumption and running costs for boats, which tend to make shorter trips close to shore, yet artisanal fisheries employ 25 times the number of fishers, over 12 million people and use an eighth of the amount of fuel used by industrial fisheries annually (Jaquet and Pauly, 2008).

In Nigeria, the artisanal fishery covers operation of small motorized or non-motorized canoes by fishermen in the coastal areas. This provides jobs for over 400,000 fishermen in the coastal areas and members of their families (Akegbejo-Samsons, 1997). Quite a sizeable proportion of the Nigerian population depends on fishing as a source of income. Apart from being an income earner to many Nigerians especially people in coastal, riverine and lake areas of the country, people earn their living from fish processing and marketing while others engaged in fisheries research (Soyinka and Kusemiju,2007; Bolarinwa, 2012). Mention must be made about the fact that most of the fisherfolks in the study area of this research are either subsistence or artisanal fisherfolks.

2.3.6Fishing Communities in Nigeria

A fishing community is a body of, mainly fisherfolk in common activities and bound by multiplerelationships in such a way that the aims of any individual can only be achieved by interaction with others. Fisheries being their main occupation, the interaction between the

members of such community bear a special quality of directness and intimacy (Abasiekong, 1991). Fishing communities in Nigeria are usually located near water bodies and are not accessible all year round due to poor or no access roads and liable to flooding during the rainy seasons (example are the fishing communities of Ijebu Water-Side Local Government Area of Ogun State) (Fregene 2006). Fishing communities are not simply crowds and agglomerations of people who chance to be physically close to one another. They are "societies", organised groups of people who have learned to live and work together and are interacting in the pursuit of common ends (Abasiekong, 1991).

Culture within the context of the fishing community can be thought of as the common, learned way of life shared by its members, consisting of the totality of tools, techniques, social institutions, attitudes, beliefs motivations and systems of value known to them. The mentality and behaviour of an individual fisherman can only be understood in terms of the culture to which he belongs. For example, a fisherman may show little interest in amassing wealth, because he does not want to grow richer at the expense of his poorer relatives or kinfolks. Many fishing communities still abide by traditions of the fishing trade. For example, many fishermen continue using women as intermediaries between them and the consumers in spite of the small margin of profit that this traditional practice provides. Other fisherfolks still assign significant proportions of their catch to their friends and relatives as gifts, thus reducing their own income. There are cases where fishermen regard certain days of the week as evil days and do not go fishing on such days (Abasiekong, 1991).

2.3.7 The role of women in fishing business

Women are actively involved in fish business. In some fishing communities in Nigeria, women in fish business are referred to as 'Fish Mammies'. In recent times, many women have joined the fishing business, especially young ladies, who became aware of the lucrativeness of the enterprise. In Nigeria, women are now playing almost equal roles with men in the fishery development. Women can be involved directly in fishing during which time they can be found in crews. A crew may consist of a woman and the husband, with the woman controlling the canoe while the husband manipulates the gears. A whole crew can be made up of women doing all sorts of jobs such as fishing, selling, even waiting to buy fish directly from fishermen (Wokoma, 1991).

Marketing of fish is mostly done by women. Since the women prefer to sell the smoked fish in large quantities, and when the price is high, they will store as much as possible (for several weeks to several months). They will hire a truck individually or collectively to transport it to whatever market that will bring the best price. Alternatively, they will sell to itinerant wholesalers (also women, in most cases) who come with their own trucks. For smaller quantities, they will either prepare a head load of smoked fish and walk to market, or

carry a few baskets or bundles of it by public transport to nearby markets. At the market, they will either wholesale or retail it themselves, or they will work through a wholesale agent (Keleshis, 1991).

2.1 Fisherfolk

A fisherfolk refers to a person (man or woman) who earns his or her main livelihood by participating in the process of catching or gathering aquatic organisms in water or as a crew member onboard a fishing craft. A fisherfolk may be a boat owner, or have a share in a boat or in the fishing gear. He or she may be a hired hand (wage earning) or a share fisherfolk whose income depends on the value of the catch. If a boat owner or a gear owner does not participate in fishing operations, he or she is a non-working owner. A fisherfolk may also be a fish dealer. But a fish dealer who does not participate in the fishing should not be considered a fisherman. Still, they are all members of their fishing communities and together are members of the fishing folk (Ben-Yami, 1991).

2.1.1 Migration of fisherfolks

According to Tawari (2002),

"A migrant fisherfolk is one who leaves his natural community and moves from one habitation to another in fulfilment of his occupation. He moves in search of fish as dictated by the type of fish required, the movement of the tide and season of the year."

Also, Abobi et al, (2015) define fisherfolks migration as temporary or permanent movement of fisherfolks and fishery workers from one fishing areas to another.The migration of fisherfolks is a process that has been shaped by historical patterns of resource availability, in addition to economical and political factors rather than simply a reaction to recent human population pressure. Fisherfolk's constant mobility as migrants often restricts them to the fringes of societies, where little is known of them. Though migration may have a direct and positive impact, it can equally constitute a challenge (Marquette *et al*, 2002)

The main cause of fisherfolk migration is due to seasonal migration of commercial fish species and some of the migrants have permanently settled in the fishing communities they migrate to. Due to migration they are confronted with challenges such as declining fish stocks, living in communities which lack basic infrastructures and the prevalence of HIV and AIDS (Fregene, 2006). The type of mobility of fisherfolks that is discussed in this review of literature is spatial mobility which is the movement of labour for fishing which entails changes in the geographical location of fisherfolk. The three forms of fisherfolk spatial mobility are:

1. Commutation which is *"the expansion of work space"*, in terms of fisherfolk moving out of their community of origin and landing their catch in another community.
2. Circulation is

   "The expansion of work space for a longer period and the residence of mover, may also be shifted for a longer period in connection with the occupation"
3. Migration entails permanent settlement in which the mover settles in the destination village with family, that is, both place of work and place of residence are shifted (Rajan, 2002).

Globally, mobility has been associated with the spread of sexually transmitted infections (STI) including HIV (Pison *et al*, 1993; Voeten et al, 2010; Camlin *et al*, 2010). Mobility does contribute to the spread of HIV through high risk sexual behaviour of migrant fisherfolks and other mobile individuals (Kishamawe *et al*, 2006; Nepal 2007; Uretsky 2008 and Lippman, 2007). Several aspects of mobility, such as opportunities of fisherfolks to participate in transactional sex, isolation from communities of home origin, and the desire for unique experiences all enhance the likelihood of casual sexual experiences while at the migration destinations (Sopheab *et al* 2006; Ward and Plourde, 2006) which makes fisherfolks to be vulnerable to HIV infection.

People's livelihoods are primarily affected by seasonality of which they have limited or no control (DFID, 1999). Livelihood is only sustainable when it can cope with and recover from stresses and shocks. However, in fishery, human activities for the past three decades have adversely affected the ecosystem, which is critical for breeding, nursery, feeding, growth and migration to marine and fresh water fish species. In some water bodies, the economic impact of excessive fishing effort and exploitation and declining fish stocks leave fisherfolks and their dependants potentially with ever-declining source of income. Diminishing fish stocks means local fisherfolks using canoes have to fish further into the sea. The rural fisherfolks are now facing bleak future as they may loose their livelihood over time. Due to the constant reduction in fish stocks, the last option for the improvement of their livelihood conditions is to migrate to other areas within or outside the country (Chamber and Conway, 1992). Unfortunately, the fishery institutions and other relevant government institutions have not been able to effectively monitor and contol the utilization of fishery resources of water bodies (Abobi et al, 2015).

2.1.2Migrant Networks

Massey *et al*, (1993) define migrant networks as

"Sets of interpersonal ties that connect migrants, former migrants and non-migrants in origin and destination areas through ties of kinship, friendship and shared community origin"

Among the migrants located in fishing communities in Nigeria, there is good network between the old migrants and the new ones as well as between the migrants and natives of the fishing communities. In some communities, the migrants are given land to farm and to cultivate crops such as cassava, coconut and cowpea. As observed by Tawari (2002) in her study in Bayelsa State,

> *"Any new person coming to fish in that camp for the first time must report to the overall leader of the Brass natives who are in dominance and are the indigenous owners of the fishing camp, then to the camp leader. Thereafter he will be permitted to settle down to fish. The relationship existing between all parties concerned is cordial".*

2.2 Challenges of Fisherfolk Mobility

2.2.1Impact of Migration on Fishing Households

The very experience of migration can expose migrants to increased risk of physical and mental health problems (UNFPA, 2005b). The burden of illness puts additional stresses on households, preventing them from accumulating assets derived from fishing income. Premature death robs fishing communities of the knowledge gained by experience and reduces incentives for longer-term. The HIV and AIDS pandemic in fishing communities, which is the focus of this study, threaten the sustainability of fisheries by eclipsing the futures of many fisherfolks as it has been said earlier. Recent projects championing local knowledge and resource-user participation in management need to take these realities into account. According to Allison and Seeley (2006):

> *"Fishing communities are often among the highest-risk groupsincountries with high overall rates of HIV and AIDS prevalence. They are vulnerable to HIV and AIDS due to the period spent away from their spouses as a result of migration".*

Migration can expose migrants to increased risk of physical andmentalproblems. Ilness puts additional stresses on households, preventing them from accumulating assets derived from fishing income. Premature death robs fishing communities of the traditional fisheries knowledge gained by experience and reduces incentives for long-term and inter-generational stewardship of resources (UNFPA, 2005b).

2.3 Fishing industry

Fishing is an ancient human tradition. It is a traditional activity involving the hunting and gathering of aquatic products for food. Fish and marine products include freshwater and ocean fish, shell fish, ocean mammals and seaweed as well as plankton (Olubanjo *et al,* 2006).

2.4 Economic Importance of Fish

1. Fish is used primarily as human food. From fish one obtains not only an abundant calorific value, especially if the fish is fatty, but also high quality proteins, some fat soluble vitamins, considerable amount of combined phosphorus and other elements necessary for the maintenance of a healthy body. It is, however, the protein content of fish that is usually more commonly emphasized. Fish protein contains most of the essential amino acids: that is lysine, methionine and tryptophan. Because of this, fish protein is described as first class protein and its consumption is highly desirable especially where animal proteins from other sources are lacking. Fish is a good source of thiamine, riboflavin, vitamins A and D, phosphorous, calcium and iron. It is high in polyunsaturated fatty acids that are important in lowering blood cholesterol level (Al jedahl *et al*, 1999).
2. Parts of the fish are used for various purposes; the skin of some cartilaginous fish is used for leather and polishing materials. The scales of some fishes yield a substance which when coated on the inside of glass beads makes artificial pearls. Also, the lining of the airbladder of sturgeons (a type of fish) is used to make isinglass, a shiny powder used as an absorbent in the wine industry. Fish oils, besides being used as food, are used in the manufacture of soap.
3. Whole fish, especially clupeids and other species not readily acceptable for direct consumption, are converted into fish meal for the manufacture of animal feeds (Moses, 1992).

2.4.1 Importance of Fishing in Nigerian Economy

In Nigeria, fish is one of the cheapest forms of animal protein in the diet of the people. Therefore, the importance of the fisheries products in satisfying the nutritional needs of the people as well as providing employment for the people cannot be over emphasised. In some cases, the entire family units- men, women and children in the fishing communities are engaged in the sector. Fish and fish products form about 49% of the animal protein consumed in the country (Ajani, 2008). The sub-sector's contribution to the Nigerian Agriculture Gross Domestic Product (GDP) was estimated at 4% (FDF, 2008). Of all the sub-sectors of agriculture in Nigeria, fisheries ventures rank among those yielding the highest revenues with about US$55 million generated annually through the export of fish and fishery products in

Nigeria (FAO, 2012). Fish is a major source of animal protein and has continued to grow in importance over the years, particularly, as a substitute to beef. Artisanal fish catches from all the states in Nigeria rose steadily from about 465,569 metric tonnes in 1980 to 506,790 metric tonnes in 1983 (FAO, 2006).

In spite of the low technological development, artisanal sector has remained the backbone of domestic fish production in Nigeria. It has an average contribution of over 70% to total fish production (Faloye, 2008). Currently, the fishery sub-sector is a source of direct and secondary employment to more than 18 million Nigerians (FDF, 2008).

Table 2. 1: Nigeria fish production between years 2010 to 2015

Year	Tonnes of fish produced
2010	817,900
2011	598,614
2012	937,255
2013	1,023,636
2014	1,123,011
2015	1,027,058
Total	5,788,474

Source: National Bureau of Statistics (NBS) 2017.

Table 2.1 revealed fish production in Nigeria between years 2010 to 2015. The data reflected that 5,788,474 tonnes of fish was produced between year 2010 and 2015. Year 2014 recorded the highest tonnes of fish produced with 1,123,011 tonnes. The second highest tonnes of fish produced were recorded in 2015 while the least were recorded in 2010.

For medical and health reasons many Nigerians now eat fish in preference to other forms of animal proteins (beef, mutton, chicken, etc.) as it contains high levels of poly-unsaturated fatty acids (including Omega III fatty acids) which lower blood cholesterol level. As it has been said earlier, of all the sub-sectors of Agriculture in Nigeria, fisheries ventures rank among those yielding very high revenues. Shrimp landings are mainly exported to Europe and the United States, contributing over US $29 million to the foreign exchange earnings of Nigeria. The marine fisheries resources made up of demersal, pelagic and

shellfish stocks are of high economic importance. The total annual value of the known fisheries resources is estimated at US $233.57M--$531.64M. The known shrimp resources have an estimated annual value of US $29.6M--$46.66M. There are other marine resources yet to be identified and exploited. The Federal Department of Fisheries (FDF) generates an average of a total sum of over N40 million annually from licensing trawlers (Faloye, 2008).The industrial fisheries sub-sector in Nigeria has in its employment over 20,000 members of staff and about 500,000 fish retailers. The industrial sub-sector operates a total of 226 trawlers (Faloye, 2008).

2.5 Impact of HIV and AIDS on fishing communities

One effect is the loss of productive adult labour as the person with HIV falls ill and other household members take on, as far as possible, the additional labour burden of the sick person's work while also caring for him or her. With household resources under increasing pressure, first, incomes, then savings, and finally household assets, are all used to meet the costs of farm inputs, consumption items and care of the sick (medicine, transport and special food needs). Children are taken out of school to work on small holdings, but the harvest is poor because of reduced labour and purchased inputs. Younger children or orphans go to stay with grandparents or other extended family, putting enormous strain on those households to meet even subsistence needs. Credit (where it was ever available) is no longer extended to the sick person's household (because of stigma and inability to repay) while grandparent fail to meet asset criteria for loans, thereby further tightening the poverty trap (Gordon, 2005). Individual fishers and fish workers with AIDS-related illnesses have a declining ability to engage in physically demanding labour, such as fishing or mobile trading and transport. Job loss, stigmatization and isolation are experienced by those becoming ill (FAO, 2009).

AIDS-affected families with fishing assets (such as nets or boats) may sell these to meet more immediate needs, thereby eliminating a future source of income for other household members or current income from loaning out fishing gear. Men who no longer have the strength necessary for fishing may switch to female dominated sectors, such as fish processing. In doing so, they may displace women whose options for employment in fishing communities are very limited, but include commercial sex work. Fishing communities are also affected by HIV and AIDS, through the loss of skilled labour and high levels of absenteeism due to sickness or compassionate leave to attend funerals (Gordon, 2005).

Fishing fleets, firms, agencies and communities are experiencing loss of labour and expertise as a result of AIDS illness, making them less efficient. AIDS can have divisive impacts on communities, reducing trust and social cohesion and therefore the capacity for collective action. High levels of illness reduce individual time-horizons, undermining commitment to collective, long-term goals, such as community fishery management and

development projects. For fisheries departments, firms and agencies, the costs related to long periods of illness of their staff and the costs of anti-retroviral therapies can be very high (FAO, 2009).

HIV and AIDS in the fisheries sector have much wider impacts too. Mobile and part-time fishing populations, moving in and out of the sector, along with interactions through trade and markets, permit HIV and its impacts to be spread outside the sector. The multiplier effects of the loss of productive labour and declining productivity may affect rural incomes more broadly. HIV and AIDS, moreover, threaten the ability of the fisheries sector to supply fish and fish products to the low-income groups for whom it represents an important and affordable source of animal protein and micronutrients.

Some fisheries generate important foreign (as shown earlier) exchange and the loss of those revenues has wider economic effects. The diversion of household and government resources to tackle the epidemic reduces the funds available for other services and investment in productive activity. As school attendance drops, there is a long-term effect on human capital. The cycle of deepening poverty can be a cause of increased migration in fishing communities. It can also lead to recourse to sex work. Both these factors may contribute to the wider spread of HIV and AIDS (Gordon, 2005). Also, revenue generated by individuals from their fishery-related activities which would have been invested back into the fishery or into other economic activities (land, livestock, business enterprises) or spent on services that keep cash in circulation in rural markets, is instead diverted into meeting the costs of HIV and AIDS illness in the household. Health services in HIV and AIDS infected fishing communities are burdened by the costs of dealing with AIDS-related illness, diverting resources from other health needs, such as maternal and child health, and malaria treatment.

Lack of access to services and traditional social support networks in fishing villages means that people living with AIDS who are too ill to work have to return to their 'home' communities to be catered for (FAO, 2009a). The impact of HIV and AIDS on fishing communities as it affects the wider population cannot be over emphasised. Many fishing populations are highly mobile as mentioned earlier. Men move between landing sites and local markets on a daily and seasonal basis. Fish processors, traders and transporters – both men and women – move between landing sites, regional and national markets and fish processing communities. Other service providers including sex workers – move with them. These movements and networks play a part in transmission of infection between high prevalence communities and those currently at lower risk thereby increasing the number of people experiencing the impact of HIV (FAO, 2009b).

2.6Knowledge of fisherfolks about HIV and AIDS

Generally, fisherfolks have limited knowledge about HIV and AIDS (Andriote, 2011). In the study ofOvie et al, 2009, it was discovered that there was high awareness of HIV and AIDS among the respondents but there was low and incomplete knowledge of transmission and prevention of the disease. In Nigeria, sensitization, awareness and mobilization activities of people about HIV and AIDS have concentrated in the cities and towns neglecting the many fisherfolks. HIV and AIDS prevalence is not only restricted to urban areas. But rural areas, especially fishing communities are often among the highest risk groups with high prevalence rate of HIV and AIDS and yet are one of the most neglected groups by HIV and AIDS programme planners (Olowosegun *et al*, 2009a).

The study ofOlowosegun et al, (2009a) revealed that parents in some of the fishing communities were more interested in sending their children to Quaranic School within and outside the community than attending western education. This has made them not to see the need for acquiring at least primary school education. Therefore, the low level of western education may affect the knowledge of HIV and AIDS because education enhances knowledge and better understanding of HIV and AIDS. Also in the same study, on awareness of HIV and AIDS, 98% of the respondents at one time or the other had heard about the disease but did not know much about the organism responsible for HIV and AIDS. Only 30% was able to mention the virus, though they had an idea of what it means as many of them gave different interpretations of AIDS in their local language.

In the study by Olowosegun *et al* (2008), ninety-four percent of the respondents at one time or the other had heard about the disease but did not know what HIV and AIDS was all about. From this study, it was obtained that 80% was aware of HIV and AIDS through radio broadcast. Although radio broadcast has wide coverage, there is tendency of misunderstanding the information due to different tribes and languages in the fishing communities. Lokoja was part of the study area of this study and it clearly shows the low level of awareness of HIV and AIDS among fishing communities in this area. In the same study, on the control of HIV and AIDS, 48% of the respondents said they did not know. It is therefore imperative that the fishing communities be generally educated and informed on family planning and reproductive health to redeem the loose lifestyle established in literature on HIV and AIDS in the fishing communities.

According to the chairman of Fishermen Society in Guyana, United States of America,

> "*Some of the fishermen have a work attitude like a tourist. They work in one place for a certain time… when they get bored they go somewhere else. These kind of people need education about HIV and AIDS because as long as they behave*

like that they will meet different people with different life styles. Then they get involved in a lot of stuff (risky sexual behaviour) which could be dangerous" (Guyana Chronicle, 2008).

2.7 Sexual Behaviour of Fisherfolks

Sexual behaviour of some fisherfolks predisposes them to infection of HIV and subsequent transmission of the virus to other people. Many fishing people are mobile or migratory, so the social structures that constrain sexual behaviour in home communities may not apply in the context of fishing community where they migrate to (Allison and Seeley, 2004). The migratory nature of fishing profession makes fishermen not to have regular access to their wives or regular girlfriends which make them to have sexual partner in their new place of abode. This type of behaviour can lead to the spread of HIV.

Fishing is a high-risk occupation which can contribute to a culture of risk denial or risk confrontation, extending to displays of bravado (a confident way of behaving that is intended to impress people) and risk-taking in the social and sexual arena. Fisherfolks are used to taking risk since their profession entails a lot of risk. They can be thrown overboard by storm while in water and in some cases the weather of the water may be unbearable thereby making them to fall sick occasionally. All these do not make them to embrace preventive measures against the infection of sexually transmitted diseases especially HIV which to date has no cure. Some fisherfolks believe that death could come through any means.

Fishing people are often socially marginalized and have low status, which can cause, among men, exaggerated or 'oppositional' masculinity which in this context often includes the expectation of multiple sexual partners (Allison and Alley, 2004). Masculine norms of behaviour that include expectation of multiple sexual partners, non-use of condoms with at-risk partners, non-treatment of sexually transmitted infections and needle sharing among workmates, predispose fisherfolks to HIV infection. Also, alcohol use is widespread among fisherfolk in many parts of the world, to help them cope with the dangers or stresses of their occupation. This further compounds vulnerability to HIV. Some fishermen in East Africa confessed that when drunk they cannot have the patient to wear condom before having sex (Poundstone *et al*, 2004)

Another sexual behaviour that is common in fishing communities is the issue of 'transactional sex' popularly known as 'fish for sex'. As earlier described, this is the exchange of fish for sex. Transactional sex is the exchange of sexual services for goods or opportunities instead of a monetary exchange. Transactional sex is a strategy adopted by some poor and vulnerable groups, usually women, needing access to food, shelter or work and other opportunities (Nagot *et al*, 2002). In the study of Ovie *et al*, (2009), 57.7% of the respondents

admitted that there was transactional sex in the fishing communities while 4.3% had engaged in sex for money or goods. In most cases, condom may not be used in 'fish for sex'. Many women in fishing communities that practice 'fish for sex' may have many sexual partners in order for them to have access to a lot of fish to sell. All these may lead to the spread of these dreaded HIV among the people.

Some fishermen are ignorant of preventive measures against the infection of HIV. In Indonesia, some fishermen prefer preventive practices such as choosing "clean and healthy-looking", or younger girls for sex, taking antibiotics in advance of sex, washing after sex, or keeping themselves fit and strong, all of which they think will make them feel relatively immune to sexually transmitted infections including HIV and AIDS (Raniat, 2011). These are some of the ways by which some of these fishermen may be ignorantly infected with HIV.

2.8 Vulnerability of Fisherfolks to HIV and AIDS

These are the behaviours that can make fisherfolks to be vulnerable to HIV infection. These beahaviours are; multiple partnering, transactional sex, and use of alcohol.

2.8.1 Multiple Partnering

Sexual activity with more than one partner plays a central role in all sexually-driven HIV epidemics. Behavioural interventions utilizing various communication channels have had a demonstrable impact on reducing numbers of sexual partners in numerous populations including men who have sex with men (MSM), adult men and women, and young people (Herbst *et al*, 2005;Noar, 2008). In 2013 Nigeria Demographic Health Survey (NPC, 2013), 13% of men had two or more sexual partners during the 12 months preceding the survey. Among respondents who had two or more partners in the past 12 months, 29% of women and 20% of men reported that they used a condom during their most recent sexual intercourse. Kwena *et al*, (2010), noted that 15% of the fishermen that participated in the study had more than one concurrent relationship and only one fifth of the fishermen used condom with all their three most recent sexual partners. Even in cases where the fishermen in this study suspected their female sexual partners to be involved in romantic relationship with other fishermen, only 26% of the fishermen used condom in such sexual encounter.

Also multiple partnering has been reported among fisherfolks in Nigeria. Olowosegun et al, (2009b) reported that 25.5% of the respondents said it is impossible to keep to a partner and as much as 75% reported that they had never used condom.The issue of multiple partnering with low condom use among the fisherfolks has made this group of people to be in the most at risk group to HIV infection.

2.8.2 Transactional Sex

Transactional sex involves the exchange of money, favours or gifts for sexual intercourse. This type of sexual intercourse is associated with a great risk of contracting HIV and other sexually transmitted infection (STI) because of compromised power relation between women and men and the tendency of those involved to have multiple sexual relationships (NPC,2013). The practice of transactional sex is driven by economic needs or wants, as well as deeply-entrenched norms supporting age differences between partners and male dominance in relationships (Dunkle *et al*, 2004). Women's ability to refuse sex or negotiate condom use, which may already be limited, may be further compromised by age differences between partners or exchange of money or gifts. These factors, in combination with young women's biological vulnerability to HIV infection, contribute to heightened risk for both young women and their male partners (Leclerc-Madiala, 2008). Describing transactional sex, a woman involved in fish business along Lake Victoria said:

> *"For women who have male sexual partner (among fishermen) it is easier. They get (fish) sometimes for the same price, while others whodo not have a male sexual partner have to pay more. So, as I am having partner, I get the fish much cheaper so I can also sell it cheaper. So there is no big loss (if prices drop). Nevertheless, many of the fish I was just given is because I was staying with the boyfriend. So these I can now sell"* (Mbeza, 2002).

As it has been mentioned earlier, women in fishing communities engage in "fish for sex" trade in order to get the best fish to buy and to sustain themselves in the fish business. Consequently, mini casual marriages are formed to facilitate this activity thereby leading to the spread of HIV among this group. This practice of "fish for sex" was observed in 2010 among fisherfolks that are in the fishing business along the bank of river Niger in Lokoja town.

Olowosegun *et al*, (2009a), confirmed that there is prevalence of transactional sex in the study area, even as 15.0% of the participants in the study claimed that they sometimes involve themselves in sex proposition in exchange for money. Also, 11.8% had accepted sexual propositions in exchange for work related activities. Transactional sex is a driving force for the spread of HIV and AIDS because in most cases condom is not used as it was observed in the same study that 75.0% of the participants that are sexually active had never used condom.

2.8.3 Alcohol Use

Alcohol use plays a critical role in sexual risk behaviour that can lead to HIV transmission. As stated earlier, some fishermen, at times particularly in the evening when they

return to the banks of river after fishing, will be so drunk with alcohol that they do not border to wear condom before having sex. Alcohol consumption is linked with increased risk of STI and HIV infection, gender-based violence, and non-adherence to ART. However, there is no evidence that any particular intervention reliably reduces alcohol consumption in low-resource settings (Kalichman *et al*, 2007).

According to Andriote (2011), to some fisherfolks, alcohol and condom use are often incompatible in the sense that a person that is drunk may not have the patience to use condom. The non-use of condom during sex when under the influence of alcohol has made alcohol to be one of the driving forces for the spread of HIV. Community-based approaches addressing social norms are essential to reducing transactional sex ("fish for sex"), multiple partnering, early sexual debut and alcohol-driven infections. Interventions focussing on individual behaviour change alone will not suffice. Such interventions should include ongoing activities emphasizing dialogue and community problem-solving. In recognition of the data on alcohol as a risk factor, alcohol-reduction messages should be included in existing programmes, and condom outreach programming should address settings such as bars and other venues where alcohol is sold (PEPFAR, 2011).

2.9 Existing Interventions to Prevent HIV among fisherfolks

The study of Husken and Heck (2012) on 'Fisher Trader+' model: reducing female fish traders' vulnerability to HIV examined the migration and mobility patterns of people residing and trading in Kafue flats in Zambia, the constraints to accessing health services for fisherfolks in Kafue flats. Intervention was conducted for 400 fisher folks (201 males and 199 females) in Nyimba and Namalyo fishing communities. The intervention was carried out with the use of Fish Trader+ model. The model was introduced as a capacity- building tool in the 2 target fishing communities in response to the vulnerability factors identified.The overall goal of the intervention has been to empower female fish traders and women in fishing communities so as to reduce vulnerability to HIV and AIDS. The '+' in the title of the model refers to the added knowledge and skills of the fish traders themselves

The participatory needs assessment undertaken in the two target fishing communities confirmed that there is a lack of savings and business skills. After mobilizing community members through the communities' traditional leadership, 10 saving groups (four groups of males and six groups of females)were established through self-selection, with membership varying between six and 14 people. A series of training and skills-building sessions resulted in self-regulating saving groups, with rotating chairpersons to promote equality and build leadership skills. In order to promote behaviour change, training sessions were organized for the established savings group to discuss and promote healthy behaviour. The training topics included HIV transmission and prevention, HIV and AIDS misconceptions, VCT, cholera,

diarrhea, malaria, and hygiene. After the training, savings group members were encouraged to share their experiences with their group and asking other members for advice. At the end of the intervention period, the savings group members were promoting healthy behaviour in their respective communities. Also as a solution to the lack of savings skills identified during the need assessment, the Fish Trader+ model introduced a culture of saving where in the group members agreed to save a fixed amount of their own money.

This study emphasized so much in making the fisherfolks to develop a saving culture at the expense of addressing the risky sexual behaviour of the fisherfolks. Although, one is not undermining the economic factor which makes fisherfolks to be vulnerable to HIV infection, addressing the risky sexual behaviour of the fisherfolks through Behaviour Change Communication (BCC) during training is very essential which the study failed to address. This current study will definitely fill this gap. Apart from economic factors, the study did not identify the other factors affecting the HIV related behaviours of the fisherfolks such as the mobility of the fisherfolks, alcohol abuse and regular change of sexual partners. This current study will fill this gap by addressing this issue right from baseline to intervention stage.

The Fisher Community Anti-AIDS Project (Lakwo, 2009) was carried out in Panyimur Sub County in Uganda. It was discovered that fisherfolks in this community were involved in high-risk sexual practices known to be the leading causes of HIV and AIDS infection in Uganda. Other risky practices such as the rampant drinking of alcohol and night discos aggravate the predisposition to HIV infection. The VCT attendancesero-positivity rate in Panyimur SubCounty alone was found in 2007 to stand at 20-30% as compared to 10-15% in other parts of the district. It is this revelation that propelled the Acelerated Agency for Acted Regional Development (AFARD) to design the Fisher Community Anti-AIDS project (FiCAP) which focused on promoting positive behaviour change among the fishing communities in Panyimur through the promotion of abstinence, being faithful, and condom use (ABC). FiCAP's design is premised on the use of intensive behaviour change communication and education (BCCE) strategies within five large landing sites managed by a team of local change agents (the Peer Educators-cum-Counselors -PECs).FiCAP aims to empower the community in Panyimur to prevent the further spread of HIV and AIDS. The specific objectives were:

- To establish and motivate a cadre of 60 local people capable of sustaining efforts to prevent HIV spread.
- To promote positive behaviour changes (sexual practices) among 26,950 people in 5 fishing villages within 2 years.
- To increase correct and consistent condom use.

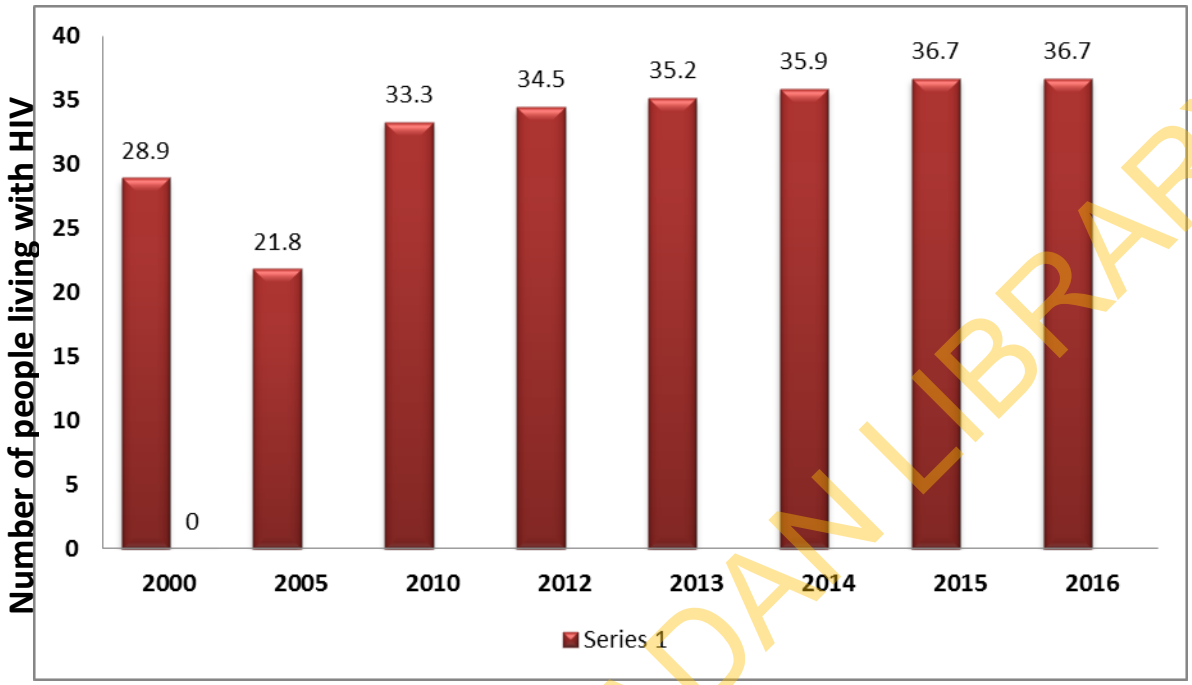
Although it was mentioned as part of the achievements of the project that 120 awareness seminars were held for 5,320 fisherfolks, effort was not made to make the fisherfolks have a comprehensive knowledge of HIV and AIDS. Prevention of HIV and AIDS is facilitated by comprehensive knowledge of this disease. This is a glaring gap in this study which this current study would fill.

2.10 Nature and Extent of HIV and AIDS Burden

2.10.1 The Global Situation

HIV is a global crisis, a challenge to human life and dignity with the ability to erode social and economic development. It has great influence on stability, life expectancy and economic development. It is a major public health problem (Buve, 2002). Its spread promotes poverty and has unleashed immense suffering on different countries and communities worldwide (UN Special Session on HIV and AIDS, 2001). The number of people living with HIV in the world had been on the increase since the advent of the disease in the early 1980s until it got to the peak in 1997. In 1990, the number of people living with HIV in the world rose from an estimated 8 million people to more than 28 million in 2001. Thirty three million people were living with the virus in 2008. At the end of2010, an estimated 34 million people were living with the disease worldwide, up by 17% from 2001(UNAIDS World AIDS DayReport, 2011).

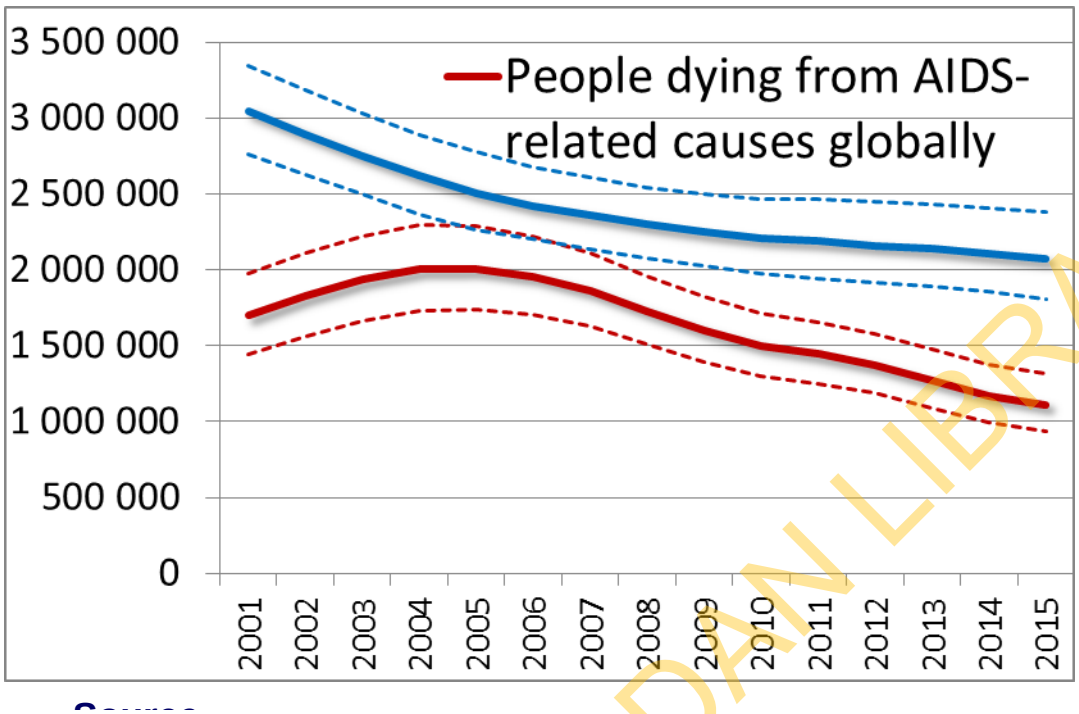
As at 2012, the number of people living with HIV increased to 34.5 million and the number alsorose to 35.9 million people in 2014.At the end of 2016, 36.7 million people globally were living with HIV. This reflects the continued large number of new HIV infections in the world (Figure 2.2) (UNAIDS, 2017). However, the small decrease in the number of people living with HIV recorded between 2001 and 2005 was as a result of significant expansion of access to antiretroviral therapy, which has helped to reduce AIDS-related deaths, especially in more recent years (UNAIDS World AIDS DayReport, 2011).



Source: UNAIDS Data 2017

Figure 2.1: Number of people living with HIV in the world

Also, the rate at which people are infected with HIV in the world had been on the increase since 1990 up till 1997. In 1990, about 1.8 million people were newly infected with HIV and an estimated 3.4 million people were infected in 1997 when HIV infection got to its peak. (UNAIDS World AIDS Report, 2011). Estimated number of people newly infected with the virous in the world had been reducing since 2001 when HIV new infections were 3.1 million.The estimated number of people newly infected with HIV in the world also reduced further to 2.4 million people in 2006.The number of people newly infected with the virus further reduced to 2.1 million people globally as at the end 2015. (Figure 2. 3) (WHO, 2016) The reduction can be traced to HIV treatment and positive changes in sexual behaviour of the people. However, as at the end of 2015, the total number of people newly infected with the virus globally since the commencement of the epidemic were 78 million people (UNAIDS, 2015).



Source: WHO, 2016.

Figure 2.3: New HIV infections and AIDS-related deaths in the world.

AIDS related death in the world got to the peak in 2005 with estimated death of 2 million. AIDS related death had been reducing since then. In 2008 about 1.7 million deaths were recorded. The number of people dying of AIDS related causes reduced to1.3 million in 2013. The number of AIDS related death further reduced to 1.1 million deaths in the world as at 2015. (Figure 2.3) (WHO, 2016) This was as a result of significant expansion of access to Antiretroviral Treatment (ATR) as from 2012 as 8 million people were on treatment out of a total number of 14.8 million people that were eligible for treatment. These prevention efforts had led to behaviour change of the people (UNAIDS HIV and AIDS Report, 2012). There had been an improvement in the number of people on ATR total of 2.5 million deaths have been averted in low- and middle-income countries since 1995 due to antiretroviral therapy being introduced, according to new calculations by UNAIDS (UNAIDS World AIDS DayReport,2011*)*.

