FACTORS INFLUENCING HIV COUNSELLING AND TESTING SERVICE UTILISATION AMONG LONG DISTANCE COMMERCIAL BUS DRIVERS IN IBADAN, OYO STATE, NIGERIA

BY

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DEDICATION

This book is dedicated to Almighty God for bringing me this far.

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To my parents Sir and Lady E.I Uzodinma and all my siblings, Ijeoma, Chizoba, Nnamdi, Chinenye and Kenechukwu, thank you very much for your prayers and immeasurable support. I love you all.

CERTIFICATION

I certify that this work was carried out by Miss UZODINMA Chidinma N. in the Department of Epidemiology and Medical Statistics, Faculty of Public Health, College of Medicine, University of Ibadan, Ibadan, Nigeria.

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ABSTRACT

Personal awareness of HIV status has been shown to foster reduction in risky behaviours that promotes HIV transmission. Long distance commercial drivers are a group at risk of acquiring and transmitting HIV infections due to their frequent mobility and known tendency to patronise commercial sex workers. Utilisation of HIV Counselling and Testing (HCT) services among long distance drivers is known to be low though reasons for such utilisation are poorly documented. Understanding factors influencing utilisation of these services among this high risk group would be useful in designing appropriate interventions. This study was therefore conducted to determine the factors associated with HCT services utilisation among long distance commercial bus drivers in Ibadan, Nigeria.

A cross-sectional study design was employed in which 522 long distance commercial bus drivers were selected from 5 parks out of the 12 motor parks in Ibadan through simple random and cluster sampling, respectively. Data were collected from the drivers using a pretested interviewer-administered, semi-structured questionnaire containing variables on socio-demographic characteristics, knowledge of HIV transmission and prevention, sexual behaviour, perceived risk of HIV infection, awareness and utilisation of HCT services. Knowledge of HIV transmission and prevention was assessed on a 28-point scale in which scores >14 were categorised as good knowledge. Data were analysed using descriptive statistics, Chi square test and logistic regression at $p = 0.05$.

All respondents were males aged 42.8±10.1 years. Majority (81.8%) were Yoruba and 43.8% had attained only primary education. Majority (99.2%) and 95.8% of the respondents were aware of HIV/AIDS and HCT respectively. Many (65.7%) were aware of a facility offering HCT. Many (64.2%) had good knowledge of HIV transmission and prevention. Most (99.8%) had ever had sex and 37.2% had ever had a sexually transmitted disease (STD). About 51.9% had ever received HCT. Utilisation of HCT was significantly higher among respondents with good knowledge of HIV transmission and prevention (59.4%), that have ever had STD (60.3%), who had ever heard of HCT (54.2%) and were aware of a facility offering HCT services (69.1%). The significant predictors of utilisation of HCT services were: good knowledge of HIV transmission and prevention (OR=2.3, CI=1.6-3.3), ever had STD (OR=1.7, CI=1.2-2.5) and awareness of facility offering HCT services (OR=9.5, CI=6.2-14.8).

Utilisation of HIV Counselling and Testing services was strongly influenced by having good knowledge of HIV transmission, prevention and awareness of a facility offering HCT services. Comprehensive health education intervention focusing on HIV transmission and prevention for long distance commercial bus drivers in Ibadan is recommended, to enhance utilisation of the services.

Keywords: HIV Counselling and Testing, Sexually transmitted disease, Long distance commercial bus drivers

Word count: 417

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LIST OF ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
ART	Anti-Retroviral Therapy
BSS	Behavioral Surveillance Survey
BBFSW	Brothel-Based-Female Sex Worker(s)
CDC	Centre for Disease Control
CI	Confidence Interval
CSWs	Commercial Sex Workers
FHI	Family Health International
FMOH	Federal Ministry of Health
FRN	Federal Republic of Nigeria
FSWs	Female Sex Workers
HCT	HIV Counselling and Testing
HIV	Human Immunodeficiency Virus
IBBSS	Integrated Biological and Behavioural Surveillance Survey
IDUs	Injecting Drug Users
IQR	Inter Quartile Range
LGA	Local Government Area
LDDs	Long Distance Drivers
MARP	Most At Risk Population
MSM	Men who have Sex with Men
MTCT	Mother to Child Transmission
NACA	National Agency for the Control of AIDS
NARHS	National HIV/AIDS Reproductive Health Survey
NBBFSW	Non-Brothel-Based Female Sex Worker(s)
NDHS	Nigerian Demographic Health Survey
NGO	Non Governmental Organization
NPC	National Population Commission
NURTW	National Union of Road Transport Workers
OR	Odds Ratio

PMTCT	Prevention of Mother to Child Transmission
PLWHA	People Living With HIV/AIDS
RTEAN	Road Transport Employers Association of Nigeria
RTWs	Road Transport Workers
SPSS	Statistical Package for Social Sciences
STD/STI	Sexually Transmitted Diseases/Sexually Transmitted Infections
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNICEF	United Nations International Children Emergency Fund
UNDP	United Nations Development Programme
VCT	Voluntary Counseling and Testing
WHO	World Health Organization

CHAPTER ONE

INTRODUCTION

1.1 Background

The HIV epidemic is one of the greatest challenges ever to global well-being and its impact goes beyond public health concerns because it primarily affects adult populations in the productive and reproductive age groups and, as such, in its endemic stage, undermines the social and economic structures of developing countries (WHO, 2010).

The report on the Global AIDS Epidemic released in 2013 indicated that the estimated number of people living with HIV worldwide is 35.3 million, comprising 32.1 million adults; 17.7 million women and 3.3 million children less than 15 years of age (WHO/UNAIDS, 2013). Surprisingly, sub Saharan Africa which constitutes only 10% of the world population still bears an inordinate share of the global HIV burden with an adult prevalence of 4.7% and estimated 25 million adults and children living with HIV/AIDS (WHO/UNAIDS, 2013).

In a new national survey conducted by the Federal Government of Nigeria for 2012, National HIV/AIDS and reproductive Health Survey-plus (NARHS Plus), Nigeria HIV prevalence rate is now 3.4% with 3.2% in urban and 3.6% in rural areas and 2.9% among young people aged 15 to 49 years. Even though there has been a decline in HIV prevalence in the country, the disease still poses a significant challenge as Nigeria has the second highest number of people living with HIV/AIDS (South Africa being the first) due to the large population (FRN, 2012).

The global increase in HIV infection and expanding knowledge of HIV management has underlined the development and importance of HIV counselling and testing worldwide. HIV counselling and testing (HCT) plays a pivotal role in the public health response to the HIV epidemic and is a vital point of entry to HIV/AIDS services including primary prevention, prevention of mother to child transmission, antiretroviral therapy, management of HIV- related illnesses, tuberculosis control and psychosocial support (Oberzaucher and Baggaley, 2002).

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(FMOH, 2011). As there is no cure for HIV/AIDS, HIV counselling and testing remains a key strategy to control the spread of HIV and to provide care and support to those who live with the virus (WHO, 2001). This strategy is based on evidence that HCT results in behaviour change including decreased unprotected intercourse for both people who test HIV positive and HIV negative and can contribute to the reduction of stigma (UNAIDS, 2008). In addition, HCT connects people testing positive with early and appropriate services (Baggaley, 2001). These services are pivotal in meeting the commitment of "universal access to prevention, treatment and care" in an HIV context (UNAIDS/WHO, 2004). In developed countries with epidemics in core groups (MARPS), high-quality HCT has been shown to substantially reduce the incidence of sexually transmitted disease (STD) transmission including HIV/AIDS and increase condom use (Sherr et al, 2007).

Long distance commercial drivers worldwide are among the core groups most at risk to HIV acquisition and transmission because of their occupation and peculiar lifestyle (Fatusi, 2007). They are at increased risk of sexually transmitted infections due to frequent recourse to casual sex (Olugbenga-Bello et al, 2007). They are a priority group for HIV/AIDS control due to their lifestyle as well as low literacy level, yet utilisation of HCT which is a crucial strategy for HIV prevention is still poor amongst this group.