An estimated 2.0 million people who acquired HIV globally in 2014 was the lowest number since 1990 and 35% fewer than the estimated 3.1 million in 2000. The decline was even steeper in the Africa Region which was 41% between 2000 and 2014.The number of children younger than 15 years newly infected with HIV was reduced by 58% between 2000 and 2014. Rapid expansion of services for preventing mother-to-child transmission of HIV and increasing use of more effective drugs prevented about 1.4 million children from becoming infected with HIV globally in the past 15 years. The estimated 1.1 million people who lost their lives to HIV in 2014 were 24% fewer in year 2000. Equally, the impact of HIV treatment programmes has been massive. An estimated 7.8 million HIV-related deaths were averted between 2000 and 2014. HIV treatment reached almost 16 million people in mid-2015 globally of which more than 11 million of them were in African Region (WHO, 2015).

2.10.2 HIV and AIDS Situation in Africa

Historically, Africa has been the continent hardest hit by the HIV pandemic (UNAIDS, 2010). Multiple causes have been given as to why HIV rates are so high in Africa and identification of these causes has led to specific kinds of interventions. People in the continent are involved inconcurrent partnerships (more than one sexual partner at a time), poor sexual health and high sexually transmitted infection (STI) rates increases the likelihood of acquiring HIV. Also, frequent unprotected sex which has led to interventions aimed at changing behaviour has been attributed to be causes of high rate of HIVand AIDS in Africa.(Cleland *et al*, 2006; Glick and Sahn 2008; Glynn *et al*, 2001; Halperin and Epstein, 2004; Hitch Cock and Fransen, 1999). The ABC (Abstinence, Being faithful and Condom use) approach is a classic example of this (Mojola, 2011).

As a result of the various interventions in countries in Africa, the trend has changed. According to UNAIDS Report, 2010, between 2001 and 2009, countries like Nigeria, South Africa, Zambia, Cote d' Ivoire and Ethiopia have recorded a 25 percent reduction in HIV

infection rates. The report asserts that in these countries, the rate of HIV infection is slowly falling or remaining steady in most cases. Many factors are believed to have contributed to this outcome. First, there are 12 times as many people receiving HIV treatment today compared to six years ago. In addition, the number of AIDS deaths was 200,000 lower in 2008 than in 2004. Another reason according to the report is the fact that condom use among adults has more than doubled in the continent and even in the world. However, much more still needs to be done to further scale down the rate of infection.

As at the end of 2009, about 33.3 million people were estimated to be infected with HIV globally. Of these, 22.5 million (that is, 68% of the global total) were in sub Saharan Africa (UNAIDS Report, 2010). Sub-Saharan Africa has been more severely affected by AIDS than any other part of the world. In 2005 in the United NationsReports, there were about 25.8 million HIV positive adults and children in the region, which has about 11.3% of the worldwide total of infected persons (Cook, 2006). HIV and AIDS data in some African countries are shown in Table 2.2.

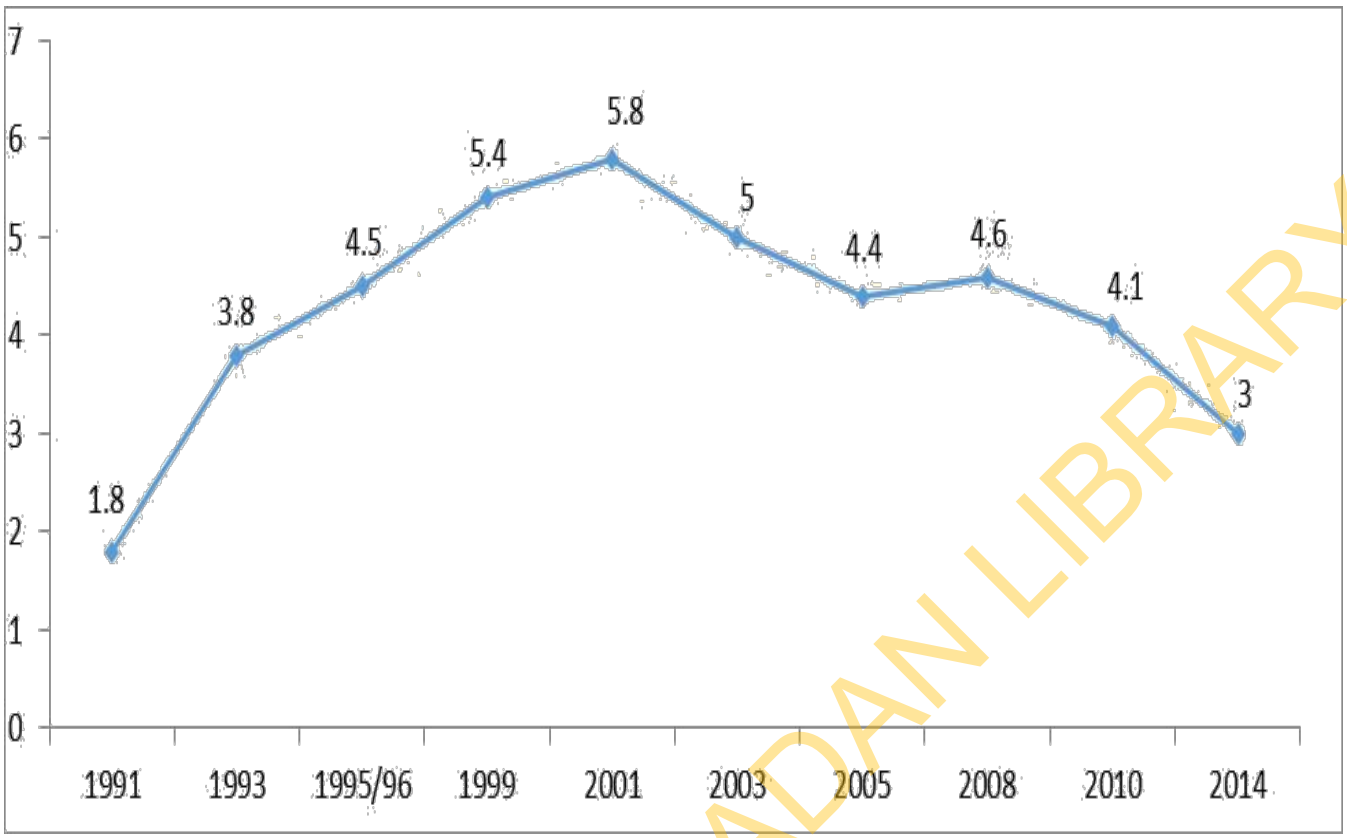
Table 2.2: HIV and AIDS data in some African Countries

Country	No of people living with HIV	HIV Prevalence	New HIV infections	AIDS-related death	% of Anti-retroviral coverage	Source
Algeria	8800	0.1%	-	200	-	*UNAIDS 2016B*
Botswana	350,000	-	9,700	3,200	-	*UNAIDS 2016B*
Cameroon	620,000	4.5%	-	33,000	22%	*UNAIDS 2015*
Chad	170,000	2.0%	-	8,500	-	*UNAIDS 2016B*
Cote D'ivoire	460,000	3.2%	-	-	-	*UNAIDS 2015*
Egypt	11,000	0.1%	-	500	-	*UNAIDS 2015*
Gambia	21,000	1.8	-	1,000		*UNAIDS 2016B*
GHANA	270,000	1.6%	7,323	15,000	69%	*Sympathy International 2013*
Kenya	1.5 million	5.9%	78,000	36,000	59%	*UNAIDS Report 2016B*
Lesotho	310,000	22.7%	18,000	9,900	42%	*UNAIDS Report 2016B*
Malawi	980,000	9.1%	33,000	27,000		*UNAIDS 2016B*
Nigeria	3.1 million	3.1%	227,000	180,000	51%	*UNAIDS & NACA 2016A*
South Africa	7 million	19.2%	380,000	180,000	48%	*UNAIDS Report 2016B*
South Sudan	179,000	2.6%	12,000	-	6,139	*UNAIDS 2016B*
Swaziland	220,000	28.8%	11,000	3,800	67%	*UNAIDS Reports 2016B*

Tanzania	411,829	4.56%	79,338	78,843	-	*UNAIDS2016B*
Uganda	1.5 million	7.1%	83,000	28,000	57%	*UNAIDS Report 2016B*
Zambia	1.2 million	12.9%	60,000	20,000	63%	*UNAIDS2016B*
Zimbabwe	1.4 million	15%	64,000	29,000	61%	*UNAIDS2016B*

2.11 Situation of HIV and AIDS in Nigeria

Nigeria is not left out of the HIV and AIDS epidemics. Since the first case of AIDS was reported in Nigeria in 1986, the HIV and AIDS epidemics have continued to evolve. The number of persons infected with HIV has increased rapidly since then (Ajuwon *et al*, 1998). In 1988 only 12 (0.23%) of 5,238 people screened nationwide were seropositive (Muhammed *et al*, 1988). By May 1992, of the 233,710 screened, 3,519 (1.5%) were sero-positive (FMOH, 1992). HIV and AIDS is spreading across all segments of the society. The first sentinel surveillance survey in Nigeria showed HIV prevalence rate of 1.8% in 1991. Subsequent sentinel surveys showed increasing prevalence rates of up to 5.8% in 2001 and then a decline to 4.4% in 2005. However, 2008 prevalence of 4.6% showed a slight reversal in the downward trend, thereby generating some interest because in this same year according to 2008 Antenatal clinic (ANC) survey showed that 2.87 million persons were living with HIV in Nigeria (FMOH, 2010b). HIV prevalence for 2010 was 4.1% and it reduced to 3% in 2014 (Figure 2.4) (IBBSS, 2014).

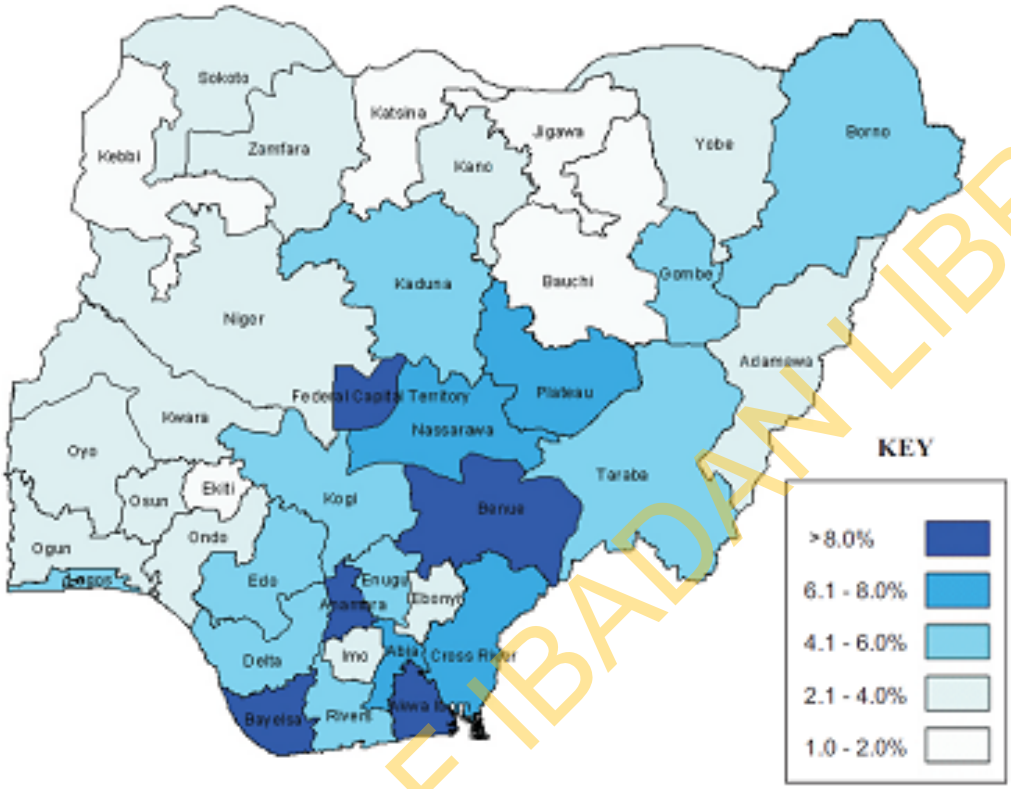


HIV Prevalence Rate

Year

Source: IBBS, 2O14

Figure 2.4: HIV prevalence rate among all groupsin Nigeria (1991 – 2014).



Source: National HIV Sero-Prevalence Sentinel Survey (FMOH, 2010).

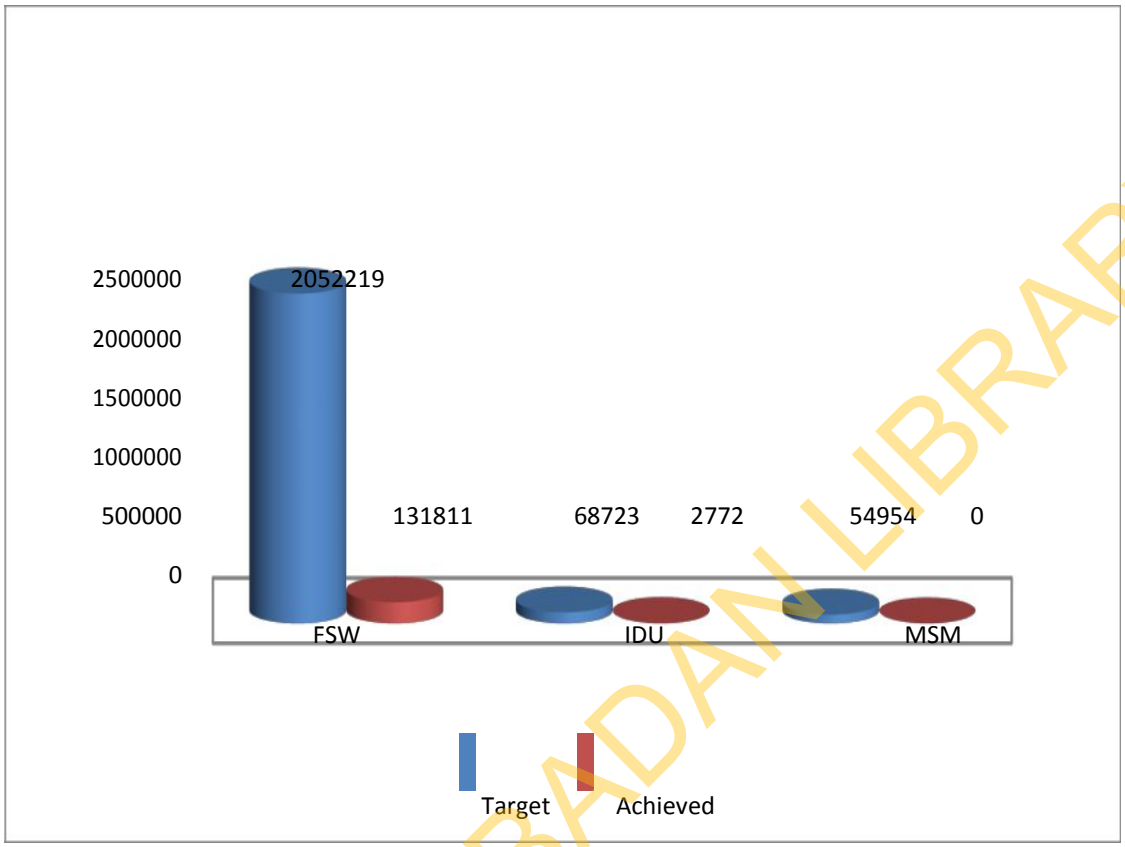
Figure 2.4: Geographical Distribution of HIV Prevalence by States in Nigeria

In the National HIV Sero-prevalence Sentinel Survey in 2010, Benue State, which is a neighboring state to Kogi state, had the highest HIV prevalence of 12.7% in the country. Other states that had prevalence rate above 8% were Anambra, Bayelsa and Akwa Ibom including Federal Capital Territory (FCT). Kogi state occupies the 11th position among the states with a prevalence rate of 5.8% (Figure 2.5). New infection among youths aged 15-25 years had declined from 6.0% in 2001 to 4.1% in 2010 (Chukwu, 2011). All these are as a result of various interventions programmes that were organised by agencies, government and Non-Governmental Organisations (NGO). Nigeria has almost half of all annual new HIV infections in sub-Saharan Africa (UNAIDS,2016). Nigeria is second to South Africa in the number of people living with HIV and AIDS worldwide, representing 9% of the global burden of the disease (NPC, 2014).

The main mode of AIDS transmission in Nigeria as at 1993 was heterosexual sex, which accounts for more than 71% of reported AIDS cases, followed by blood transfusion and infections by blood products (2.5%) and mother to child transmission (MTCT) 1.4%(Abanihe, 1994).In the 2010 UNAIDS Report, it was observed that people practicing low- risk heterosexual sex in the general population accounted for over 42% of HIV infection due to low condom use and high sexual networking. This shows that heterosexual transmission is still the main route of HIV transmission in Nigeria. Among the factors that have contributed to the rapid spread of HIV in Nigeria include sexual networking practices such as polygymy, a high prevalence of untreated sexually transmitted infections (STI), low condom use, poverty, low literacy, poor health status, low status of women and denial of HIV infection among vulnerable groups (USAIDS,2002). Discrimination and stigmatisation against people living with HIV and AIDS (PLWHA) has also contributed to the spread of the disease. The vulnerable groups include commercial sex workers (CSW), long distant truck drivers and fisherfolks which is the focus of this study.

Condom Distribution in Nigeria

Condom plays a pivotal role in preventing HIV infection and other STI. The good of condom programme is to ensure that sexually active persons at risk of HIV and STI are motivated to use this form of protection. In 2014, 32,000,818 male condoms and 5,073,743 female condoms were distributed in Nigeria. Key to the success of the distribution of female condoms was the effectiveness of its entry method and social marketing in raising awareness (NACA, 2015). Figure 2.5 revealed that Female Sex Workers got the highest number of condoms, 131811 out of 2052219 that were expected to be distributed to them. Men that have sex with men were expected to be given 54954 condoms where as none was given to them in ear 2016 (NACA, 2016).



Source: NACA, 2016

Figure 2.5: Number of condoms distributed among some MARPs in Nigeria in 2016.

2.11.1 HIV and AIDS Prevention and Control in Nigeria

Prevention and control of HIV and AIDS in Nigeria commenced shortly after the official declaration of the first AIDS case in 1986 with the establishment of a National Expert Advisory Committee on AIDS (NEACA) with mandate to report directly to the Minister of Health. The establishment of the National AIDS and STI Control Programme (NASCP) in the Federal Ministry of Health in 1988 marked the beginning of more coordinated response, essentially health sector response. The era of multi-sectoral response began in 1999 with the National Action Committee on HIV and AIDS established to coordinate the multi-sectoral response and to report to the just established Presidential Committee on AIDS. The National Action Committee later transformed into a full agency the National Agency for the Control of AIDS (NACA) in 2007 by an Act of the National Assembly to further strengthen its coordinating role and the overall National Response. The State Action Committee on AIDS (SACA) and the Local Government Action Committee on AIDS (LACA) are the coordinating bodies at the sub-national level. Similar to the transformation of NACA, several SACAs have become self-accounting government agencies (NACA, 2009).

The country had previously developed two national policies on HIV and AIDS (in 1997 and 2003 respectively) as part of the efforts to strengthen the national response. To further strengthen the response in the immediate multi-sectoral era, the HIV and AIDS Emergency Action Plan (HEAP) was developed to guide the national response between 2001 and 2003 periods. HEAP was replaced by the National Strategic Framework (NSF) in 2005. Nigeria National Response Information Management System (NNRIMS) for HIV and AIDS has also been developed under the multi-sectoral response. These developments had enabled the country's national response to operate under the framework of the “Three Ones” principle; one coordinating agency (NACA), one strategic plan (NSF), and one monitoring and evaluation framework (NNRIMS) (NACA, 2009).

NACA’s mandates are as follows:

1. Formulate policies and guidelines on HIV and AIDS.
2. Advocate for mainstreaming of HIV and AIDS interventions into all sectors of the society.
3. Plan and coordinate activities of the various sectors in the Strategic Framework of the national response.
4. Facilitate the engagement of all tiers of government and all sectors on HIV and AIDS prevention, care and support.
5. Support HIV and AIDS research in the country.
6. Mobilize resources (local and foreign) for HIV and AIDS activities.
7. Provide and coordinate linkages with the global community on HIV and AIDS.
8. Monitor and evaluate all HIV and AIDS activities in the country (NACA, 2011a).

The National HIV response programmes are guided by appropriate and relevant policies and plans which have been developed in a participatory process involving all relevant stakeholders- Federal Government, NACA, International Agencies and Organizations including People Living with HIV and AIDS (PLWHA). Funding for the HIV response in Nigeria is obtained from both domestic (Federal Government of Nigeria, private sector and state governments) and International sources (US Government, DFID, UN agencies and Global Fund) (NACA, 2011b).

The free ARV provision policy in 2006 by The Federal Government has led to increased access and uptake of treatment for eligible people living with HIV. ART coverage has increased over the years. There are however some challenges. As at December 2010 there were 684 PMTCT sites in the country. PMTCT coverage increased from 5.3% in 2007 to 11% in 2010.Survey results have shown that the desire by Nigerians to go for HIV testing has increased from 43% in 2005 to 72% in 2007.The proportion of males and females using condom the last time they had sex with a non-marital partner is 29.3% for males and female 22.9% respectively. The proportion of female sex workers reporting the use of a condom the last time they had sex with their most recent client increased from 92% in 2007 to 95% in 2009. In 2010, households of 2,748 Orphan and Vulnerable Children (OVCs) (male 1,433, female 1,315) received free basic external support in caring for the child. Also 48,873 OVC received educational support in 2010 (NACA, 2011a).

Nigeria has made a little progress in combating HIV and AIDS with the current prevalence rate of 3.1% which is a progress from 5.8% in 2001.In order to further reduce the spread of this disease in the country, NACA in collaboration with other stakeholders developed the first policy statement in 1997 and later revised in 2003. The focus then was on five thematic areas; prevention of HIV and AIDS, Law and ethics, Care and support, Communication and Programme management and support. In a bid to strengthen the national response and to incorporate emerging issues, a 2009 revised policy has been developed. The aim of the national policy is to provide a framework for advancing the multispectral response to HIV and AIDS in Nigeria. The main target of the policy is to 'halt, by 2015 and to begin to reverse the spread of the HIV and AIDS virus among Nigerians'.

The National Strategic Framework (NSF) was developed from this policy statement. The NSF has been in operation since 2005 till the end of 2009 as a skeletal structure on which HIV plans and activities are hinged on (2005-2009). The 2005-2009 NSF has been reviewed and a new NSF2 is in place. The thematic areas in the revised policy are as follows:

1. Prevention of new infections and behaviour change.
2. Treatment of HIV and AIDS and related health problems.
3. Care and support for people living with and affected by AIDS.
4. Institutional architecture and resourcing.

5. Advocacy, legal issues and human rights.
6. Monitoring and evaluation.
7. Research and knowledge management (Magash, 2010).

However, inspite of these minimal achievements, a lot still need to be done by NACA and other agencies for the prevention and control of HIV and AIDS in Nigeria. It has been observed that prevention and control programmes are only noticeable in state capitals and urban centres. These programmes are not always extended to rural areas where a greater percentage of the populace particularly fisherfolks reside. As it has been mentioned earlier, the fishery sector is an important contributor to development and to national economies. Also the sector has links with services and other industries and makes substantial contribution to Gross Domestic Product (GDP), employment, nutrition and revenue generation (FAO, 2005). But fisherfolks, particularly those around Lokoja area were known to be involved in risky sexual behaviour that may predispose them to HIV infection, and the fact that HIV prevalence were discovered to be higher among fisherfolks than the general population(Olowosegun *et al*2008). Despite this, fisherfolks in these area have been overlooked with respect to HIV and AIDS intervention by NACA, KOSACA or Local Government ActionCommittee on AIDS (LACA) in Lokoja and Ajaokuta LGAs.

2.13 HIV Treatment and Care in Nigeria

When antiretroviral drugs (ARVs) were introduced in Nigeria in the early 1990s, they were only available to those who paid for them. As the cost of the drugs was very high at this time and the overwhelming majority of Nigerians were living on less than $2 a day, only the wealthy minority were able to afford the treatment. In 2002, the Nigerian government started an ambitious antiretroviral treatment programme, which aimed to supply 10,000 adults and 5,000 children with antiretroviral drugs within one year. An initial $3.5 million worth of ARVs were to be imported from India and delivered at a subsidized monthly cost of $7 per person (Odutolu, 2006). The programme was announced as 'Africa's largest antiretroviral treatment programme'.

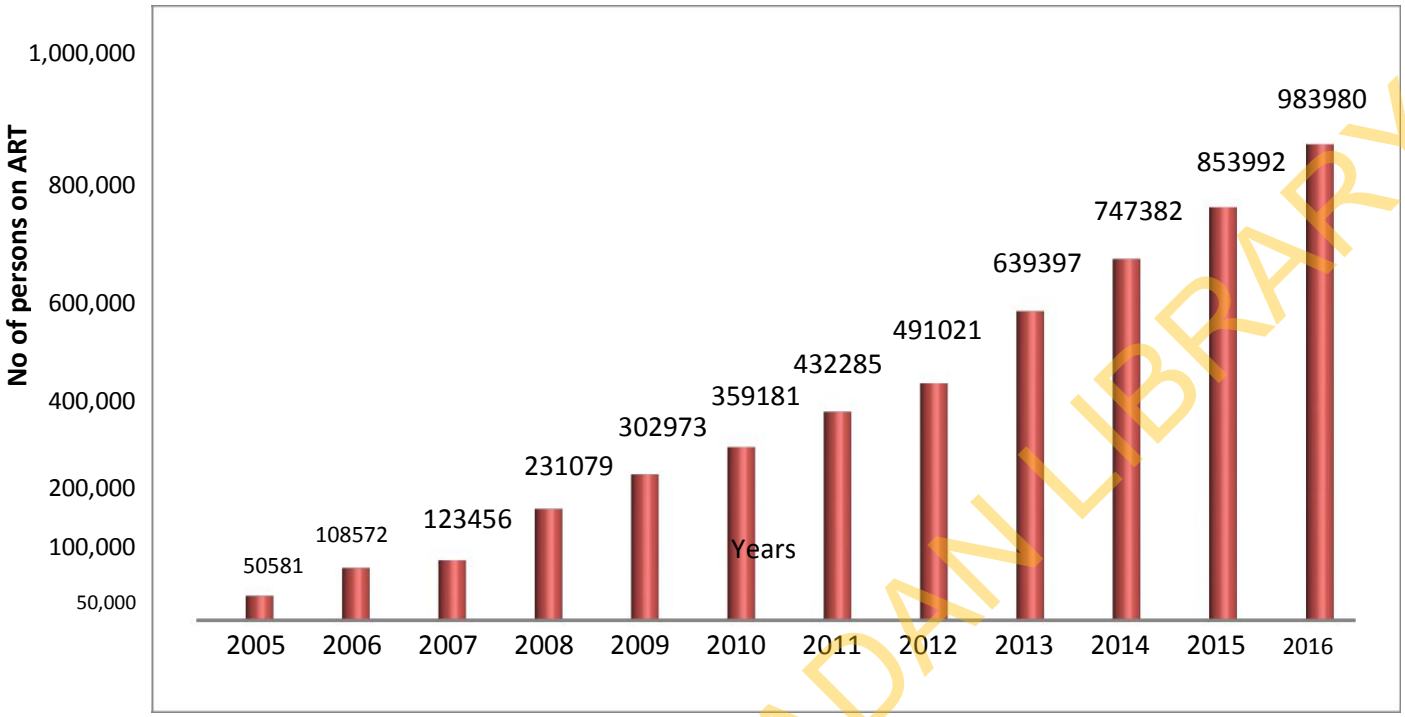
The government's National HIV and AIDS Strategic Framework for 2005 to 2009 set out to provide ARVs to 80 percent of adults and children with advanced HIV infection and to 80 percent of HIV-positive pregnant women, all by 2010 (WHO, UNAIDS&UNICEF, 2007). However, only 31 percent of people who needed treatment for advanced HIV infection received it in 2009. Going by WHO guidelines (2010), which advise starting treatment earlier, HIV treatment coverage was only 21% (WHO/UNAIDS/UNICEF, 2007).

2.13.1 The Use of Antiretroviral Treatment as a method of Preventing Sexual Transmission of HIV.

Limited animal data suggest that medications taken prior to and at the time of exposure to HIV can prevent the development of HIV infection. Individuals would therefore begin antiretroviral medications prior to the HIV exposure and continue the medications throughout the risk period. Preexposure prophylaxis (PrEP) studies to date have been done using tenofovir alone or in a fixed-dose combination with emtricitabine (known as Combo-PrEP). PrEP is one of the most promising HIV

prevention methods currently being tested. However, there is concern that PrEP might provide people with a false sense of security, thereby encouraging risky sexual behaviour. (Ferris et al, 2008).

Mention must be made about the fact that access to ART by the people that are living with HIV is still very low. Going by Figure 2.6, out of the people that needed ART in Nigeria in 2009, a total of 302,973 were given while only 359,181 got the treatment in 2010.(NACA, 2009). In 2013, 639397 got treatment while 983980 people got the treatment in 2016 (Figure 2.6) (NACA, 2016).



2.13.2 Vaccine Research

As of now, there is no HIV preventable vaccine. As efforts are made to introduce new HIV prevention tools, continued investment in research and development for a preventive vaccine is essential. In 2009, results from a large community trial in Thailand found that recipients of a combination vaccine regimen were 31.2% less likely over 42 months to become infected than trial participants who did not receive the vaccine (Recks-Ngam *et al*, 2009). Although this degree of efficacy did not warrant immediate licensing of the vaccine, the trial demonstrated for the first time that an HIV vaccine is feasible.Many organisations and international agencies have contributed a lot in reversing the spread of HIV and AIDS in Nigeria.

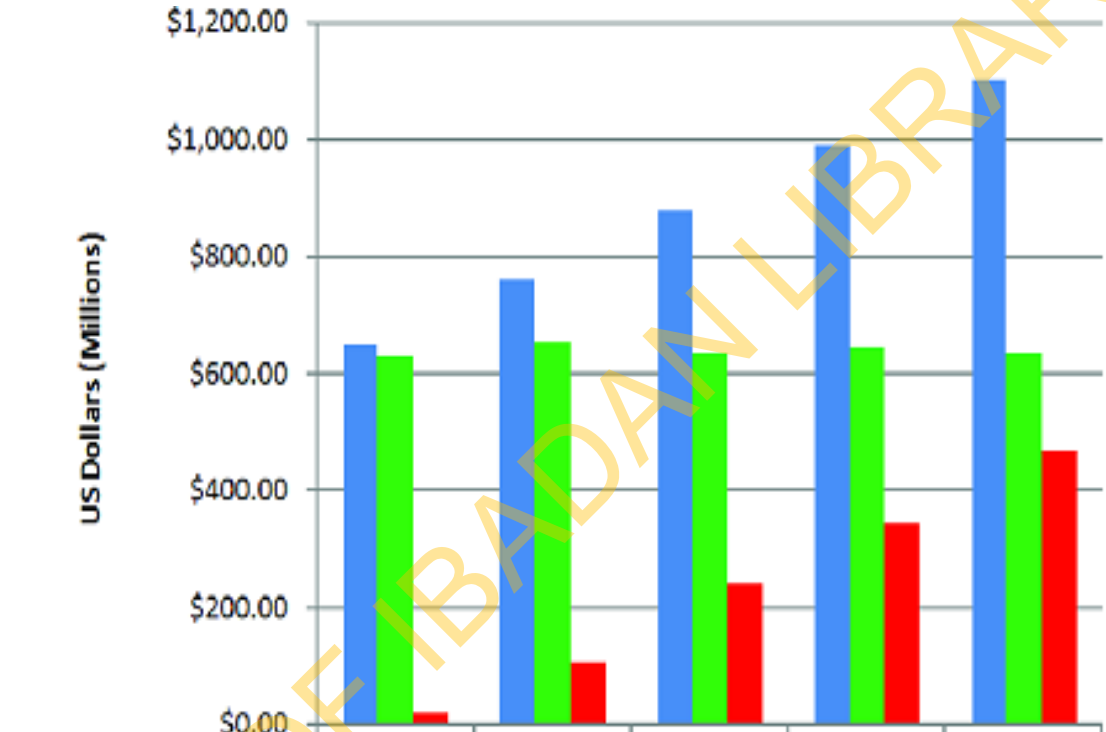
2.14Some organizations involved in the control of HIV and AIDS in Nigeria

There are many Non Governmental Organizations (NGO) that are involved in the prevention and control of HIV and AIDS in Nigeria. Some of them are: Nigerian Diversities Network (NDN), The Strengthening Nigeria's Response to HIV and AIDS Programme (SNR),**Enhancing Nigerian Response (ENR) and** Civil Society HIV and AIDS Network (CISHAN). Others are Network of People Living with HIV and AIDS in Nigeria (NEPWHAN) and Youth Network on HIV and AIDS in Nigeria (NYNETHA) to mention a few.Some international organizations that are also involved in prevention and control of HIV and AIDS in Nigeria are: United States President's Emergency Plan for AIDS Relief (PEPFAR), United Nations Children's Emergency Fund (UNICEF), Pathfinder, World Bank, WHO, UNAIDS to mention but a few.

However, mention must be made about the fact that organizations involved in HIV and AIDS programme in Nigeria do not categorise fisherfolks as most at risk population (MARP) in spite of the fact that they are very vulnerable to HIV infection. Fisherfolks and fishing communities in Nigeria are not on the priority of these organizations.

2.15 Challenges in the Prevention and Control of HIV and AIDS in Nigeria

Despite the minimal success stories of government, agencies, organizations and stake holders to reduce the spread of HIV and AIDS in the country, there are still a lot of challenges. Nigeria has only 30% of the resources available to meet the needs of the national AIDS response. The global economic downturn has had a negative impact on the resources available at national and state level. Only 15% of spending on AIDS in the country comes from the domestic sources (UNAIDS, 2010a). The global economic meltdown is forcing most international donors to cut grants or withdraws out rightly (Muanya, 2011). Figure 2.7 testify to the fact that estimated funds for years 2010-2015 for HIV and AIDS programmes fall short of estimated funds required.



	2010	2011	2012	2013	2014
S:Resources Required	$647.42	$760.44	$876.97	$988.57	$1,101.54
S:Resources Availables	$627.54	$653.34	$634.14	$643.10	$634.42
S:Gap	$19.89	$107.10	$242.83	$345.46	$467.11

Figure 2.7: Resource Needs Estimates for HIV and AIDS service scale up

Source: NACA, (2011a).

There is the need to bolster a comprehensive and integrated response to HIV and AIDS in ways that extend the coverage of effective prevention, care, treatment and support to hitherto underserved communities (NACA, 2010). Most communities in Nigeria, particularly in rural areas where most of the fishing communities are located are not covered by HIV and AIDS programmes. There is also the issue of increasing local funding for the fight against HIV and AIDS. Mobilization of more resources will have to bring accountability to the fore that is the judicious use of grants received in the time past for HIV and AIDS programmes.

The proliferation of NGOs is another disturbing issue. In Lagos alone, there are over 3,000 NGOs working on HIV and AIDS. This is excluding other NGOs that work on the fringe (that is working on HIV and AIDS occasionally). Now, almost every one of them has an HIV programme. One executive director of an NGO working on human rights and democracy says he was forced to create an HIV department because of the dwindling donor funds. According to him, “everyone wants to fund HIV projects.” So, he decided to join the pack. Today, he has a full HIV programme going “even though we do not have the competence yet,” he said (Madike, 2012).

A source at the Lagos State Ministry of Health, says that many HIV and AIDS groups registered in the state lack the human and material resources to carry out the activities. Worried by the explosion, the Lagos State government is taking steps to standardise their operations. But Oni Nwaghodoh, a Lagos based activist lawyer noted that NGOs are not for profit and can be registered as friendly associations. More so, he says, they could simply decide to undergo a client registration, which means that they do not have to be registered under the Companies and Allied Matters Act (CAMA). In which case, all they need do is walk into a lawyer or accountant’s office and seek to operate a client account. That way, they could still access donor funds and are not under any obligation to disclose their accounts to government or the public. It is such cover that, perhaps, makes it increasingly difficult to monitor the accounts of donor monies that have come to private hands in Nigeria since the fight began against the AIDS pandemic. It is also this that makes the area an attractive and lucrative one. One project officer in an NGO in Lagos explains: “Everyone knows that for every $100 NGOs gets, about $10 only is spent on the actual projects. This is because many initiators of these organisations in Nigeria have no other employment or source of revenue. As such, interventions for them are limited to areas that require cheaper \zfunding. Almost none of these NGOs are involved in providing treatment for PLWHAs, while only a few focuses on providing free testing opportunities (Madike, 2012).

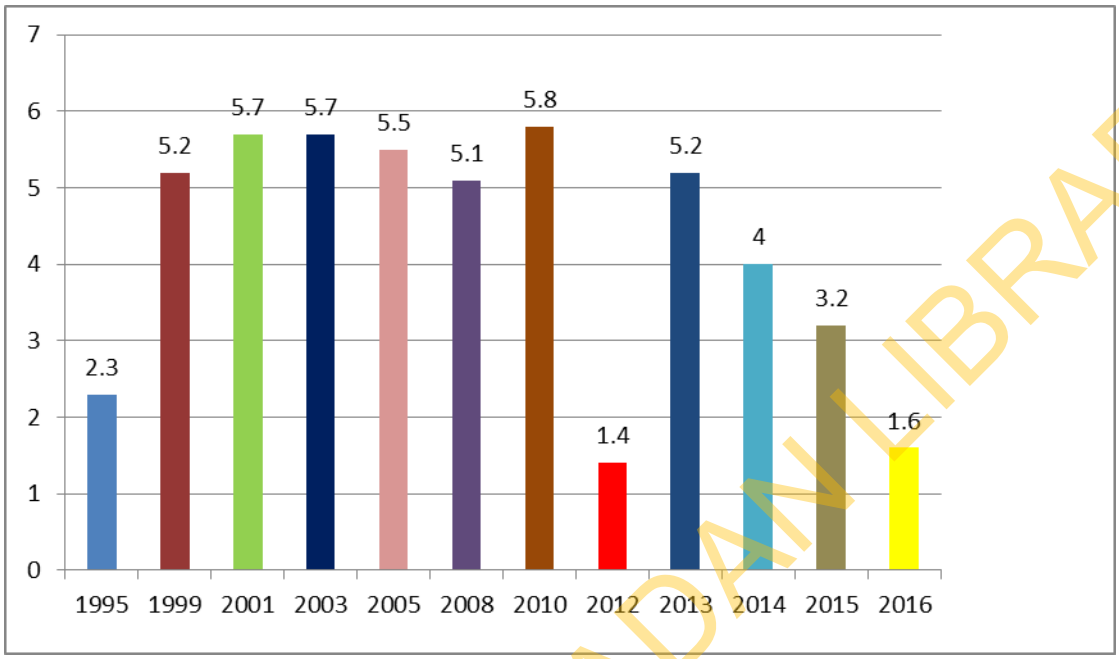
Perhaps, this was what gave rise to proper monitoring of funds disbursed to government agency and other NGOs in Nigeria by some donor agencies recently. The approach, however, seems to be paying off as some major organisations in the country: NACA, Christian Health Association of Nigeria (CHAN), Yakubu Gowon Centre (YGC),

Association of Reproductive and Family Health (ARFH) and Society for Family Health (SFH) were indicted for misappropriating donor funds (Muanya, 2011). Former Minister of Health, Professor Oyebuchi Chukwu, however, said that the country will evolve a mechanism of looking into the activities of these NGOs and local agencies that are involved in fighting HIV and AIDS. "We can alert the EFCC or ICPC anytime there is the need. In the case of the NGOs, it's a bit trickier. But again, at the end, we can also make any recommendation to the EFCC," he said (Madike, 2012).

There is need for actualisation of pledges by government rather than just mere pronouncements. Professor Idoko, former Director General of NACA agreed that there are challenges in the fight against HIV and AIDS in the country when he said that "We still have very significant gaps. Every year, we still have 281,000 new infections. Of the three million people infected in the country, 1.5 million require to be on life-saving anti-retroviral drugs. Only 400,000 are receiving these. An exceptional response will continue to be needed in a heavily burdened country like ours. Political leadership and accountability are sorely needed along with bold efforts to address the social drivers of HIV transmission" (Ojeme, 2011).

2.16 Prevalence Trends of HIV in Kogi State

Kogi State was involved for the first time in the National HIV Sero- prevalence Sentinel Survey in 1995. HIV prevalence rate for the state was 2.3% for that year. The prevalence rate had been on the increase since then till year 2001 and 2003 when it stabilized at 5.7%. It reduced to 5.5% in 2005 and it reduces further to 5.1% in 2008 (FMOH, 2010). This reduction according to one of the staff of Kogi State Agency for theControl of AIDS (KOSACA) was as a result of scale up of PMTCT and HCT services in some designated centres in the state which was made possible by funds from donor agencies. HIV prevalence in the state rose again to 5.8% in 2010 (Figure 2.8). According to the same source in KOSACA, this was as a result of the inability of KOSACA to getenough funds from donor agencies. HIV prevalence rate started increasing in Lokoja in 2001 from 3.7% to 7.0% in 2003. That of 2003 was more than the state average (5.7%). It fell to 4.3% in 2005 rose to 5.7% in 2008. The prevalence rate for Lokoja in 2010 was 4.7% (FMOH, 2010). HIV prevalence rate of Kogi State went down to 1.4% in 2012 but rose again to 5.2% which raises some questions. As at 2016, ithas gone down to 1.6% (KOSACA, 2017).



Source: KOSACA 2017

Figure 2.8: Prevalence trends of HIV in Kogi State 1995-2016

2.16.1HIV and AIDS Prevention Activities in Kogi State

HIV and AIDS prevention activities in Kogi State covers HIV treatment, HCT, Prevention of mother to child transmission (PMCT), behaviour change communication (BCC) and condom distribution to mention a few.The Anti-Retroviral Therapy (ATR) programme in Kogi State shows that only a total number of 36,953 people living with HIV (PLHIV) were cumulatively enrolled into HIV care since the inception of the ART programme with a total number of 24,849 PLHIV that are female. National Agency for the control of AIDS (NACA) validated data shows that the total number of PLHIV newly enrolled into ART that are receiving treatment represents 18.4%.

On HIV Counselling and Testing (HCT), a total number of 97,185 and 117,371 clients were counselled and tested for HIV and also received their HCT results in 2014 and 2015 respectively. Furthermore, 1,362 males and 2,468 females tested positive to HIV representing 3.06% of the total number counselled and tested for HIV in 2015 compared with 4.18% in 2014 and 3.26% in 2013. In the area of PMCT, only a total number of 899 and 446 positive pregnant women out of 1,703 and 775 who tested positive were currently receiving prophylaxis for PMCT in 2014 and 2015 representing 52.7% and 57.5 respectively.A total number of 192,307 Orphans and Vulnerable Children (OVC) were provided with social, health, nutrition, shelter, education, care, protection, psychosocial support and household economic strengthening (KOSACA, 2015A). Between 2006 and 2009, behaviour change and prevention of new infections attracted the greatest attention and focus.

Behaviour change efforts were specifically targeted at the general population as well as Most at Risk Persons (MARP) including sex workers and long distance road workers. Others included the youths (in and out of school), the women, the physically challenged and the Fulani nomads. Activities carried out included capacity building, sourcing/production and distribution of Information Education and communication (IEC) and Behaviour Change Communication (BCC) materials, peer education training and advocacy (KOSACA 2015 B). However, a lot need to be done in Kogi State as regards HIV and AIDS response activities. Also mention must be made about the fact that KOSACA did not included fisherfolks in their HIV and AIDS response activities despite the fact that fisherfolks are among most at risk persons.

Epidemiology of HIV in Kogi State.

The sentinel surveys of 2005, 2007, 2008 and 2010 revealed that Kogi State HIV prevalence rate were 5.7%, 5.5%, 5.1% and 5.8% respectively. However, in 2012 this prevalence rate was reported to have dropped to 1.4% (NACA 2014). In 2015, 1362 males and 2,468 females tested positive to HIV while 1,468 males and 2,284 females tested positive

to HIV in 2016. As at 2015, there were 604 pregnant women that were living with HIV in the state. In 2016, the number of pregnant women living with HIV increased to 798 (KOSACA, 2017).

2.17Prevention Interventions

2.17.1 Sexual Transmission of HIV

The strategies in use for the prevention of HIV through sexual transmission are: the use of condom, behaviour change communication and prevention and treatment of STD.

2.17.2 Use of Condom

Condoms are effective against HIV transmission when used correctly and consistently. When used consistently and correctly, male latex condoms are highly effective in preventing the sexual transmission and acquisition of HIV and other STIs at the individual level (Foss and Hossain, 2007; Weller and Davis, 2002). Among most at risk population like fisherfolks, increasing condom availability, accessibility, acceptability, and use has had a demonstrable population-level effect in several epidemics (Saphonn, 2004;Mehendale, 2007). In heterosexual serodiscordant relationships in which condoms were consistently used, HIV-negative partners were 80% less likely to become infected compared with persons in similar relationships in which condoms were not used (Weller and Davis, 2003). Correct and consistent condom use significantly reduces the risk of HIV transmission from both men to women and also from women to men. Studies show condoms can reduce the risk of HIV infection and other STIs including Chlamydia, gonorrhoea, and trichomoniasis (Holmes et al, 2004).

Condoms have helped to reduce HIV infection rates where AIDS has already taken hold and curtailed the broader spread of HIV in settings where the epidemic is still concentrated in specific populations. Condoms have also encouraged safer sexual behaviour more generally. Recent analysis of the AIDS epidemic in Uganda has confirmed that increased condom use, in conjunction with delay in age of first sexual intercourse and reduction of sexual partners, was an important factor in the decline of HIV prevalence in the 1990s (Singh et al, 2003). Thailand's efforts to de-stigmatize condoms and its targeted condom promotion for sex workers and their clients dramatically reduced HIV infections in these populations and helped reduce the spread of the epidemic to the general population. A similar policy in Cambodia has helped stabilize national prevalence, while substantially decreasing prevalence among sex workers. In addition, Brazil's early and vigorous condom promotion among the general population and vulnerable groups has successfully contributed to sustained control of the epidemic (WHO/UNAIDS, 2004).

The search for new preventive technologies such as HIV vaccines and microbicides continues to make progress, but condoms will remain the key preventive tool for many years to come (UNAIDS, 2004).Conclusive evidence from extensive research among heterosexual couples in which one partner is infected with HIV shows that correct and consistent condom use significantly reduces the risk of HIV transmission from both men to women, and also from women to men (Holmes, *et al*, 2004). Laboratory studies show that male latex condoms are impermeable to infectious agents contained in genital secretions. To ensure safety and efficacy, condoms must be manufactured to the highest international standards. They must be procured according to the quality assurance procedures established by the WHO, UNFPA and UNAIDS and they should be stored away from direct heat sources. Prevention programmes need to ensure that high-quality condoms are accessible to those who need them, when they need them, and that people have the knowledge and skills to use them correctly (WHO/UNAIDS, 2001).

Condom use is more likely when people can access them at greatly subsidized prices. Effective condom promotion should target not only the general population, but also people at higher risk of HIV exposure, especially women, fisherfolks, young people, sex workers and their clients, injecting drug users and men who have sex with men. UNFPA estimates that the current supply of condoms in low and middle-income countries falls well short of the number required (the condom 'gap') (UNFPA, 2007).However, failure to use condoms correctly with every act of intercourse, or to some extent slippage and breakage of the condom, has been shown to increase the risk of HIV transmission. In fact, some studies have shown that inconsistent condom users may face the same risks of HIV infection as non-users (USAIDS, 2005). Studies have shown that people with more education tend to be more likely to protect themselves by using condoms during casual sex. The surveys showed that, especially for girls, even a few years of added schooling translated into more frequent condom use (UN Special Session on HIV and AIDS, 2001).

There are some challenges in the use of condom in fishing communities. Sex workers in fishing communities in East Africa found it difficult to use condom. At times the sex workers charge their client higher fees for not using condom. This can predispose them to HIV. Fishermen use their masculine power over their sexual partners by declining to use condom. Sometimes the fishermen may be drunk and they may not wear condom in such situation before sex as a 22-year-oldfisherman in Zimbabwe pointed out that

> *"Most of the time we are too drunk to even think of condom.*
> *By five in the evening most of us are drunk. Do you think,*
> *in such a state, anyone will insist on a condom?"*
> (Plus News, 2011).

A Thailand fisherman corroborated this when he said that *"Alcohol and condom useare often incompatible among fishermen"* (Fhi360, 2011).

The total number of condoms provided by international donors has been relatively low in Nigeria. Between 2000 and 2005, the average number of condoms distributed in Nigeria by donors was 5.9 per man, per year (UNFPA, 2005). Restrictions on condom promotion have hampered HIV prevention efforts. In 2001, a radio advertisement was suspended by the Advertising Practitioners Council of Nigeria (APCON) for promoting messages suggesting that it is acceptable to engage in premarital sex as long as a condom is used (Population Services International,2003). In 2006 APCON also started to enforce stricter regulations on condom advertisements that might encourage 'indecency' (UN Integrated RegionalInformation Networks/All Africa, 2006). However, authorities in Nigeria these days are liberal in condom advertisement and promotion. The number of female condoms sold in Nigeria has significantly increased from 25,000 in 2003 to 375,000 in 2006 (UNFPA, 2007).

BCC aims to reduce behaviours that place individuals at risk of becoming HIV-infected or spreading the virus to uninfected partners by providing accurate information about individual risks, modes of transmission of HIV, and effective means to avoid transmission. It also seeks to motivate individuals to use this information consistently and appropriately. Behavioural interventions seek to promote a range of behavioural objectives related to reducing HIV transmission. These objectives include, among others, abstinence, delay of sexual debut, monogamy, fidelity, and partner reduction (PEPFAR, 2011).Behavioural interventions include sexual behaviour change communications (SBCC) that employ a variety of channels to communicate a range of messages. The channels of communication in SBCC are mass media, community interventions and interpersonal communication.

As Nigeria is such a large and diverse country, media campaigns to raise awareness of HIV are a practical way of reaching many people in different regions. Radio campaigns like the one created by the Society for Family Health are thought to have been successful in increasing knowledge and changing behaviour. *"FutureDreams"*, was a radio serial broadcast in 2001 in nine languages on 42 radio channels. It focused on encouraging consistent condom use, increasing knowledge and increasing skills for condom negotiation in single men and women aged between 18 and 34 years.In 2005, a campaign was launched in Nigeria in a bid to raise more public awareness of HIV and AIDS. This campaign took advantage of the recent increase in owners of mobile phones and sent text messages with information about HIV and AIDS to 9 million people (Population ServicesInternational, 2003).

Another high profile media campaign is fronted by Femi Kuti, the son of Fela Kuti, the famous Afro beat musician who died of AIDS in 1997. He appears on billboards alongside roads throughout Nigeria with the slogan 'AIDS: No dey show for face', which means you can't tell someone has AIDS by looking at them (Reuters New Media, 2003).

There are different types of billboards adorning major roads in towns and cities in the country about the need of the populace to engage themselves in safer sex practices. Also, there are various types of jingles in radio and television about the various ways of contracting HIV and the prevention of this deadly virus.

Much of the research on mass media had focused on changes in knowledge, risk-perception, and self-efficacy. Reviews of this research have generally found small but positive effects on each of these indicators (Bertrand *et al*, 2006). Studies have also linked mass media to reported positive behavioural outcomes such as delay of sexual debut (FHI, 2003), decrease in number of sexual partners (Noar, 2006; Snyder et al,2011; Vaughan and Rogers, 2000), increase in condom use (Wakefield *et al*, 2010), and utilization of HTC and PMTCT services (Marum *et al*, 2008 ; Sebert, 2008).Current research suggests that mass media is most effective when used to: facilitate advocacy efforts (Abroms and Maibach, 2008); promote branded products and programs and complement other community-level and interpersonal activities. Mass media programming has been shown to produce a dose-response effect, in which higher exposure to messaging resulted in increased self-reported positive behavioural change (Van and Meekers, 2007). Mass media campaigns have the ability to reach large segments of the population in a cost-effective manner, and can have a role in creating awareness and demand for core prevention interventions (PEPFAR, 2011)

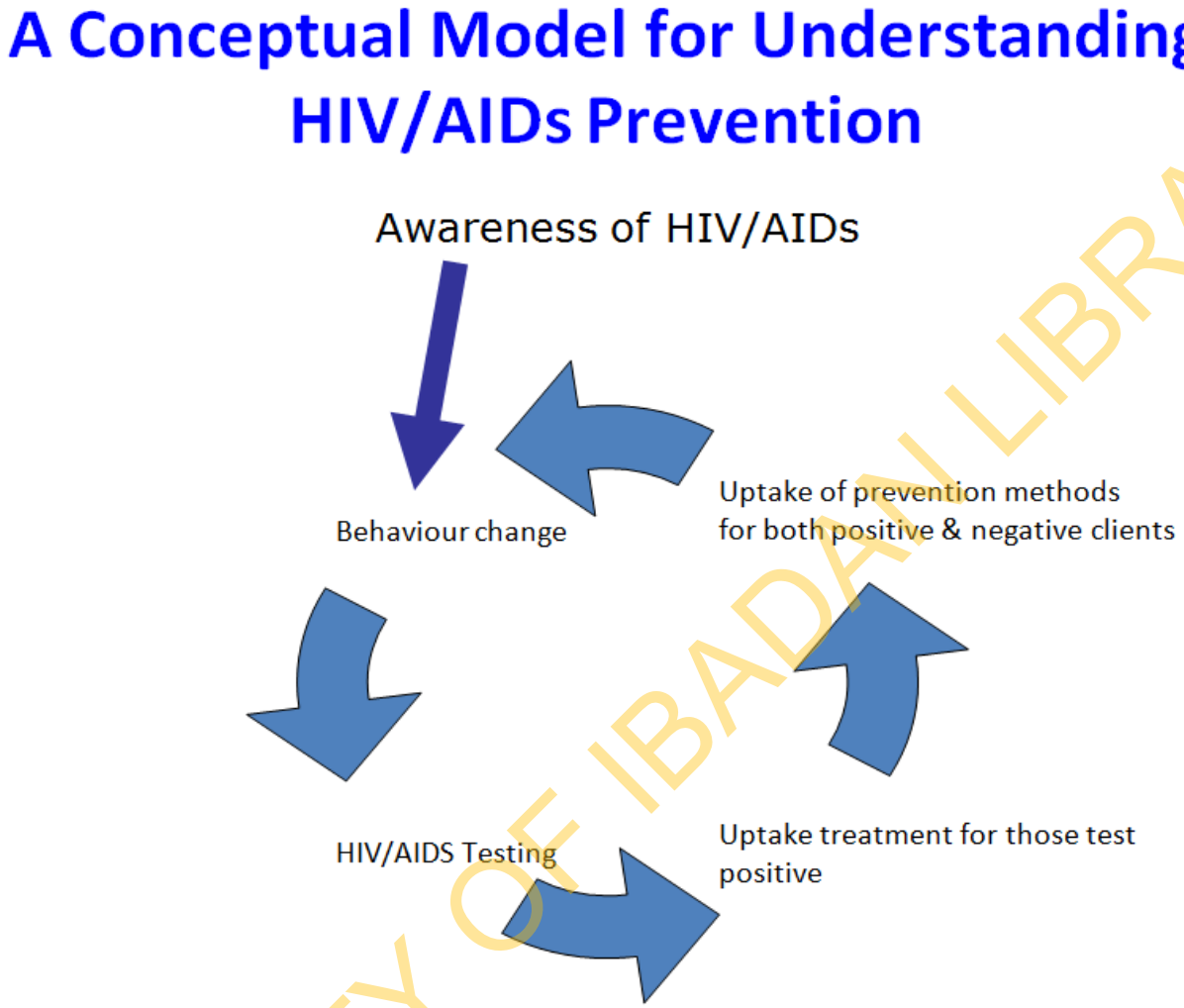


Figure2.9: Conceptual Model for Understanding HIV and AIDS Prevention.

Source: Okonofua(2010).

According to the Conceptual Model for Understanding HIV and AIDSPrevention as shown in Figure 2.9, people who are well informed about methods of transmission of HIV, prevention of HIV and myths about HIV will develop positive behaviour change toward practicing safer sex or abstinence. They will also be able to undertake HIV testing. People that are sero-positive will be encouraged to go for treatment. Also at the HCT Centres, both positive and negative clients are informed of the various prevention methods. Sero-negative clients will be encouraged to practice safer sex and not to be involved in risky sexual behaviour that will make them vulnerable to contracting HIV. While sero-positive clients will be encouraged to adhere strictly to instructions guiding the treatment of HIV (Okonofua, 2010).

Education accelerates behaviour change among young men, making them more receptive to HIV prevention messages and they are more likely to adopt condom use. Education is so strongly predictive of better knowledge, safer behaviour and reduced infection rates that it has been described as the "social vaccine". Fisherfolks need to be educated so that in the process they can be well informed about HIV prevention (Okonofua, 2010).

2.18 Voluntary HIV Counselling and Testing (HCT)

Voluntary HIV Counselling and Testing is when a person undergoes HIV and AIDS counselling so that he/she makes an informed decision about whether to be tested for HIV. Among the interventions which play a vital role in treatment and prevention, HIV Counselling and testing stands out (UNAIDS, 2004a). There are two approaches to testing-client initiated and provider initiated. The client initiated Voluntary Counselling and Testing (VCT) is a process by which an individual voluntarily undergoes counselling that enables him/her make informed choice about being tested for HIV (UNAIDS, 2004b). The test also gives persons living with HIV and AIDS (PLWHA) early access to medical and emotional care, preventive therapies and opportunity to prevent mother – to – child transmission (PMTCT) (Sweat *et al*, 2000).

The counselling component should be based on confidentiality and include information about HIV transmission and personal discussion about an individual's risk in order to enable people to make informed decisions about testing and their own risk. Thus expanding access to VCT services has both individual and societal benefits (WHO, 2003). For the individual, VCT enhances the ability to reduce owns risk of acquiring or transmitting HIV, to access HIV-specific treatment, care and support (MOH Addis Ababa, 2006). VCT also enables one to manage one's health and to plan for the future (WHO, 2003). VCT is also vital for providing access to emotional support, improving skills to cope with HIV- related

anxiety and increasing motivation to avoid risky behaviours (Leta *et al*, 2012). Furthermore, counselling and testing provide awareness of safer options in preventing vertical HIV transmission if pregnant women and their families use such services and learn about their serostatus (Baggaley, 2001; WHO, 2003). For society, widespread knowledge of one's HIV status can lead to better community mobilization against the epidemic and may reduce HIV – related stigma and discrimination (WHO, 2003) and support human rights (Baggaley, 2001).

Despite the potential benefits of VCT, uptake is often poor regardless of the availability of the services (Baggaley, 2001; WHO, 2003; Matovu and Makumbi, 2007; Bwambale et al, 2008; Hutchinson and Mahlalela, 2006; Sherr *et al*, 2007). Several possible contributing factors could play an essential role in the uptake of VCT: Socio – demographic characteristics, proximity to a clinic (Matovu and Makumbi, 2007; Bwambale *et al*, 2008; Hutchinson and Mahlalela, 2006), awareness/knowledge related to HIV and AIDS (Bwambale *et al*, 2008; Hutchinson and Mahlalela, 2006; Jereni and Muula, 2008), perceived benefits of VCT (Baggaley, 2001), the belief that knowledge of infection may accelerate disease progression, psychosocial factors such as HIV and AIDS – related stigma and discrimination and concerns about confidentiality (WHO, 2003; Matovu and Makumbi, 2007; Bwambale *et al*, 2008).

Utilization of Voluntary Counselling and Testing services among fisherfolks and general fishing communities is low. Concerted effort is needed and advocacy to bring about Voluntary Counselling and Testing to actual uptake among fisherfolks (Okiriamu et al, 2013). Women in fishing communities apart from selling beer, they also double as commercial sex workers and in most cases, fishermen are attracted to them mainly for sexual relationship in exchange for fish as said earlier. These activities do not influence utilization of Voluntary Counselling and Testing services instead it promoted spread of HIV infection.

2.19 HIV High Risk Populations

HIV High Risk Populations are the Most at risk people (MARP). MARP is a term that is used for: Male and female injecting drug users (IDU) who use non-sterile injecting equipment; Males who have unprotected anal sex with other males; females and males who are involved in sex work including those who are trafficked for the purpose of sexual exploitation and have unprotected often exploitative transactional sex and males who have unprotected sex with sex workers (http:/www. Also MARP may also include truckers, prisoners, soldiers, internally displaced people, refugees, orphans and vulnerable children. What is shared by MARP nearly universally is high vulnerability to HIV infection and low access to services (Beyrer *et al*, 2012).

Injection drug users (IDU) are drug users that do inject themselves with drugs such as cocaine, heroin to mention a few. Outside sub- Saharan Africa, IDU accounts for one in every

3 new cases of HIV. Of the estimated 13 million people injecting drugs worldwide, nearly 3 million are living with HIV. Data from sub- Saharan Africa suggest that HIV is prevalence among people who inject drugs is high and rising. (USAID and UNAIDS, 2010). IDU are vulnerable to HIV infection if they share injecting equipment or drug preparations that contain HIV infected blood. IDU change sexual partners more often and might have several concurrent sexual relationships thereby increasing their vulnerability to HIV. Young users of injecting drug sometimes sell sex in order to pay for their drugs, which may result in multiple sexual partners and often unprotected sex (http:/www.Mapnetwork.org/docs) thereby making them more vulnerable to HIV infection. The environment in which illicit drug use takes place largely determines the types and degree of harm that results. Having one's own needle and syringe might be the safest way to inject in terms of avoiding HIV (USAIDS and UNAIDS, 2010).

MSM are men who identify themselves as gay, bisexual or otherwise same gender oriented in sexuality and sexual practice. HIV infection has affected men who have sex with men (MSM) since the beginning of HIV pandemic. A study (Griensven *et al*, 2009) reported infection rates among MSM ranging from 12% in Tanzania to 31% in a township of Cape Town in South Africa. In low-resource settings, MSM are on average 19 times more likely to be infected with HIV than the general population (Baral et al, 2007). Penetrative anal sex particularly with multiple sexual partners without using condom is behaviour of MSM that makes them to be vulnerable to HIV infection (USAID and UNAIDS, 2010). Transmission of HIV is 5 times more likely to occur through unprotected receptive anal sex than through unprotected receptive vaginal intercourse (Beena *et al*, 2002).

Sex workers are men and women that sell sex for money regularly. It also includes some women that are sexually exploited. Sex workers are vulnerable to HIV infection because they are less likely to negotiate condom use with clients especially where clients are willing to pay more for sex with young girls and boys because they assume that they are "pure" (USAIDS and UNAIDS, 2010). Clients of sex workers who also have sex with their wives and girlfriends might transmit HIV through unprotected sex which links most at risk people with the general population (Wiessing and Kretzchmar, 2002).

2.20 Gap in Knowledge

It has been established that fisherfolks do migrate from one fishing community to another (Abobi *et al*, 2015; Marquette *et al*, 2002; Tawari 2002) in search of better catch. But these movements increase the risk of migrant fisherfolks to HIV infections. Expectedly this study will fill this gap with the information given to the fisherfolks during continue education at post-intervention about effects of migration on fisherfolks. Also, studies (Andriote, 2011; Ovie *et al*, 2009; Olowosegun *et al*, 2009) confirmed the low level of knowledge or no

knowledge at all amoung fisherfolks on HIV and AIDS. It is expected that this study will fill this gap among fisherfolks in Ajaokuta fishing community through the HIV prevention training offered to them.

Fisherfolks have low risk perception towards HIV infection (Messer Smith *et al*, 2010). This was made known to the fisherfolks in the experimental group at the commencement of HIV prevention training. In order to fill this gap, discussions were held with the fisherfolks about how low risk perception can lead to infection of HIV. The problem of transactional sex which is rampant among fisherfolks in many fishing communities had not been fully addressed (Olowosegun *et al*. 2009). This is a serious gap in the sexual behaviour of fisherfolks in fishing communities which this study will address.

2.21 Conceptual frame work for the study

This study will be guided by the integration of constructs from the Health Belief Model and thePRECEDE-PROCEEDmodel. Though efforts have been made to explain the rational for the adoption of the two theories,the blending of the theories to develop a newer model is best fit for this study .While some constructs of the health belief model are inadequate in being able to explain this study adequately, the support from key constructs from the precede -proceed model creates a best fit in explaining the effects of training on HIV and AIDS and sexual behaviour among on fisherfolks

2.21.1 PRECEDE-PROCEED Model

Precede frame work was developed by Green *et al*, 1980. The frame work is considered to be a metal-model or model of models because it incorporates key concepts from Social Learning Theory (SLT), Health Belief Model (HBM) and other social theories. This model explained the factors important to an expected behaviour. The model is useful in behavioural diagnosis and evaluation, to create avenue for improvement or new intervention strategies where necessary. The model is broadly defined to include epidemiological, social environment and economic indicators.

The aim of PRECEDE-PROCEED model was to provide a comprehensive framework for assessing health and quality-of-life needs and for designing, implementing and evaluating health promotion and other public health programmes to meet those needs. PRECEDE stands for Predisposing, Reinforcing and Enabling Constructs in Educational/Environmental Diagnosis and Evaluation. As the name of the model implies, it represents the process that precede, or leads to an intervention. PROCEED stands for Policy, Regulatory and Organizational Constructs in Educational and Environmental Development.Educational diagnosis assesses factors antecedent to performance of behaviour that is predisposing, enabling and reinforcing factors.

- Predisposing factors, which motivate or provide a reason behind any behaviour, these include knowledge, attitudes, cultural beliefs, norms and perception.
- Enabling factors, refer to their skills and competencies, resources and favourable environment which enable persons to act on their predispositions; these factors include available resources, supportive policies, assistance and services.
- Reinforcing factors, Reinforcing factors relate to things that will increase the occurrence or strengthen the behaviour.

2.21.2 Reasons for using Precede-Proceed Model for Health Promotion Intervention

1. Precede-Proceed Model provides a template for the process of conceiving, planning, implementing and evaluating a community intervention.
2. Precede-Proceed model is structured as a participatory model to incorporate the ideas of the community intervention. That means its use will provide more and more accurate, information about the issues in question and with a better understanding of their history. Community involvement is also a means of building community ownership of the intervention, leading to more community support and a greater chance of success.
3. Precede-Proceed model considers the ways administrative and policy guidelines can limit or shape an intervention, an area of intervention often ignored.
4. Preceed-Proceed incorporates evaluation of the process, the intervention itself and the final outcome. That allows the intervention to be monitored and adjusted to respond to community needs and changes in the situation and checks that its accomplishments actually lead to the projected goal.

2.21.3 Effects of Training on fisherfolks on knowledge of HIV and AIDS and sexual behaviour using Precede-Proceed Model.

Predisposing factors: Knowledge of fisherfolks on HIV and AIDS, the risk of contracting HIV if involved in unprotected sex and the ability to practice safer sex particularly condom use will go a long way in making the fisherfolks not to contract HIV.

Enabling factors: The enabling factors included the availability and low cost of condom, association of HIV and AIDS with death and the simple skills to use condom will encourage the fisherfolks to adopt safer sex behaviour.

Reinforcing factors: Monitoring, supervisory guidance and evaluation of the implementation activities, messages on HIV and AIDS on radio, Mosques, churches, NGOs as well as encouragement by friends/sexual partner and health worker to practice protected sex are some of the factors that would encourage fisherfolks to practice safer sex (Figure2.10).

PRECEDE has four phases, which are:

Phase 1: Identifying the ultimate desired outcome.

Phase 2: Identifying and setting priorities among health or community issues and their behavioural and environmental determinants that stand in the way of achieving that result, or conditions that have to be attained to achieve that result; and identifying the behaviours, lifestyles and/or environmental factors that affect those issues or conditions.

Phase 3: Identifying the predisposing, enabling and reinforcing factors that can affect the behaviours, attitudes and environmental factors given priority in phase 2.

Phase 4: Identifying the administrative and policy factors that influence what can be implemented.

PROCEED has four phases that cover the actual implementation of the intervention and the actual evaluation of the intervention, working back to the original starting point- the ultimate desired outcome of the process.

Phase 5: Implementation: The design and actual conduct of the intervention.

Phase 6: Process evaluation: Ensuring that the intervention was carried out as planned.

Phase 7: Impact evaluation: Find out if the intervention is having the desired impact on the target population.

Phase 8: Outcome evaluation: Find out if the intervention leads to the outcome (the desired result) that was envisioned in Phase 1.

PROCEED

Implementation of the intervention: This is the phase that involves the implementation of the intervention as it has been planned.

Process evaluation: This phase reviews the intervention as it is ongoing making sure that specific tasks are carried out.

Impact evaluation: This is the real effects of the intervention. Analysis would be done to ensure that the interventions are having the desired result. That is, the fisherfolks put into practice safer sex behaviour.

Outcome evaluation: The outcomes of the intervention on fisherfolks are examined to see if the direct effects of the intervention carried out have any effects on the knowledge of HIV and AIDS and risky sexual behaviour of the fisherfolks.

The model was used to design the instrument of the study.

Application of the Conceptual Framework

The PRECEDE model was grounded in psychological understanding of the ecological framework of human behaviour. It focuses attention on identifying gaps in knowledge of HIV and AIDS and attitude that do not encourage safer sex behaviour. Interventions are designed to address these issues to improve knowledge and attitude that contribute to the desired result. The precede model identified messages on HIV and AIDS on Radio and television as well as health talks on HIV and AIDS in Mosques, Churches and NGO as reinforcing factors toward accomplishing safer sex behaviour. Enabling factors include association of HIV and AIDS to death if not treated as well as availability and low cost of condom

The PRECEDE model was operationalized in this study and this provided opportunity to identified gaps in knowledge on HIV are AIDS and safer sex practices which were used to organize training intervention for the fisherfolks. On predisposing factors, fisherfolks knowledge on HIV and AIDS were measured by responding to set of questions on mode of transmission of HIV, treatment of HIV and AIDS prevention. Enabling factors were measured by use of condom. Reinforcing factors were measured by questions on HIV and AIDS messages received from friends/sexual partner and health worker. Also included as reinforcing factors was the monthly meetings with fisherfolks in the community of the experimental group. All these were analysed and used to design training intervention for the fisherfolks. Training was used to provide solutions to the identified gap.

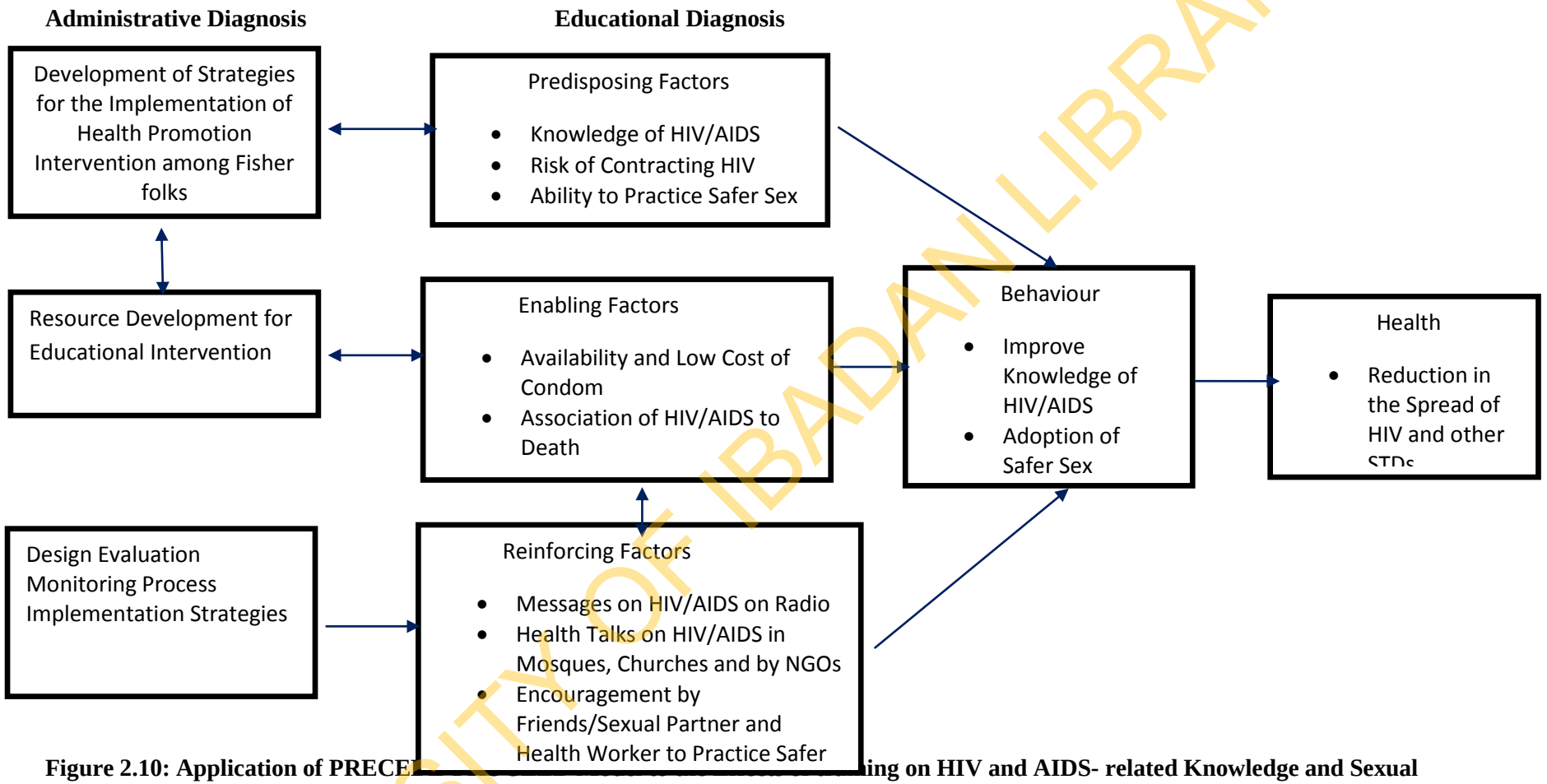


Figure 2.10: Application of PRECE… …ing on HIV and AIDS- related Knowledge and Sexual Behaviour among Fisherfolks in Selected Riverine Communities of Kogi State.

2.22 Health Belief Model

Health Belief Model (HBM) is one of the most commonly used theory in health promotion and education. The underlying concept of HBM is that health behaviour is determined by personal beliefs or perceptions about a disease and the strategies available to decrease its occurrence.HBM is a conceptual framework used to understand health behaviour and possible reasons for non-compliance with recommended health action (Becker and Rosenstock, 1984). It can provide guidelines for programme development allowing planners to understand and address reasons for non-compliance.

The perceptions that serve as the main constructs of the model are perceived seriousness which speaks to an individual's belief about the seriousness or severity of a disease, perceived susceptibility which is a person's subjective perception of the risk of acquiring an illness or disease, perceived benefits which is a person's opinion of the value or usefulness of a new behaviour in decreasing the risk of developing a disease, perceived barriers, that is the individual's own evaluation of the obstacles in the way of him or her adopting a new behaviour, cues to action which are events or things that move people to change their behaviour and self- efficacy which is the belief in one's own ability to do something (Becker and Rosenstock, 1984).

Applying the HBM to the study, for individual perception about HIV, fisherfolks perceived susceptibility to HIV infection may include their involvement in unprotected sex, "fish for sex" and having multiple and concurrent sexual partners. Perceived severity of HIV infection to the fisherfolks may include the fact that if infected with HIV, they will not have enough strength to carry out their fishing activities and seen the pictures of AIDS patient may make the fisherfolks to perceive the severity of HIV infection.

Under the modifying factors are age of the fisherfolks, their ethnicity which are Nupe, Bassa and Igbira. Linked to this is the fisherfolks' perceived threat of HIV infection which includes the fact that HIV and AIDS have no cure. If infected with HIV, they will have to be on antiretroviral treatment (ART) for life and if not, death may occur. This perceived threat may encourage fisherfolks to adopt the behaviour of practicing safer sex. Advice from sexual partner to use condom, health talk in Churches/Mosques about safer sex and advice from health worker to practice safer sex may be cues to action that will move fisherfolks to change their risky sexual behaviour to adopting safer sex practice like using condom.For likelihood of action by fisherfolks, the perceived benefits of HIV prevention which fisherfolks may consider include protecting themselves against HIV infection and reducing the possibility of infecting people with HIV.

Perceived barrier of fisherfolks to adopt the behaviour of safer sex may include the challenge of having assertive skill to purchase condom, overcoming the notion that use of condom by male fishers will devalue their manhood status and the challenge of female fishers

to convince male sexual partners to use condom. The self- efficacy would be the ability of fisherfolks to use condom correctly. If fisherfolks belief that the benefits of HIV prevention outweigh the consequences of HIV infection, then the new behaviour of HIV prevention through the practice of safer sex would be adopted.