Despite the importance given to HCT, studies from sub Saharan Africa revealed that while readiness for HCT is high, utilisation of HIV counselling and testing service is low even in places where services are readily available (Irungu et al, 2008). The level of utilisation varies among different segments of the population. The reasons established for not going for testing are mostly age, education, sex, inaccurate risk perception (Shemshedin and Jemal, 2009, Mogasha et al, 2009) fear, stigma and discrimination (Iliyasu et al, 2006; Matovu and Makunbi, 2007; Tsegay et al, 2013; Tesfaye et al,2012), lack of accurate information about sexual health and modes of HIV transmission; long distances to travel to reach HCT centers; lack of trained counsellors; and lack of space to ensure privacy and confidentiality (UNFPA, 2004, Matovu and Makunbi 2007, Tsegay et al, 2013). Several other factors which influence HCT service utilisation among different groups as reported by other studies include: socio-demographic characteristics such as age, gender, education, marital status (Oboh et al, 2010; Sherr et. al. 2007; Jereni and Muula 2008), sexual behaviour (Jereni and Muula 2008), awareness/knowledge

related to HIV/AIDS (Matovu and Makumbi 2007; Jereni and Muula, 2008), perception of being at risk of HIV infection (Jereni and Muula, 2008; Foster, 2010), awareness and Knowledge about HIV Counselling and Testing services (Azuogu et al, 2011, Omobowale et al, 2011), perceived benefits of HCT (Abebaw et al, 2009,), and supply factors such as limited access to and design of the HCT facilities (FHI, 2002; Sherr et al, 2007; Irungu et al, 2008), Availability of treatment/ARV (Gilly et al, 2005; Adamshu and Fitaw, 2006; Azuogu et al, 2011).

Considering the significant role that HCT services play in the control of HIV/AIDS, it is important to examine the rate of HCT use and factors that influence its utilisation amongst long distance commercial bus drivers since it is generally accepted and well documented that this group are one of the key forces in the spread of HIV/AIDS in Nigeria and the African continent at large. Identifying factors which play detrimental roles in the utilisation of HIV counseling and testing services among this high risk group can play a major role in containing HIV infection spread and also intensify national response to HIV pandemic. It also helps in removing those barriers to accessing the services and thus will help promote the services in the prevention and control of HIV/AIDS.

It is anticipated that the study would identify the factors that influence long distance commercial bus drivers in seeking and using HCT services. Hence, the finding of this study is expected to help HCT program designers to tackle different contextual factors that hinder the service use in this high risk group thereby designing effective programmes to promote HCT use.

1.2 Problem Statement

Nigeria is still a long way from effectively tackling HIV/AIDS particularly among the high risk groups. Risk taking behaviours are still pervasive "among high risk groups" despite the heightened awareness of the disease. Research has shown that one of the major drivers of HIV transmission is multiple and concurrent sexual partnerships, which is common among long distance commercial drivers. Long distance drivers are highly mobile and spend long hours on the road away from their homes and spouses and this adds to the risk associated with multiple sexual partnerships as they are more likely to engage in high-risk sexual behaviours (Sunmola, 2005; Pandey et al., 2008; Atilola et al., 2010; Idris et al, 2013). Their need for entertainment and female companionship, coupled with relative solvency compared to the rest of the population,

makes them very likely to use the services of commercial sex workers in stop-over towns near major transportation routes thus there is an increased risk of exposure to unsafe sexual practices due to transactional sex and prostitution (Fatusi, 2007). Truck and bus terminals, rest stops and roadside eateries along transport routes are meeting points for sex workers and their clients, mostly long distance drivers (World Bank, 2008). They are usually involved in complex sexual networking with commercial sex workers while some others have wives across the states or having affairs with numerous street hawkers thereby placing themselves and their partners at a greater risk of contracting infections (Olugbenga-Bello et al, 2007).

In Nigeria, for example, 95% of commercial drivers have at least one other sexual partner in addition to their respective wives, with an average of 6.4 regular girlfriends at different locations along their regular major transport routes (Idris et al, 2013). Studies have also revealed that transport workers are twice likely to acquire HIV infection than workers in the "low-risk" occupations (UNAIDS, 2002). The high-risk behaviours coupled with the mobility of these long-distance drivers makes them potential of spreading HIV not only to different geo-graphical areas but also to their spouses, casual and regular partners (Ibe-Sally et al, 2014).

Although several measures have been put in place to curb the spread of the deadly HIV virus including the provision of HCT (an important preventive strategy in the control of HIV/AIDS) sites in several health units across the country either freely or at subsidized rate, previous studies have shown that though there is a high awareness of HIV/AIDS and existing HCT sites among long distance commercial bus drivers, the practice of HIV screening is still low amongst drivers despite their high risk sexual conducts (Aniebue and Aniebue, 2011). Seely and Allison (2005) emphasize that poor HCT service utilisation makes it harder to deliver other AIDS related care and treatment services since it is the major way of knowing one's HIV status. It is therefore urgent to understand factors associated with utilisation of HIV testing among long distance commercial bus drivers in order to effectively prevent transmission of HIV among this high risk group.

1.3 Justification

Although several strategies to increase utilisation of HCT among sub-Saharan populations have been suggested, factors that influence its use are rather elusive and difficult to delineate. It is

estimated that 19 million out of the 35 million people living with HIV in the world do not know their HIV positive status and may be unsuspectingly spreading the disease (UNAIDS, 2014).

While rates of HIV testing are available in some countries (WHO, 2008), there are limited empirical data on the factors influencing the uptake of HIV testing in specific settings and groups. Despite being among the high risk groups in HIV infection in Nigeria, factors Influencing utilisation of HCT services among long distance commercial bus drivers in Ibadan and Nigeria at large have not been adequately investigated and well understood. There is paucity of data on factors that influence the utilisation of HCT among the target group. Available information centres more on the risky sexual behaviour and their awareness and knowledge of HIV/AIDS. It is unclear what long distance commercial bus drivers attribute to their utilisation of HCT services in Ibadan. There is thus need to understand the acceptability and utilisation of HCT and the factors that influence the utilisation of the services among the target group. The understanding of these factors is a pre requisite for designing measures aimed at increasing utilisation thus taking an HIV test. Adamashu and Fitaw (2006), state that identifying factors associated with HCT acceptance among different groups is essential in promoting the service. More research," he said, "is needed to understand the factors that will drive effective behavioral change and acceptance of HIV testing. This is vital for prevention programming targeted at the general population and specific risk groups."

Since research on this area is scarce in Nigeria and only very few studies identifying factors that determine utilisation of HIV counselling and testing among long distance commercial bus drivers have been conducted in Nigeria, it is against this background that the present study aims to investigate and understand these, with a view to suggesting measures for increased utilisation of HCT among this high risk group.

1.4 Broad Objective

To determine the factors influencing HCT service utilisation among long distance commercial bus drivers in Ibadan, Nigeria

1.5 Specific Objectives

1. To assess the awareness and knowledge of HIV transmission and prevention among long distance commercial bus drivers in Ibadan.

2. To identify risky sexual behaviours among long distance commercial bus drivers in Ibadan.
3. To identify the risk perception to HIV/AIDS among long distance commercial bus drivers in Ibadan.
4. To assess awareness and utilisation of HIV Counselling and Testing (HCT) services.
5. To determine factors influencing HCT service utilisation among long distance commercial bus drivers in Ibadan.

1.6 Research Questions

In line with the identified problems, the following research questions were raised:

1. What is the awareness and knowledge of HIV transmission and prevention among long distance commercial bus drivers in Ibadan? Does it influence their utilisation of HCT services?
2. What are the risky sexual behaviors of long distance commercial bus drivers in Ibadan? Does it influence their utilisation of HCT services?
3. Do long distance commercial bus drivers in Ibadan perceive themselves at being at risk of HIV infection? Does it influence their utilisation of HCT services?
4. What proportion of long distance commercial bus drivers in Ibadan are aware of and utilise HCT services? Does the awareness influence their utilisation of HCT services?
5. What other factors influence HCT service utilisation among long distance commercial bus drivers in Ibadan?

1.7 Hypothesis

1. There is no significant association between awareness, knowledge of HIV/AIDS transmission and prevention and utilisation of HCT services among long distance commercial bus drivers in Ibadan
2. There is no significant association between risky sexual behavior and utilisation of HCT services among long distance commercial bus drivers in Ibadan
3. There is no significant association between risk perception to HIV infection and utilisation of HCT services among long distance commercial bus drivers in Ibadan.
4. There is no significant association between awareness of HCT services and utilisation of the services among long distance commercial bus drivers in Ibadan

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CHAPTER TWO

LITERATURE REVIEW

2.1 Epidemiology of HIV/AIDS.

2.1.1 Current Global Epidemiological Situation.

The Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS) remain the most serious infectious disease challenge to public health (WHO, 2007). Within a single generation, it has grown into an individual and societal tragedy with huge implications for human security, for social and political stability, and for economic development. Originally viewed as just another disease, HIV/AIDS has long since moved beyond the boundaries of the health system. It is now generally acknowledged that addressing the epidemic requires concerted efforts across all sectors involving a wide array (USAID/UNAIDS/WHO, 2004).

Globally, 35.3 million people were living with HIV/AIDS in 2012, of which 2.3 million were new infections (UNAIDS 2013). It is estimated that 6,300 people world-wide were infected daily with HIV in 2012, and in the same year an estimated 1.6 million persons died world-wide from AIDS (UNAIDS, 2013), making HIV/AIDS one of the major killer diseases, particularly in sub-Saharan Africa.

Sub-Saharan Africa is home to the bulk of people living with HIV/AIDS estimated at about 25 million people, making the continent the epicenter of the epidemics (UNAIDS, 2012). In those countries heavily affected, HIV has reduced life expectancy by more than 20 years; infant death rates doubled, lowered economic growth, and deepened household poverty (CDC, 2001). Although national life expectancy remains low, this figure has been rising since access to antiretroviral therapy became available in the mid-2000s. (UNDP, 2006)

While the HIV epidemic seems to have more or less stabilized in terms of numbers in some parts of the world since 2000, the total number of people who are living with HIV continues to increase because of new infections in other parts of the world (UNAIDS, 2008). Recent evidence suggests that there are localised reductions in the prevalence of HIV-infections in some countries including Nigeria.

HIV/AIDS is a dangerous virus which destroys the body's immune system. It leads to a progressive loss of a specific type of immune cell called T-helper, or CD4, cells. As the Virus multiplies in the body, it damages or kills the cells and weakens the immune system leaving the infected person vulnerable to various opportunistic infections and other illnesses (Jimoh, 2004; Lawal, 2008). The great majority of HIV-infected adults in sub-Saharan Africa are known to have acquired the virus through heterosexual intercourse and infected women outnumber men by ratio 6:5. Sexual contact has been shown to be by far the dominant mode of HIV transmission, followed by blood transfusion and exposure to needles, syringe and skin piercing instruments (Lamptey and Piot, 1990). The frequent presence of other STDs tends to facilitate HIV transmission (Ekanem et al, 2005). According to reports by REACH (2010), four factors render African countries particularly vulnerable to HIV and AIDS: poor governance, weak institutions, poverty, and cultural norms and practices.

Globally, the pandemic of HIV/AIDS has continued to constitute serious health and socio economic challenges for more than two decades. In underdeveloped and developing countries, it has reversed many of the health and developmental gains over the past three decades as reflected by indices such as life expectancy and infant mortality rate among others. The epidemic has also facilitated the re-emergence of other disease conditions (FMOH, 2008). At the end of 2012, about 35.3 million persons were estimated to be infected with the human immunodeficiency virus (HIV) globally. An estimated 0.8% of adults aged 15–49 years worldwide are living with HIV, although the burden of the epidemic continues to vary considerably between countries and regions. Sub-Saharan Africa remains most severely affected, with nearly 1 in every 20 adults living with HIV and accounting for nearly 71% of the people living with HIV worldwide (WHO, 2014). This means that an estimated 25.0 million people in sub- Saharan Africa are presently living with HIV/AIDS.

2.1.2 Burden of HIV/AIDS in Nigeria

Although HIV prevalence is much lower in Nigeria than in other African countries, such as South Africa, Ethiopia and Zambia, the disease still poses a significant challenge to the country due to the size of the population. Despite mounting various responses over two decades, the challenge of HIV/AIDS has continued to increase in Nigeria, particularly in terms of number of people infected and affected (FRN, 2012).

While low income sub-Saharan African countries bear the heaviest AIDS burden worldwide, Nigeria, Africa's most populous country, with an estimated population of 160 million (NPC, 2014), is second to South Africa in the number of people living with HIV/AIDS (disease burden) worldwide, as an estimated 3 million Nigerians currently live (harbor the virus in their system) with AIDS, representing 9 percent of the global burden of the disease (NDHS, 2013). This is bound to have major socio-economic impact on the Nigerian society including reduction of life expectancy, increased burden of medical care, increase in the number of orphans and declines in economics growth (FMOH, 2011).

HIV in Nigeria is complex and varies widely by region. In some states, the epidemic is more concentrated and driven by high-risk behaviors, while other states have more generalised epidemics that are sustained primarily by multiple sexual partnerships in the general population. Youth and young adults in Nigeria are particularly vulnerable to HIV, with young women at higher risk than young men (FMOH, 2011). In 2011, approximately 210,000 people died from AIDS (UNAIDS, 2012) and, in 2012, the national life expectancy was 52 years (UNDP, 2013). Based on projected HIV estimates of 2013, about 3,229,757 people now live with HIV while it is estimated that 220,394 new HIV infections occurred in 2013. A total of 210,031 people died from AIDS related cases. It is also estimated that a total of 1,476,741 required anti-retroviral drugs (ARV) in 2013. (NACA, 2014)

Sentinel survey data showed that the HIV prevalence in Nigeria increased from 1.2% in 1991 to 5.8% in 2001. After 2003, the prevalence declined to 4.4% in 2005 before slightly increasing to 4.6% in 2008. Results from the 2010 sentinel survey shows that the national prevalence was 4.1% in 2010. (FMOH, 2011) and across the country's states, HIV prevalence ranged from 1.0 percent in Kebbi to 12.6 percent in Benue (FMOH, 2011). Trend analysis of HIV prevalence from sentinel surveillance in Nigeria indicates that the epidemic has halted and is showing signs of stabilizing at about 4% from 2005 till date (NACA, 2014).