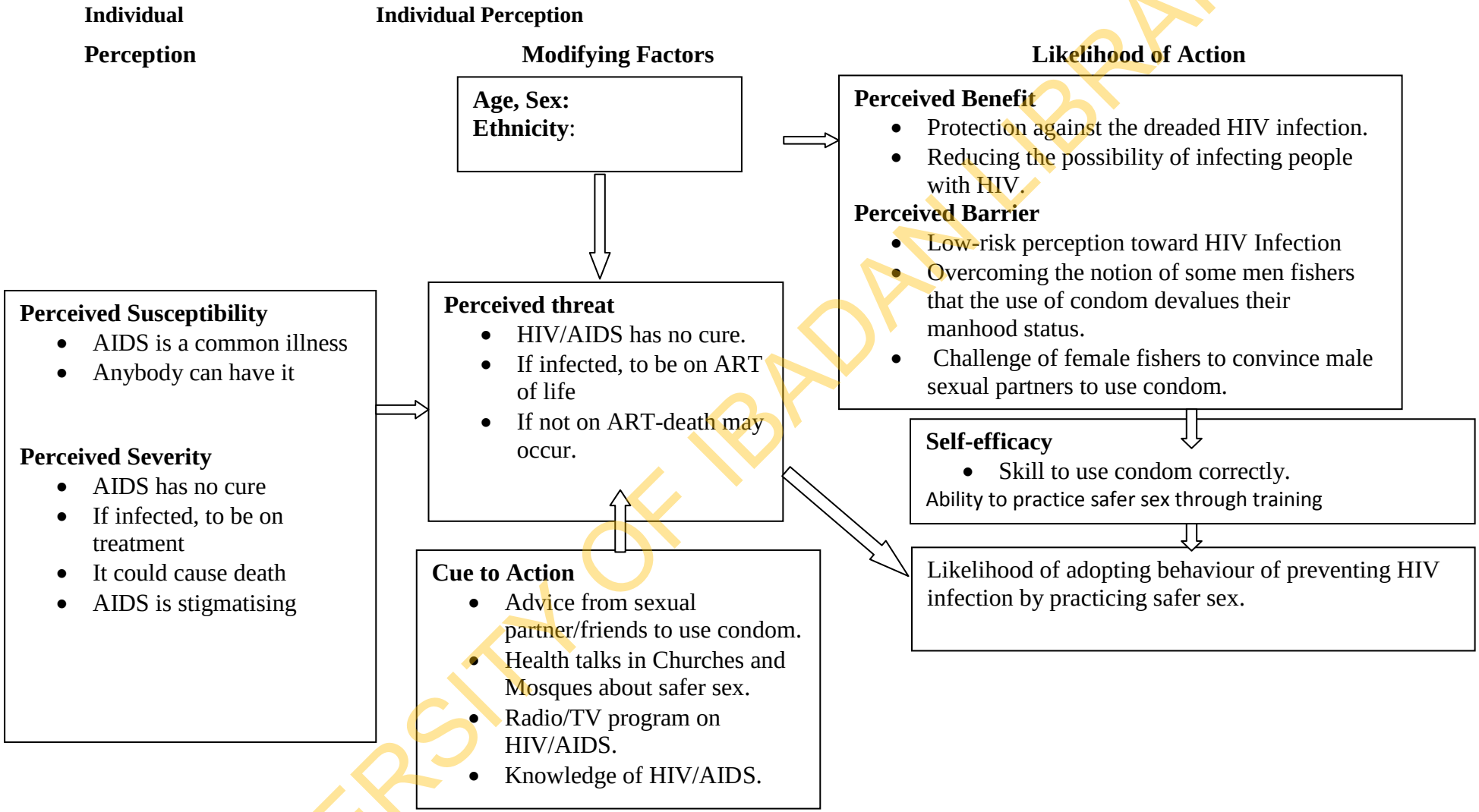


Figure 2.11: HEALTH BELIEF MODEL

2.22.1 Application of Health Belief Model to the study

The Health Belief Model was operationalized in this study in that the individual perception of the fisherfolks as regard adoption of safer sex behaviour were identified and part of which were used to organize training intervention for them. On perceived susceptibility, involvement in unprotected sex, involvement in "fish for sex" and having multiple sexual partners were measured by responses to some questions that has to do with sexual behaviours under pattern of behaviours that favour spread of HIV. Perceived severity were measured by the pathetic reaction of the fisherfolks which they displayed when they saw the horrible pictures of HIV and AIDS patients in one of the posters displayed during the training. As for individual perception, under perceived threat, anybody infected with HIV has to be on antiretroviral treatment throughout lifetime or death may occur. For cue to action, knowledge of HIV and AIDS, advice from sexual partners as well as friends to use condom, health talks in Churches/Mosques and on Radio and Television were measured by responses to questions on knowledge about HIV and AIDS and some questions on sources of information on HIV and AIDS.

In the likelihood of action, perceived benefit in which there is protection against HIV infection was measured by responses to questions on use of condom. Also, as for perceived barrier fisherfolks may have to adopt safer sex behaviour is low risk-perception toward HIV infection which was measured by responses to questions in the section on risk-perception. On self-efficacy, ability to practice safer sex which include use of condom and elimination or reduction in number of sexual partners were also measured through responses to questions on use of condom and number of sexual partners.

Integration of the two conceptual models to explain the study

The application of each of the models in explaining the pricipal research question demonstrated gaps in each of the models. As a result, while the Precceed proceede model lacked internal motivation constructs such as inner drive by participants to take action, the health believe model had the cues to action construct which accounted for that deficit. The precede- proceed model minimally explains the self efficacy dimension to behavioural change from an intervention. This has been corrected by the addition of the self –efficacy construct in the extended preceed procede model. Primarily, the health belief model had four main constructs but the addition of the self efficacy and the cues to action have corrected the initial deficit in the model. Nonetheless, the holistic adoption of the health belief model to the current study was not extensively adequate in explaining fisherfolks knowledge and sexual behaviour. In the light of this, the blend of the precede- proceed has facilitated a better understanding of knowledge construction and sexual behaviour manifestations among the studied fishing communities.

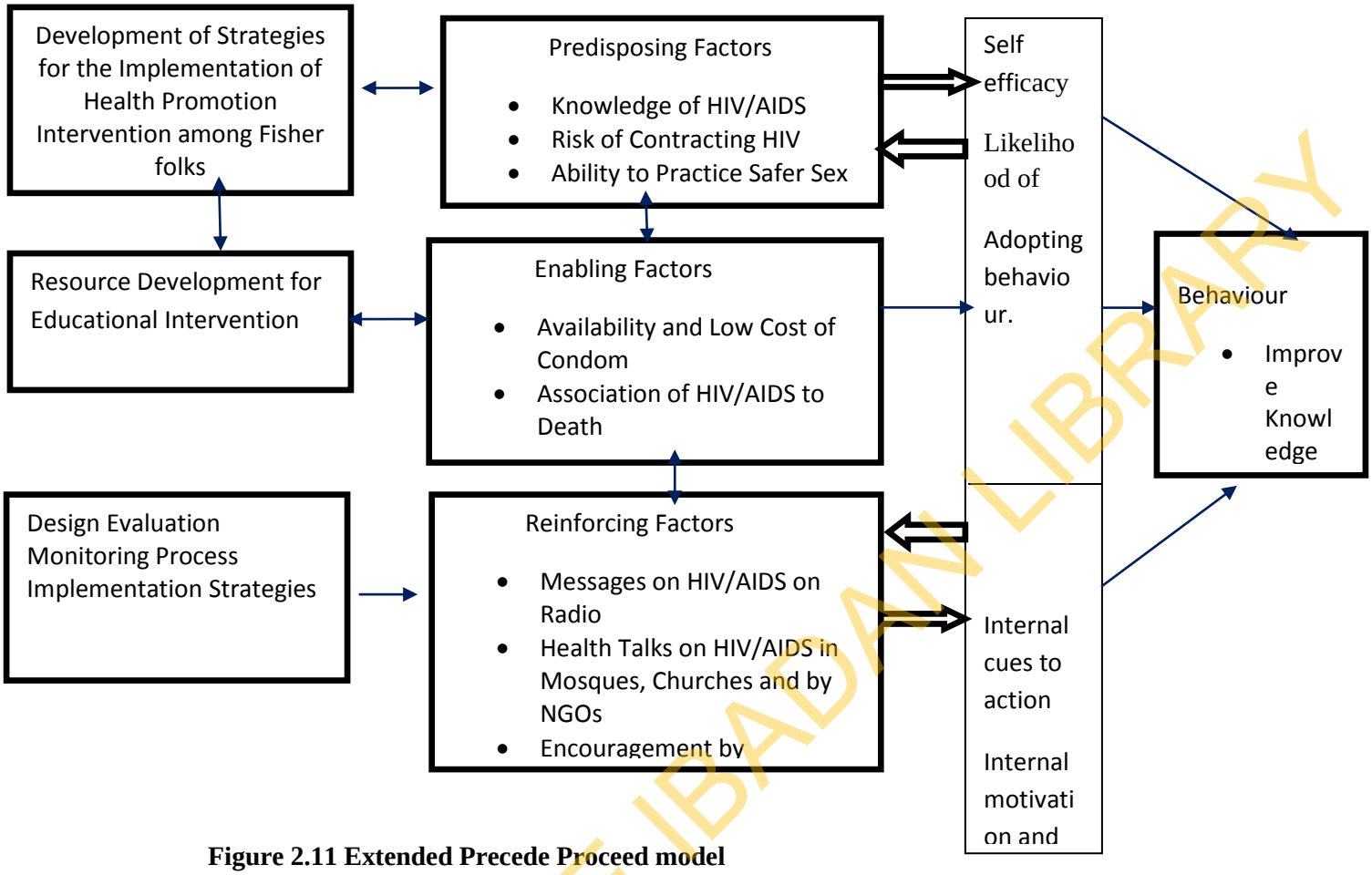


Figure 2.11 Extended Precede Proceed model

Sources: Authors construct 2017

2.22.3Summary

The review of literature which borders on HIV and AIDS as well as the fishery sector clearly shows that the sector plays a significant role in the life of people, particularly artisanal and subsistence fishing as it serves as a source of livelihood to a lot of fisherfolks. Fish also is a very good source of animal protein. As mentioned in the review, the role of the fishery sector in Nigerian economy is enormous. These are the reasons why government, stake holders, NGOs and agencies should not wait to see this ravaging HIV and AIDS pandemic reduce the number of people in this important sector or to affect their health thereby making them unable to practice their fishing job effectively.

Fisherfolks are not on the priority of government, organizations and agencies responding to prevention and mitigation of HIV and AIDS. Stakeholders in HIV and AIDS do not classify fisherfolks as high risk group that are vulnerable to HIV infection and that is why the investigator has taken up the challenge of carrying out the study.The chapter concludes with precede proceed and Health Belief Model which were the two models used to explain the study. The next chapter deals with the methodology for the study.

CHAPTER THREE

3.0 METHODOLOGY

3.1 Introductory Statement

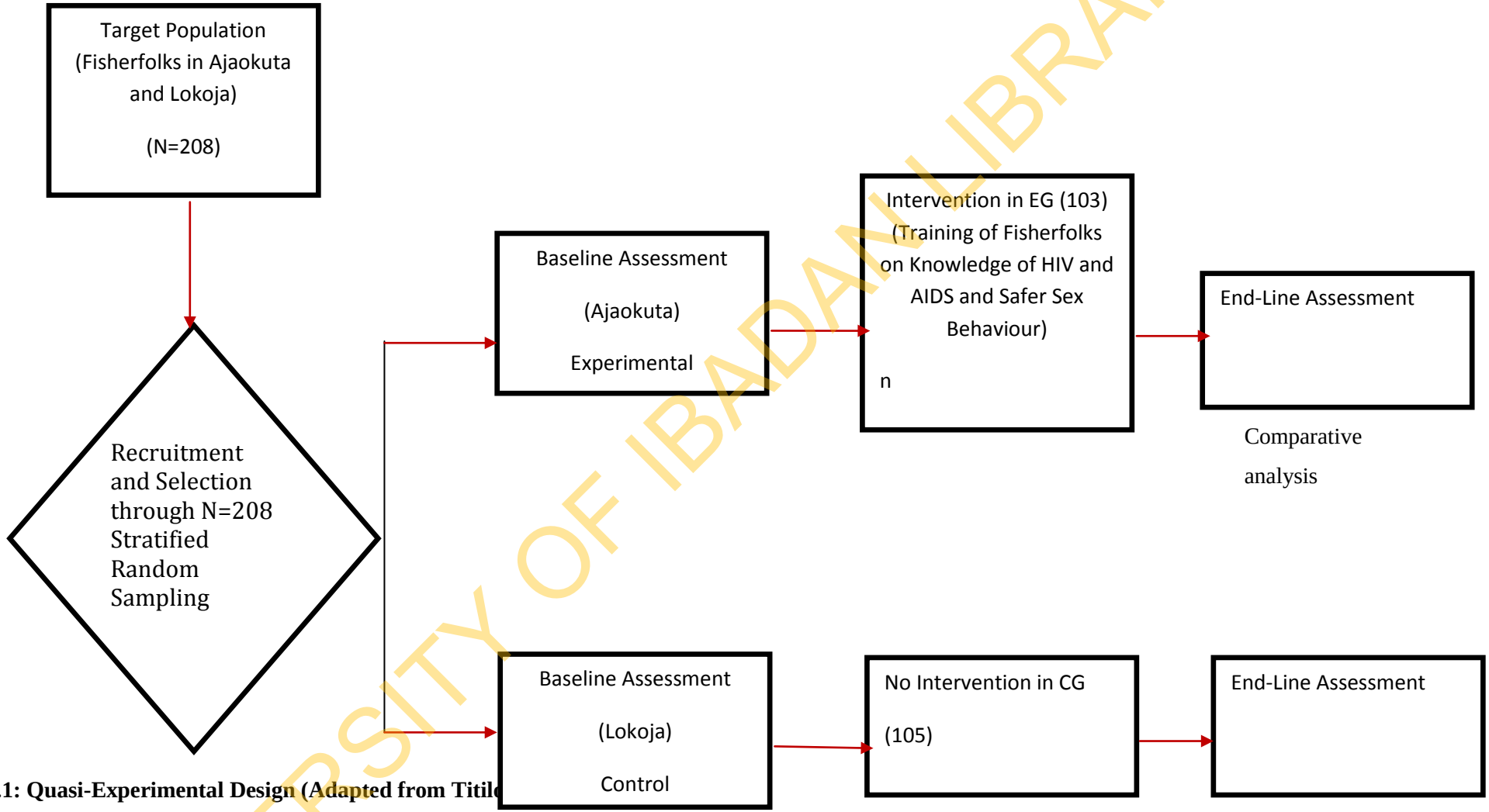
This chapter describes the methodology that was adopted for the study. It contains the research design, description of the study areas, sampling size calculation and sampling procedure. Others are inclusion and exclusion criteria, instruments for data collection as well as training of research assistants. Also discussed are data management and the intervention activities. The chapter concludes with explanation of post-intervention activities, limitations of the study and the ethical consideration for the study.

3.1 Research Design

The study was quasi-experimental in design involving two groups which had similar characteristics. In this approach (quasi-experimental) one group serves as intervention

(experimental) group while the second serves as a control group. The Experimental Group was exposed to intervention activities while the Control Group were not. At the end of the intervention programme, the investigator collected relevant information to make comparisons.The study involves fisherfolks in Ajaokuta fishing community (Geregu) in Ajaokuta Local Government Area (LGA) serves as Experimental Group (EG). Fisherfolks in fishing community of Lokoja (Kabawa) in Lokoja LGA serves as Control Group (CG).

With the quasi- experimental design, the researcher was able to observe the changes that occurred over time on the dependent variables including knowledge of HIV and AIDS, risk-perception toward HIV infection and sexual behaviouramong fisherfolks in Ajaokuta which can be attributable to the intervention (Figure 3.1).



igure3.1: Quasi-Experimental Design (Adapted from Titil

Scope of the Study

The study is limited in scope to knowledge of HIV and AIDS, risk perception toward HIV infection and sexual behaviour among fisherfolks in Ajaokuta and Lokoja fishing communities (Geregu and Kabawa respectively).

Variables of the Study

Dependent Variable

The dependent variables were:

1. Knowledge of HIV and AIDS.
2. Risk-perception toward HIV infection
3. Sexual behaviour

These variableswere adapted from the conceptual framework (precede-proceed model and Health Belief Model) used for this research.

Independent Varable

The independent variable for the study was the exposure to intervention.

What were used to measure the outcome of the intervention were the changes that occurred to the variables among fisherfolks in the experimental group. These changes were:

1. Increase in knowledge of HIV and AIDS.
2. Increase in risk-perception toward HIV infection and
3. Reduction in risky sexual behaviour.

These changes occurred among fisherfolks in experimental group than control group might be as a result of their exposure to HIV and AIDS training and continue education during follow up. Fisherfolks in the control group were not exposed to the intervention.The study sites were in Ajaokuta fishing community (Geregu) in Ajaokuta LGA and fishing community in Lokoja (Kabawa), Lokoja LGA. The fishing communities were selected on the basis that the investigator assumed that they were similar in characteristics. The details of the description of the study area are provided below.

3.3 Description of Study Area

3.3.1 Ajaokuta fishing community

Geregu fishing community in Ajaokuta was used for the study as Experimental Group. The fishing community is on the Eastern part of Ajaoluta LGA. The community is close to the Geregu Electricity Generating Power Plant that generates electricity for Ajaokuta Steel Company (ASCON). The meaning of Geregu in Nupe dialect is “Let us move away from lower land close to river to upland” Most of the people in this community are frisherfolks and they belong to the tribes of Bassa, Hausa, Nupe, Ebira, Yoruba and others.

However the indigenous people in this community are the Nupes. Most of the people in this community speak Nupe language.

There are men fishers and women fishers in this community. Some of them leave very early in the morning to fish on River Niger and return in the evening. Some go into the river for their fishing activity in the evening and return in the morning of the next day. Just as it obtains in most fishing communities, a whole family may be in a boat fishing on the river. The husband may be setting the nets and the hooks while the children or the wife may be steering the boat or the canoe as the case may be.

Just like what obtains in Lokoja, it is a taboo for any fisherfolk to go into river to fish on Friday since the people of the community do observe Friday as a holy day of which everybody is expected to go for Jumat service. Also fisherfolks are not expected to sell their catch to buyers directly. Women buyers are conversant with the time fisherfolks return to the bank of River Niger. Women fish buyers buy the fish, some may be smoked processed and sold to fish retailers or fish whole sellers. The fish may be sold in Geregu river bank or taking to market in neighbouring fishing communities like Itobe, Shintaku among others. According to one of the community leaders in Geregu, it is during the period fisherfolks return to the banks of the river to sell their fish as well as in the market that men fisherfolks develop sexual relationship with women fish sellers and processors.

The traditional ruler of Geregu is Esau Atolla. He is a third class traditional ruler. There are other traditional leaders that are helping him to see to the affairs of the community. Majority of the members of Geregu fishing community were Muslims with some few Christians and traditionalist. That is why Fridays were declared as no fishing days. During dry season from December – May the water level of River Niger goes down. There is reduction in the amount of fish in the river during this season. A fisherman in the community told the investigator that it is during raining season when there is a lot of water in the river that they normally have reasonable catch. He said that fishes also migrate from one place and they move with the water. He further explained that whenever they open Kainji Dam and Jebba dam in Niger state, some fishes that had been locked up in the dam will flow with the water downstream thereby increasing the number of fishes in the river thereby increasing their catch.

During the dry season, most of the fisherfolks engage in farming in order not to remain idle. They grow crops like rice, maize and guinea corn close to the banks of the river. The major staple food in the community is rice which is prepared as joloff rice or what is called "ejeboci" in Nupe that is “marshed rice. It is a tradition among the fisherfolks in the community to welcome visitors with delicious meals of rice and fish soup. Also during ceremonies such as naming ceremonies, marriage as well as festivals like Sallah, end of Ramadan fast, rice meal is a common feature.

There is Ete fishing festival in Geregu which is normally celebrated in the first quarter of the year. There is a large fishing pond in the community where the festival is celebrated. The boats are decorated and fisherfolks are normally in beautiful costumes. There is fishing competition in which fisehrfolks that have the biggest catch are given prizes. Prominent people are normally invited to grace the festival.

3.3.2 Lokoja Fishing Community

The fishing community that was used for this study in Lokoja as Control Group was Kabawa fishing community. The fishing community is located along River Niger. The word "Kabawa" stands for fisherman which depicts the occupation of the people in the community. Majority of the residents of this community are fisherfolks. These fisherfolks are Nupe, Kakanda, Hausa, Ebira, Yoruba and other tribes. They carry out their fishing activities on River Niger and they are also into farming growing crops like ground nut, rice, maize and other crops on the banks of River Niger particularly during off season when the water level of the river goes down. Majority of the women in this community are in to production of ground nut cake known as "Kulikuli" and ground nut oil which are produced from ground nut.

Fisherfolks go into the river early in the morning to carry out their fishing activities and return in the afternoon or in the evening while some commence their fishing by mid-night and return early in the morning. Women fish sellers are always waiting for the fisherfolks at the bank of the river to buy their "catch" and they will now sell them in the market. According to some fisherfolks in the community, various form of transactional sex takes place in this market. The head of the fisherfolks in this community is called "Mai Ruwa". The fisherfolks normally hold their meetings in his house. Majority of the people in the fishing community are Muslims because Islam is the dominant religion in the area. We also have few Christians and traditional worshipers in the community. Polygamous family is predominant among the people since majority of them are Muslims.

There are activities that are believed to be a taboo in the community. They are as follows: Fisherfolks should not fish on Fridays because Friday is a holy day for prayer in the Mosque. A man must not sell fish in the market. He can only sell his fish at the river bank to the women who now take them to the market to sell in units or in retail. Also, going out as from 12mid-night to 2am is forbidden in the community because it is believed that it is during that period ghosts and spirits use to be out. Pouring fish waste water on somebody is believed that it can bring bad luck .Virgins are not allowed to fish on the river. Equally, fisherfolks must not fish on the day of fishing Festval.

Kabawa fishing community has two major fishing festivals. They are Danko and the Regata Festival. Danko Festival is a ceremonial fishing festival organized by executive of the association of fisherfolks and the traditional leaders of the community. Danko is a pond of

water or river secured for a long period of time like five months preventing people from fishing in it there by making the fish in the water or river to grow into maturity. Any fisherfolk that catches the biggest fish is normally presented with a prize just like what obtain in Arugungu Fishing Festival in Kebi State. Dignitaries like State Government officials and The Maigari of Lokoja (The Traditional Ruler of Lokoja) are normally invited to grace the ceremony. Traditional dances and cultural display also feature in the festival.

Regata festival is another fishing festival in the community. It is quite different from the Danko Festival. This festival is not just about fishing but the skills displayed by various fisherfolks on water or river. The strongest and the most physically fit man on water are normally presented with prizes. There are paddle competitions. Paddle is what is used to steer and makes the canoe to move. There are six man canoe paddle, two man canoe paddle and the big boat paddle competitions. The boats and canoes used in the festival are well decorated. People from near and far are always around to watch both the Danko and Regata festivals. In the swimming competition, we have 100m front and back stroke, 200m stroke, butterfly stroke, cultural display on the river and best dancer on the boat. It is only men that participate in this various strokes. The women sing to praise the team they support. They do not participate in these competitions. In the fishing competition, just like the Danko festival, fisherfolks that catch the biggest fish in the various categories are given prizes. All this information were provided by one of the chiefs in Kabawa in Lokoja. The location of Ajaokuta and Lokoja are presented in Figure 3.2.

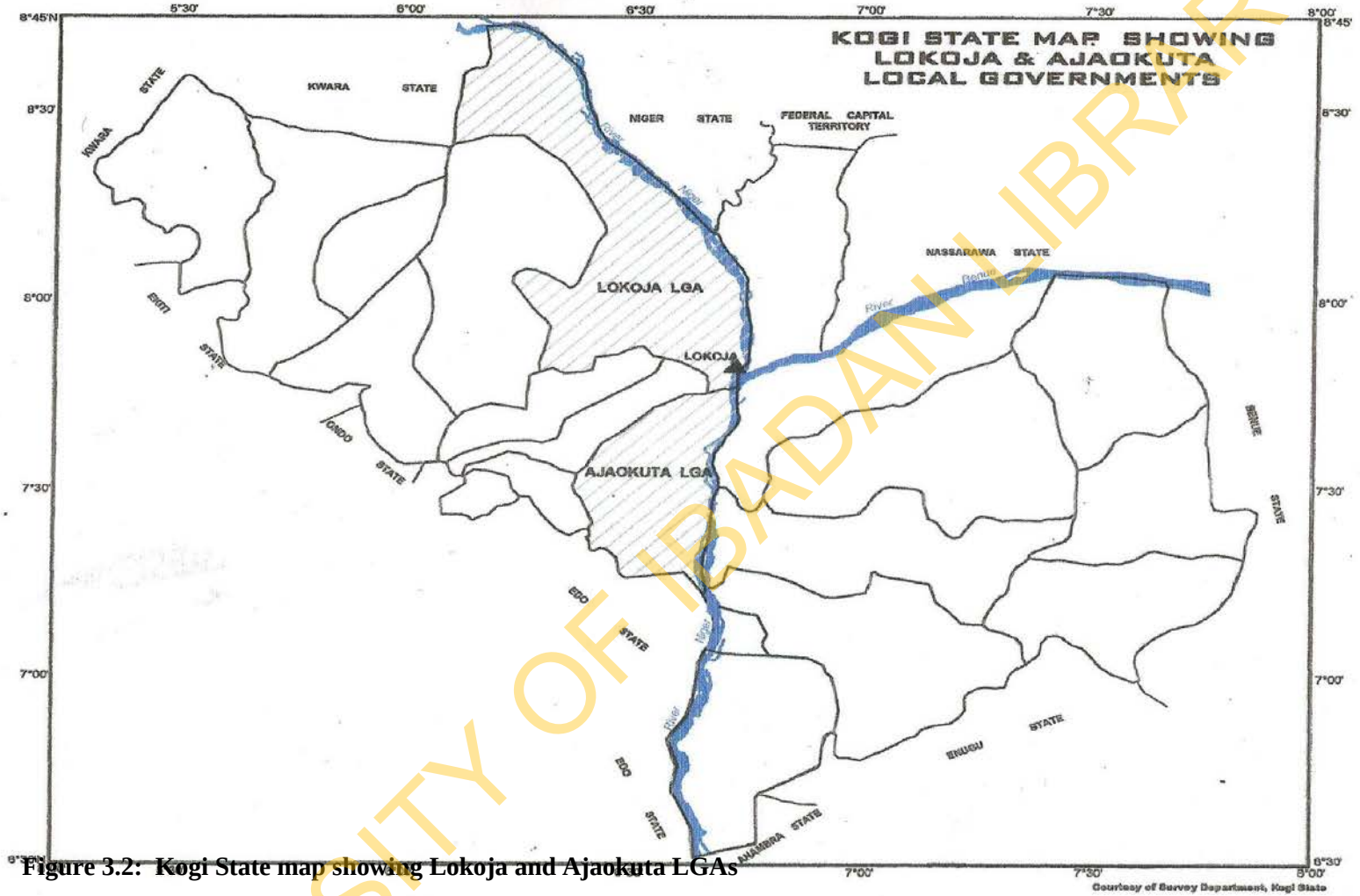


Figure 3.2: Kogi State map showing Lokoja and Ajaokuta LGAs

3.4 Study Population

The study population were fisherfolks carrying out fishing activities on river Niger in Ajaokuta and Lokoja fishing communities during the period of the research.

3.5 Sample Size Calculation

Data from previous studies on knowledge of HIV and AIDS, risk-perception toward HIV infection and sexual behaviour were used in calculating the sample size. P1 value from the data of these studies relating to each of the variables were used in the calculation of the sample size. The one that gives the highest value, which was sexual behaviour, was adopted. Thus the calculation using data for sexual behaviour is as stated below:

$$N = \frac{(Z_\alpha + Z_\beta)^2 \; P_1 (1 + P_1) + P_2 (1 - P_2)}{(P_1 - P_2)^2}$$

$Z_\alpha = 1.96$(95% level of confidence)

$Z_\beta = 0.84$ (80% power)

$P_1 = 0.53$ - 53% of respondents in Oluwasegun*et al*, (2009) study were involved in risky sexual behaviour.

$P_2 = 25\%$

$$N = \frac{(1.96 + 0.84)^2 \; [0.53 (1 - 0.53) + 0.25 (1 - 0.25)]}{(0.53 - 0.25)^2}$$

$N = 43.66$

$N \approx 44$

Adjustment for 40% attrition

$$N = \frac{44}{1 - 0.4}$$

$N = 73.33$

$N \approx 74$

Sample size was increased to 100 because of the migrant nature of the fisherfolks.Therefore, Intervention group =100. Control group =100.

3.6 Sampling Procedure

According to the secretary of Fishermen Association Ajaokuta, estimated fisherfolks in Ajaokuta fishing communityas at the time of the study were 350 out of which 35 of them were women. To determine the number of women fisherfolks that were sampled for the study in Ajaokuta, a proportionate sample allocation approach was used:

Female fisherfolks: $\frac{35 \times 100}{350} = 10$

To determine the number of men fisherfolks that were sampled for the study in Ajaokuta fishing community:

Men fisherfolks: $\frac{315}{350} \times 100 = 90$

The chairman of Fishermen Association (*Seriki Nruwa*) in Geregu said there were estimated 550 fisherfolks in Lokoja fishing community as at the time of the research out of which 40 of them were women fisherfolks while the remaining 510 were men fisherfolks. To determine the number of women fisherfolks that were sampled for the study in Lokoja:

Female fisherfolks: $\frac{40}{550} \times 100 = 7$

To determine the number of menfisherfolks that were sampled for the study in Lokoja:

Men fisherfolks: $\frac{510}{550} \times 100 = 93$

To select the 10 women fisherfolks that participated inthe study in Ajaokuta, the list of all the 35 women fisherfolks and 315 men fisherfolks were compiled which serve as sampling frame. For the list of both male fisherfolks and women fisherfolks, sampling interval (k) was determined. The sampling interval for male fisherfolks was:

That of male fisherfolks was: $\frac{315}{90} = 4$, that of female fisherfolks was $\frac{35}{10} = 4$

After calculating the sampling interval, a simple random sampling technique was used to select the first respondent. Since the sampling interval was k=4, a random number between 1 and 4 was selected using the hat method. The corresponding name on the sampling frame was the first respondent. Other respondents were chosen at k=4 intervals. With the use of the sampling interval, 90 men fisherfolks were systematically selected from the sampling frame and 10 female fisherfolks were equally selected from the sampling frame.

The same method was adopted in selecting the 7 female fisherfolks and 93 men fisherfolks that were used for the study in Lokoja fishing community.

3.7 Inclusion and Exclusion Criteria

3.7.1 Inclusion Criteria

1. Both men and women fisherfolks residing in the fishing communities of Ajaokuta and Lokoja were eligible to participate in the study.
2. Willingness to participate in the study.
3. Fisherfolks must be available during theentire period of the research.

3.7.2 Exclusion Criteria

1. Fisherfolks that were not residing in the fishing communities.

2. Fisherfolks that were not willing to participate in the research.
3. Fisherfolks that would not be available during the period of the study.

3.8 Instrument for Data Collection

A mixed method approach was used to collect data. These were Focus Group Discussion (FGD) using an FGD guide and a semi-structured interviewer administered questionnaire in order to elicit quality responses from respondents. The FGD was used to validate the contents of the questionnaire. Twelve research assistants (RA): 2 females and 10 males were used for data collection in both EG and CG. They were trained.Training of Research Assistants (RA) took place in two venues which were in Lokoja and at Ajaokuta. A one-day training of 6 RAs took place in Kabawa, Lokoja on 8th August 2014. The second training of 6 RAs took place in Geregu fishing community, Ajaokuta. The training took place in the community centre Geregu on 16th August 2014.

Efforts were made to recruits RAs that had at least minimum academic qualification of Ordinary National Diploma (OND) or National Certificate of Education (NCE). All the RAs in the two fishing communities can speak the major languages of these communities. The RAs were told to translate the questions in the FGD to the participants in their respective languages for those that can not speak English and that they will assist in transcribing the responses of the participants to English. For the administration of the questionnaire, they were also informed to adimister the questionnaire to ilitrates in their local language and write there responses in English.

3.8.1 Qualitative Data Instrument: Focus Group Discussion (FGD).

The FGD guide (See Appendix 1A) explored sources of information about HIV and AIDS and modes of transmission of HIV. Also discussion was held about knowledge on HIV and AIDS, risky sexual behaviour that are peculiar to fisherfolks, prevention of HIV and Voluntary HIV Counselling and testing (HCT). The idea of FGD emanated from group dynamics studied by social psychologist and the belief that people tend to supply information on a topic and in greater depths if they are encouraged to act spontaneously in a group whose membership they can identify with (Osowole and Oladepo, 2000). Hence the use of FGD as qualitative data instrument for this research.Eight FGD sessions were conducted in the two fishing communities.

2.8.2 Quantitative Data Instrument: Questionnaire.

The researcher used the findings from FGD for the development of a semi- structured questionnaire (See Appendix 2A). Questions on knowledge of HIV and AIDS and sexual behaviour were drawn from Nigeria Demographic Health Survey (NDHS, 2008). Other questions were drawn from literatures and past projects. This enabled the researcher to

compare the quantitative data at baseline and evaluation. The various sections in the questionnaire were as follows:

3.8.3 Section A: Socio-Demographic Characteristics.

This section was meant to document the socio-demographic characteristics of the fisherfolks. These were: sex, age, level of education, marital status, religion, ethnic group and occupation.

3.8.4 Section B: Sources of Information on HIV and AIDS

This section contains questions relating to sources of HIV and AIDS information available to fisherfolks, advice from friends or sexual partner about adopting any preventive methods and the sources of information fisherfolks preferred for HIV and AIDS information.

3.8.5 Section C: Knowledge ofHIV and AIDS.

This section consists of questions about mode of transmission of HIV. This was assessed on seven questions with true or false response. There are four questions about treatment of HIV with true or false response. Nine questions focussed on HIV prevention also with true or false response.

3.8.6 Section D: Risk-perception toward HIV infection

This fourth section was used to assess the risk-perception of fisherfolks toward HIV infection. The first ten questions were used to assess the fisherfolks about their perceived vulnerability to HIV infection. Fisherfolks were asked whether they were at risk or not if they have sex with casual partners, transfused with unscreened blood, get themselves involved in "fish for sex" as well as having sex with casual partners without the use of condom. There were 3 questions that elicited responses from fisherfolks to know whether they perceived themselves to be susceptible to HIV infection in certain situation with agree or disagree responses.

3.8.7 Section E: Pattern of behaviour that favour spread of HIV

This section elicited information from the fisherfolks about sexual behaviour that may lead other people to be at risk of HIV infection. The questions enabled the researcher to know the involvement of the fisherfolks in unprotected sex, the number of their sexual partners, use of condom and their involvement in transactional sex or fish for sex. There weretwenty-four questions in this section.

3.8.8 Section F: HIV and AIDS Counselling and Testing (HCT)

This section assessed the knowledge of the fisherfolksabout HCT and their involvement in it.

3.8.9 Section G: Prevention and Control of HIV and AIDS

This is the last section of the questionnaire which elicited information from the fisherfolks about their opinion concerning prevention and control of HIV and AIDS among fisherfolks. There were five questions in this section using Likert scale.

3.9 Methods of Data Collection

3.9.1 Focus Group Discussion

Participants of the FGD ranged from 7-10 peoplefor each of the FGD conducted. In the fishing community of Geregu in Ajaokuta, all the FGDs were conducted in a small town hall not far from River Niger where there was no distraction. In Lokoja, FGDs were conducted beside residential buildings and Mosques. A total of 8 FGDs were conducted (See Table 3.1 for details).A research assistant served as recorder while the investigator moderated the conduct of FGD for participants that speak English or Pidgin English. As mentioned earlier, all the RAs can speak their local language. So they assisted in translation in FGDs and the administration of questionnaire for the illetrate respondents.The duration of the FGDs ranged between 45 minutes to one hour. The FGD were audio recorded and transcribed verbatim. These were word processed and stored for analysis using Atlas ti software. The FGD participants in Experimental Group and control group did not participate in any other subsequent activities of the study. The distributions of the FGD according to the groups are shownin table 3.1.

Table: 3.1Distribution of conducted FGD

Category of FGD	**No of FGD by respondents' group**		**Total**
	EG	**CG**	
Traditional and religious leaders	2	2	4
Male fisherfolks	1	1	2
Female fisherfolks	1	1	2
Total	4	4	8

3.10 Training of Research Assistants

Training of research assistance took place in Geregu and Kabawa as explained earlier. The choice of the training venue was made by the RAs. The training started with explanations about what the research was all about, the objectives of the research, the target population, different stages of the research which were baseline, intervention and evaluation. The investigator explained to the RAs the qualitative and quantitative instruments for the research. Discussion was held about the FGD and how it should be organized. There must be a note taker, a tape recorder and a moderator.The questions in the FGD guide were explained to the RAs. Importance of administration of questionnaire in a research was equally emphasised. Questions in the questionnaire were discussed and explained to ensure that the

RAs had a clear understanding of the questions. They were informed that they would be involved in the review of the translation of the FGDs with the investigator for clearity.

The RAs were requested to explain and demonstrate an FGD session and the administration of questionnaire. Comments and corrections were made. For example, one of the RAs suggested that money should be given to the FGD participants in order to get there co-operation. The investigator explained to them that no inducement will be given to them and that the Fishermen Association and Traditional leaders in the fishing community where he was going to work (Geregu) are already mobilizing the the various group that would participate in the FGDs. There was discussion about the convenient time to meet the fisherfolks for the administration of the questionnaire. Going by the nature of the work of the fisherfolks, the RAs in the two fishing communities in Ajaokuta and Lokoja agreed that the administration of the questionnaire was better carried out in the evening. The RAs in Ajaokuta (EG) agreed to carry out their interview as from 5pm. RAs in Lokoja conducted their interview between 4-6pm.Materials such as writing materials were given to the RAs in preparation for the fieldworkactivities. Refreshment was served during the training in the two venues.

3.11 Validity and Reliability of Instruments

3.11.1 Validity of Instruments

The validity of the questionnaire was done through review of literatureand making sure that the questionnaire was in line with the objectives of the study. The questionnaire was developed through findings from the FGDs and consultation with the investigator's supervisor. The questionnaire was structured based on the principles of PRECEDE-PROCEED model developed by Green *et al*, (1980) and Health Belief Model (HBM). For the face validity of the questionnaireadvice and guidance was also sought from the supervisor of this project and lecturers in Department of Health Promotion and Education.Their comments, contribution and advice contributed in improving the face and content validity of the instrument. Equally, the questionnaire was translated from English to Nupe which is the major language spoken by fisherfolks in the fishing communities of Ajaokuta and Lokoja. Also, an expert in Nupe language translated the instrument back to English to validate the correctness of the translation.

3.11.2 Reliability of the Instruments

There was a pre-test of the questionnaire in the fishing community of Idah in Idah Local Government Area of Kogi State. The questionnaire was pre-tested among thirty percent of the sample for reliability test which amounted to 30 fisherfolks. Cronbach's Alpha value was .783.The RAs made the fisherfolks feel at home and emphasised the issue of

confidentiality to them in order to elicit quality responses from the fisherfolks particularly issues about sexual behaviour which some of them considered to be personal.

3.12 Procedure for Data Collection

Before the commencement of the research, there was advocacy visits to the community leaders: the chairman and other executive members of fishermen association (he is addressed as *Seriki Nruwa*) of the fishing communities in Ajaokuta and Lokoja to intimate them about the research. The investigator also sought for informed consent from the fisherfolks making them to fill the informedconsent formand those that were not literate the research assistants assisted them to fill the form before they were allowed to participate in the research.

Before the commencement of the discussion, participants were told about the purpose of the research and were assured that their views would be usedonly for the purpose of research. They were assured of confidentiality of information provided. In order to protect their identities, participants were told not to mention their names during the discussion. Participants were also informed about the purpose of note taking and audio recording of the discussion which would enable the researcher to remember everything that was discussed. The participants were also informed that they may withdraw from the discussion at any stage and if they do not wish to answer any question they may ask the moderator to move to the next question.

3.12.1 Questionnaire Administration for Baseline Survey

The baseline questionnaire was modified from the FGD conducted. The questionnaire was used to collect information at baseline and evaluation. This ensure comparison to be made about changes in knowledge of HIV and AIDS, risk- perception toward HIV infection and risky sexual behaviour between fisherfolks in Ajaokuta that were in the EG and the fisherfolks that were in Lokoja which were in CG.After the pre-test of the questionnaire, the administration of the revised baseline questionnaire to the fisherfolks in EG and CG commenced in September 2014 and it lasted for nearly one month. The administration of the questionnaire started with the fisherfolks in the EG in Ajaokuta fishing community. The RAs moved from house to house to administer the questionnaire face to face. The questions were read to the fisherfolks in Nupe (being the major language in the area) or English as the case may be.Explanation was given where necessary. On the average, each of the RAs administered seven copies of the questionnaires per day. Data collection was supervised by the investigator and the supervisors who were leading the teams to where the fisherfolks went.

3.13 Data Management and Analysis

Qualitative data were recorded in audiotapes and was thereafter transcribed for analysis using Atlas Ti software programme. The copies of the questionnaire were checked for completeness. Serial numbers were given to the questionnaires. Coding guide was

developed from the questionnaire and open ended sections were coded and fed into the computer. Before data entry, copies of the questionnaire were reviewed for possible errors and corrections were made with consultation with RAs.

3.13.1 Description of Analysis

Collated data from the questionnaire were entered into computer and the results were analysed into frequency tables and simple percentages using Statistical Package for Social Science (SPSS). The hypotheses were tested using chi-square test and t-test. There was comparison of the result of the analysis of the EG with the CG to see the effectiveness of the intervention on knowledge of the fisherfolks on HIV and AIDS, their risk-perception toward HIV infection and the risky sexual behaviour of the fisherfolks. Hence the data were analysed according to the variables of the study and scores were graded as follows:

- Pre-and post-intervention comparison of the EG and CG mean knowledge of HIV and AIDS scores using student t-test.
- Pre- and post-intervention comparison of the EG and CG risk-perception toward HIV infection using student t-test.
- Pre-and post-intervention comparison of the EG and CG risky sexual behaviour.

3.13.2 Knowledge of HIV and AIDS

Knowledge of HIV and AIDS was assessed on a 21 question items. The first eight (8) questions were based on what causes AIDS and mode of transmission of HIV. The next four (4) questions were about treatment of HIV. The remaining nine (9) questions were on prevention of HIV. In each of the questions, respondents were requested to select from the options: “True”, “False” or “I don’t know”. The knowledge questions were assigned a score of one point for every correct answer and 0-point for every wrong answer: making up a 21-point knowledge scale with scores <10, ≥10-15 and >15 which were categorised as poor, fair and good, respectively.

3.13.3 Risk-perception toward HIV Infection

Risk-perception toward HIV infection was rated on a scale of 26 points. The first 10 questions were perceived vulnerability to HIV infection. In each of the questions, respondents were requested to select from the three options: “At risk”, “Not at risk” or “Can’t say”. Also, there were 3 questions on perceived susceptibility to HIV infection. In each of the questions, respondents were requested to select from the three options: “Agree”, “Disagree” or “Don’t know/can’t say”. Each correct answer had a score of 2 point and 0-point for every wrong answer, making up a 26-point risk-perception scale with scores <13, ≥13-20 and >20 were categorised as low risk, average risk and high risk respectively.

3.13.4 Risky Sexual Behaviour

Risky sexual behaviourwas assessed on eight (8) question items. Some of the questions were inform of multiple choices while some were open-ended questions. Some of the questions were on sexual behaviour, preventive methods of HIV, condom use and transactional sex among others. Given that many of the fisherfolks in the experimental group were married (64.1%), it was the responses of these married fisherfolks to some questions in the questionnaire under the sexual behaviour section that were used for the analysis of this section. For the scoring of the sexual behaviour, respondents that picked "yes" to any of the questions were scored 1 while fisherfolks that says "No" were scored "0".

For example, in response to the question "The last time you had sexual intercourse with your sexual partner (apart from your wife) did you or your partner drink alcohol?" Any respondents that picked "yes" scored 1 while any respondent that says "No" scored 0. Also in response to the question "How many different people have you had unprotected sex with in the last 12 months?" Any respondent that did not have unprotected sex scored "0" while respondents that had one and many unprotected sex were scored "1".Thus,the higher the score the higher the risk and the lower the score the lower the risk.

3 .14 Components of Study

The research project wasimplemented in three phases: Baseline, Intervention and Evaluation.

3.14.1 Baseline Phase

The baseline activities involved systematic random sampling of the fisherfolks in the EG and CG, conduct of FGDs, administrationof questionnaire, all these were described earlier.

3.14.2 Description of Intervention

From the results of the baseline, training workshop was recommended by fisherfolks as most appropriateto increase the knowledge of the fisherfolks about HIV and AIDS, to increase their risk-perception toward HIV infection and reduce their risky sexual behaviour. Two batches of training workshop were organized for the selected fisherfolks.

3.14.3 Pre-training Meetings

There was pre-training meeting with 75 fisherfolks that represented the 103 fisherfolks that participated in the training. The pre-training meeting was held on Wednesday, April 29, 2015 at Commercial Secondary School, Geregu. The purpose of the pre-training meeting was to prepare the mind of the fisherfolks toward the training. Discussion was made about the date of the training, time, break time, the training contents and facilities. A 7-member logistics committee was constituted. The committee was to assist in the planning and to mobilise others for the training. It was agreed that the training should hold at Commercial

Secondary School, Geregu. The phone number of the investigator was given to the participants so that they could call to request or ask for clarifications on any issue.

The logistics committee met the following day Thursday 30th April 2015. Discussion was made on the following issues:

1. Writing the list of fisherfolks that participated in the baseline in order to locate them.
2. Arrangement for payment of their transportation on the last day of training.
3. Cleaning of the training venue.

3.15 Development of contents of Training

The training content was developed using the findings from the baseline survey. The Training Manual for Adolescent Peer Educators which was developed for ARFH-APIN HIV Prevention Project (AB Component) was adapted for the training curriculum. The following topics were adopted from the training manual and included in the developed curriculum by the investigator.

The areas covered during the training were:

1. HIV and AIDS
2. Modes of transmission of HIV
3. Signs and symptoms of HIV and AIDS
4. Risk-perception toward HIV infection
5. Risky sexual practices
6. Effects of HIV and AIDS on individual, family and society.
7. Various ways of preventing HIV infection
8. HCT

3.16 Training Intervention

A three-daytraining workshop was organized for the fisherfolks in two batches.Two batches of training were conducted for the fisherfolks. The first batch of training took place between 2nd and 4th May 2015 between the hours of 9am and 1pm each day. The second batch of training took place between 9thand 11th May, 2015.Pre-and post-evaluation test (See Appendix 7) was conducted to assess immediate outcome of the training. The training was carried out at Commercial Secondary School Geregu. Since most of the fisherfolks were Muslims, they agreed to conduct the training on Saturdays and Sundays. The few Christians among them volunteered to forego the Sunday service for the training.

During the training, fisherfolks were taken through knowledge of HIV and AIDS, risk-perception toward HIV infection, risky sexual behaviour, and variousmethods of HIV prevention with emphasis on condom use and HCT. The list of the fisherfolks that

participated in the baseline was given to the planning committee.The participants were mobilised for the training by the planning committee and the research student through phone calls and personal contact.Fifty-onefisherfolks were mobilised for the first batch while 52 were mobilised for the second batch. Three experienced facilitators and the research student conducted the training workshop. The facilitators were a Health Education lecturer at Kogi State University Anyigba and twoNurse/Midwives that had been facilitators in similar programmes in the past.On the first day of the training, there was a pre-test to document the knowledge of the trainees based on what the training focused on and was repeated at the last day of the training to ascertain if the fisherfolks actually gained any knowledge during the training. The investigator explained the purpose of the training workshop to the fisherfolks and thereafter made presentation of the results of the baseline. The research student explained to the participants the schedule of the training. Participants asked questions and the questions were answered satisfactorily. After the introductory stage, the reproductive expert made her presentation on nature of HIV and AIDS and mode of transmission of HIV. The training employed participatory approach and real life experiences were shared. Then there was a break. After the break, another resource person handled misconception about HIV and AIDS and risk-perception toward HIV infection.

There was also question and answer session. Then the research student briefly summarised the activities of the day and advised trainees to come early the second day. Launch was provided to the participants. The presentations were done in Nupe and English. On the second day of thetraining, the research student asked the trainees one after the other to recap the activities for day one. He then summarised what was done. This served as revision for day one, particularly for those that have clarifications on certain issues. Other resource persons took their turn to make theirpresentation on risky sexual behaviour, prevention of HIV particularly among fisherfolks and condom use as well as HCT. Questions were asked and there were answers to those questions. There was discussion and arrangements about 6-months follow up. There was post-test for the participants. HCT was carried out for those that wanted to be tested for HIV. There was a group photograph of the participants, one of the resource persons and the investigator (Appendix 8).The same method was adopted for the second batch of the training that took place between 9th and 11th May 2015 in the same venue. Participants in the second batch were 52. A total of 103 fisherfolks were trained and they were monitored and followed up for the period of 6 months through monthly meetings and supervisory visits.Training materials and pictures are in Appendices- 5, 7, 8,9 and 10.

3.17 HIV Counselling And Testing (HCT) Services

HCT services were provided to the fisherfolks in the Experimental Group on the last day of the training. Seventy six fisherfolks in EG voluntarily presented themselves for the

testing. One of the questions under HCT in the questionnaire stated thus: “Have you been tested to know if you have HIV?” All the 76 fisherfolks that presented themselves for the test were negative to HIV infection.The normal procedure of HCT was followed. Sample of the Referal form is in Appendix10.

3.18 Post-intervention Activities

Six monthly meetings were held with fisherfolks in ten groups to provide continue education and reinforcement of intervention. During the 6 months monthly meetings (two times in a month), Management Information Systems (MIS) forms were given to fisherfolks in EG to fill (See Appendix 6). Issues raised in the MIS form were what the fisherfolks know about HIV and AIDS, modes of HIV transmission, risk of changing sexual partners among others. Percentages of the number of fisherfolks that responded correctly to the issues raised in the MIS form were calculated. This was necessary to actually determine the specific issues discussed the number of time each issue was discussed and the issues most discussed with the fisherfolks during the intervention period.The six months’ follow-up was between the months of June to November 2015.

After six months’ post-intervention, an evaluation survey was conducted among the fisherfolks to evaluate the effects of the intervention on knowledge of HIV and AIDS, risk-perception toward HIV infection and sexual behaviour. A similar questionnaire used during the baseline data collection was administered at the evaluation stage with the addition of some questions toward the end of the questionnaire. Evaluation of the intervention was conducted among some fisherfolks in the intervention group. Evaluation FGD was conducted among 25 fisherfolks in which they were divided into 3 FGD groups. In the groups were 5 females and 20 males’ fisherfolks. Detail of the evaluation programme is in chapter four. (Page 144-146)

3. 19 Limitations of the Study

1. The data about sexual behaviour were self-reported. Under reporting of sexual activities might have occurred. However, to ensure that participants provided reliable information about their sexual activities, questionnaire was designed to be anonymous and participants were assured of confidentiality of data.
2. Training of educated and non educated respondents together might had given educated respondents advantage over non educated respondents. However, interpretation was done for the illiterate respondents to reduce the effects of this limitation.
3 Inadequate funding affected the limited number of FGDs.

3.20 Ethical Considerations

The following steps were taken to address ethical issues involved in this study:

1. The proposal was reviewed and approved by Kogi State Ministry of Health Ethics Review Committee, Lokoja (See Appendix*12*).
2. Oraland written informed consent was obtained from each research participants.
3. All information provided by research participants was kept secret and confidentiality oftheir identity was maintained. The completed questionnaires were kept in secured containers where no one other than the researcher had access to. To this end, names were not required on the questionnaire.

CHAPTER FOUR

4.0RESULTS

4.1 Introduction

This chapter presents the results of the findings from the Focus Group Discussion conducted among the fisherfolks from the baseline and follow-up surveys. The changes that occurred as a result of the intervention activities on the EG and CG which was not exposed to any intervention were also presented. Also presented are changes found with each group before and after intervention including the results of the hypothesis. The last section in the chapter describes the results of the relative effectiveness of the intervention.

4.2Findings from the Focus Group Discussion (FGD).

4.2.1 Reported common health problems affecting fisherfolks

Several health problems were identified by fisherfolks during discussion. Among the health problems identified as affecting the people in their community are fever and some sexually transmitted diseases including gonorrhea:

"There are some of our girls that are getting pregnant and they are not married and some people do complain of venereal diseases" CG Female participant.

"Some fishermen, when they go to the river to fish, when they come back they may be feeling cold. Some of them think that the way they can get rid of the cold is to meet women and in the process they may get sexually transmitted infection (STI) or even AIDS" (EG Male participant)

Some of the participants confirmed that some people contract venereal diseases in the community. Here are some of their comments:

"The health problems in this community are skin rashes, fever and venereal diseases like HIV and AIDS"(CG Traditional leader participant).

Some of the health problems in this fishing community are sore throat and sexually transmitted diseases like HIV and AIDS (CG Female fisherfolk).

"Some of our fishermen like moving from one girl to another and in the process they may contract some sexually transmitted diseases (STD) like syphilis, gonorrhea and in some cases HIV and AIDS" (EG Male fisherfolk).

"Women fish buyers normally converge by the riverside when our fishermen return from theriver with their fish and the women lobby the fishermen into relationship which may cause the spread of STD" (EG Traditional leader).

4.2.2 Modes of transmission of HIV

Modes of HIV transmission mentioned by leaders and fisherfolks were through sexual intercourse, unscreened blood transfusion and Mother to Child Transmission (MTCT). Here are their responses:

"I heard that one can get it through injection, sexual intercourse and blood *transfusion" (CG Male fisherfolk).*

"One can get it through blood transfusion. At times unborn baby can get it through his mother except the mother take certain drug" (EG Male fisherfolk).

"One can get HIV through sexual intercourse, through person weydey take blood and so on" (CG Male fisherfolk)

"Sharp objects like needle, having sex anyhow particularly with manyladies/men without protection and through blood transfusion" (EG Traditional leader)

"Through sexual intercourse and when you change girl friends many times" (CG Muslim leader).

4.2.3 Behaviours that favour the spread of HIV among fisherfolks

On the behaviours that favour the spread of HIV, fisherfolks mentioned; multiple sexual partner, changing sexual partners to mention a few. These are their comments:

"There are some fisherfolks that come into this area with different attitude. Some of the fishermen are fond of keeping women they don't have information about. Likely the men may be carriers of HIV and AIDS. It may be possible that the women may not be carriers but the fishermen may be carriers, so through this HIV infection may be possible" (EG Male fisherfolk)."Some of our fisherfolks do have many girlfriends which may make them to get HIV" (CG Male fisherfolk).

"Like having sex anyhow, unguided sex such as flirting from one lady to another. If somebody is having many sexual partners, one of the sexual partners may have HIV and with that he can get HIV" (CG Male fisherfolk).

"If you have sex with many girl friends, one stands the risk of getting HIV. Some of our fishermen do that. Also some instruments which fisherfolks use on themselves, if they use the same instruments on another person, this can cause the spread of HIV" (EG Male fisherfolk)

"Our fishermen normally have many customers and most of them are women. So they normally have relationship with them which may lead to sexual intercourse and they may not use protection like condom, from there they may get HIV" (CG Religious leader)

"Fishermen in our area do not stay in one place. They go from one place to another like some may move from Lokoja here to Koto looking for fish. Wherever they go they have girlfriends and before you know it they may get all these sex diseases like AIDS" (Traditional leader in CG community)

4.2.4 Risks involved in sexual intercourse

Respondents' belief that the risks involved in sexual intercourse are the infection of STD.

"Fisherfolks that go around meeting other women may get HIV"
(Traditional leader in EG Community)
"One can get gonorrhea. Even if a wife gets it from another man, the husband to the woman can get it too. One can get "Magun" (Don't climb). Anybody that has the behaviour of meeting woman all around can get all these including HIV" (Traditional leader in EG community)

> *"One can get gonorrhea, syphilis and even HIV" (Muslim leader in EG Community)*
> *"Unwanted pregnancy and STD like HIV" (Christian leader in EG Community)*
> *"Actually when you involve yourself in many girl friends, then such a person can get sickness like HIV" (Traditional leader in CG community)*
> *"The risks involved in sexual intercourse are many and they include unwanted pregnancy, diseases like syphilis, gonorrhea and HIV" (Traditional leader in EG Community)*

4.2.5 Prevention of HIV

The fisherfolks mentioned most of the preventive methods of HIV. Here are some of their responses:

"As for blood transfusion, ensure that the blood is properly screenedbefore transfusion. Also one should avoid many sexual partners. Use of condom can go a long way to prevent the spread of HIV and AIDS. All these will go a long way to curb the spread of HIV and AIDS" (A traditional leader in CG community)
"When you are out to have sex, make sure you use condom. Any woman that is pregnant and is HIV positive need to go to hospital to take drug that will prevent the transfer of HIV to the child that is yet to be born" (Muslim religious leader in CG community)
"If anybody wants to marry, let him or her go for HIV testing. One can also use condom" (EG Male fisherfolk).
"By using condom during sex, pregnant woman that has HIV can take drug so that her baby will not get it" (EG female fisherfolk)
"By having one partner that is faithful. People that are not yet married should wait until they are married before they have sex. When you want to take blood in the hospital, make sure they screen the blood very well before they give you" (EG Male fisherfolks)

4.2.6 Benefits of HCT

Majority of the respondents believe that HCT is necessary for people to know their status and to know how to prevent themselves from getting HIV. Here are some of their comments:

"HCT is necessary for people to know their HIV status" (EG Male fisherfolk)

"Nobody wants to die. So like what they use to say at HCT clinic, anybody that is talking about HIV one should listen because it is necessary for one to always like to know more about the disease. So HCT is necessary so as to know your status and to know how you can prevent ourselves from getting HIV" (Muslim leader in EG Community)

"HCT is necessary for us to know our HIV status whether we have the disease or not. Also it is a way of preventing HIV from spreading to people" (CG Male fisherfolk)

"It is necessary so as to know your HIV status so that if you have HIV, the health workers in the HCT centre will tell you what to do to still live your normal life. If you don't have the disease they will also let you know all that you need to do to avoid situation that will make you get HIV" (Traditional leader in CG Community)

"HCT is a very good way of preventing the spread of HIV particularly to innocent people" (Christian leader in EG Community)

"HCT is good for HIV prevention particularly for pregnant women so as to prevent the baby in the womb from getting the disease" (A traditional leader in EG).

4.3 Data from Questionnaire Administration

4.3.1 Baseline Characteristics of respondents

4.3.1.1 Socio-demographic Information of fiisherfolks

A total of 103 and 105 fisherfolks were interviewed at baseline in EG and CG respectively. Almost half (48.7%) of respondents in EG and 70.4% in CG were between ages 21-40 years. Less than half, (45.7%) and (73.4%) of the fisherfolks had primary and secondary education in EG and CG respectively. Majority, (91.3%) and (94.3%) of the fisherfolks in EG and CG respectively, practiced Islamic religion. More than half of the fisherfolks (64.1%) and (59.0%) in the EG and CG respectively, were married. 36.9% of the fisherfolks in the EG were of Bassa ethnic group while half (51.4%) of the fisherfolks in CG were Nupes. Chi-square analysis revealed that there was no significant difference in ages, educational qualifications and ethnic groups of the fisherfolks. However there was no significant difference in the mean age and religion of the respondents of the EG and CG. Details of the socio-demographic characteristics of the EG and CG are presented in Table 4.1

Table 4.1: Baseline Socio-demographic Characteristics of fisherfolks (N = 208)

Demographic characteristics	EG (n=103) No (%)	CG (n=105) No (%)	Total	X^2 (Fishers Exact test)	p-value
Age					
Less or equal to 20 years	14 (13.4)	24 (22.9)	38	4.80	0.000
21- 30	24 (23.5)	41 (39.0)	65		
31- 40	26 (25.2)	33 (31.4)	59		
41- 50	31 (30.1)	7 (6.7)	38		
51 and above	8 (7.8)	0 (0.0)	8		
Mean age	35.9±11.7	28.4±8.1			
Sex					
Male	92 (89.3)	97 (92.4)	189	0.76	0.479
Female	11 (10.7)	8 (7.6)	19		
Educational Qualification					
No formal education					
Primary school	41 (39.8)	12 (11.4)	53	2.32	0.000
Secondary school	18 (17.5)	28 (26.7)	46		
Vocational/Tertiary	29 (28.2)	49 (46.7)	78		
	15 (14.5)	16 (15.2)	31		
Marital status					
Single/never married	27 (26.2)	38 (36.2)	65	1.56	0.071
Married	66 (64.1)	62 (59.0)	128		
Divorced	7 (6.8)	2 (1.9)	9		
Separated	1 (1.0)	2 (1.9)	3		

Widower	2 (1.9)	1 (1.0)	3		
Ethnic group					
Bassa	38 (36.9)	10 (9.5)	48	4.47	0.000
Hausa	24 (23.3)	15 (14.3)	39		
Nupe	19 (18.4)	54 (51.4)	73		
Others*	22 (21.4)	26 (24.8)	48		
Religion					
Islam	94 (91.3)	99 (94.3)	193	0.28	0.599
Christianity	7 (6.8)	5 (4.7)	12		
Traditional	2 (1.9)	1 (1.0)	3		

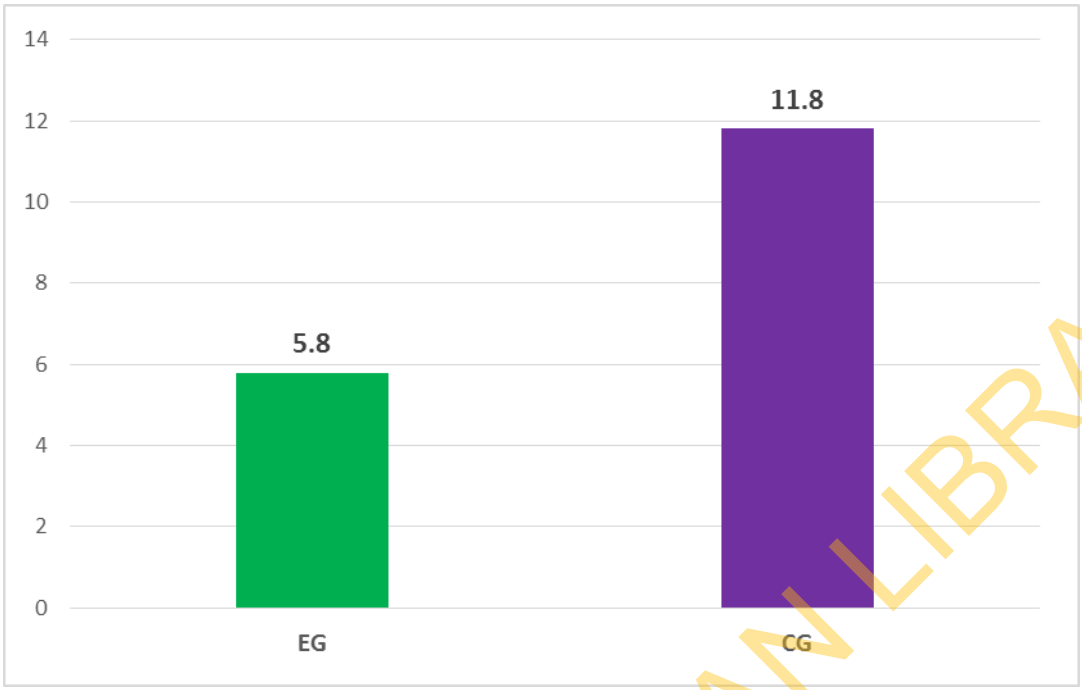
*Others include Yoruba, Igbo, Ebira, Igbira-koto and Igala.

4.4Section B: Fisherfolks' knowledge about HIV and AIDS

Fisherfolks' knowledge about HIV and AIDS was assessed from several questions as presented in Appendix 2A. First of all, fisherfolks were asked to indicate True or False or I don't know to eight statements about mode of transmission of HIV (Q22a); to indicate True, False or I don't know to four statements about treatment of HIV (Q22b) and to indicate True, False or I don't know to nine statements about HIV prevention (Q 22c).

4.5Mean Knowledge scores on HIV and AIDS at Baseline

The mean knowledge scores of fisherfolks on HIV and AIDS was significant at both the EG and CG at the baseline with mean values of 5.80±5.60 and 11.81±7.10 with mean difference of 4.710 and p-value of 0.000 respectively (Figure 4.1).



Group

t-value = 6.24

p-value = 0.000

Mean difference = 4.710

Remark: Significant

Figure 4.1: Fisherfolks overall HIV and AIDS knowledge scores obtained for EG and CG at Baseline

4.6Comparisons of fisherfolks' HIV and AIDS mean knowledge score of fisherfolks by domain at baseline

Three main domains were assessed under knowledge of HIV and AIDS. These were: mode of HIV transmission, treatment of HIV and prevention of HIV and AIDS. Comparisons of the mean knowledge score of the fisherfolks according to the three main domains were all significant among the fisherfolks at baseline with the control groupbeing more knowledgeable than their counterparts in the experimental group (Table 4.2).

Table 4.2: Comparisons of fisherfolks' HIV and AIDS knowledge score by domain at Baseline

Variables	**Groups**		**t-value**	**p-value**	**Remark**
	EG (n=103	**CG (n=105)**			
	$\overline{X}$±SD	**$\overline{X}$±SD**			
Mode of HIV transmission	2.22±2.10	4.36±2.70	5.72	0.000	Significant
Treatment of HIV	0.97±2.10	1.80±1.31	4.76	0.000	Significant
Prevention of HIV	2.60±2.01	5.65±3.42	6.59	0.000	Significant

Table 4.3 Fisherfolks' knowledge of HIV/AIDS by educational background at baseline

Edu. Background	Group	Poor N (%)	Fair N (%)	Good N (%)	Total N	Fishers Exact X	pvalue
No formal education	EG	27(70.0)	11(26.8)	3(7.3%)	41		
	CG	4 (33.3)	4(33.3)	4(33.3)	12	6.048	0.049
Primary school	EG	11(61.1)	2(11.1)	5(27.8)	18	5.69	0.067
	CG	7(25.0)	6(21.4)	15(53.6)	28		
Secondary school	EG	15(51.7)	5(17.2)	9(31.0)	29	8.39	0.014
	CG	10(20.4)	10(20.4)	29(59.2)	49		
Tertiary/vocational	EG	7(46.7)	8(53.3)	0(0.0)	15	13.62	0.001
	CG	5(31.3)	2(12.5)	9(56.3)	16		

Table 4.4 Fisherfolks' knowledge of HIV and AIDS by age at baseline

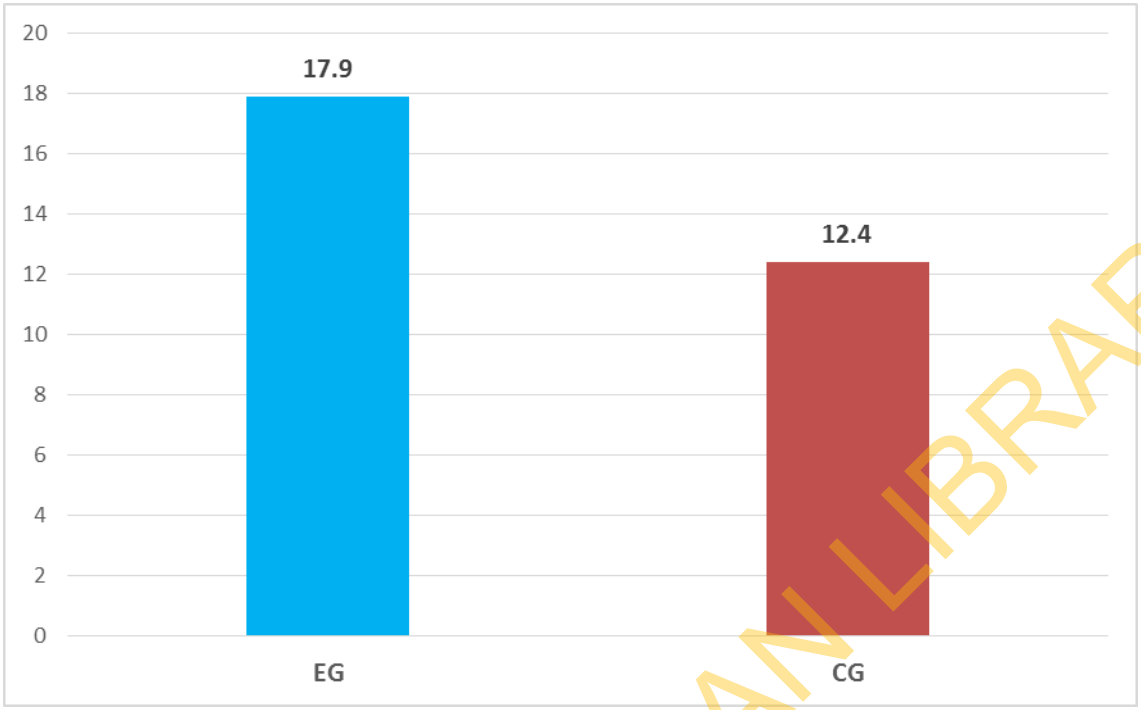
Age in years	Group	Poor N (%)	Fair N (%)	Good N (%)	Total	Fishers Exact X2	p value
≤ 20	EG	8(66.7)	0 (0.0)	6(28.6)	14	7.51	0.039
	CG	4(33.3)	5(100.0)	15(71.4)	24		
21 – 30	EG	13(50.0)	8(53.3)	3(12.5)	24	10.23	0.006
	CG	13(50.0)	7(46.7)	21(87.5)	41		
31 – 40	EG	13(72.2)	8(47.1)	5(20.8)	26	11.11	0.004
	CG	5(27.8)	9(52.9)	19(79.2)	33		
41 – 50	EG	20(83.3)	8(88.9)	3(60.0)	31	1.92	0.48
	CG	4(16.7)	1(11.1)	2(40.0)	7		
51 and above	EG	2(21.0)	1(2.0)	0 (0.0)	3	1.00	0.21
	CG	6(100.0)	2(100.0)	0 (0.0)	8		

4.7 Segregated analysis of fisherfolks knowledge of HIV and AIDS at baseline

Table 4.3 reveals the segregated analysis of fisherfolks knowledge of HIV and AIDS by educational background at baseline. Seventy percent of fisherfolks that had no formal education in EG had poor knowledge of HIV and AIDS while 33.3% of the fisherfolks in CG in the same category had poor knowledge of HIV and AIDS. Fisherfolks that attended secondary school in EG and CG with high knowledge of HIV and AIDS were 31.0% and 59.2% respectively compared with fisherfolks that had no formal education with good knowledge (EG 7.3% and CG 33.3%). This shows that educational background affected the fisherfolks' knowledge of HIV and AIDS. The differences were not significant. According to table 4.4 which is on fisherfolks' knowledge of HIV and AIDS by age, 79.2% and 20.8% of fisherfolks in EG and CG that were between ages 31-40 years had good knowledge. All the differences were not significant

4.8Mean of HIV and AIDS knowledge score at Post-intervention

There was significant difference in mean knowledge score between both EG and CG at post-intervention where mean knowledge score of 17.95±3.74 in EG and 12.38±7.51 in CG were observed among the fisherfolks (Figure 4.2).



t-value = 6.57

p-value = 0.000

Mean difference = 5.570

Remark: Significant

Figure 4.2: Comparison of fisherfolks' HIV and AIDS knowledge scores by domain at post-intervention.

At post-intervention, the mean knowledge scores by domain for EG were significantly higher than scores for CG.For example, the knowledge scores for all the three domains: mode of HIV transmission, treatment of HIV and prevention of HIV for EG were significantly higher than the scores for CG (Table 4.5).

Table 4.5: Comparison of HIV and AIDS knowledge scores of fisherfolks for EG and CG at post-intervention

Variable	Groups		t-value	p-value	Remark
	EG (n=101)	CG (n=102)			
	$\bar{X}$±SD	$\bar{X}$±SD			
Mode of HIV transmission	6.65±1.58	4.60±2.94	6.50	0.000	Significant
Treatment of HIV	3.19±0.91	1.93±1.32	7.89	0.000	Significant
Prevention of HIV	8.11±1.66	5.85±3.58	5.77	0.000	Significant

4.9Comparison of HIV and AIDS Mean Knowledge scores

Table 4.6 revealed the comparison of mean knowledge score of fisherfolks for both baseline and post-intervention for EG and CG.

Table 4.6: Fisherfolks' HIV and AIDS mean knowledge scores obtained for EG and CG at baseline and post-intervention

Group	**Mean HIV and AIDS knowledge score**				
	Baseline	**Post-intervention**	**t-value**	**p-value**	**Remark**
EG	5.80±5.60	17.95±3.74	11.57	0.000	Significant
CG	11.81±7.10	12.38±7.51	0.40	0.42	Not Significant
Mean difference	6.0	5.57			
t-value	6.24	6.57			
p-value	0.000	0.000			
Remark	**Significant**	**Significant**			

4.10 Comparison of the mean knowledge score of HIV and AIDS according to the domains

Comparison of mean knowledge score at all the three domains by fisherfolks at both baseline and post-intervention in EG were significant as shown in Table 4.7; whereas at CG only knowledge about mode of HIV transmission was significant at post-intervention. The comparison of mean knowledge score of fisherfolks at both baseline and post-intervention in CG were not significant for the two domains (Table 4.8). Also, the overall mean knowledge score for CG at baseline and post-intervention were equally not significant as shown in Table 4.6.

Table 4.7: Comparison of HIV and AIDS mean knowledge scores of fisherfolks in EG at baseline and post-intervention

Variables	Groups		t-value	p-value	Remark
	Baseline (n=103)	Post-intervention (n=101)			
	X±SD	X±SD			
Mode of transmission	2.22±2.10	6.65±1.58	10 .30	0.000	Significant
Treatment of HIV	0.97±0.10	3.19±0.91	10.57	0.000	Significant
Prevention of HIV	2.60±2.01	8.11±1.66	11.24	0.000	Significant

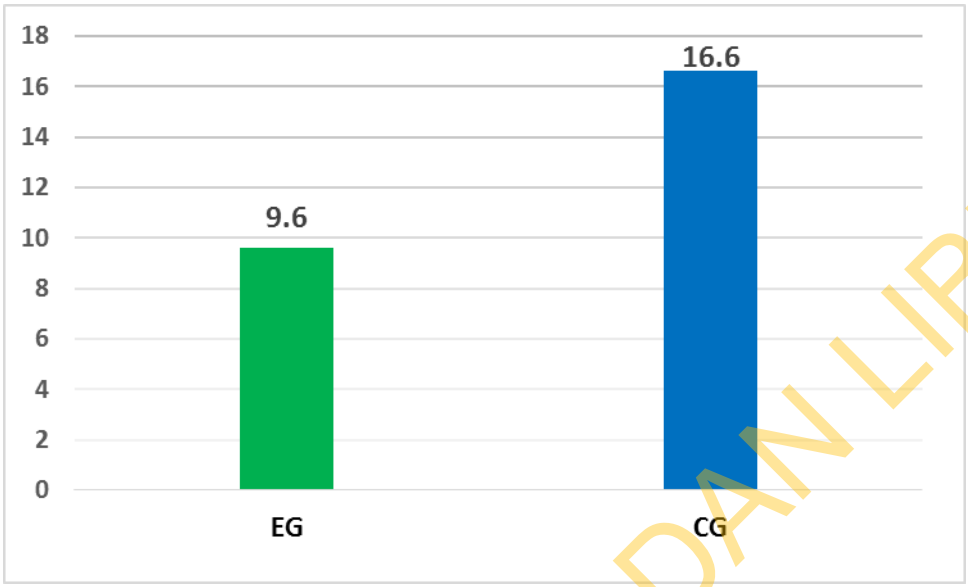
Table 4.8: Comparison of HIV and AIDS mean knowledge scores of fisherfolks in CG at baseline and post-intervention

Variables	Baseline (n=105)	Post-intervention (n=102)	t-value	p-value	Remark
	$\overline{X}$±SD	$\overline{X}$±SD			
Mode of HIV transmission	4.36±2.70	4.60±2.94	0.44	0.05	Significant
Treatment of HIV	1.80±1.31	1.93±1.32	0.50	0.64	Not Significant
Prevention of HIV	5.65±3.42	5.85±3.58	0.29	0.98	Not Significant

4.11Section C: Fisherfolks' Risk-perception toward HIV infection

4.11.1Mean score of risk-perception at Baseline

The mean scores of fisherfolks on risk-perception was significant for both EG and CG at the baseline with mean values of 9.64±9.11 and 16.59±10.12 with mean difference of 6.950 and p-value of 0.000 respectively (Figure 4.3). Also, Figure 4.4 reveal similar significant difference in mean scores of fisherfolks on risk-perception between both EG and CG at post-intervention. Mean of 23.29±4.54 in EG and 17.19±10.31 in CG were observed.