A more comprehensive National HIV/AIDS and Reproductive Health Survey (NARHS) was conducted in 2012, with a national prevalence of 3.4%. There was a slight decline from the previous estimates of 2007 which was 3.6%. The overall national prevalence also masks several nuances and variations in Nigeria's epidemic at the sub-national (state) levels and among population groups. The 2012 NARHS HIV prevalence was highest among those aged 35 to 39

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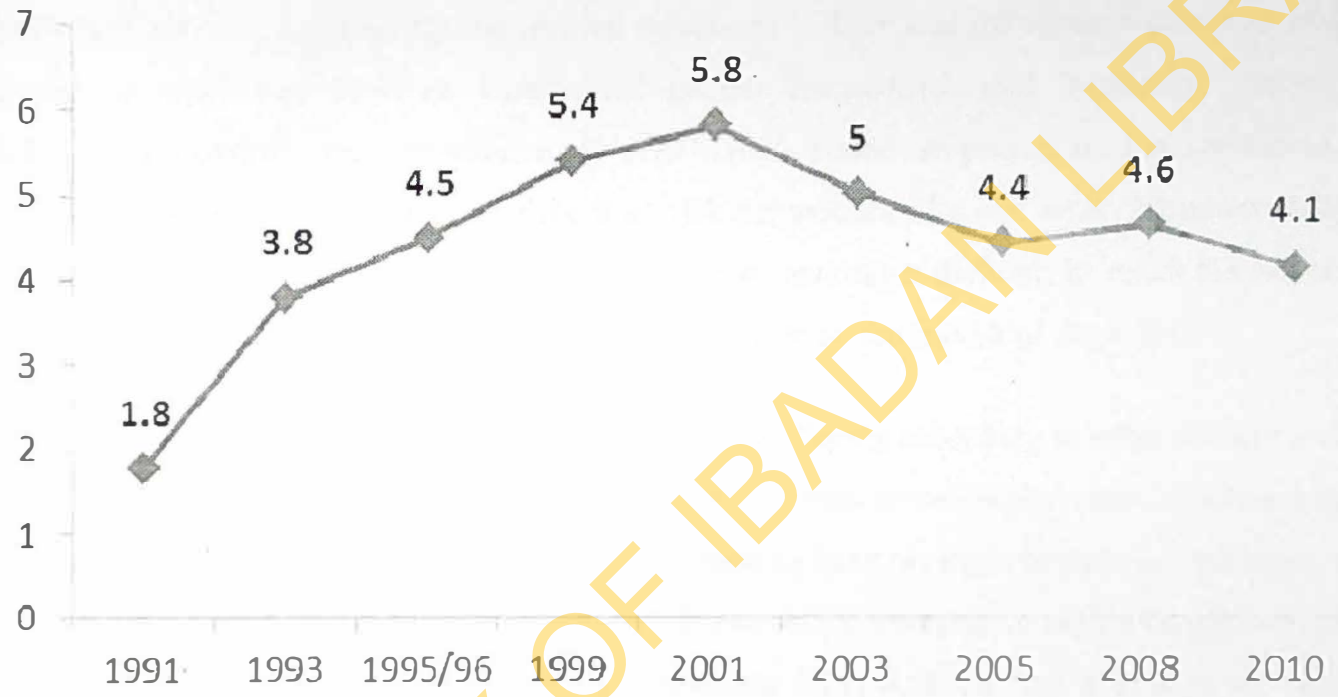
(4.4%), and lowest among the 15- 19 age group (2.9%). The prevalence for males aged 35 to 39years was highest at 5.3%, while women aged 30 to 34 years was 4.2% (NACA, 2014).

FIGURE 2.1: National HIV prevalence rates from 1991 to 2010



Source: NACA, 2014.

2.1.3 Risk factors for HIV/AIDS infection.

There are many risk factors that contribute to the spread of HIV, they are prostitution, high-risk practices among itinerant workers, high prevalence of sexually transmitted infections (STIs), clandestine high-risk heterosexual and homosexual practices, international trafficking of women, and irregular blood screening (FMOH, 2008). Other studies have reported several other factors which account for the spread of HIV in Nigeria. UNAIDS 2002, reports that sexual networking practices such as polygamy, low condom use, poverty, low illiteracy, poor health status, low status of women, stigmatization, and denial of HIV infection risk among vulnerable groups constitutes risk factors to HIV infection. Iliyasu et al (2006) reports that HIV/AIDS in Nigeria is aggravated by inadequate sexual health education, inadequate HIV testing and counselling,

unhealthy cultural practices and poor health care system. According to REACH 2010, Polygyny (co-habitation of multiple sexual partners), wife inheritance, adultery, urbanization, poverty, social conflict, and poor healthcare practices (e.g., quackery, risky blood transfusions) are contributors too.

According to the findings of NACA (2014), Key drivers of the HIV epidemic in Nigeria include low personal risk perception, multiple concurrent sexual partnerships, transactional and inter-generational sex (e.g. female sex work as a source of income in urban centres), ineffective and inefficient services for sexually transmitted infections (STIs), and inadequate access to and poor quality of healthcare services. Entrenched gender inequalities and inequities, chronic and debilitating poverty, and persistence of HIV/AIDS-related stigma and discrimination (e.g. stigmatization and criminalization of the high risk behaviours like sex work, homosexuality and injection drug use associated with HIV transmission, making it difficult to reach the population practicing these behaviours) also significantly contribute to the spread of the infection.

Other determinants of the prevalence of HIV/AIDS in Nigeria according to other studies include: Low level of literacy, especially among females, widespread underemployment, a cultural milieu of male dominance (e.g., it is "acceptable" for a man to have multiple female sex partners, most of whom are often younger), an erroneous belief that sexual intercourse with a female virgin can cure sexually transmitted Infections (STIs), including HIV, a factor that accounts for cases of rape of girl-children by older men, poor STI treatment practices, e.g., self-medication and/or treatment by herbalists, a weak healthcare delivery system, weak community support for HIV and AIDS preventive programmes and inconsistent use of condoms during casual sexual intercourse.(FMOH, 2011; NACA, 2010; FRN, 2012).

2.1.4 HIV Transmission Routes in Nigeria

About 80% of HIV infections in Nigeria are transmitted through heterosexual activities, 10% of the new HIV infections are transmitted through blood transfusions while another 10% HIV infections are transmitted through mother-to-child transmission and other HIV risk behaviours, such as circumcisions and incision of tribal marks (FRN, 2012).

There are three main HIV transmission routes in Nigeria:

- **Heterosexual sex**. The probability of a person being infected *via* sexual intercourse depends on the likelihood of unprotected sex with an infected partner. Sexual transmission of HIV is enhanced by the presence of another sexually transmitted infection (STI), especially an ulcerative one such as cancroids, syphilis or herpes simplex virus 2 (HSV2) (Hayes et al, 1995). Approximately 80 percent of HIV infections in Nigeria are a result of heterosexual sex (FRN, 2012). Women are particularly affected by HIV; in 2011 an estimated 1.7 million women were living with HIV and prevalence was 3 percent among young women aged 15-24 (UNAIDS, 2012). Factors contributing to this include a lack of information about sexual health and HIV, low levels of condom use, and high levels of sexually transmitted diseases. However, gender inequality among women has been identified as a key driver of the HIV epidemic among women (FRN, 2012).
- **Blood transfusions**. HIV transmission through unsafe blood accounts for the second largest source of HIV infection in Nigeria (Egesie J. and Egesie E, 2011). Not all Nigerian hospitals have the technology to effectively screen blood and therefore there is a risk of using contaminated blood. The Nigerian Federal Ministry of Health have responded by backing legislation that requires hospitals to only use blood from the National Blood Transfusion Service, which has far more advanced blood-screening technology (FMOH, 2011).
- **Mother-to-child transmission**. Most children infected with HIV acquire it from their mothers. An estimated 69,400 children were newly infected with HIV in 2011 (FRN, 2012).

2.1.5 Most at Risk Populations to HIV/AIDS in Nigeria.

Within countries, there are sub-populations who are particularly vulnerable to HIV infection. The HIV virus is often found predominantly within these subpopulations (most at risk groups) at the beginning of an epidemic when prevalence is extremely low in the general population (Mills, 2000). HIV prevention activities have been found to be particularly effective when focused on these vulnerable groups at the early stages of an epidemic (Mills, 2000). If not controlled while it is predominantly within these groups, HIV can spread into the general population *via*, for example, wives or girlfriends of men who use sex workers or sexual partners of IDU

According to UNAIDS 2012, the key at-risk groups in Nigeria, include:

- Brothel and non-brothel based female sex workers (FSW). HIV prevalence is 24.5 percent.
- Men-who-have-sex-with-men (MSM). HIV prevalence is 17.2 percent.
- Injecting drug users (IDUs). HIV prevalence is 4.2 percent.
- Road transport workers and members of the Armed Forces and Police are also considered high-risk. It has been found that individuals that fall under these groups and their partners account for 40 percent of new HIV infections in Nigeria. (FRN,2012)

The uptake of HIV testing among the most-at-risk individuals, must increase if Nigeria is to see a decline in the currently high levels of HIV prevalence reported among these groups.(UNAIDS 2000)

2.2 The Role of Long Distance Drivers in the Acquisition and Transmission of HIV/AIDS.

The transport sector is especially vulnerable to HIV/AIDS due to the nature and environment of its workplace and economic activities (Fatusi, 2007). The chances of road transport workers of contracting HIV and STIs are high and when they involve in sex, transmit to their partners (Idris et al, 2013). According to World Bank report (2009), transport workers and staff who work long hours and away from home and family such as long distance truck drivers, are often at risk of engaging in risky sexual behavior that can lead to HIV infection and other Sexual Transmitted Infections (STIs). Studies have also revealed that transport workers are twice likely to acquire HIV infection than workers in the "low-risk" occupations (UNAIDS, 2002).