EG (n=103), CG (n=105)

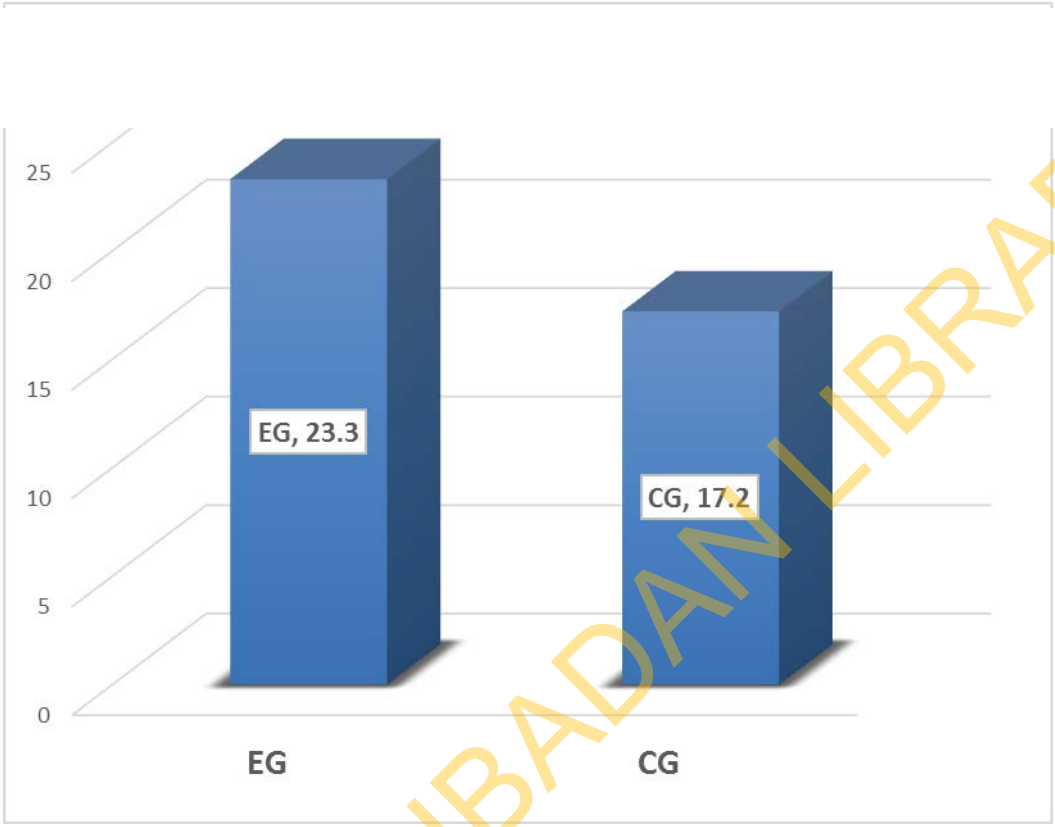
Mean difference =6.950

t-value =4.82

p-value =0.000

Remark : Significant

Figure 4.3: Fisherfolks' overall mean score of risk-perception obtained for EG and CG at baseline



Group

EG (n=101), CG (n=102)

Mean difference =6.10

t-value =5.25

p-value =0.000

Remark: Significant

Figure 4.4: Fisherfolks' overall mean risk-perception scores obtained for EG and CG at post-intervention

4.12Comparisons of fisherfolks' mean risk-perception score

Table 4.9 reveals the comparison of mean risk-perception score of fisherfolks for both the baseline and post-intervention for EG and CG. The mean risk-perception score for EG at baseline (9.64±9.11) and post-intervention (23.29±4.54) reveal a significant difference. However, the mean risk-perception score for CG at baseline (16.59±10.12) and post-intervention (17.19±10.31) was not significant.

Table 4.9: Fisherfolks' risk-perception scores obtained for EG and CG at baseline and post-intervention

Group	**Mean Risk-perception score**				
	Baseline	**Post-intervention**	**t-value**	**p-value**	**Remark**
EG	9.64±9.11	23.29±4.54	9.16	0.000	Significant
CG	16.59±10.12	17.19±10.31	0.30	0.800	Not Significant
Mean Difference	6.95	6.1			
t-value	4.82	5.25			
p-value	0.000	0.000			
Remark	**Significant**	**Significant**			

Table 4.10 Fisherfolks' risk perception by educational background at baseline

Educational background	Group	Low risk N(%)	Average risk N (%)	High risk N (%)	Total	Fishers Exact X2	p value
No formal education	EG	27(87.1)	6(75.0)	8(53.1)	41		
	CG	4(12.9)	2(25.0)	6(42.9)	12	4.85	0.079
Primary school	EG	10(55.6)	1(33.3)	7(28.0)	28		
	CG	8(44.4)	2(66.7)	18(72.0)	28	3.41	0.18
Secondary school	EG	12(54.5)	7(43.8)	10(25.0)	29		
	CG	10(45.5)	9(56.3)	30(75.0)	49	5.67	0.14
Tertiary/vocational	EG	7(76.0)	6(74.1)	2(43.0)	15		
	CG	5(81.0)	3(85.0)	8(80.0)	16	7.10	0.80

Table 4.11: Fisherfolks' risk perception by age at baseline

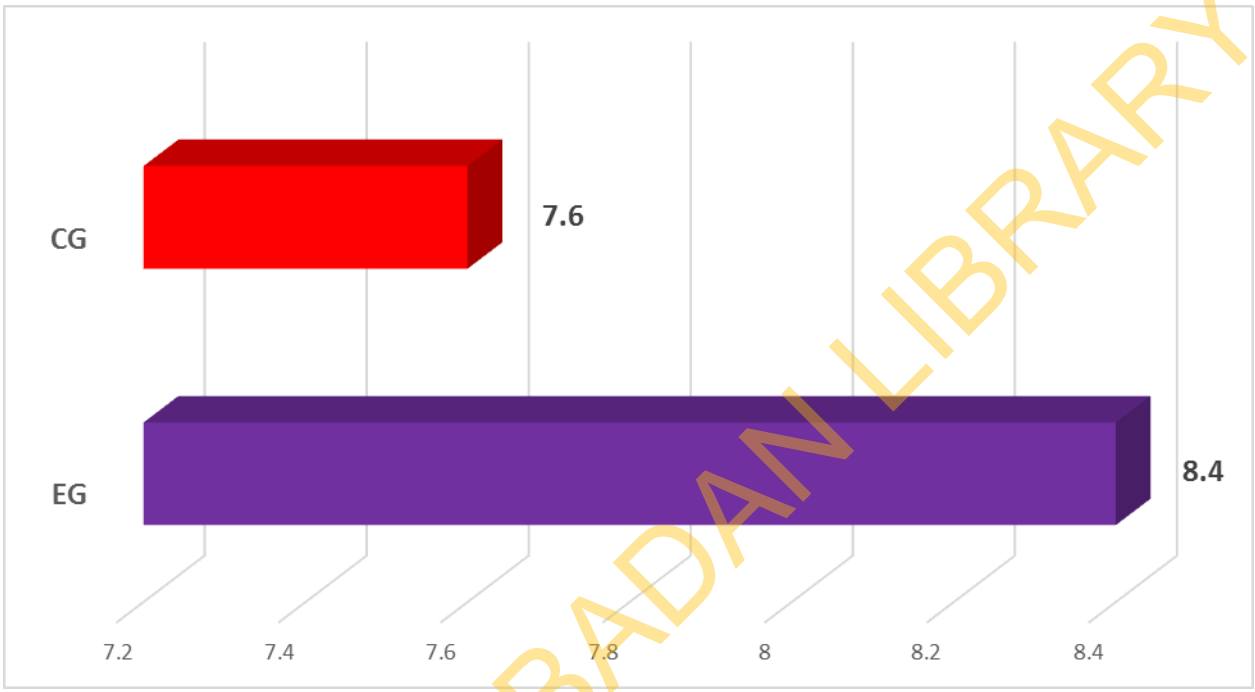
Age in years	Group	Poor N (%)	Fair N (%)	Good N (%)	Total	Fishers Exact x2	p value
≤ 20	EG	6(54.5)	5(38.5)	3(21.4)	14	2.87	0.234
	CG	5(45.5)	8(61.5)	11(78.6)	24		
21 – 30	EG	12(50.0)	4(66.7)	8(22.9)	24	6.95	0.020
	CG	12(50.0)	2(33.3)	27(77.1)	41		
31 – 40	EG	20(83.3)	7(53.8)	7(25.0)	34	8.32	0.004
	CG	6(46.2)	6(46.2)	21(75.0)	33		
41 – 50	EG	20(83.3)	4(100.0)	7(70.0)	31	1.47	0.39
	CG	4(16.7)	0(0.0)	3(30.0)	7		
51 and above	EG	6(100.0)	0(0.0)	2(100.0	8	0.00	0.00
	CG	0(0.0)	0(0.0)	0(0.0)	0(0.)		

4.13 Segregated analysis of fisherfolks' risk perception at baseline

Table 4.10 shows that 75.0% of fisherfolks in EG and 25.0% in CG that attended secondary school had high risk perception while fisherfolks in EG, 87.1% and CG 13.0% that were with no formal education had low risk perception. As for segregated analysis of fisherfolks risk perception by age (Table 4.11), 83.3% of fisherfolks in EG and 46.2% in CG for fisherfolks that were within ages 31-40 years had low risk perception while 21.4% in EG and 78.6% in CG among fisherfolks that were below 20 years had high risk perception.

4.14 Section D: Sexual behaviour of fisherfolks

Comparison of sexual behaviour score of fisherfolks in EG (8.38±8.10) and CG (7.59±1.40) at baseline were not significant with the p-value at 0.42 (Figure 4.5). There was a significant difference (p-value = 0.000) at post-intervention in the sexual behaviour score of EG (4.26±1.53) when compared with the sexual behaviour score of CG (7.59±1.40) (Figure 4.6). Also, there was a significant difference in the sexual behaviour score in EG at baseline and post-intervention since there was a decrease in risky sexual behaviour of fisherfolks in EG at post-intervention. The comparison of mean sexual behaviour score of fisherfolks in CG at baseline and post intervention was not significant (Table 4.18).



EG (n=103), CG (n=105)

Mean difference =0.79

t-value =0.80

p-value =0.422

Remark : Not significant

Figure 4.5: Fisherfolks'sexual behaviour scores obtained for EG and CG at baseline

Table 4.12 Fisherfolks' condom use with sexual partner or spouse by Educational background at baseline

Educational background	Variable		EG N (%)	CG N (%)	Total	Fishers Exact X2	p value
No formal education	Use of condom	Yes	16(76.2)	5(23.8)	21	0.00	1.00
		No	23(76.7)	7(23.3)	30		
Primary school		Yes	9(32.1)	19(67.9)	28	0.00	0.33
		No	5(45.5)	6(54.5)	11		
Secondary school		Yes	18(37.5)	30(62.5)	48	0.00	0.47
		No	8(44.4)	10(55.6)	18		
Tertiary/vocational		Yes	8(53.3)	8(46.7)	16	0.00	0.62
		No	8(46.7)	6(45.1)	14		

Table 4.13 Fisherfolks' condom use with sexual partner or spouse by age at baseline

Age in years	Variable		EG N (%)	CG N (%)	Total	Fishers Exact X2	p value
≤ 20	Use of condom	Yes	5(27.8)	13(72.2)	18	4.51	0.116
		No	4(80.0)	1(20.0)	5		
21 -30		Yes	14(34.1)	27(65.9)	41	0.6	0.574
		No	9(45.0)	11(55.0)	20		
31 -40		Yes	15(45.5)	18(54.5)	33	0.2	0.29
		No	9(39.1)	14(60.9)	23		
41 -50		Yes	13(76.5)	4(23.5)	17	0.89	0.74
		No	16(84.2)	3(15.8)	19		
51 and above		Yes	4(100.0)	0(0.0)	4	0.00	0.00
		No	4(100.0)	0(0.0)	4		

Table 4.14 Payment of money for sex by Educational background at baseline

Educational background	Group	Yes N %	No (N %)	Total	Fishers Exact X2	p value
No formal education	EG	4(10.0)	36(90.0)	40	5.30	0.046
	CG	3(16.7)	9(75.0)	12		
Primary school	EG	1(7.1)	13(92.9)	14	3.43	0.174
	CG	3(12.0)	22(64.0)	25		
Secondary school	EG	1(3.8)	33(96.2)	26	7.94	0.011
	CG	6(15.0)	27(67.5)	33		
Tertiary/vocational	EG	6(42.9)	8(57.1)	14	5.12	0.077
	CG	1(7.1)	13(85.7)	14		

Table 4.15 Payment of money for sex by age at baseline

Age in years	Group	Yes N (%)	No N (%)	Total	Fishers Exact X2	p value
≤20	EG	0(0.0)	9(88.9)	9	3.06	0.184
	CG	4(28.6)	10(64.3)	13		
21 -30	EG	2(8.7)	21(87.0)	23	2.54	0.313
	CG	4(10.5)	34(71.1)	38		
31 -40	EG	5(20.8)	19(70.8)	24	1.59	0.543
	CG	4(12.5)	28(68.8)	32		
41 -50	EG	0(0.0)	30(96.7)	30	0.00	0.347
	CG	0(0.0)	6(85.7)	6		
51 and above	EG	0(0.0)	8 (100.0)	8		
	CG	0(0.0)	0(0.0)	0		

Table 4.16 How many people did you had unprotected sex with in the last 12 months by educational background at baseline

Educational background	Group	No of people you had unprotected sex with			Total	Fishers Exact X^2	p value
		1 N (%)	2 N (%)	3 and above N (%)			
No formal education	EG	11(64.7)	3(17.6)	3(17.6)	17	6.54	0.059
	CG	2(22.2)	5(55.6)	2(11.1)	9		
Primary school	EG	8(80.0)	2(20.0)	0(0.0)	10		
	CG	10(58.8)	5(29.4)	0(0.0)	15	1.43	0.15
Secondary school	EG	8(50.0)	8(50.0)	0(0.0)	16		
	CG	15(50.0)	5(16.7)	10(45.1)	30	8.08	0.060
Tertiary/vocational	EG	5(83.3)	1(1.1)	0(0.0)	6		
	CG	5(50.0)	0(0.0)	4(35.0)	9	4.75	0.72

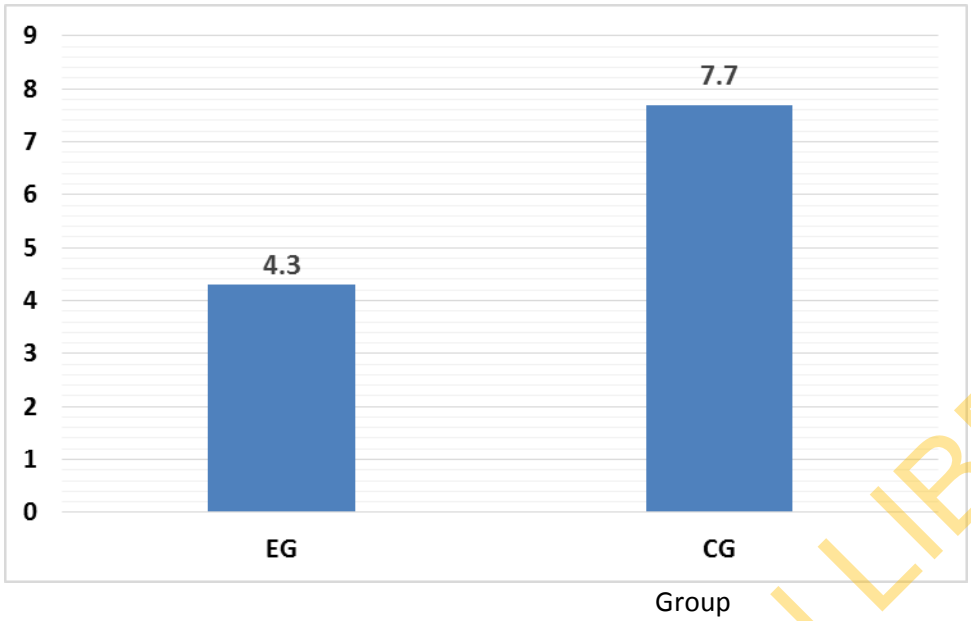
Table 4.17 How many people did you had unprotected sex with in the last 12 months by age baseline

Age in years	Group	No of people you had unprotected sex with 1 N %2 N (%) 3 and above N(%)			Total	Fishers Exact X^2	p value
≤20	EG	4(100.0)	4(32.0)	3(20.0)	11	4.7	0.077
	CG	4(36.4)	0(0.0)	0(0.0)	4		
21 -30	EG	9(52.9)	5(30.0)	3(17.0)	17	0.00	1.000
	CG	14(48.3)	15(51.7)	0(0.0)	29		
31 -40	EG	12(80.0)	3(20.0)	0(0.0)	15	0.00	0.176
	CG	13(56.5)	8(41.0)	2(17.0)	23		
41 -50	EG	5(45.5)	4(35.0)	2(50.0)	11	0.00	1.00
	CG	1(33.3)	0(0.0)	2(66.7)	3		
51 and above	EG CG	2(100.0) 0(0.0)	0 (0.0) 0(0.0)	0(0.0) 0(0.0)	2 0	0.0	0.0

4.15 Segregated analysis of fisherfolks' sexual behavour at baseline

Tables 4.12 to 4.17 reveal the segregated analysis of fisherfolks' sexual behavour by educational background and age. Thirty eight percent of fisherfolks in EG and 63.0% in CG that attended secondary school used condom with sexual partner or spouse 12 months before the study more than the other groups (Table 4.12). Also, 84.2% of fisherfolks in EG and 15.8% in CG that were within ages 41-50 years did not used condom with sexual partner or spouse. With this result it was observed that many respondents in the age group 41-50 years (76.5%) in EG used condom more than the younger respondents in age group 21 to 30 years in EG (34.1%) (Table 4.13). As for the involvement of fisherfolks in transactional sex, it was observed that fisherfolks that attended tertiary and vocational institutions in EG used condom (43.0%) more than any groups (Table 4.14). The level of education of fisherfolks in this category might have encouraged them to use condom. Fisherfolks that were 41 years and above were not involved in transactional sex as shown in table 4.15.

Fisherfolks in CG that had secondary education were the group that had the highest number of fisehrfolks that had unprotected sex with a sexual partner (50.0%) (Table 4.16). Also in age group 31-40years, 80.0% of fisherfolks in EG and 56.7% in CG had unprotected sex with 1 sexual partner (Table 4.17). Observation of this table also reveals that fisherfolks that were within ages 21-40 years were more involved in unprotected sex than fisherfolks in the other age groups.



EG (n=101), CG (n=102)

Mean difference =3.41

t-value =9.74

p-value =0.000

Remark: Significant

Figure 4.6: Fisherfolks' sexual behaviour scores obtained for EG and CG at post-intervention

Table 4.18: Fisherfolks' sexual behaviour scores obtained for EG and CG at baseline and post-intervention

Group	**Mean sexual behaviour scores**				
	Baseline	**Post-intervention**	**t-value**	**p-value**	**Remark**
EG	8.38±8.10	4.26±1.53	-3.43	0.000	Significant
CG	7.59±1.40	7.67±1.41	0.20	0.50	Not Significant
Mean difference	0.79	3.41			
t-value	0.80	9.74			
p-value	0.422	0.000			
Remark	**Not Significant**	**Significant**			

4.16 Comparison of fisherfolks' sexual behaviour of EG and CG at baseline and post-intervention

Comparison of fisherfolks' sexual behaviour of EG and CG at baseline and post intervention is shown in Table4.19. Seventy seven percent and 87.0% of fisherfolks in EG and CG respectively were involved in unprotected sex 6 months preceding the study. At post-intervention, the number had reduced to 24.1% and 85.7% in EG and CG respectively (Table 4.20).Out of the total number of fisherfolks that were involved in this practice in the two groups at baseline, 49.3% and 41.7% in EG and CG respectively had unprotected sex with 1 sexual partner. The number of fisherfolks involved in this risky behaviour reduced to 7.6% and 13.4% in EG and CG respectively

Comparison of fisherfolks' sexual behaviour by sex at baseline shows that at baseline, 92.3% males in EG and 86.6% in CG had sex before the study. Also, 81.8% females and 87.5% in EG and CG respectively, had sex before the study. At post-intervention, among the male fisherfolks, 93.4% and 89.4% in EG and CG respectively, had sex. Among the females in post-intervention, 100% in EG and 85.7% in CG had sex. All the differences were not significant (Tables 4.21 and 4.22).

Table 4.19: Comparison of fisherfolks' sexual behaviour and condom use of EG and CG at Baseline and post-intervention

Variable	Baseline (N=208)		Post-intervention (N=203)	
	EG (n=103) Freq (%)	CG (n=105) Freq (%)	EG (n=101) Freq (%)	CG (n=102) Freq (%)
Ever had sex				
Yes	94 (91.3)	91 (86.7)	94 (93.1)	91 (89.2)
No	9 (8.7)	14 (13.3)	7 (6.9)	11 (10.8)
Total	**103 (100)**	**105 (100)**	**101 (100)**	**102 (100)**
No of non primary sexual partner				
≤ 1	33 (62.2)	52 (60.5)	83 (88.3)	81 (89.8)
2-3 and above	20 (37.8)	34 (39.4)	11 (11.7)	10 (11.0)
Total	**53 (100)**	**86 (100)**	**94 (100)**	**91 (100)**
Ever used condom				
Always	25 (26.6)	28 (30.8)	55 (58.5)	30 (33.0)
Sometimes	38 (40 4)	42 (46.2)	29 (30.9)	48 (52.7)
Not at all	31 (33.0)	21 (23.1)	10 (10.6)	13 (14.2)
Total	**94 (100)**	**91 (100)**	**94 (100)**	**91 (100)**
Used condom with sexual partner/spouse				
Yes	51 (54.3)	62 (68.1)	61 (64.8)	54 (59.3)
No	43 (45.7)	29 (31.9)	33 (35.1)	37 (40.7)
Total	**94 (100)**	**91 (100)**	**94 (100)**	**91 (100)**
Reasons for using condom				
To prevent STD/HIV infections	43 (68.3)	56 (80.0)	56 (59.5)	27 (29.6)
To prevent pregnancy				

Partner requested				
Others	14 (22.2)	12 (17.1)	23 (24.5)	49 (53.8)
Total	3 (4.8)	2 (2.9)	11 (11.7)	11 (12.0)
	3 (4.8)	0 (0.0)	4 (4.2)	4 (4.3)
	63 (100)	**70 (100)**	**94 (100)**	**91 (100)**

Table 4.20: Fisherfolks' involvement in unprotected sex in the last 6 months preceding data collection.

Involvement in unprotected sex	Baseline (N=208)		Post-intervention (N=203)	
	EG (n=103) Freq (%)	CG (n=105) Freq (%)	EG (n=101) Freq (%)	CG (n=102) Freq (%)
Yes	50 (76.9)	67 (87.0)	15 (24.1)	60 (85.7)
No	15 (24.1)	10 (12.0)	50 (76.9)	10 (14.2)
Total	**65 (100)**	**77 (100)**	**65 (100)**	**70 (100)**

Table 4.21: Sexual behaviour by sex at baseline

Variables	**Male (n=189)**		**Female (n=19)**	
Ever had sex	**EG n (%)**	**CG n (%)**	**EG n (%)**	**CG n (%)**
Yes	85 (92.3)	84 (86.6)	9 (81.8)	7 (87.5)
No	7 (7.6)	13 (13.4)	2 (18.2)	1 (12.5)
Total	**92 (100)**	**97 (100)**	**11 (100)**	**8 (100)**
p-value, X^2	0.148	3.45	1.000	0.115
Comments	**Not Significant**		**Not Significant**	

Table 4.22: Sexual behaviour by sex at post-intervention

Variables	**Male (n=186)**		**Female (n=17)**	
Ever had sex	**EG n (%)**	**CG n (%)**	**EG n (%)**	**CG n (%)**
Yes	85(93.4)	84 (89.4)	10(100)	6 (85.7)
No	6(6.5)	10 (10.5)	0 (0.0)	1 (14.2)
Total	**91 (100)**	**95(100)**	**10 (100)**	**7(100)**
p-value, X^2	0.340	0.452	0.237	1.860
Comments	**Not Significant**		**Not Significant**	

4.17 Comparison of fisherfolks' knowledge and use of HCT of EG and CG at baseline and post-intervention

Table 4.23 presents knowledge and use of HCT of fisherfolks at baseline and post-intervention. At baseline, 53.4% of the fisherfolks in EG and 60.0% of the fisherfolks in CG heard about HCT. At post-intervention, all the fisherfolks in EG (100.0%) and 37.3% of fisherfolks in CG heard about HCT. At baseline, fisherfolks in EG (35.9%) and CG (26.6%) reported to have tested for HIV. At post-intervention, 85.1% and 17.6% fisherfolks in EG and CG respectively reported to have tested for HIV. At baseline, fisherfolks in EG (24.3%) and CG (14.3%) tested for HIV 6 months preceding the study. At post-intervention, fisherfolks in EG (74.4%) and CG (66.7%) tested for HIV 6 months before post-intervention.

Table 4.23: Comparison of fisherfolks' knowledge and use of HCT of EG and CG at Baseline and post-intervention

Variable	Baseline (N=208)		Post-intervention (N=203)	
	EG (n=103) Freq (%)	**CG (n=105) Freq (%)**	**EG (n=101) Freq (%)**	**CG (n=102) Freq (%)**
Ever heard of HCT				
Yes	55 (53.4)	63 (60.0)	101 (100)	38 (37.3)
No	48 (46.6)	42 (40.0)	0 (0.0)	64 (62.7)
Total	**103 (100)**	**105 (100)**	**101 (100)**	**102 (100)**
Awareness of where people can be tested for HIV				
Yes	46 (83.6)	53 (84.1)	101 (100)	27 (71.1)
No	9 (16.4)	10 (15.9)	0 (0.0)	11(28.9)
Total	**55 (100)**	**63 (100)**	**101 (100)**	**38 (100)**
When last was HIV test done?				
A month ago	16 (43.2)	16 (57.1)	22 (25.6)	4 (22.2)
6 months ago	9 (24.3)	4 (14.3)	64 (74.4)	12 (66.7)
About a year	11 (29.7)	6 (21.4)	0 (0.0)	2 (11.1)
Others	1 (2.7)	2 (7.1)	0 (0.0)	0 (0.0)
Total	**37 (100)**	**28 (100)**	**86 (100)**	18 (100)
What prompted respondents to do HIV test?				

You requested for the test				
It was offered to you and you accepted	8 (21.6)	10 (35.7)	44 (51.2)	8 (44.4)
It was required	11 (29.7)	14 (50.0)	37 (43.0)	9 (50.0)
Total	18 (48.6)	4 (14.3)	5 (5.8)	1 (5.6)
	37 (100)	**28 (100)**	**86 (100)**	**18 (100)**

4.18Testing of Hypothesis

Three hypotheses were tested for this study to determine the effects of the intervention on the study outcomes. In testing these hypotheses, independent sample t-test was conducted at 0.05 level of significance. The decision rule applied was that if the p-value computed was less or equal to the cut-off p-value of 0.05, the null hypotheses will be rejected in favour of the alternative hypotheses and *vice-versa*.

4.18.1 Hypothesis 1

The first hypotheses state that there is no significant difference in the knowledge of HIV and AIDS among experimental group and control group before and after intervention. In order to test this hypothesis, a 21-point scale was constructed which covers some question items in the questionnaire which were fully discussed in the previous chapter. At pre-intervention, the mean scores of the overall fisherfolks' knowledge score of HIV and AIDS were 5.80 (SD=5.60) and 11.81 (SD=7.10) respectively in the EG and the CG and this observation was significant (p=0.000) with the fisherfolks in the CG having higher score than EG. At post-intervention, the score increased to 17.95 (SD=3.74) in the EG compared with slight increase to 12.38 (SD=7.51) in the CG. This observed difference was also statistically significant (p=0.000) (Figure 4.16). Hence the null hypothesis was rejected while the alternate hypothesis was accepted.

4.18.2 Hypothesis 2

There is no significant difference in the risk-perception as regards HIV infection among the experimental and control group before and after intervention.

At pre-intervention, the mean scores of the overall fisherfolks' risk-perception score were 9.64 (SD=9.11) and 16.59 (SD=10.12) respectively in the EG and CG. This observation was significant with the fisherfolks in the CG having higher risk-perception score than EG. However, at post intervention, the score increased to 23.29 (SD=4.54) in the EG compared with slight increase to 17.19 (SD=10.31) in the CG. This observed difference was statistically significant (p=0.000) (Figure 4.17). Hence the null hypothesis was rejected while the alternate hypothesis was accepted.

4.18.3 Hypothesis 3

There is no significant difference in the pattern of sexual behaviour that favours the spread of HIV among the experimental group and control group before and after intervention. The result obtained at pre-intervention showed that the mean scores of the overall fisherfolks' scores on sexual behaviour issues were 8.38 (SD=8.10) and 7.59 (SD=1.40) respectively at baseline, in the EG and the CG and this observation was not significant (p=0.422). However, at post-intervention, the score reduced to 4.26 (SD=1.53) in the EG compared with slight increase to 7.67 (SD=1.41) in the CG. This observed difference was statistically significant (0.000) (Figure 4.18). Hence the null hypothesis was rejected while the alternate hypothesis

was accepted. It can be said from the ongoing that the intervention had more influence on fisherfolks in the EG by reducing their risky sexual behaviour.

Also, all the sexually active fisherfolks in EG and CG had sexual partners at pre-intervention. However, at post-intervention, 54.3% and 42.9% had no sexual partners in EG and CG respectively. This observed results were not significant (p=0.290). Equally, 26.6% and 30.8% fisherfolks always used condom during sexual intercourse in the EG and CG respectively at pre-intervention. At post-intervention, more fisherfolks, (58.5%) in EG than CG (33.0) used condom always. These observed results were not significant (p=0.007) (Table 4.19). It can be said from the ongoing that the intervention had influence in reducing the risky sexual behaviour of the fisherfolks of the EG.

Table 4.24: Fisherfolks' Mean knowledge scores of HIV and AIDS

Pre-intervention Post-intervention				**Statistical Test**				
Group	**N**	**Mean**	**Std.Dev**	**N**	**Mean**	**Std.Dev**	**Pre**	**Post**
EG	103	5.80	5.60	101	17.95	3.74	t=6.24	t=6.57
CG	105	11.81	7.10	102	12.38	7.51	p=0.000	0.420
Total	**208**			**203**				

Table 4.25: Fisherfolks' Mean risk-percception scores

Pre-intervention			**Post-intervention**		**Statistical**	**Test**		
Group	**N**	**Mean**	**Std.Dev**	**N**	**Mean**	**Std.Dev**	**Pre**	**Post**
EG	103	9.64	9.11	101	23.29	4.54	t=4.82	t=5.25
CG	105	16.59	10.12	102	17.19	10.31	p=0.000	p=0.000
Total	**208203**							

Table 4.26: Fisherfolks' mean sexual behaviour scores

	Pre-intervention			Post-intervention			Statistical Test	
Group	**N**	**Mean**	**Std. Dev**	**N**	**Mean**	**Std.Dev**	**Pre**	**Post**
EG	103	8.38	8.10	101	4.26	1.53	t=0.80	9.74
CG	105	7.59	1.40	102	7.67	1.41	p=0.422	p=0.000
Total	**208**	**203**						

Table 4.27: Fisherfolks' sexual behaviour of EG and CG before and after intervention

Variables	Pre-intervention		Post-intervention		p-value	
	EG n (%)	CG n (%)	EG n (%)	CG n (%)	Pre	Post
No of non primary sexual partner						
≤1	33 (62.2)	52 (60.5)	83 (88.3)	81 (89.8)	$X^{2=}$ 1.54	$X^{2=}$ 0.689
2-3 and above	20 (37.8)	34 (39.4)	11 (11.7)	10 (11.0)	p- 0.074	p-0.292
Total	**53 (100)**	**86 (100)**	**94 (100)**	**91 (100)**	Not Significant	Not Significant
Ever used condom						
Always	25 (26.6)	28 (30.8)	55 (58.5)	30 (33.0)	$X^{2=}$ 0.126	$X^{2=}$ 2.67
Sometimes	38 (40.4)	42 (46.2)	29 (30.9)	48 (52.7)	p- 0.487	p- 0.007
Not at all	31 (33.0)	21 (23.1)	10 (10.6)	13 (14.2)	Not Significant	Not Significant
Total	**94 (100)**	**91 (100)**	**94 (100)**	**91 (100)**		

4.19Evaluation of the programme by the fisherfolks

This section of the chapter provides the opportunity to hear from fisherfolks in the experimental group that participated in the intervention. Focus group discussion (FGD) guide was used to elicit feedback from the fisherfolks about what has been their experience in the research, what they gained in the research, what they liked and what they disliked concerning the research.

4.19.1Fisherfolks' Evaluation of the Intervention

Twenty five fisherfolks participated in the post intervention FGD. Some of the fisherfolks said they had a wonderful experience in participating in the research. According to them:

> *"It was a great experience. Some of us are having the opportunity for the first time to participate intraining on HIV and AIDS. We now know how HIV can be transmitted and the various ways to prevent the disease. We had the opportunity of getting to know how to live our life without contracting HIV"*

Concerning the areas they like in the programme, some of them said the HIV testing is very important and very good. One of them said:

> *"Some of us are having the opportunity to test for HIV for the first time. Also, some of us that are women, we don't know that HIV can be transferred from a pregnant woman to her unborn child and how the unborn child can be prevented from contracting HIV"*

About what they did not like about the study, as expected, some male fisherfolks complained about time spent during the training:

> *"As you know that due to the nature of our profession, most of the time we are always on water both day and night setting our nets and putting our hook in places where it can catch fish. So next time, the training should be brief so that we will still have a lot of time to do some other things concerning our work"*

The fisherfolks generally agreed that they have gained a lot of things in the programme. One of the male fisherfolks said:

> *"Many people are now infected with HIV and AIDS and that you can't tell whether you have it or not until when you go for the test. We now know that there are Health Centers where people that are infected with HIV and AIDS can be treated".*

Majority of the fisherfolks did comment that it was a worthwhile experience participating in the programme. They wish the programme will come up again in the nearest future in order for them to update their knowledge about HIV and AIDS and for them to have the opportunity of testing for HIV. They equally recommended that this programme should be extended to other neighbouring fishing communities along River Niger in Ajaokuta LGA so that fisherfolks in those communities will know prevention methods of HIV.

4.19.2Evaluation of what was discussed with fisherfolks using Management Information System (MIS) Form

One hundred and three trained fisherfolks participated in the discussion with the use of MIS form. Computation of the form revealed that 81.5% fissherfolks were able to explain what HIV and AIDS is, 75.7% were able to explain consistently modes of HIV transmission and 65.0% explained risk of having many sexual partners. On the risk of changing sexual partners, 76.7% were able to explain the implication while 79.6% enumerated the risk of “fish for sex”. Eight seven point three were able to mention consistently methods of HIV prevention, 71.8% explained dangers in unprotected sex and 82.5% of the fisherfolks explained the necessity of HIV test (Figure 4.7).

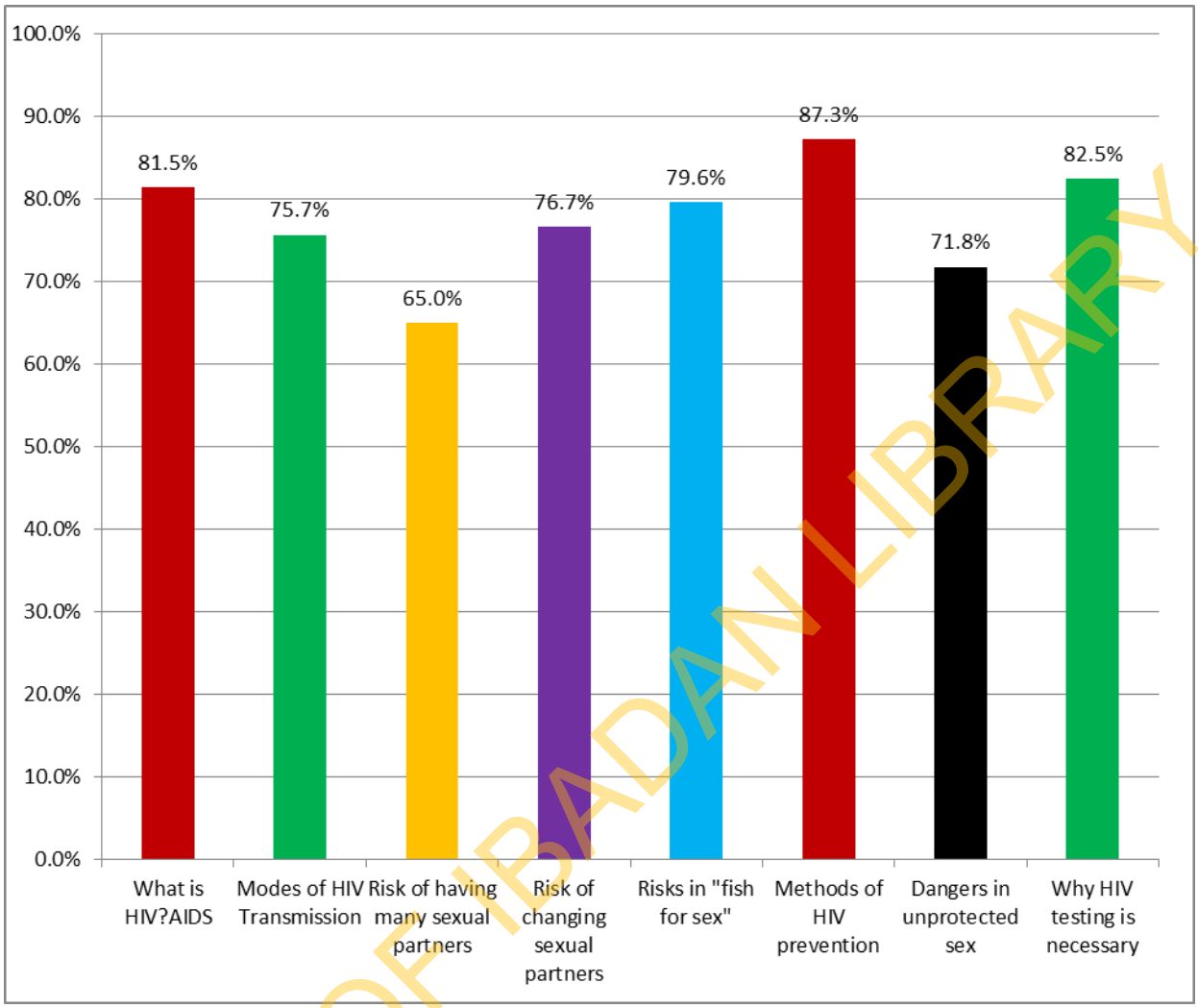


Figure 4.7: Performance of fisherfolks in the issues discussed in the Management Information System (MIS) form

CHAPTER FIVE

5.0 DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter discusses the results that are derived in chapter four which include the changes that occurred in the three variables of interest as guided by the research questions. These were knowledge of HIV and AIDS, risk-perception toward HIV infection and sexual behaviour. The positive changes in knowledge of the fisherfolks about HIV and AIDS, changes in risk-perception toward HIV infection and reduction in risky sexual behaviour observed might be attributed to the educational intervention on the EG based on the study design. Comparison was made with previous studies to highlight the similarities and differences. Finally, conclusion was drawn, lessons learnt were documented, recommendations were provided, and suggestions were made for future intervention study on prevention of HIV and AIDS among fisherfolks.

5.2 Baseline Characteristics of Respondents

Majority of the fisherfolks were youths and middle age adults which are the productive ages. Also, majority of the respondents fall within the age groups that are noted for exhibiting risky sexual behaviour (Olowosegun *et al*, (2012). This is in line with the findings of Olowosegun *et al*, (2013); Olapade and Zahara (2014) in which majority of fisherfolks in their studies were within the age bracket of 15-45 years. About 40% of the respondents in the experimental group had no formal education. As mentioned earlier, most of the fisherfolks in fishing communities in Nigeria have low level of education or no education at all (Olowosegun *et al*, (2009). Most of the respondents were virtually males because majority of the fisherfolks in the two fishing communities that were involved in fishing were males. Majority of the respondents in the EG and CG practiced Islamic religion reflecting the dominance of the religion in the two fishing communities.

5.2.1 Knowledge of HIV and AIDS

Fisherfolks in the EG had poor knowledge of HIV and AIDS at baseline compared with fairly high knowledge score of fisherfolks in CG. The poor knowledge of fisherfolks in EG may be as a result of their low and no formal education which is consistent with other researches. According to the segregated analysis by educational background, fisherfolks that attended tertiary and vocational institutions had better knowledge of HIV/AIDS than fisherfolks that had no formal education in both EG and CG at baseline (Table 4.2). The poor knowledge of HIV and AIDS in the EG at baseline followed the trend of the result obtained by Yahaya (2000) in which 94.0% of the respondents in the study at one time or the other

heard about the disease but did not know what HIV and AIDS was all about. This is also in line with the findings of Olowosegun *et al*, (2013) in their study on knowledge attitude and practices of HIV and AIDS in selected fishing communities of Kainji Lake Basin in which their findings revealed that 98.4% of the fishers were aware of HIV and AIDS but lacked knowle dge on mode of transmission and prevention of the disease.