Recent studies have shown the impact of population mobility and transport infrastructure on the spread of HIV in Africa. While mobility can be considered an underlying determinant of HIV transmission, proximal factors include low perceptions of risk, differential HIV prevalence between the areas of origin and destination, and overlapping sexual networks (WHO/UNAIDS/UNICEF, 2011). The sexual risk behaviours that lead to increased incidence of HIV and STIs include unprotected sexual intercourse, premarital sex, extramarital and commercial sex, multiple sexual partners and extra-vaginal sex as in homosexuals as Peter, (2002) stated.

Previous studies on high risk occupations focused mainly on long-distance truck drivers but anecdotal and personal experience however suggests that commercial taxi and bus drivers (CD) on long distance routes have the potential to facilitate spread of HIV (Araoye et al, 1999). Long distance commercial drivers are highly mobile, spending long periods on the road away from their families. Their mobility in and of itself does not increase their risk of HIV acquisition or transmission directly. However, separation from families and communities, loneliness, and lack of access to HIV prevention, treatment, and care services make this mobile population particularly vulnerable to HIV, potentially favouring the spread of HIV into other lower-risk sexual networks (Atilola et al, 2010; Dean et al, 2010).

The role of drivers in the transmission of HIV/AIDS and other sexually transmitted diseases is rooted in the lifestyle that comes with the profession, as well as the broader social and economic societal factors (Olugbenga-Bello et al, 2007). The drivers are mostly at risk because when they leave their families frequently to work, they often satisfy their sexual need by patronizing commercial sex workers (CSWs) and engaging in casual relationship with female hawkers in stop stations (Idris et al, 2013). Incidentally, bus terminals, roadside eateries along transport route, the junction towns and motor parks, where long distance commercial drivers stay in the course of their journey are also hot spots for sex workers and their clients (mostly drivers, truckers and their assistants or aides) as well as sales of alcohol and other psychoactive drugs (World Bank, 2008). With very little to do and with disposable cash at hand, it is common for LDDs to engage in alcohol in the evenings and spend the evening with sexual partner(s), who may be a steady girlfriend for that site or a FSWs or both (Fatusi, 2007). The resulting co-mingling of the two mobile, sexually active, high-risk populations (CSWs and Long distance commercial drivers) elucidates high prevalence of HIV and STI rates in drivers and the subsequent spread of the disease through the African continent (Hudson, 1996).

A behavioral surveillance survey (BSS) conducted in Zambia in the year 2000 on long-distance drivers found patronage of CSWs by 30% and non-regular partners forming 22% among the respondents while on transit. They found that the drivers were at higher risk of HIV and STI transmission because of their risky sexual behavior (FHI, 2000). This emanates from their mobility, prolonged separation from wives and partners, loneliness while on the road for many hours or days away from the policing societies guided by cultural norms.

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In addition to having sex with CSW, most long distance drivers have regular girlfriends or wives at home who are likely to become infected with HIV by their husbands and boyfriends, and continue spreading the virus in their local communities (Hudson, 1996). In Nigeria, most long distance drivers do have sexual partners at all their "STOP OVERs" (Ibe-Sally et al, 2014). According to the findings of Idris et al, 2013, 95% of commercial drivers have at least one other sexual partner in addition to their respective wives, with an average of 6.4 regular girlfriends at different locations along their regular major transport routes. Studies have however shown that despite high risk behaviours, long distance drivers consider themselves at low risk and so are not taking preventive measures in protecting themselves. (Stratford et al, 2000)

Creating awareness and the necessary positive changes in behavior where the need arises, among drivers and improving the socioeconomic conditions of CSWs operating along the transport corridors are crucial in the fight against HIV/AIDS. Determining the factors that influence their use of HCT services is also crucial.

2.3 Risk Factors for HIV Infection among Long Distance Drivers.

Drivers belong to an occupational group and as a result have peculiar behavior imposed upon them by demand of their occupation. Long distance commercial drivers travel over long distances, spending some days away from homes and families looking for passengers and may need to sleep at garages or even petrol stations during fuel crises. Prolonged absence from their spouses makes majority of them to indulge in extra marital affairs with many women including CSWs along their routes. These behaviours make them vulnerable to HIV infection (Olugbenga-Bello et al, 2007).

Some of the risk factors for HIV infection among long distance commercial drivers include:

1. Multiple sexual Partners. The spread of HIV largely depends upon unprotected sex among people with a high number of partnerships. Individuals who have multiple partners (concurrently or sequentially) have a higher risk of HIV transmission than individuals that do not link into a wider sexual network (Fatusi, 2007). The long distance drivers travel frequently and because they are away from home for long periods of time may have many sexual partners. A study done among drivers in Ilorin by Araoye et al (1996) showed that 91% of the single sexually active men had multiple sex partners, 71.5% of the married men had extramarital sexual relationships

and 72% had multiple extramarital sexual partners. The prevalence of casual sex was 43% among the respondents. Polygamy is still common in Nigeria. Many men seek to "sample" multiple women:

According to reports of a study by REACH (2010), one respondent stated that "nobody eats one type of soup." Unsafe sex with multiple partners increases the risk of HIV transmission in the sexually active population. People who believe that healthy looking persons cannot have AIDS may be most likely to engage in unprotected sex. Behaviour change strategies are important in HIV prevention programmes to promote faithfulness between married persons and single couples.

2. Poor treatment of sexually transmitted infections (STI).

The treatment and control of STIs is of significant importance in the HIV and AIDS response. STIs are an indication of unsafe sexual practices and exposure to HIV and AIDS. Untreated STIs significantly increase the risk of sexual HIV transmission and acquisition (IBBSS, 2010).

Both ulcerative and non-ulcerative sexually transmitted infections have been identified as major co factors in HIV transmission, especially infections that cause genital ulcers (Peter, 2002; Olugbenga-Bello et al, 2007). Long distance drivers and their sexual partners have been reported to having a disproportionate effect on the transmission dynamics of STDs including HIV. Findings from a study carried out in Ilorin, Nigeria by Araoye et al (1999), showed that commercial bus and truck drivers had high prevalence of STIs.

3. Non use of condom during unsafe sexual intercourse.

It is a well known fact that the risk of HIV infection increases with the practice of unprotected sexual intercourse. The correct and consistent use of condoms can significantly reduce the risk of STIs, including HIV and AIDS transmission especially among people with multiple sexual partners. A low prevalence of condom use has been discovered in various studies among commercial bus drivers (Araoye et al, 1996; Olugbenga-Bello et al, 2007; Ncama et al, 2013) despite high numbers of casual partners. Lack of knowledge of method of use, lack of pleasure, fear of failed erection, religious consideration and lack of awareness were reasons given for non use of condom (Olugbenga-Bello et al, 2007). The risk of HIV and other STI transmission can, however, be substantially reduced through consistent and correct use of condoms.