It was observed that fisherfolks in CG had more knowledge of HIV and AIDS than EG at baseline(Figure 4.1,Tables 4.2 and 4.3)).This might have occurred as a result of many community–based developmental programmes that had been conducted by the Government and Non-Governmental Organizations in Lokoja and its environs in the past.A staff of Kogi State Agency for Control of AIDS (KOSACA) confirmed that the agency had conducted studies on HIV and AIDS in Lokoja in the past among some groups of people including fisherfolks. Also, institutions and researchers might have carried out programmes about HIV and AIDS in the community in the past.

During the FGDs, a lot of the respondents confirmed that they frequently hear information about HIV and AIDS from their Imams/Pastors and Health workers. All these would have influenced the increase in knowledge of HIV and AIDS of the fisherfolks in CG. Equally, influence of mass media in Lokoja like Confluence Radio, Grace FM, NTA and Confluence Cable TV cannot be ruled out in passing information to people about HIV and AIDS. They do transmit messages to educate people on transmission and prevention of HIV and AIDS, HCT and treatment of the disease. These messages would have filtered to the fisherfolks of CG thereby contributing to their high knowledge of HIV and AIDS than fisherfolks in EG. This result is similar to the study of Titiloye, 2016 in which the knowledge of the adolescents about adolescent reproductive health (ARH) in the control group was higher than that of the adolescents in the experimental group at baseline. This might be as a result of possible contermination.

Also, there was slight increase in the knowledge of HIV and AIDS of fisherfolks in CG at post intervention than their knowledge at baseline despite the fact that these fisherfolks were not exposed to intervention. The reason might be that after the baseline, the literateones might have read some materials about HIV and AIDS thereby leading to the slight increase of their knowledge of HIV and AIDS than what obtained at baseline.It could also be as a result of possible contermination.

5.2.2 Perception toward HIV and AIDS Infection

Fisherfolks in EG have low risk perception toward HIV infection by educational background and age compared with CG that had better risk perception at baseline (Tables 4.10 and 4.11). Fisherfolks in CG have higher risk-perception toward HIV infection at baseline `because information on risk-perception toward HIV infection must have filtered into

the fisherfolks in CG through talks on HIV on radio, television as well as talks on HIV by Imams in Mosques and health workers in health centers. These may be responsible for the high risk-perception toward HIV infection among fisherfolks in CG.

The low risk-perception of fisherfolks in EG at baseline is similar to a survey among most at risk population (MARP) in six states of Nigeria, in which over half of the sex workers did not consider themselves at risk of HIV infection (FMOH, 2007A). Despite their high risk sexual activity like the fisherfolks, many sex workers perceive their high risk of HIV infection to be low (Messersmith *et al*, 2000). Also, the low risk-perception of the fisherfolks is in line with the study of Mahfoud *et al*, (2010) among female sex workers (FSW), injection drug users (IDU) and men who have sex with men (MSM) (a group of people that are highly at risk of HIV infection like fisherfolks). All the groups reported low risk-perception toward HIV infection. They all reported behaviours that put them at risk of HIV infection possibly due to their limited knowledge and understanding of HIV and AIDS.

5.2.3 Sexual Behaviour

Majority of the fisherfolks in EG and CG were sexually active. This is expected since majority of them were married. Half of the sexually active fisherfolks in the two groups were involved in risky sexual activities including unprotected sex and sex with multiple partners. However, fisherfolks in the two groups that were educated and those between ages below 20 to 50 years were less involved in risky sexual behaviour at baseline (Tables 4.12, 4.13 and 4.15).This is a confirmation of what obtains in literature that fisherfolks are normally involved in risky sexual practices. This also confirms what obtains in literature that use of condom by fisherfolks is low. Also, the involvement of many of the fisherfolks' in unprotected sex at baseline (76.9% in EG and 87.0% in CG) (Table 4.12) confirms the low use of condom by the fisherfolks. It was also observed that fisherfolks had sex with non-primary sex partner. As said earlier, fisherfolks migrate from one fishing community to another in search of better catch and wherever they migrate to they normally have sexual partners. Also, many women are involved in fishing work; therefore male fishers readily develop sexual relationship with these women. Equally, there is the issue of "fish for sex" and the availability of daily cash which the fisherfolks spend on sex. All these were well discussed in chapter one.

Concerning HCT, as mentioned earlier, half of the fisherfolks in EG and more than half of the fisherfolks in CG were aware of HCT at baseline. Also, less than half of the fisherfolks in EG and CG had tested for HIV at baseline (Table 4.23).This result is expected because there were no HCT centres in the two fishing communities during the period of the study. As it was said earlier, this population had been neglected with respect to HIV and AIDS prevention intervention.

5.3 Effectiveness of the Intervention

Effectiveness of the intervention was determinedby the impact of the variables which areknowledge about HIV and AIDS, risk-perception toward the infection of HIV, sexual behaviour of the fisherfolks and use of HIV counseling services.

5.3.1 Knowledge of HIV and AIDS

There was an improvement in knowledge of HIV and AIDS for both EG and CG at post-intervention compared with baseline. The intervention might had improved the knowledge of HIV and AIDS of fisherfolks in EG in areas of transmission, treatment and prevention of HIV whereas at baseline the CG had better knowledge of HIV and AIDS, the situation was reversed at post-intervention when the EG had better knowledge than their counterparts in the control. This might be as a result of the knowledge of HIV and AIDS gained during the training as well as the effects of the continue education at follow-up.At post-intervention, the increase in knowledge was significant at EG compared with CG. However, knowledge of the CG was a slightly high at post-intervention. The mean knowledge scores of the EG and CG at baseline showed significant difference with the knowledge scores of EG lower than the mean knowledge scores of the CG.

However, the mean knowledge score of CG at baseline when compared with the score at post-intervention was not significant.The result of this study confirms the results of previous experimental researches that show that knowledge of secondary school students (and out of school youths) concerning reproductive health can increase after any educational intervention (Osowole and Oladepo, 2001; Brieger *et al*, 1998). This improvement is not only encouraging but also desirable because acquisition of knowledge is usually the first logical stage in the process of changes in risky behaviour (Ajuwon, 2000). Also, this result is consistent with Akinbami (2013) who documented increase in apprentices' knowledge of HIV and AIDS from what was obtained during the baseline. Equally, this finding is consistent with other researches; (Osiki, 2008; Eni-Olorunda, 2010; Karunwi, 2010; Ojelade, 2014;Ajuwon, 2014; UNICEF, 2003 and UNIFPA, 2004).

5.3.2 Risk-perception toward HIV Infection

The risk-perception score for EG at baseline was low compared with the fairly high risk-perception score of CG. The comparison of fisherfolks' mean risk-perception score obtained by both EG and CG at baseline was not significant. But comparison of fisherfolks' risk-perception score at baseline and post-intervention in EG revealed an increase in risk-perception score at post-intervention when compared with baseline. The difference was only statistically significant in EG while the increase observed at the CG was not significant. There was a significant difference in the p-value observed when the baseline and post-intervention in both EG and CG were compared. There was a significant increase in risk-perception among fisherfolks in experimental group at post-intervention which may be as a result of their better

understanding of how HIV is transmitted as a result of their exposure to the training intervention and continue education at follow up.

This result is similar to the study of Bedford (2010) in which some category of people were made to be aware of HIV and AIDS by having interaction with someone who is HIV positive. Some of these HIV positive people were relatives or close friends. The information they got from these infected individuals gave them the understanding of situations that can make them to be at risk of HIV infection and this led to the increase in their risk-perception toward HIV infection.

5.3.3 Sexual Behaviour of Fisherfolks

The comparison of sexual behaviour score of EG and CG at baseline was not significant. There was reduction in risky sexual behaviour of fisherfolks in EG at post-intervention compared with what obtained for the group at baseline. However, sexual behaviour score of CG at post-intervention when compared with baseline was not significant. It can be said that the reduction in risky sexual behaviour of fisherfolks in EG might be as a result of the training intervention. At post-intervention, there was reduction in the number of sexual partners and increase in condom use of fisherfolks in EG. To buttress this point, only 26.6% of fisherfolks in experimental group used condom always at baseline, but at post-intervention, the number doubled (58.5%) what obtained at baseline (Table 4.19).

There was also a reasonable reduction in the number of fisherfolks involved in unprotected sex at post intervention (Table 4.20). These might be as a result of the training intervention and continue education at follow-up that were given to the experimental group. The reduction in the sexual behaviour score of fisherfolks in EG in Figure 4.6 indicated that after the intervention, there was reduction in risky sexual behaviour of fisherfolks in EG than CG. The reduction of risky sexual behaviour in EG might be as a result of their exposure to the intervention which led to increase in the use of condom. Although there was reduction of risky sexual behaviour among fisherfolks in CG at baseline and post-intervention, the reduction was not significant.

Based on the training intervention that the fisherfolks in the EG were exposed to which led to the increase in knowledge of HIV and AIDS, the HIV and AIDS knowledge acquired by this group as a result of the training might have contributed to the reduction in risky sexual practices observed in this group.This finding is similar to the study of Semaan *et al*, (2002) which clarified the extent of sex risk reduction by drug users mostly heroin IDU and cocaine smokers after intervention.Also, this finding is similar to the result of the intervention study among South African Youths in which it was reported that respondents in the study delayed sexual intercourse, increased their condom use and there was reduction in the number of sexual partners better than respondents in the control group (Lori *et al*, (2013). Also, the reduction in risky sexual behaviour of fisherfolks in the EG is similar to a meta-

analysis conducted in the late 1990s of 16 United States based studies which observed a statistically significant effect indicating that participation in the experimental group was associated with greater sex risk reduction. This meta- analysis found that drug users increased their condom use after participating in the interventions (Cross and Saunders *et al*, (1998).

Half of the fisherfolks in EG and more than half of the fisherfolks in CG were aware of HCT services at baseline. But at post-intervention, all the fisherfolks in EG and many in CG were aware of HCT. Also, while less than half of the fisherfolks in both EG and CG had tested for HCT at baseline, majority of the fisherfolks in EG compared with few fisherfolks in CG had tested for HCT. This was as a result of the training intervention and voluntary HIV testing and counseling that was conducted for some fisherfolks in the experimental group during the programme. This result is similar to the study of Doherty et, al (2013) which was on effect of home based counseling and testing. The intervention group had more HCT knowledge, 55% reduction in multiple partners and 45% reduction in casual sexual partners.

5.4 Implications of Findings for Fisherfolks HIV and AIDS Education

The three major components of health promotion as identified by the National Health Promotion and Education policy and its strategic framework (FMOH, 2007A; FMOH, 2007B) are health education; service improvement and advocacy. Health education involves communication directed at individuals. Health promotion empowers people to take care of their health and prevent occurrence of diseases. Therefore, combining the concepts of HIV and AIDS prevention education (as stated in Minimum Prevention Package Intervention MPPI) and health promotion, the need to use the components of health promotion to improve the reproductive health and its determinants which is community mobilization and participation was brought to the fore in this study. Community leaders were fully mobilized and they were well involved in the study. The community leaders, particularly the community leaders in the EG, mobilized the fisherfolks for the study and made them to be interested in the training intervention.

The result of the study clearly shows that training intervention may lead to positive change of behaviour in order to practice safer sex particularly among groups of people that are highly at risk of HIV infection such as fisherfolks, IDU, MSM and female sex workers. A well organized training on HIV and AIDS with the use of resource persons that has vast knowledge and experience in HIV and AIDS issues, to a large extent, will help in reducing the spread of this disease. Also, the result of the study brings to the fore the need for intervention studies on HIV and AIDS among fisherfolks rather than survey. This type of study will go a long way in reducing the risky sexual behaviour among the fisherfolks which will ultimately lead to a reduction in the risk of HIV infection among this group of people.

5.5 Conclusion

The study has documented the effects of training intervention on knowledge of HIV and AIDS, risk-perception toward HIV infection and sexual behaviour on the fisherfolks. Fisherfolks in the experimental group benefitted from the programme as there was an increase in their knowledge of HIV and AIDS which was significantly higher than the fisherfolks in the control group. The study also revealed increase in risk-perception toward HIV infection and a significant reduction in the risky sexual behaviour of fisherfolks in the experimental group better than the control group. The training intervention might had assisted the EG to acquire skills to practice safer sex and has made the experimental group to avoid a situation that will make them to be vulnerable to HIV infection. Despite the fact that fisherfolks in the CG were not exposed to intervention, there was a slight increase in their knowledge about HIV and AIDS and a slight increase in their risk-perception toward HIV infection. However, the increase in their knowledge about HIV and AIDS and risk-perception toward HIV infection were not significant. These might have happened as a result of information gained over the radio, on television, Mosques, Churches and ongoing or past programmes about HIV and AIDS.

Many fisherfolks in the EG claimed they gained a lot from the programme and that they have been empowered to guide against the infection of HIV and other sexually transmitted infections. Finally, the study has provided answers to the research questions which were drawn at the commencement of the research. The objective of the study was achieved and the hypotheses were tested.

5.6 Lessons Learnt

The following lessons were learnt from this study:

1. It is feasible to conduct intervention research among fisherfolks despite their high level of mobility.As long as they are involved in every stage of the study, there would be minimal problem.
2. The six months of intervention had a remarkable impact as the results show a high significant difference over baseline. This suggests that exposure to an intervention overtime can increase retention of information and consequently influence positive behaviour.
3. The result of the study shows that quasi-experimental study can be used to influence the behaviour of people that are at high risk of contracting HIV infection.
4. Also, from the experience of the investigator, for one to conduct a successful community based intervention, the community must be involved in every stage of the study.

5. Fisherfolks, as mentioned earlier, are a group of people that live a migrant life. They normally migrate from one fishing community to another according to the dictates of their profession. In conducting a similar study in future, a sizeable number of respondents need to be recruited and their contacts collected. There should be a robust follow up programme to reduce the number of respondents that would be lost as a result of attrition.
6. Provision of refreshment during the training and transport fare to respondents encouraged the fisherfolks' attendance and commitment during the training.
7. Most of the fisherfolks showed interest in the study since, according to them, any programme that has to do with health should be taken very seriously.

5.7 Recommendations

This study was conducted among fisherfolks in Ajaokuta and Lokoja fishing communities. It is recommended that similar intervention study should be conducted among fisherfolks in Jamata, Kotonkafe, Shintaku, Itobe, Idah and other fishing communities along River Niger in the state. Based on the study findings, other recommendations are made as follows:

1. Continous HIV and AIDS education should be conducted among the fisherfolks in Ajaokuta and Lokoja fishing communities so as to sustain the benefits of this study.
2. The governments, NGOs, religious organizations and philanthropists should take it upon themselves to empower the fisherfolks materially and financially to go into small scale trading and to get themselves involved in other artisan work that will enable them to have additional income particularly during off season when the water level of River Niger normally goes down which normally results in poor catch.
3. Collaboration between Kogi State Ministry of Agriculture, Fishery Department, Ministry of Health, Ministry of Education and Kogi State Agency for the Control of AIDS (KOSACA) is required to co-ordinate responses to HIV and AIDS and other health issues in the fishing communities along River Niger in Kogi State. These establishments should also collaborate with local leaders in these fishing communities, NGOs and other key stake holders for implementation of required prevention, care and mitigation activities.

4. Specific services such as mobile HCT and HIV services should be initiated to address the mobile lifestyle and migratory pattern of the fisherfolks through boats and canoes.
5. Effort should be made by relevant stakeholders to incorporate HIV and AIDS education for fisherfolks into the Nigerian National Fisheries Policies.
6. Also, efforts should be made to include HIV and AIDS Education for fisherfolks in the Minimum Prevention Package Intervention (MPPI). HIV and AIDS education for fisherfolks is not included in this package. Equally, emphasis should be made about the need for researchers and organizations involved in HIV and AIDS activities to focus more on prevention of HIV and AIDS among fisherfolks.
7. The researcher received a lot of support from the traditional leaders during this study. The traditional leaders in the experimental group assisted in the provision of training venue, persuading and encouraging the fisherfolks not to drop out of the study at a time the fisherfolks wanted to discontinue with the study. They also assisted in several ways to make the study a huge success. This is a clear indication that there are community resources that can be utilized for HIV prevention activities if well harnessed. Local media such as community theatres and troupes can be used to effectively reinforce HIV prevention activities if well harnessed.

5.8 Suggestions for Future Research

Based on the findings from this study, the following areas were suggested for future research:

1. There is the need to conduct training intervention on HIV and AIDS prevention for female fish processors in the fishing communities in Lokoja, Ajaokuta and other fishing communities along River Niger in Kogi State. This has become imperative because going by the nature of their profession they do interact a lot with the fisherfolks.
2. Also similar HIV and AIDS training should be organized for both in-school and out-of-school youths in the fishing community since the youths, going by their lifestyle, are very to HIV infection.

3. There is the need to conduct training intervention on HIV and AIDS for religious leaders and traditional leaders in the fishing communities so as to continuously give health talk on HIV and vulnerable AIDS to their followers.

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APPENDIX 1A

Focus Group Discussion Guide For Fisherfolks

Introduction:

My name is..... I am a student of the Department of Health Promotion and Education, Faculty of Public Health, University of Ibadan. I would like to talk to you about HIV and AIDS as well as its prevention and other issues relating to fisherfolks. There are no right or wrong opinions on the issues to be discussed. As the moderator, my job is to make sure that everybody has a chance to participate in the discussion with open mind. Discussion will be recorded on audiotape.

As participants, your job is to tell me what honestly you think and feel about the issues raised during conversations. As the discussion progresses, please feel free to speak whenever you have something to say but also pay attention to others in the group.

1. What are the general health problems among fisherfolks in this community?
2. What have you heard about HIV and AIDS?
3. What are the sources of information that are available to you about HIV and AIDS? Mention them.
4. Which of the sources mentioned above do you prefer?
5. What are the modes of transmission of HIV?
6. What are the behaviours that favour the spread of HIV among fisherfolks?
7. What are the risks involved in sexual intercourse?
8. What do you know about condom?
9. Why do you think it is necessary for one to use condom during sex? Explain.
10. How can HIV be prevented? Probe until all methods are mentioned.
11. What are the practices fisherfolks do that may increase their risk to HIV infection?
12. What do fisherfolks do to prevent HIV infection? Explain.
13. Have you ever heard about Voluntary HIV Counselling and Testing (HCT)?
14. Why is it necessary for one to go for voluntary HCT?
15. Do you think Voluntary HCT is a way of preventing HIV? Explain.
16. In what area of HIV can programmes be organized for fisherfolks? Explain.
17. What do you think can be done by government, NGOs, CBOs etc for prevention and control of HIV among fisherfolks in this community?

APPENDIX 1B

NUPE

Focus Group Discussion Guide For Fisherfolks

Ega Yigboro

Sunna Mi Yi ……..... Mi Yi Egi Makaranta Nya Legenlege, Nya Ibadan, Gwara Nya Lafiya naka cigban. Mi e wag a mi a de ezaba be ye yin eti bata HIV to AIDS yin, toto yeko egwaka u, to ega sashi na de a dzhin be yinkawoncizhi na. Ega gboro ko dede da ezaba nana bo a. Ke ndasako na, mi a ley eke eza kpata de kafa na a gaga nimi ezaba nana o, be nyagba kpikpe ci yin. Yi ga ezaba nana ku kpe eti rediyo o.

Etun nya ye gatsa yi ga ye e zhemiga be emi gasikiya nyi, enya na ye ga kpaye eti ega ndondo na yi ga la nakin na. Kendona eza ga e loye na, jin kokari na wo a ga enya nag a ba we we na, ama, ya eza nazhi khe na kafa na a tso a gaga na ma.

1. Ke yi ezo zhi nya lafiya naka cigban na zheye ku yinkanwoncizhi kin babo na o?
2. Ke wo wo eti bata nya HIV to AIDS o le a ni o?
3. Ke yi eko nya labara na wo e de eti HIV to AIDS o na o? Tun a ye ya yi
4. Kici nimi yeko nana zhi ba wo ga nazhi ken a o?
5. Yeko kici zhi eza da ku bata HIV to AIDS wo o?
6. Yizhele yiri kicizhi e ta bata HIV to AIDS biye o?
7. Wala kici zhi eza ku wo be elele nya bagi to nyinzagi nyi o?
8. Ke wo kpeye eti roba na e la kagwa nya bata kami na bagi ga e lele be nyizagi nyi na o?
9. Ke la wo ci kpaye ga u yi enya na gen a, eza u fe lo roba kami na bagi ga e lele be nyinzagi na nyi o?
10. Yeko kici eza la kagwa HIV wo o? Gbinga sayi kami na a ga yeko kpata tunye zo na
11. Ke yi enya nazhi nyinkawoncizhi e jin, na la a ku bata HIV na wo o?
12. Ke nyinkawoncizhi e jin eti egwaka nya bata HIV bo o?
13. Hari wo de labara leani eti shaura da to mimacinle eti HIV bo, na e yi ga HCT na?
14. Ke la u ci a jin kpataki na eza ada ya HCT na o?
15. Hari wo kpaye ga HCT yi yeko nini na eza la kagwa bata HIV wo na?
16. Yeko kici zhi bo yi da lo etun wo eti bata HIV bo tatacin nyinkawoncizhi bo o?
17. Ke wo kpaye ga gominanti jin wo, ko etuba nazhi jin nya gominanti a na, koma etunba nya adini zhi eti egwaka to cigbe jin nya JIV bo tatacin nya bata cizhi bo o?

APPENDIX 2A

Baseline Questionnaire

Questionnaire for Effects of Health Promotion Intervention on AIDS related Knowledge and Risky Sexual Behaviours among Fisherfolks in Selected Riverine Communities of Kogi State.

Introduction: I am..... from the Department of Health Promotion and Education, Faculty of Public Health, University of Ibadan. This is a questionnaire that is designed to study the "Effects of Health Promotion Intervention on AIDS related Knowledge and Risky Sexual Behaviours among Fisherfolks in Selected Riverine Communities of Kogi State". I think you will be able to provide the information I need and I value your participation in the study. Participation is voluntary. Your responses will be treated with utmost confidence and that is why your name will not be written on this paper. If you agree to participate, I belief that you will respond honestly to the questions as your responses will greatly facilitate HIV Prevention intervention among the residents of the fishing communities.

SN.....

SECTION A: SOCIO-DEMOGRAPHIC CHARACTERISTCS

Instruction: Kindly provide answer to the following questions about yourself by ticking (√) the alternative answers you think are appropriate in line with your views.

Location: i. = Lokoja ii. = Ajaokuta

1. Sex of the respondent: i. Male ☐ ii. Female ☐
2. How old are you as at last birthday? .....
3. Highest level of education:

   i. No formal education ii. Primary ☐ iii. Secondary ☐ ☐

   iv. Vocational ☐ v. NCE ☐ i. OND ☐

   vii. HND ☐ viii. University ☐

   ix. Others specify.....
4. Marital status:

   i. Single/never married ☐ ii. Married ☐ Divorced ☐

   iv. Separated ☐ Widow ☐ . Widower v ☐ ohabiting. ☐
5. **For married men only:** How many wives do you have?
6. **For married women only**: How many other women are involved in the marriage to your husband now? ☐
7. What religion do you practice?

   i. Christianity ☐ ii. Islam ☐

   iii. Traditional ☐ v. Others (Specify).....

8. Ethnic group:

i. Yoruba ☐ Igbo ☐ i. Hausa ☐ Nupe v ☐ ra ☐

vi. Bassa ☐ vii Igbira-Koto ☐ Igala i ☐)thers (Specify).....

9a Is fishing your main occupation? i. Yes ☐ No **(☐ es go to Q 10)**

9b. If no to question 9, what is your main occupation? .....

9c. What other supplementary job do you do?.....

10. How long have you been in the fishing business? ☐

11. What is the nature of your fishing business?

i. Catching only ☐ ii. Sale only ☐ Catch and sale ☐

iv. Combination of 1, 2 and 3. v. T ☐ nsportation of fish. ☐

vi. Others (Specify) ----------

SECTION B: SOURCES OF INFORMATION ON HIV AND AIDS

12. Have you heard about HIV/AIDS? i. Yes ☐ No (I ☐ go to Q 20)

13. What are the sources of HIV/AIDS issues available to you? (**Tick all mentioned**)

S/N	Sources	Mentioned	Not mentioned
i.	Peer/Friends		
ii.	Radio		
iii.	Television		
iv.	Newspaper/Magazine		
v.	Posters		
vi.	Health workers		
vii.	Pastor/ Imam		
viii.	Association leaders		
ix	Activities of NGO		
x.	Others (Specify)		

14. If you have heard information about HIV and AIDS from any of the sources listed in question 13, what was the information all about?

i. Routes of HIV infection. ☐ ii. Abstinence. ☐

iii. Condom use. ☐ iv. Faithfulness to ones partner. ☐

v. Others (Specify).....

15. Have you ever been encouraged by your friends or sexual partner(s) to adopt any HIV/ AIDS preventive methods?

i. Yes ☐ ii. No ☐ **(If no go to question17)**

16. If yes, what preventive method(s) were you advised to adopt?

i. Pills ☐ ii. Withdrawal method ☐ iii. Use of condom ☐

iv. None ☐ v. Others (Specify) ----------

17. Have you attended any training or health programme on HIV and AIDS in the past?

i. Yes ii. No ☐ **(If no go to question 20)**

18. If yes, which aspect of HIV and AIDS was the training/programme about?

---

19. How had the training assisted you in the prevention against HIV infection?

---

20. Which of the following people/source(s) do you prefer to give you information aboutHIV/AIDS and give reasons(s) for your answer?

S/N	Sources	Preferred source(s) (as many as possible)	Most preferred (only one)	Reasons for the preferred source
i.	Peer/Friends			
ii.	Radio			
iii.	Television			
iv.	Newspapers/Magazines			
v.	Posters			
vi.	Health worker			
vii.	Pastor/Imam			
viii.	Association leaders			
ix.	Activities of Nongovernmental Organizations (NGO)			
xi.	Others (Specify)			

SECTION C: KNOWLEDGE ABOUT HIV AND AIDS.

21. What causes AIDS?

i. HIV ☐ ii. I don't know ☐ **(If no go to Q 24)**

22a **Instruction: For each of the following statements about mode of transmission of HIV, tick (√) whether it is true, false or if you are not sure tick (√) "I don't know".**

S/N	Statement	True	False	I don't know
i	People can get HIV by having unprotected sex.			
ii	One can get HIV when one receives unscreened blood transfusion.			
iii	HIV can be transmitted from a mother to her unborn baby.			
iv	People can get HIV through mosquito bites.			
v	One can get HIV by sharing food with a person who has HIV/AIDS.			
vi	People can get HIV by sharing a toilet with a person who has HIV/AIDS.			
vii	People can get HIV as a result of witchcraft or other supernatural means.			

22b **Instruction: For each of the following statements about treatment of HIV, tick (√) whether it is true, false or if you are not sure tick (√) "I don't know"**.

S/N	Statement	True	False	I don't know
i	There is a special antiretroviral drug that people infected with HIV can get from a Doctor or a nurse that can help them to live longer.			
ii	There is a special drugs that a Doctor or a Nurse can give to a woman infected with HIV to reduce the risk of transmission to her unborn baby.			
iii	There is cure for AIDS.			

iv	Use of traditional medicines like amulets, concoctions can cure HIV/AIDS.			

22c. **Instruction: For each of the following statements about HIV prevention, tick (√) whether it is true, false of if you are not sure tick (√) "I don't know".)**

S/N	Statement. People can reduce their risk of getting HIV by:	True	False	I don't know
i	Having just one faithful uninfected sexual partner.			
ii	Using condom every time they have sex.			
iii	Abstain from sex.			
iv	Avoiding sex with people of the same sex.			
v	Avoiding having sex with prostitutes.			
vi	Avoiding sex with persons having many sexual partners.			
vii	Avoiding transfusion of unscreened blood.			
viii	Saying incantations before sexual intercourse.			
ix	Using traditional ring and by using traditional bands in their waste.			

SECTION D: RISK-PERCEPTION OF HIV INFECTION

23a. **Perceived vulnerability**. For each of the statement below tick whether at risk of HIV infection, not at risk of HIV infection and can't say to the statements.

S/N	Statement	At risk	Not at risk	Can't say
i.	If I have sex with casual partner without the use of condom.			
ii.	If I have sex with many sexual partners.			
iii.	If I share unsterilized sharp objects for tattooing.			
iv.	If I'm transfused with unscreened blood.			
v.	If I'm having sex always with regular sexual partner or			

	spouse without using condom.			
vi.	If I'm involve in the practice of "fish for sex".			
vii.	If am away from home for fishing for some days or months which could make one to develop sexual relationship with many sexual partners.			
viii.	If I engage in force sex (rape).			
xi.	If I put hook in my private part so that I can enjoy sex.			
x.	Influence of alcohol and drugs could make me to be involved in unprotected sex.			

23b. **Perceived susceptibili** For each of the statement be please state **Agree** or **Disagree** or whether **you do not know/ can't say** relating to the likelihood of you getting HIV infection. Tick the option that applies to you.

S/N	Statements relating to susceptibility	Agree	Disagree	Don't know/Can't say
i.	I can get HIV if I have sex without using condom.			
ii.	I may get HIV if I'm involved in "fish for sex".			
iii.	I can get HIV if I have many sexual partners			

SECTION E: PATTERN OF BEHAVIOURS THAT FAVOUR SPREAD OF HIV.

24. Have you ever had sex before?

i. Yes ☐ ii. No ☐ **(If no, go to question 48)**

25. If yes, within when did you had the sexual intercourse?

i. within last 3 months ☐ ii. Within last months iii. Within last one year ☐

iv. Over one year ☐

26. How many sexual partners do you have now apart from your spouse? ☐

27. How often do you normally have sexual intercourse with your sexual partners? ☐

28. Did you normally use condom with any of your sexual partner(s) or spouse?

i. Yes ☐ ii. No ☐ **(If no, go to question 32)**

29. If yes, what are those things that encouraged you to use condom?

---

30. What type of condom did you use?

i. Male condom ☐ ii. Female condom ☐

31. Where did you get the condom you used in your last use of condom?

i. Health worker ☐ i. Pharmaceutical/medicine store ii ☐ ctivities of NGO

iv. Othersspecify.....

32. How do you prevent HIV infection?

i. Abstain from sex ☐ ii. Use condom ☐

iii . Others (Specify).....

33. What do you think about being faithful to a partner?

i. It is impossible ☐ It is just hypocritical i ☐ t is not a way of preventing HIViv. It exp ☐ s one to HIV v. Nothing ☐ ay vi. Others ☐

(specify) ---------

34. Have you used condom before?

i. Always ☐ i. Not at all ☐ Sometimes (☐ **no go to question 38)**

35. If yes, how long ago did you use it?.....

36. Why did you use condom?

i. My partner requested for it ☐ i. To prevent pregnancy ☐

iii. To prevent infection of sexually transmitted diseases including HIV ☐

iv. Others (Specify).....

37. With whom did you use condom?

i. Spouse ☐ ii. Sexual partner iii. S ☐ worker ☐

iv. Others (Specify).....

38. Why have you not used condom before now?

i. Not sold in the village ☐ i. Difficult to find ii ☐ oo expensive ☐

iv. Partner refused. ☐ v.Others (Specify).....

39. The last time you had sexual intercourse with your sexual partner (apart from your wife), did you or your partner drink alcohol?

i. Yes ☐ ii. No ☐ **(If no, go to question 42)**

40. Does alcohol affect your consistent use of condom?

i. Always ☐ ii. In some cases ☐ No (☐ **no, go to question 42)**

41. If alcohol affect your consistent use of condom, how?.....

.....42.

How many different people have you had unprotected sex with in the last 12 months?

(Questions 43-45 are reserved for men)

43. In the last 12 months, did you pay anyone in exchange for having sexual intercourse?

i. Yes ii. No **(If no, go to Q**

44. The last time you paid someone in exchange for sex, was condom used?s

i. Yes ii. No

45. Was condom used during sexual intercourse every time you paid someone in exchange for sex in the last 12 months?

i. Yes ii. No Don't know

(Questions 46-47 reserved for women)

46. Have you requested for money from someone in exchange for sex? S

i. Yes ii. No

47. Have you ever accepted fish for sex or sex in exchange for work related facilities? i. Yes ii. No

48. If you had never had any sexual relation, why?

i. Still too young ii. Too old for sex A decision to abstain

iv. No money v. Don't consider it necessary v ad no opportunity.

vii. Others (Explain) ----------

SECTION F: HIV/AIDS COUNSELLING AND TESTING (HCT)

49. Have you ever heard about Voluntary HIV Counselling and Testing (HCT)?

i. Yes ii. No **no, go to Q 58)**

50. Are you aware of places where people can go and be tested for HIV in your community? i. Yes ii. No

51. If yes, mention the place(s) ----------

52. Have you been tested to know if you have HIV?

i. Yes ii. No **no, go to Q 57)**

53. If yes, when was the last time you were tested?

i. A month agoii. months ago iii. About a year

iv. Others (Specify).....

54. The last time you had the test**(tick the one that is appropriate).**

i. You yourself asked for the test. It was offered to you and you accepted.

iii. It was required.

55. Did you get the results of the test?

i. Yes ii. No

56. Where was the test done?

i. Government hospital ii. Primary Health Centre

iii. Stand alone VCT Centre. iv. Family Planning Clinic

v. Mobile Clinic ☐ vi. Others (Specify) ----------

57. Why have you not tested for HIV? ----------

SECTION G: PREVENTION AND CONTROL OF HIV/AIDS AMONG FISHER FOLKS

58a. In your own opinion tick either strongly agree (SA), agree (A), undecided (U), disagree (D) or strongly disagree (SD) as regard prevention and control of HIV and AIDS among fisherfolks.

S/N	Prevention and Control of HIV and AIDS	SA	A	U	D	SD
i.	Regular enlightenment of fisherfolks about prevention of HIV					
ii.	Creation of HCT centres in fishing communities					
iii.	Creation of alternative source of income for fisherfolks particularly during off season					
iv.	Scaling up condom promotion in fishing communities					
v.	Discouragement of transactional sex or "fish for sex" in fishing communities					

58b.Others(Specify).....

58c. What would you like to know more about HIV prevention among fisherfolks?

.....

.....

.....

THANK YOU

APPENDIX 3A

Post-Intervention Questionnaire

Questionnaire for Effects of Health Promotion Intervention on AIDS related Knowledge **and Risky Sexual Behaviours among Fisherfolks in Selected Riverine Communities of Kogi State.**

Introduction: I am..... from the Department of Health Promotion and Education, Faculty of Public Health, University of Ibadan. This is a questionnaire that is designed to study the "Effects of Health Promotion Intervention on AIDS related Knowledge and Risky Sexual Behaviours among Fisherfolks in Selected Riverine Communities of Kogi State". I think you will be able to provide the information I need and I value your participation in the study. Participation is voluntary. Your responses will be treated with utmost confidence and that is why your name will not be written on this paper. If you agree to participate, I belief that you will respond honestly to the questions as your responses will greatly facilitate HIV Prevention intervention among the residents of the fishing communities.

SN.....

SECTION A: SOCIO-DEMOGRAPHIC CHARACTERISTCS

Instruction: Kindly provide answer to the following questions about yourself by ticking (√) the alternative answers you think are appropriate in line with your views.

Location: i. = Lokoja ☐ ii. = Ajaokuta ☐

1. Sex of the respondent: i. Male ☐ ii. Female ☐
2. How old are you as at last birthday? .....
3. Highest level of education:

   i. No formal education ☐ ii. Primary ☐ iii. Secondary ☐ ☐

   iv. Vocational ☐ v. NCE ☐ OND ☐

   vii. HND ☐ viii. University ☐

   ix. Others specify.....

4. Marital status:

   i. Single/never married ☐ Married ☐. Divorced ☐

   iv. Separated ☐ v. Widow ☐ Widower ☐ i.Cohabiting. ☐

5. **For married men only:** How many wives do you have? ☐
6. **For married women only**: How many other women are involved in the marriage to your husband now? ☐

7. What religion do you practice?

i. Christianity ☐ ii. Islam ☐

iii. Traditional ☐ iv. Others (Specify).....

8. Ethnic group:

i. Yoruba ☐ gbo ☐ ii. Hausa ☐ Nupe v.Ebira ☐

vi. Bassa ☐ vii Igbira-Koto ☐ ii Igala i ☐ thers (Specify).....

9a Is fishing your main occupation? i. Yes ☐ No ☐ **yes go to Q 10)**

9b. If no to question 9, what is your main occupation? .....

.....

9c. What other supplementary job do you do?.....

10. How long have you been in the fishing business?

11. What is the nature of your fishing business?

i. Catching only ☐ . Sale only iii. C ☐ h and sale ☐

iv. Combination of 1, 2 and 3. ☐ Transportation of fish. ☐

vi. Others (Specify) ----------

SECTION B: SOURCES OF INFORMATION ON HIV AND AIDS

12. Have you heard about HIV/AIDS? i. Yes ☐ . No (If ☐ go to Q 20)

13. What are the sources of HIV/AIDS issues available to you? (**Tick all mentioned**)

S/N	Sources	Mentioned	Not mentioned
i.	Peer/Friends		
ii.	Radio		
iii.	Television		
iv.	Newspaper/Magazine		
v.	Posters		
vi.	Health workers		
vii.	Pastor/ Imam		
viii.	Association leaders		
ix	Activities of NGO		
x.	Others (Specify)		

14. If you have heard information about HIV and AIDS from any of the sources listed in question 13, what was the information all about? ☐

i. Routes of HIV infection. ☐ ii. Abstinence.

iii. Condom use. ☐ iv. Faithfulness to ones partner. ☐

v. Others (Specify).....

15. Have you ever been encouraged by your friends or sexual partner(s) to adopt any HIV/ AIDS preventive methods?

i. Yes ☐ ii. No ☐ **(If no go to question17)**

16. If yes, what preventive method(s) were you advised to adopt?

i. Pills ☐ ii. Withdrawal method ☐ i. Use of condom ☐

iv. None ☐ v. Others (Specify) ----------

17. Have you attended any training or health programme on HIV and AIDS in the past?

i. Yes ☐ ii. No ☐ **(If no go to question 20)**

18. If yes, which aspect of HIV and AIDS was the training/programme about?

---

19. How had the training assisted you in the prevention against HIV infection?

---

20. Which of the following people/source(s) do you prefer to give you information aboutHIV/AIDS and give reasons(s) for your answer?

S/N	**Sources**	**Preferred source(s) (as many as possible)**	**Most preferred (only one)**	**Reasons for the preferred source**
i.	Peer/Friends			
ii.	Radio			
iii.	Television			
iv.	Newspapers/Magazines			
v.	Posters			
vi.	Health worker			
vii.	Pastor/Imam			
viii.	Association leaders			
ix.	Activities of Non governmental Organizations			

	(NGO)			
xi.	Others (Specify)			

SECTION C: KNOWLEDGE ABOUT HIV AND AIDS.