4. Patronage of Commercial Sex Workers (CSW).

High prevalence of HIV has been found in CSWs. The result of a sentinel survey in 2001 showed a 34% prevalence of HIV among the CSWs (FMOH, 2002) and results from IBBSS, 2007 showed that 25.2% of FSWs were living with HIV/AIDS. The 2010 IBBSS found a HIV prevalence of 27.4% and 21.1% among BBFSW and NBBFSWs respectively. An important interface between CSWs and the society are their clients, who are exposed to the same risk factors that CSWs are exposed to (Estebanez et al, 1993). Studies conducted in East Africa and Nigeria found commercial bus and truck drivers were clients of CSWs (Orubuloye et al, 1993; Araoye, 1999). A study done in South Africa by Ncama et al (2013) found that 52 % of minibus taxi drivers had sexual relationships with sex workers in the past 12 months preceding the study.

5. Intake of psychoactive substances.

Many LDDs are known to use psychoactive drugs so as to keep them awake during their long journey. The combination of multiple sexual exposures (with many of the sex partners also involved in a number of other sexual partnership simultaneously), alcohol and psychoactive drugs which are capable of altering risk perceptions increases the HIV risk of LDD significantly (Fatusi, 2007, Olugbenga-Bello et al, 2007).

6. Duration of time away from home and family.

Due to the long distances they often have to cover, LDDs are repeatedly and constantly separated from their families. They may even have to spend several days at a particular site away from home as part of their work. One study recorded the average time that the LDD as spending between two and ten days at business sites. In the 2005 IBBSS survey, more than half (53.3%) of LDDs interviewed had been away from home for more than one month in the 12 months preceding the survey.

Other factors that increase the risk of HIV transmission among long distance drivers are: low level of general education and health knowledge, reasonably high level of disposable income and common attitude of fatalism, boredom and loneliness, delays at border crossings, lack of access to health services, poor working conditions, low wages and intravenous drug use (Fatusi, 2007, Olugbenga-Bello, et al, 2007 and World Bank, 2009).

2.4 HIV/AIDS Prevention Strategies.

2.4.1 Global Response to HIV/AIDS Prevention.

Global commitment and action to combat the HIV pandemic have increased markedly. Lamptey and Wilson (2005) stated that unless the incidence of HIV is sharply reduced, HIV treatment will not be able to keep pace with all those who will need therapy thus prevention of new HIV infections remains the most important way to reduce the burden of HIV/AIDS. According to UNAIDS (2005) reports, with proper prevention 29 million (63%) of 45 million new infections of HIV/AIDS expected to occur between 2002 and 2010 would be averted.

Various preventive strategies have been employed to curb the spread of this infection as there is presently no cure. Abstinence, avoidance of multiple sexual partners, condom use, HIV Counselling and Testing (HCT) and treatment of HIV-infected individuals form the cornerstone of HIV prevention (FHI, 2004). By expanding initiatives for prevention, treatment and care almost one million deaths will be averted annually by 2011 (World Bank, 2008). Historically, prevention efforts have been dominated by the perspective of AIDS as a disease affecting specific groups of individuals, with particular high-risk behaviors. However, it is now more widely understood that behaviors of individuals, and the health outcomes, are directly affected by the larger social, political and economic contexts in which individuals live and work, thus HIV Counseling and Testing (HCT) has become an integral part of HIV prevention and control (Wang et al, 2010).

2.4.2 National Prevention Strategies.

In line with international trends, many African countries including Nigeria have recognized HIV counseling and testing (HCT) as being crucial for both treatment and prevention of HIV/AIDS. The Nigerian government has made the fight against this disease one of its top priorities, thus in their efforts to combat HIV/AIDS and its effects a number of programmes and services for prevention, care and treatment of the disease has been put in place. According to FMOH (2011), prevention remains the most important strategy as well as the most feasible approach to reversing the HIV epidemic since there are no vaccines and no medical cure. HIV counselling and testing (HCT) provide an alternative in facing the challenge of HIV/AIDS. HIV counselling and testing and ART care are currently the most rapidly expanding Interventions in the spread of HIV/AIDs

(FMOH, 2008). The situation of persistent high level of HIV- risky sexual behavior in the face of high level of HIV awareness calls for continuous and concerted focus on effective preventive interventions that will address the specific need of each key population segments and stimulate the adoption of appropriate behavior that reduces the risk of HIV transmission. The Nigerian government now has several AIDS-related programs and policies in place, Including a National Policy on HIV and AIDS and a National HIV and AIDS Prevention Plan.

These contributed to reducing prevalence from 5.8 percent in 2001 to 3.6 percent today. Some of the HIV/AIDS prevention strategies according to the Federal Republic of Nigeria 2011 include: Promotion of safer sexual behavior through communication related interventions, promotion of appropriate use of male and female condoms and lubricants, prevention of biomedical HIV transmission, HIV counselling and testing (HCT), prevention of mother to child transmission (PMTCT), early diagnosis and effective treatment of sexually transmitted infections (STIs) and positive health, dignity and prevention interventions (PHDP).

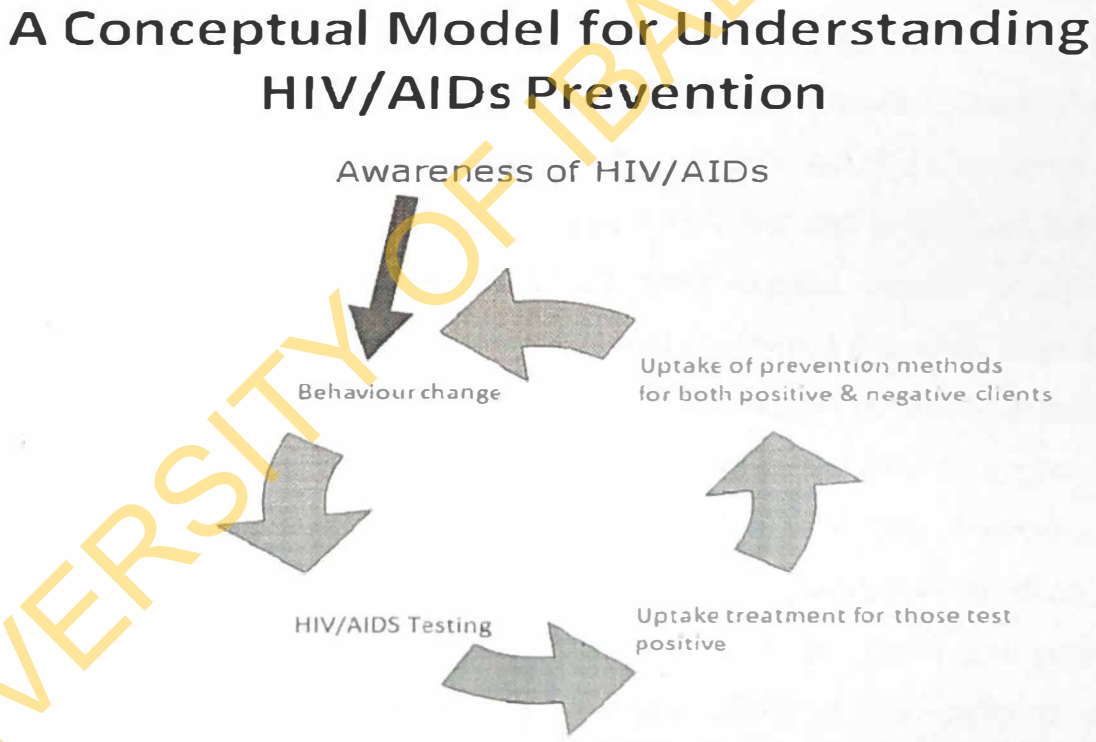


Figure 2.2: Conceptual model for understanding HIV/AIDS prevention (NACA 2010).

2.5 Overview of HIV Counselling and Testing.

2.5.1 Definition, principles and process.

HIV Counselling and Testing (HCT) is the process by which an individual undergoes counselling enabling him or her to make an informed choice about being tested for HIV. This decision must be entirely the choice of the individual and he or she must be assured that the process will be confidential (UNAIDS, 2000). Each individual makes an informed decision of whether or not to take the HIV test after they have been given information and supported to reach an understanding of what is involved. It is a confidential dialogue between a client(s) and a counselor aimed at enabling the client to cope with stress and make personal decisions related to HIV and AIDS (FHI, 2002). Free HIV Counselling and Testing (HCT) was introduced as one of the prevention strategies to curb the spread of HIV.

Full HCT services as shown in figure 2.3 involve pre-test counselling, HIV testing, post-test counselling and follow-up. The pre-test counselling prepares the client by explaining and discussing the HIV test process, myths and misinformation about HIV/AIDS, implications of testing, risk assessment, risk prevention, and coping strategies, post-test counselling (WHO, 1994). During pretest counselling, clients knowledge of HIV/AIDS is explored, they are educated about the meaning of a positive and a negative HIV test and helps them think through practical strategies for coping with the test result, their support system is also explored (UNAIDS/WHO, 2002). Counselling assists people to make informed decisions, cope better with life challenges, lead positive lives and prevent further transmission of HIV. Counselling also helps clients explore whom they might share the test result with, and how to approach sharing their test result. The testing phase involves a scientific analysis of a client's blood in order to determine his/her HIV/AIDS status (FHI, 2002). The main aim of post-test counselling is to help clients understand their test results and initial adaptation to their sero-positive or sero-negative status with referral as required and follow up (FMOH, 2008). It also supports people in understanding their test result and its implications, whether the result is positive or negative. Follow-up counselling supports clients in coping with issues raised as a result of learning their HIV status, and are relevant for both clients that test positive or negative. Some clients may come to HCT for ongoing counselling support as well (WHO, 2002).

Both HIV/AIDS counselling and testing aim at assisting clients/patients to understand themselves, and adjust effectively to life challenges and contribute meaningfully to the development of the society (UNAIDS, 2000). Several authors (Iliyasu et al, 2006; Jimoh and Abubakar, 2003) have noted that HCT is a key element to identifying HIV infected persons who could benefit from therapeutic interventions.

Counselling for prevention is the core business in HCT. Once a person has known his or her HIV status, whether positive or negative, it is important that they prevent either transmission of HIV to other people or contracting HIV themselves (FMOH, 2011). Counselling, both before and after the test, and a risk reduction plan are the key features that distinguish HCT from other HIV testing services.

HIV counselling and testing has been advocated as a cost effective mechanism for the reduction of the burden of HIV/AIDS on the fragile health systems of developing countries. (UNAIDS/WHO, 2004), thus it is considered a priority in most national HIV programs since it is regarded as a gateway to HIV/AIDS prevention, care, treatment and support intervention. It is also a vital component for the expansion of access to comprehensive care for people living with HIV/AIDS (UNAIDS, 2006).

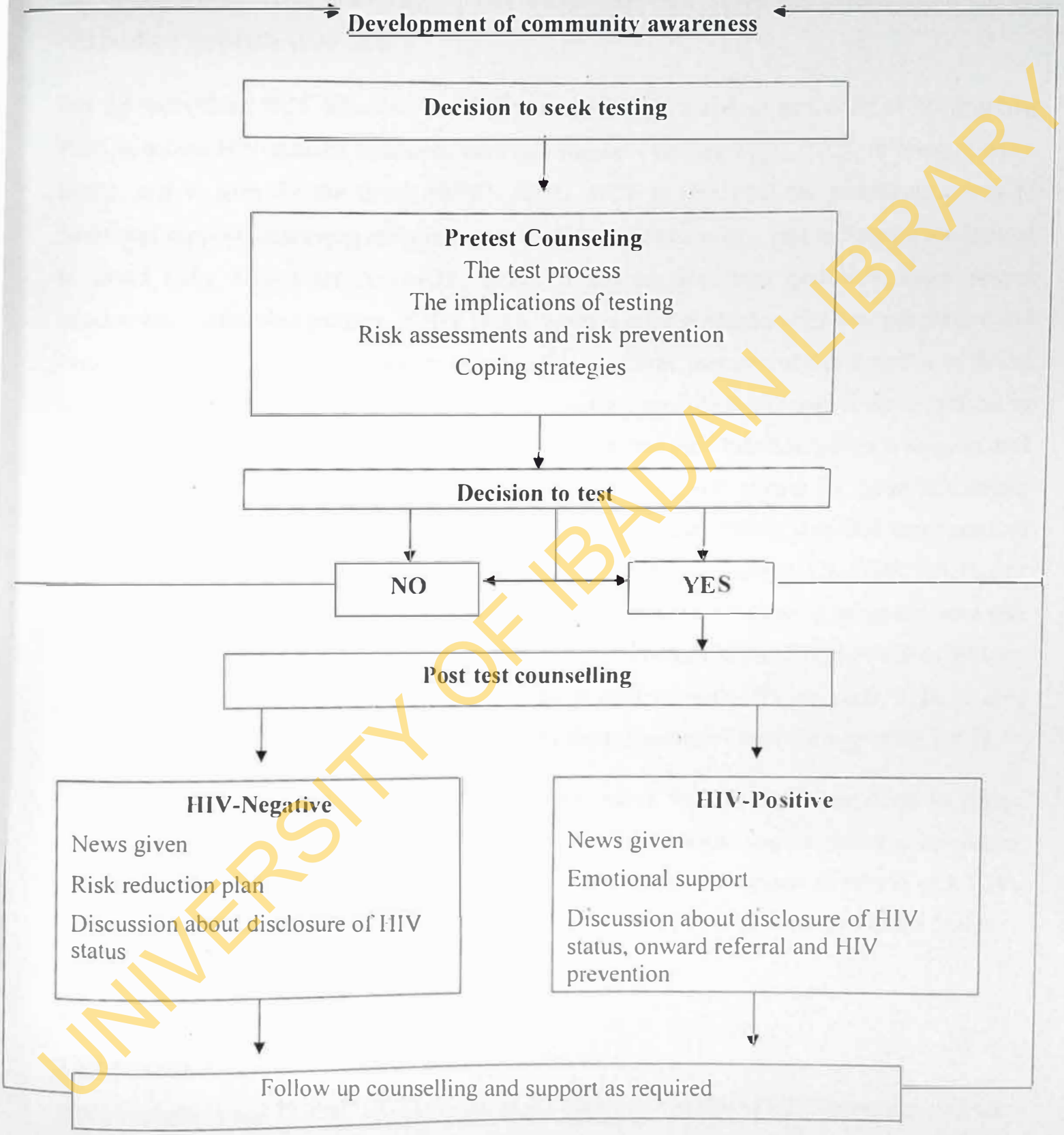
It is important to make special efforts to avail HCT services to particular group's especially high risk and vulnerable groups that may greatly benefit from such services as high quality HCT enables and encourages people with HIV to access appropriate care and it is an effective HIV prevention strategy.

2.5.2 Aims of Counselling.

According to FMOH (2011), counselling is aimed at helping each individual to:

1. Obtain information on HIV/AIDs in order to prevent HIV infection or its transmission
2. Develop the ability to make realistic decisions and appropriate plans for the future
3. Alter and change their behavior to produce desirable consequences.
4. Receive psychological support to enable them cope with challenging situations.

Figure 2.3: HIV Counselling and Testing Process (UNAIDS, 2000).



2.5.3 Benefits of HIV Counselling and Testing.

HCT as one of the key tools in HIV/AIDS prevention provides many potential benefits to individuals and society, allowing appropriate linkages between prevention, psycho social support and medical care (UNAIDS. 2001).