21. What causes AIDS?

i. HIV ☐ ii. I don't know ☐ **(no go to Q 24)**

22a **Instruction: For each of the following statements about mode of transmission of HIV, tick (√) whether it is true, false or if you are not sure tick (√) "I don't know".**

S/N	Statement	True	False	I don't know
I	People can get HIV by having unprotected sex.			
Ii	One can get HIV when one receives unscreened blood transfusion.			
Iii	HIV can be transmitted from a mother to her unborn baby.			
Iv	People can get HIV through mosquito bites.			
V	One can get HIV by sharing food with a person who has HIV/AIDS.			
Vi	People can get HIV by sharing a toilet with a person who has HIV/AIDS.			
Vii	People can get HIV as a result of witchcraft or other supernatural means.			

22b **Instruction: For each of the following statements about treatment of HIV, tick (√) whether it is true, false or if you are not sure tick (√) "I don't know"**.

S/N	Statement	True	False	I don't know
I	There is a special antiretroviral drug that people infected with HIV can get from a Doctor or a nurse that can help them to live longer.			
Ii	There is a special drugs that a Doctor or a Nurse can give to a woman infected with HIV to reduce the risk of transmission to her unborn baby.			

Iii	There is cure for AIDS.			
Iv	Use of traditional medicines like amulets, concoctions can cure HIV/AIDS.			

22c. **Instruction: For each of the following statements about HIV prevention, tick (√) whether it is true, false of if you are not sure tick (√) "I don't know".)**

S/N	Statement. People can reduce their risk of getting HIV by:	True	False	I don't know
I	Having just one faithful uninfected sexual partner.			
Ii	Using condom every time they have sex.			
Iii	Abstain from sex.			
Iv	Avoiding sex with people of the same sex.			
V	Avoiding having sex with prostitutes.			
Vi	Avoiding sex with persons having many sexual partners.			
Vii	Avoiding transfusion of unscreened blood.			
Viii	Saying incantations before sexual intercourse.			
Ix	Using traditional ring and by using traditional bands in their waste.			

SECTION D: RISK-PERCEPTION OF HIV INFECTION

23a. **Perceived vulnerability**. For each of the statement below tick whether at risk of HIV infection, not at risk of HIV infection and can't say to the statements.

S/N	Statement	At risk	Not at risk	Can't say
i.	If I have sex with casual partner without the use of condom.			
ii.	If I have sex with many sexual partners.			
iii.	If I share unsterilized sharp objects for tattooing.			
iv.	If I'm transfused with unscreened blood.			
v.	If I'm having sex always with regular sexual partner or			

	spouse without using condom.			
vi.	If I'm involve in the practice of "fish for sex".			
vii.	If am away from home for fishing for some days or months which could make one to develop sexual relationship with many sexual partners.			
viii.	If I engage in force sex (rape).			
xi.	If I put hook in my private part so that I can enjoy sex.			
x.	Influence of alcohol and drugs could make me to be involved in unprotected sex.			

23b. **Perceived susceptibility**. For each of the statement below please state **Agree** or **Disagree** or whether **you do not know/ can't say** relating to the likelihood of you getting HIV infection. Tick the option that applies to you.

S/N	Statements relating to susceptibility	Agree	Disagree	Don't know/Can't say
i.	I can get HIV if I have sex without using condom.			
ii.	I may get HIV if I'm involved in "fish for sex".			
iii.	I can get HIV if I have many sexual partners			

SECTION E: PATTERN OF BEHAVIOURS THAT FAVOUR SPREAD OF HIV.

24. Have you ever had sex before?

i. Yes ☐ ii. No ☐ **If no, go to question 47)**

25. If yes, within when did you have the sexual intercourse?

i. within last 3 months ii. Within last months iii. Within last one year ☐

iv. Over one year ☐

26. How many sexual partners do you have now apart from your spouse?

27. How often do you normally have sexual intercourse with your sexual partners?

28. Did you normally use condom with any of your sexual partner(s) or spouse?

i. Yes ☐ ii. No ☐ **(If no, go to question 31)**

29. If yes, what are those things that encouraged you to use condom?

---

29. What type of condom did you use?

i. Male condom ☐ ii. Female condom ☐

30. Where did you get the condom you used in your last use of condom?

i. Health worker ☐ ii. Pharmaceutical/medicine store iii. ☐ctivities of NGO iv. Others specify.....

31. How do you prevent HIV infection?

i. Abstain from sex ☐ ii. Use condom ☐

iii . Others (Specify).....

32. What do you think about being faithful to a partner?

i. It is impossible ☐ It is just hypocritical ☐

iii. It is not a way of preventing HIV ☐

iv. It exposes one to HIV ☐ Nothing to say v. ☐thers (specify) --------

33. Have you used condom before?

i. Always ☐ i. Not at all ☐ i. Sometimes ☐ **ho go to question 37)**

34. If yes, how long ago did you use it?.....

35. Why did you use condom?

i. My partner requested for it ☐ To prevent pregnancy ☐

iii. To prevent infection of sexually transmitted diseases including HIV

iv. Others (Specify).....

36. With whom did you use condom?

i. Spouse ☐ ii. Sexual partner ☐ Sex worker ☐

iv. Others (Specify).....

37. Why have you not used condom before now? ☐

i. Not sold in the village ☐ i. Difficult to find ii. ☐oo expensive ☐

iv. Partner refused. ☐ v.Others (Specify).....

38. The last time you had sexual intercourse with your sexual partner (apart from your wife), did you or your partner drink alcohol?

i. Yes ☐ ii. No ☐ **(If no, go to question 41)**

39. Does alcohol affect your consistent use of condom?

i. Always ☐ ii. In some cases ☐ iii. No **(☐o, go to question 41)**

40. If alcohol affect your consistent use of condom, how?.....

41. How many different people have you had unprotected sex with in the last 12 months?

(Questio☐2-44 are reserved for men)

42. In the last 12 months, did you pay anyone in exchange for having sexual intercourse?

i. Yes ii. No ☐ ☐

(If no, go to Q48)

43. The last time you paid someone in exchange for sex, was condom used?

i. Yes ☐ ii. No ☐

44. Was condom used during sexual intercourse every time you paid someone in exchange for sex in the last 12 months?

i. Yes ☐ ii. No ☐ iii. Don't know ☐

(Questions 45-46 reserved for women)

45. Have you requested for money from someone in exchange for sex?

i. Yes ☐ ii. No ☐

46. Have you ever accepted fish for sex or sex in exchange for work related facilities

i. Yes ☐ ii. No ☐

47. If you had never had any sexual relation, why?

i. Still too young ☐ ii. Too old for sex ☐ iii. A decision to abstain ☐

iv. No money ☐ v. Don't consider it necessary ☐ vi. Had no opportunity. ☐

vii. Others (Explain) ----------

SECTION F: HIV/AIDS COUNSELLING AND TESTING (HCT)

48. Have you ever heard about Voluntary HIV Counselling and Testing (HCT)?

i. Yes ☐ ii. No ☐ **(If no, go to Q 57)**

49. Are you aware of places where people can go and be tested for HIV in your community? i. Yes ☐ No ☐

50. If yes, mention the place(s) ----------

51. Have you been tested to know if you have HIV?

i. Yes ☐ ii. No ☐ **(If no, go to Q 56)**

52. If yes, when was the last time you were tested?

i. A month ago ii. 6 months ago ☐ iii. About a year iv. Other ☐ ☐

(Specify).....

53. The last time you had the test— **(tick the one that is appropriate).**

i. You yourself asked for the test. ☐ ii. It was offered to you and you accepted. iii. ☐ It was required.

54. Did you get the results of the test?

i. Yes ☐ ii. No ☐

55. Where was the test done?

i. Government hospital ☐ ii. Primary Health Centre ☐

iii. Stand alone VCT Centre. ☐ iv. Family Planning Clinic ☐

v. Mobile Clinic ☐ vi. Others (Specify) ----------

56. Why have you not tested for HIV? ----------

SECTION G: PREVENTION AND CONTROL OF HIV/AIDS AMONG FISHER FOLKS

57a. In your own opinion tick either strongly agree (SA), agree (A), undecided (U), disagree (D) or strongly disagree (SD) as regard prevention and control of HIV and AIDS among fisherfolks.

S/N	Prevention and Control of HIV and AIDS	SA	A	U	D	SD
i.	Regular enlightenment of fisherfolks about prevention of HIV					
ii.	Creation of HCT centres in fishing communities					
iii.	Creation of alternative source of income for fisherfolks particularly during off season					
iv.	Scaling up condom promotion in fishing communities					
v.	Discouragement of transactional sex or "fish for sex" in fishing communities					

57b.Others(Specify).....

SECTION F: EVALUATION OF THE INTERVENTION

57c. What would you like to know more about HIV prevention among fisherfolks?

.....

.....

58a. What lessons have you learnt about HIV/AIDS through this research?

.....

.....

58b. What knowledge about HIV/AIDS has this research added to the knowledge you already had before this research?

.....

.....

58c. What has been your experience with this HIV/AIDS research?

.....

.....

THANK YOU

APPENDIX 3B

QUESTIONNAIRE

Post-Intervention Questionnaire

Ekpa ya Karatun wu eti kpikpe bata nya HIV to AIDs eti Alibo elele kheba nya Baagi to Nyinzagi nyi taacin Nyinkawoncizhi kiiin bata nya Kogi State o

Ega Yigboro

Sunna mi yi …….. daga gwara nya karatun wu yigboro lo nya lafiya naka cigban o, Makaranta lege-n-lege nya Ibadan o. Takada nana yi ya Egagbin eti Ekpa ya Karatun wu eti kpikpe bata nya HIV to AIDs eti Alibo elele kheba nya Baagi to Nyinzagi nyi taacin Nyinkawoncizhi kiiin bata nya Kogi State o. Mi kpaye ga wo a ya mi egamisun na mi e wa na wo, to do dena u jin tile ya we na wo a jin enya na mi wan naa. Mi a la a egazhe we zhi tula ya eza ndondoa, u ga ma la yi ci a ka sunna we cici a nyi o. Wo ga tsa na wo a lo wo be yi yin na, mi yakpe ke egamisun wo a yi gaskiya na, ebo u deba bayi dzinre eti kinkan nya bata HIV taacin nya bata cizhi o.

EGWA MAFARI: EGAMISUN ETI EZA SIFA NA WO YI NA

Gami: Dzin ankuri, zhe ega nana zhi eti eza yiri siifa na wo yin a o

Ezhi: i. = Lokoja ( ) ii. = Ajaokuta ( )

1. Baagi ko Nyinzagi: i. Baagi ( ) ii. Nyinzaghi ( )
2. Egi eya gukhin wo yi o? ……
3. Kara tun yiri kici wo dzin o?

i. Midzin karatu nasara a ( ) ii. Karatun mafari ( ) iii. Koleeji ( )

iv. Etun mi kpin o ( ) v. karatun man makaranta vi. Karatun Poli tetengi ( )

vii. Karatun poli wonciko ( ) viii. Makaranta lege-n-lege ( )

Ix. Karatun Yiri doci ……..

4. Ega eti yawo jin o:

i. Mi la jin yawo a ( ) ii. Mi a yawo jin a ni ( ) iii. Mi a yawo la ( )

iv. Mi a ga be nyinmi nyin ( ) v. Yinmi mi a tsu ( ) vi. Eba mi a tsu( )

v. vii. Mi e le kheba be eba/yinmi yin banbe yawo jin yin ( )

5. **Ya baagi nazhi a yawo jin na gbaagi:** Nyinmi gukin wo de o? ( )
6. **Ya nyinzagi nashi a yawo jinn a gbaagi:** Tsudo gukin wo de o? ( )
7. **Adini kici wo e dzin o?**i. Adini Kristici( )ii. Musulumi ( ) iii. Kuti gbaci ( )

iv. Adini yiri ndoci …….

8. Ezhi yiri kici wo yi o?

i. Eyagi ( ) ii. Egbo ( ) iii. Khenci iv. Nupeci v. Gbira vi. Bassa vii. Gbira-Koto viii. Gala ( ) ix. Ezhi yiri ndoci (ta be yin) ……

9. a. Yinka wan ga yi etun kpataki na wo e lo na o? i. U ga o ( ) ii. U ji u yia ( ) (wun a yi u yio, ja furu lo nanba guwo ci)

b. Ka ga yinka won jin etun kpataki nya wo yia, ki yi etun kpataki wo yio? ……

c. Etun yiri khici wo e lo be o? ……

10. Ya lokaci gukin wo lo etun nya yinka wonci a ni o? ……..

11. Kici wo e li jin nimi woce nya yinka wan bo?

i. Wiwan kawoyin ii. Kunkun nya yinka kawoyin iii. Wiwan to kukun iv. Namba mafari, baci to taci v. kuku nya nyinka daga kun bo lo dzuko vi. Yiri ndoci (ta be yin) ……

EGWA BACI: EKO NA WO DA DE KPIKPE NYA BATA HIV TO AIDS NA

12. Wo wo ega eti bata HIV to AIDS le a ni? i. Mi wo a ni ( ) ii. Mi la wo a ( ) (Ka wo la wo a, janfuru lo namba eshi chi)

13. Yeko kici wo da de kpikpe nya HIV to AIDS o? (Tsa na u ga yin a)

Namba	**Yeko**	**U ga o**	**U jin u yia**
	Eya to yezun zhi		
	Rediyo		
	Talavishan		
	Takada labara		
	Takada shempa		
	Etun loci zhi nya Asibiti		
	Papa Pasitor/ Liman masalaci		
	Tishi ena zhi		
	Etun loci zhi na jin nya gominanti a na		
	Yeko ndoci zhi (ta be yin)		

14. Wo ga de kpikpe a ni eti HIV to AIDS o nimi nini ko baci nimi eko nana zhi bo a ni,iri kpikpe kici wo de o?

i. Eko na e la da ku bata na ( ) ii. Bagi to yinzagi a ga lele be dozhi yin ma ( ) iii. Anfani jin be roba na e ka bata na ( ) iv. Eza u ga de ga elele baci nini ma ( ) v. Eko ndoci (ta be yin) ……

15. Eya ko elele baci wo da wo shaura le a ni eti egwaka nya batan HIV to AIDS o?

i. A da mi shaura le ani ( ) ii. A la da mi shaura le a ( )

16. A ga da wo shaura le a ni, shaura yiri kici a da wo yi o?

i. Cigbe yin ( ) ii. Eba wa ( ) iii. Anfani jin be roba na e ka bata na

17. Hari wo lo karatun wuba le ani eti HIV to AIDS o?

i. Mi lo le ani ( ) ii. Mi la lo le a ( ) (ka wo la lo le a, janfuru da nomba eshi ci)

18. Wo ga lo le ani, iri karatun wu nya HIV to AIDS kici u yio?

……

19. Eko kici karatun wu uci da bawojinre eti egwaka nya HIV to AIDS bo?

……

20. Eko kici nimi nana zhio ba wo ga na wo a da de kpikpe eti bata HIV to AIDS o na o? Ta sarati ya egazhe wo

Nomba	**Eko nazhi wo da de kpikpe bata ga wo na**	**Eko nazhi bawo na (Tsa gukin ndondo nag a ba we na**	**Sunsun nini na bawo ga na**	**Sarati na la u ci a bawe na**
i.	Yezun/Eya zhi			
ii	Rediyo			
iii	Talabishan			
iv	Takada labara			
v	Takada shenpa			
vi	Etunlocizhi nya Asibiti			
vii	Papa Pasitor/ Liman masalaci			
viii	Tishi zhi nya ena			
ix	Etun loci zhi na jin nya gominanti a na			
X	Yeko ndoci zhi (ta be			

	yin)			

EGWA TACI: KPIKPE ETI HIV TO AIDS O

21. Ke yi enya na e sa bata AIDS ya eza na o?

i. HIV ( ) ii. Mi kpea ( ) (ka wo kpea, janfuru da nomba eshi be guni nyi)

22a. **Gami: ya ndondo nimi ega nana zhi o, tsa ko gaskiya o, ko u jin gaskiya a, ko wo kpea**

Nomba	Ega	Gasikiya	U jin gasikiya	Mi kpea
I	Eza ku HIV wo be elele keba nya bagi to nyizagi yin			
Ii	Eza ku HIV wo kamina u ga go egia na a ma cinle ana			
Iii	Egi na gbako o na ku HIV wo naka nna u bo			
Iv	Eza ku bata HIV wo kamina emagi ga gi u na			
V	Eza ku bata HIV wo kamina u ga gi enyagici keba be eza na de bata HIV/AIDS na			
Vi	Eza ku bata HIV wo kamina u ga lo seliga nini be Eza ndoci na de HIV to AIDS na e			
Vii	Ezazhi e ku bata HIV daga eba gaci to kagbo bazhiko zhi o			

22b. Gami: ya ndondo nimi ega nana zhio tsa ko gasikiya o, ko u jin gaskiya a, ko wokpea

Nomba	Ega	Gasikiya o	U jin gasikiya	Mi kpea
I	Cigbe kpataki ndoci dabo na eza nazhi ga de bata nya HIV to AIDS e go be Likita ko Noosi nyi na, na e ko rayi nya a na			
Ii	Cigbe Pataki ndoci dabo na Likita ko Noosi e la ya nyigi na de ewan na, na a lugwa egi gbako u a batan ku a na			
Iii	Bata AIDS de cigbe a			

Iv	Cigbe pazhiko ke laya ko cigbe finfin ci zhi na e zo bata AIDS			

22c. Gami: ya ndondo nimi ega nana zhio tsa ko gasikiya o, ko u jin gaskiya a, ko wo Kpea

Nomba	**Ega eti eko na e la kan bata HIV na**	**Gasikiya o**	**U jin gasikiya**	**Mi kpea**
I	Ga de ga elele zabaci nini ma			
Ii	Anfani jin be roba na e ka bata na			
Iii	Ga lele be nyinzagi ko bagi nyin ma			
Iv	Bagi u ga lele be bagi nyi, ko yinzagi be nyinzagi nyi ma			
V	Ga lele be karuwa zhi nyi ma			
vi	Ga lele be eza nag a e lele be eza kama nyi na			
vii	Cigbe sa bedzo ci lele be be bagi ko nyizagi			
ix	Ruka da to be egba ‘shin nyin			

23 a. EGWA NICI: YEKPA WE ETI KUKU WO NYA BATA E. TSA NINI NIMI EGA NANA ZHIO KO WO KU BATA WO, KO WO KUWO A, KOMA WO KPEA

Nomba	**Ega**	**Mi ku u wo**	**Mi ku u wo a**	**Mi ga wo a**
i	Mi ga lele be eza yeka nini banbe amfani jin yin be roba e			
ii	Mi ga lele be eza kama e			
Iii	Mi ga la efin ko nyankpa na ci a sa naka mi			
Iv	Mi ga go egia banbe mima cinle u yi			
V	Mi ga e lele be eza nini kawoyin in banbe anfani jin be roba nyi			

Vi	Mi ga e la yinka go elele keba e			
Vii	Mi ga tinya nbo da nyinka wonzhi ya eka na jin deegi na, mi ci e lele be eza kama nyi			
Viii	Mi ga lele tile be eza nyi			
ix	Mi ga goro pada eba mibo, ko dzuko nyinzagi o ebo emawo nya elele keba nyi			
x	Egie to cigbe dede fin la mi lele wo banbe yekpa nya bata nyi			

23 b. Yekpa we eti kuku wo nya bata nya HIV nyi. Tsa nini nimi ega nana zhio ko wo jin eda, ko wo jin eda a, koma wo, go wo a

Nomba	**Ega**	**Mi ku u wo**	**Mi ku u wo a**	**Mi ga wo a**
i	Mi ku HIV wo mi ga lele banbo amfani jin be roba nyi			
ii	Mi ku HIV wo mi ga e go nyika ebo elele keba nya bagi to nyizaki i			
iii	Mi ku HIV wo, mi ga lele keba be eza kama nyi na			

EGWA TSUNCI: ELI YIRI NAZHI E TA GBERE NYA HIV NA

24. Hariwobagi lele keba le ani be nyinzagi nyi, koma wo nyinzagi be bagi?

i. Mi le le ani ( ) ii. Mi la le le a ( )**(Ka wo la le le a, janfuru da nomba 47)**

25. Wo ga le leani, kami kici o?

i. Gbako etswa guta na da zuma o na ( ) ii. Gbako etwa nini o ( )

iii. Gbako eya nini o ( )iv. Tuti eya nini o

26. Elele baci gukin wo de banbe nyinmi ko eba wo yin o? ( )

27. Ke elele nya wo e dokun do na o? ( )

28. Hari wo e lo roba be ndondo nimi eza nazhi wo e lele be yin na?

i. Yes ( ) ii. No ( ) **(Ka wo e lo a, janfuru da nomba 31)**

29. Wo ga e lo roba, ki yi enya na wo cinle ci e lo roba na o?

……

……

30. Babo wo de roba na wo jin anfani beyin go zuma na o?

i. Eba asibiti tso zhi o ii. Shago nya cigbe tso zhi o iii. Etunlocizhi nazhi jin nya gominanti a na iv. Eko ndocizhi **(ta be yin)**

31. Ke wo e la egwa la kan bata nya HIV na o?

i. Ninavo nya elele kheba nya bagi to nyinzagi ( ) ii. Anfani jin be roba nyi ( )

iii. Yeko ndoci zhio (ta be yin) ……

32. Ke wo kpaye eti ga bagi ko nyinzagi u ga de elele zabaci ga nini na o?

i. Wu a ye dzin a ( ) ii. Ezanazhi e ga u na e zuwa a zun ( ) iii. U jin eko na eza laka'gwa HIV wo na a ( ) iv. Wu e la eza ku HIV ( ) v. Mi de enya ndondo a ga eti ega uci bo a ( ) vi. Ega ndoci (ta be yin) ……

33. Hari wo jin anfani be roba na e la lele na leani?

i. Eka ndondo ga mi e jin anfani be u yin o ( ) ii. Mi la lo u lea ( ) iii. Mi e ceka ce lo u ( ) **(ka wo la lo u lea, janfuru da nomba 37)**

34. Wun a yi gasikiya o wo e jin anfani be roba yin, kami kici wo ya u yin lo o?

……

35. Ke yi sarati na la wo ci lo roba ga na o?

i. Ezabaci mi gbinga ya u ( ) ii. Ebo ewan de o ( ) iii. Ebo bata nazhi e ku daga egwa nya elelekeba nya bagi to nyinzagi na o ( ) iv. Sarati ndoci (ta be yin) …….

36. Be zhiyin wo jin anfani be roba ga nyi o?

i. e nyinmi ko eba mi nyi ( ) ii. Be elele zabaci mi yin ( ) iii. Be karuwa zhi nyi ( ) iv. Be eza ndoci nyi (ta be yin) ……..

37. Ke la wo ci la jin anfani le be roba yin a lea yin o?

i. A de ekun ezhi yi bo a( ) ii. U zho yin de ( ) iii. U malo be shishi yi ( ) iv. Eza baci mi jin yeda be u yi a ( ). v. Sarati ndoci (ta be yin) …….

38. Na wo lele be bagi ko nyinzagi wo yin gozuma na (banbe nyinmi ko eba wo nyi), hari we kozabaci we fin egie

i. Mi ko yi zagubaba fin ( ) ii. Mi ko yizagubaba fin a ( )

39. Egie fin de a jin be anfani jin nya we be roba yin?

i. Kandodo ( ) ii. Eka ndoci ( ) iii. U de a jin a ( )

(ka u de a jin a, janfuru da nomba 41)

40. Egie fin ga de a jin be anfani jin be roba yin yawe, eko kici o?

…….

41. Eza kakayin gukin wo lele beyin banbe anfani jin be roba yin, nimi gbako etswa guwo-beguba yin na da zuma na o? ( )**(Egagbin 42-44 yi ya bagi zhi gbaagi)**

42. Nimi gbako etswa guwo be guba yin na da zuma o na, a ri wo wogbata ya eza ndondo eti ga ye lele be dozhi nyi?

i. Mi wo ( ) ii. Mi wo a ( ) **(Ka wo wo a, janfuru da nomba 48)**

43. Hari wo jin anfani be roba yin, na wo lele be eza e gozuma na?

i. Mi jin ( ) ii. Mi jin a ( )

44. Kami kpata na wo lele be eza ya etsaw guwo be gubae da zuma o na, ga wo jin anfani be roba nyi o? i. A cin ga o ( ) ii. U jin a cin a ( )

(Egagbin 45 lo 46 yi ya nyinzagi kawoyin)

45. Hari wo gbinga yinka be bagi leani, ebon a u lele bo wonyi na?

i. Mi gbinga le a ni ( ) ii. Mi la gbinga lea ( )

46. Wo gbinga yinka ya elele, koma elele ya etun na wo a lo na leani?

i. Mi gbinga leani ( ) ii. Mi la gbinga le a ( )

47. Ka ga wo la jin elele keba nya bagi to nyinzagi lea, ebo kibo o?

i. Mi yi zakangi jin re ( ) ii. Mi a ga nunsa jin ya elele ( ) iii. Mi tsa ga mi a jin wan yin o ( ) iv. Ewo da boa ( ) v. Mi le u ye enya kpatakia vi. Mi de kafa a vii. Seratin udoci dabo (ta be yin) ……

EGWA GUTSUANYI CI: SHAURA DA TO MIMACINLE ETI HIV TO AIDS O

48. Wo de labara leani eti nya shaura da to mimacinle efia ya bata HIV?

i. Mi de labara ga le ( ) ii. Mi la de labara uci lea ( )**(ka wo la de labara ga lea, janfuru da nomba 57)**

49. Wo kpe ebazhi ye na eza lo wo ya mimacinle eti HIV bo khimi ye bon a?

i. Mi kpe ( ) ii. Mi kpea

50. Wo ga kpe, tun eba ga zhi ye ……

51. Wo jin mimacinle leani ko wo de HIV?

i. Mi jin leani ( ) ii. Mi la jin lea ( ) **(ka wo la jin lea, janfuru da nomba 57)**

52. Wo ga jin leani, kami kici a ma wo cinle gozuma o?

i. Etswa nini da zuma o ( ) ii. Etswa gutuanyi ( ) iii. Etswa gutwaba ( )

iv. U tsoba eya nini a ni ( ) v. Egazhe ndoci zhi (tabe yin)

……

53. Na wo jin mimacinle gozuma na – (tsa ega nag a yi gasikiya na)

i. Wotso ga gbinga ya wun o ( ) ii. A la kunwoshe, wo ma eda jin ( )

iii. Sarati dabo na la wo jin u na ( )

54. Hari wo a egazhe nya mimacinle ga de go ?

i. Mi a de go ( ) ii. Mi de go a ( )

55. Babo wo jin mimacinle u cin o?

i. asibiti gominanti ( ) ii. Asibiti tetengi ( ) iii. Kata mimacinle ( )

iv. Asibiti bana e jin eto nya egima na ( ) v. Asibiti na e ku za na ( )

vi. Eba ndocizhi (ta be nyi) …….....….

56. Ki la wo ci la jin mimacinle nya HIV nyayio?

……

EGWA TWABACI: EGEAKAN NYA BATA HIV TO AIDS TATACIN NYA YINKANWANCIZHI O

57a. Nimi yekpa nya wo bo, tsa ko wo jin yeda boroyin (SA), wojin yeda (A); Wo ga wo a (U); kokwana, wo jin yeda a(D) kokwama wo jin yeda kpoyin a (SD)

Nomba	**Eko nya egwaka nya HIV to AIDS**	**SA**	**A**	**U**	**D**	**SD**
i	Karatun wu eti HIV/AIDS o					
ii	Kpikpe nya kata mimacinle khin bata zhi o					
iii	Kpikpe nya eko enyagi ndocizhi ya nyinkawoncizhi toto lokaci yikhere o					
iv	Yigboro lo nya roba na e la ka bata na kin bata zhi o					
v	Kika nya karuwa jin kin bata zhi o					

57b. Eko ndocizhi (ta be yin) ……

57c. Ki yi enya na ba we ga wo yio de kpikpe eti u bo eti kika nya bata HIV bon a o?

……

……

……

58a. Egba kici wo kpin eti HIV bo be egwa nya etun yi nana bo?

……

……

……

58b. ki yi kpikpe nya HIV to AIDS o na etun yi nana a labe enya na wo kpe shibo na o?

……

……

……

58c. Ki yi enya na eye wo leye eti HIV to AIDS o na, be egwa nya etun yi nana bo o?

……

……

……

KU BE ‘TUN NYI

APPENDIX 4A

Post Evaluation FGD Guide For Fisherfolks

1. What had been your experience in this research?
2. Was there any section in the questionnaire which you like? Which section and what made you to like it?
3. Was there any section in the questionnaire which you dislike? Give reasons for your response.
4. Did you like the method that was used in the training? Explain.
5. Which aspect of the training interests you most?
6. What did you gain in partaking in the HCT?
7. Will you make yourself available for HCT in future if there is another opportunity? Explain.
8. What have you gain generally in this research?
9. What are the things you do not like in the research?
10. If you are asked to partake in this type of research in future will you agree or not? Explain.

APPENDIX 4B

NUPE

Post Evaluation FGD Guide For Fisherfolks

1. Ke wo le etun egagbin karatun yi nana ye le na o?
2. Gwara ndondo da nimi takada nya egagbin o, na ba we na? Gwara kici u yio, to ke la u ci a ba wo yio?
3. Gwara ndondo da nimi takata nya egagbin o na ba we ya na? ta sarati be nyi ya egazhe we
4. Eko na yi a ka karatu wu eciabao na ba we? Jin bayani
5. Gwara nya karatun wu kici bawe ga nazhi ken a zhi o?
6. Ke yi elegi we na anfani nya mimacinle nya HCT na we jinn a o?
7. Wo ga de kafa woro efo yigboro o, hari wo a kezhe a mimacinle nya HCT jin?
8. Ke yi elegi ndoci nazhi wo kezhe de be etun kpikpe waza nana ena o?
9. Ke yi enya nazhi ba we nimi etun nana boa nao?
10. A ga be yi we ya etun dozhin nana efo yigboro o, hari wun a ba we yin jin?

APPENDIX 5

The Training Curriculum

S/N	Objectives	Content Element	Methods	Materials	Mode of Assessment
1	At the end of the training program, fisherfolks should be able to explain the main goal and the specific objectives of the training workshop.	Main goal of the training program. Specific objectives of the training program	Lecture, questions and answers	Lecture notes and writing materials	Pre/post test
2	At the end of the training program, fisherfolks should be able to explain nature of HIV/AIDS, difference between HIV and AIDS. Modes of transmission of HIV.	Nature of HIV and AIDS. Difference between HIV and AIDS. Modes of transmission of HIV	Lectures, group discussion, questions and answers	Lecture notes, pamphlets, pictures and writing materials	Pre/post test
3.	At the end of the training program, fisherfolks should be able to explain signs and symptoms of HIV/AIDS, misconceptions about HIV/AIDS, Risk-perception toward HIV infection.	Sign and symptoms of HIV/AIDS, Risk-perception toward HIV infection.	Lectures, group discussions, questions and answers.	Lecture notes, pamphlets, pictures and writing materials.	Pre/post test
4.	At the end of the training fisherfolks should be able to mention risky sexual practices (risky sexual practices that favour spread of HIV) and for them to avoid such risky	Risky sexual practices	Lectures, group discussion, questions and answers.	Lecture notes, pamphlets, pictures and writing materials.	Pre/post test.

	sexual practices.	Condom promotion.			
5.	At the end of the training program, fisherfolks should be able to mention effects of HIV/AIDS on individual, family and also mention various ways of preventing HIV infection particularly among fisherfolks.	Effects of HIV/AIDS on individual, family and society. Various ways of preventing HIV infection. Condom promotion.	Lectures, questions and answers.	Lecture notes, pictures and writing materials.	Pre/post test
6.	At the end of the training program, fisherfolks will be able to know the importance of HCT and where to go for HIV testing	Importance of HCT services and where to do HIV testing for fisherfolks	Lectures, questions and answers.	Lecture notes, pictures and writing materials.	Pre/post test
7.	At the end of the training program, fisherfolks should be able to explain what is expected of them to do during the follow up period.	Groups are expected to meet leaders for monthly evaluation meetings.	Group discussion, questions and answers.	Lecture notes, pamphlets, slides, pictures and writing materials.	Pre/post test.

Training Manual adapted from: Training Manual for Adolescent Peer Educators. Developed for ARFH-APIN Prevention Project (AB Component).

APPENDIX 6

MIS Form for Fisherfolks on HIV and AIDS

Respondents' No: ……..Sex:……

Month: ……Week:……

1. What do you know about HIV and AIDS?

……..

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……

2. Various modes of HIV transmission

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3. Risk of having many sexual partners .

……

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……

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4. Risk of changing sexual partners

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5. Risk of "fish for sex"

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……

……

6. Various methods of HIV prevention

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7. Dangers in unprotected sex

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……

8. Why HIV testing is necessary

……

……

……

APPENDIX 7

Training workshop for fisherfolks pre and post-test

Pre-test for HIV and AIDS training for the study on "Effects of training on AIDS related knowledge and sexual behaviour among fisherfolks in selected riverine communities of Kogi State"

1. What is AIDS?.....

   ……

   ……..

2. What causes AIDS?

   A. HIV. B. Juju. C. Certain spirit. D. I don't know

3. What are the modes of transmission of HIV? ……..

   ……

   ……

4. What do you know about condom?.....

   ……

   ……

5. What are the risks involved in having sex without using condom?

   ……

   ……

   ……

6. Why do you think it is necessary for one to use condom during sex?

   ……

   ……

   ……

7. One can get HIV if one has sex with casual partner without using codom.

   A. Yes. B. No C. I don't know.

8. One can get HIV if you have many sexual partners.

   A. Yes. B. No C. I don't know.

9. Is it true that there is a special drug that people infected with HIV can get from a Doctor or a Nurse that can help them to live longer?

   A. True. B. False. C. I don't know

10. How can HIV be prevented?

    ……..

    ……..

……...

11. Why is it necessary for one to go for Voluntary HCT?

……

……

……

12. a. Do you think Voluntary HCT is a way of preventing HIV?

A. Yes B. No C. I don't know.

b. If yes explain ……

……

……

APPENDIX 8

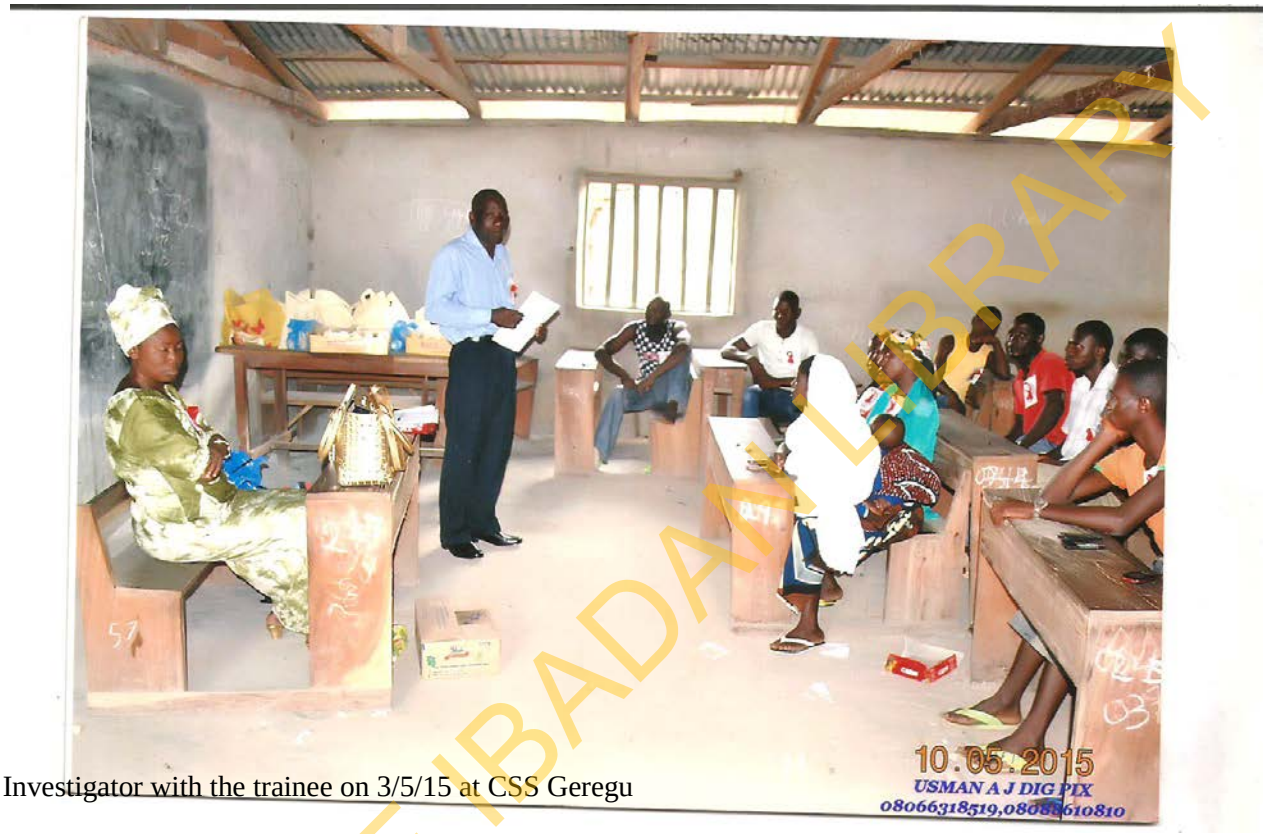
Pictures of one of the batches of trainee and members of the logistics committees

One of the batches of trainee on 2/5/15 at Comm Sec Sch (CSS) Geregu

Some of the members of the logistics committee after their meeting on 30/4/15 at CSS Geregu.

APPENDIX 9

Training sessions



Investigator with the trainee on 3/5/15 at CSS Geregu

Training sessions on 3/5/15 at CSS Geregu

APPENDIX 10

HIV Testing

APPENDIX 11

FISHERFOLKS REFERAL FORM FOR HCT

Date:…… Client Name:……

Client Address: ……

……

……

Client Phone No: ……

Age: ……

Sex: ……

Referred from: ……

Name of person referring client: ……

Name, Address & Phone number of referring organization: ……

……

……

……

Referred to: ……

……

Name of contact person: ……

Name, Address & Phone number of the receiving organization: ……...

……

……

Services needed: ……

Signature: ……...

APPENDIX 12

Ethical Approval

KOGI STATE OF NIGERIA

MINISTRY OF HEALTH

HEADQUARTERS, LOKOJA

NO 2 OLU OWORO STREET
P.M.B. 1068, LOKOJA
KOGI STATE.
TEL/FAX: 058-220090

Our Ref: _____

Your Ref: _____

Date: 25/9/13

ETHICAL CLEARANCE CERTIFICATE

This is to certify that the methodology being adopted by

AYEDUN SUNDAY ABIODUN

For the study of

THE EFFECT OF HEALTH PROMOTION INTERVENTION ON AIDS RELATED KNOWLEDGE AND RISKY SEXUAL BEHAVIOUR AMONG FISHERFOLKS IN SELECTED RIVERINE COMMUNITIES OF KOGI STATE.

Will not in any way impinge on the ethical standard of

Medical practice in Kogi State, Nigeria.

Dr. Ejeh U. C.

Secretary Ethical Committee