For the individual, HCT enhances the ability to reduce one's risk of acquiring or transmitting HIV, to access HIV-specific treatment, care and support (Tesfaye et al, 2012), to manage one's health, and to plan for the future (WHO, 2002). HCT is also vital for providing access to emotional support, improving skills to cope with HIV-related anxiety, and increasing motivation to avoid risky behaviours (UNAIDS, 2000). It enables informed decisions about sexual relationships, informing partners of HIV status, contraceptive methods, safer sex, pregnancy and breastfeeding, provides opportunities and support to inform partners of the benefits of being tested (FHI, 2002). 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 sero-status (Tesfaye et al, 2012). For HIV negative clients, HCT can be a strong motivating factor to remain negative (Baggaley and Oberhaucher, 2002), provides motivation to practice safer sex and adopt appropriate HIV prevention behavior change (UNAIDS, 2001). For HIV positive clients, HCT could lead to early access to and better outcome of treatment, care and support services (UNAIDS/ UNICEF/ WHO, 2007). It promotes changes in behaviour to prevent infecting others with HIV and prevent becoming re-infected with HIV or other STIs. It also improves planning for the future and supports adherence to anti-retroviral therapy (FHI, 2002).

For society, widespread knowledge of one's HIV status through HCT can lead to better community mobilization against the epidemic, reduces HIV-related stigma and discrimination, support human rights and also stimulates a community response in support of people with HIV, including the development of care and support for people living with HIV/AIDS (WHO, 2002).

2.6 HIV Counselling and Testing in Nigeria.

2.6.1 Overview of HCT in Nigeria.

HIV Counselling and Testing (HCT) programs is a major component of HIV prevention and care programmes of most developed countries and is being promoted in many developing countries (WHO, 2010) including Nigeria. The Government of Nigeria recognizes HCT as an essential

part of the nation's response to the HIV/AIDS crisis and is committed to the development of quality HCT services nationwide.

By December 2008, HCT service delivery sites in Nigeria increased to 908; about 3.37 million people (men and women) had ever been counseled, tested, and received their test results by this date (FMOH, 2009). In 2011 there were only 1357 HIV testing and counselling facilities nationwide and only 12 percent of women and men aged 15-49 had received an HIV test and found out the results (FRN, 2012). This shows how desperately the government needs to scale up HIV testing services. Moreover, HIV testing and counselling of pregnant women is central to the prevention of mother-to-child transmission, yet this remains extremely low with only 1 in 6 pregnant women receiving it in 2011 (FRN, 2012).

Also in 2013, the number of HCT sites increased by 34% from 2391 in 2012 to 7075 in 2013. In spite of this increase, the proportion of the general population who has accessed HCT still remains low. While HCT has been available in various facilities in Nigeria for years, most testing centers are located in major urban areas. People who want to get tested for HIV often have to travel long distances, and into rural centres, as there is a distinct lack of HIV testing and counselling facilities (FRN, 2012). Challenges faced by the HCT program in Nigeria include: Shortage of HIV test kits; weak supply chain and logistics management; wrong public perception that HCT is only useful for the diagnosis and management of HIV positive clients and low HIV risk perception and the stigma associated with HIV infection (NACA, 2014). According to FMOH (2009), the number of HCT sites available in the country, though increasing, still remains inadequate to meet the demands of the population.

Table 2.1 Number of HCT sites in Nigeria (2009-2013)

Year	2009	2010	2011	2012	2013
Number Of HCT Sites	1074	1046	1357	2391	7075

Source NACA, 2014

2.6.2 HCT Utilisation in Nigeria.

Knowledge of HIV status is important for helping individuals make specific decisions about adopting safer sex practices to reduce their risk of contracting or transmitting HIV. For those who are HIV positive, knowledge of their HIV status allows them to take actions to protect their sexual partners and to access treatment services (NDHS, 2013). Although knowledge about HCT is relatively high and increasing in many African countries, including Nigeria, there has as yet been no commensurate increase in their use. While some countries have recorded high acceptance and utilization rates, others have recorded very lower rates (Abebaw et al, 2009). It is the sentiments of the WHO that it is the responsibility of governments to ensure that testing and counselling services are available for all who might wish to know their status (WHO, 2005).

It is estimated that up to 90% of HIV-positive individuals in low-income countries do not know their HIV status and may be unsuspectingly spreading the disease (UNAIDS, 2002). This according to the World Health Organization (2006) and UNAIDS (2008) underscores an urgent public health priority to immediately scale up HIV testing, treatment, and counseling in most sub-Saharan African countries which command the status of being epicenter to and bear a disproportionate brunt of the global pandemic. In the seventeen low and medium income countries with data on HIV testing, only 10.9% of men and 10.3% of women had ever received an HIV test and result between 2005 and 2007 (UNAIDS/UNICEF/WHO, 2008). UNAIDS estimated in 2000 that only 10% of people who are HIV-infected are aware of their positive status; mainly because of the limited availability, access to and use of HIV counseling and testing services (UNAIDS, 2000). More so for Nigeria, as in other countries of sub-Saharan Africa with high disease burden, residents of rural areas often lack opportunities to be tested for HIV and to learn their status (Yahaya et al, 2010).

According to NARHS 2007 reports, only 49% of women and 56% of men know where to obtain HCT (NARHS, 2007). In 2008 49% of women and 65% men knew where to obtain HCT and In 2012 Overall, 60 percent of women and 71 percent of men know a place where they can get an HIV test (NDHS, 2013). The rate of increase of access to HCT services for both men and women is similar: from about 7% in 2003 to 11% in 2005 to 14% in 2007. These contrasts sharply with the intent of the framework targeting 50% of Nigerians to access quality HCT services by 2010

and falls far short of the country's commitment to universal access target of at least 80% by the same year (NACA, 2010).

UNAIDS/WHO recommends that sexually active people in countries with generalized HIV infection patterns such as Nigeria should be tested at least annually (UNAIDS/WHO, 2007). Despite the fact that HCT centres have increased in number and coverage over the last few years in Nigeria, uptake has been consistently poor (Amu and Ijadunola, 2011). In Nigeria a high percentage of people are unaware of their status (FRN, 2012). The percentage of persons that received an HIV test in the past 12 months is usually used as an indicator of the proportion of people who currently know their HIV status (NACA, 2014). In the twelve months preceding the 2003 Nigeria Demographic and health survey (NDHS) only 3% of women and 6% of men of reproductive age had themselves tested and obtained results in the six geo-political zones of the country (NPC,2004). The 2005 NARHS showed that only 11% of females and 12% of males had ever taken the HIV test (FMOH, 2006.) A study among junior secondary students in the country showed that 21% of them have ever been tested for HIV (FME, 2006). The 2008 NARHS reported that less than 7% of Nigerian adults (6.6% of women and 6.4% of men) had been tested and obtained results for HIV in the six geo-political zones of the country in the twelve months preceding the survey with less than 10% ever been tested. (NPC and Macro, 2009).

According to the 2012 NARHS reports, 23.5% of male and 29.2% of female reported to have ever tested for HIV. Out of this group, only 63% of female and 68% of males that tested for HIV received their results and know their status. Thirty-Six percent (36%) of respondents' aged 15 to 19 and 42.6% of those aged 20 -24 reported having an HIV test in the last 12 months (NACA, 2014). Although the proportion of people who had tested and received their results had doubled between 2003 and 2012 and the wide availability of ARV treatment in the country and a 100% increase in the number of facilities providing testing and counselling services, population uptake of HCT in Nigeria though increasing has traditionally been low, rising very slowly over the years (NACA, 2012). In 2013 NDHS 20% of the adult population had prior testing and received their test results, in the southwest, 27.1% out of 2,843 men had ever tested and in Oyo state 19.9% of 629 men had ever tested for HIV (NACA, 2014).

As at December 2013, the number of women and men aged 15 and older who received HIV testing and counselling in the past 12 months and know their results was 4,077,663. This demonstrated a more than fifty percent increase in the number of persons counselled, tested and received results in 2012. This shows that a lot more needs to be done to increase uptake of counselling and testing in order to achieve the access target for this objective (NACA, 2014). Unless HCT uptake is increased, it is unlikely that the goal of universal treatment coverage in Nigeria will be achieved, and prevention programmes may continue to be sero-status blind.

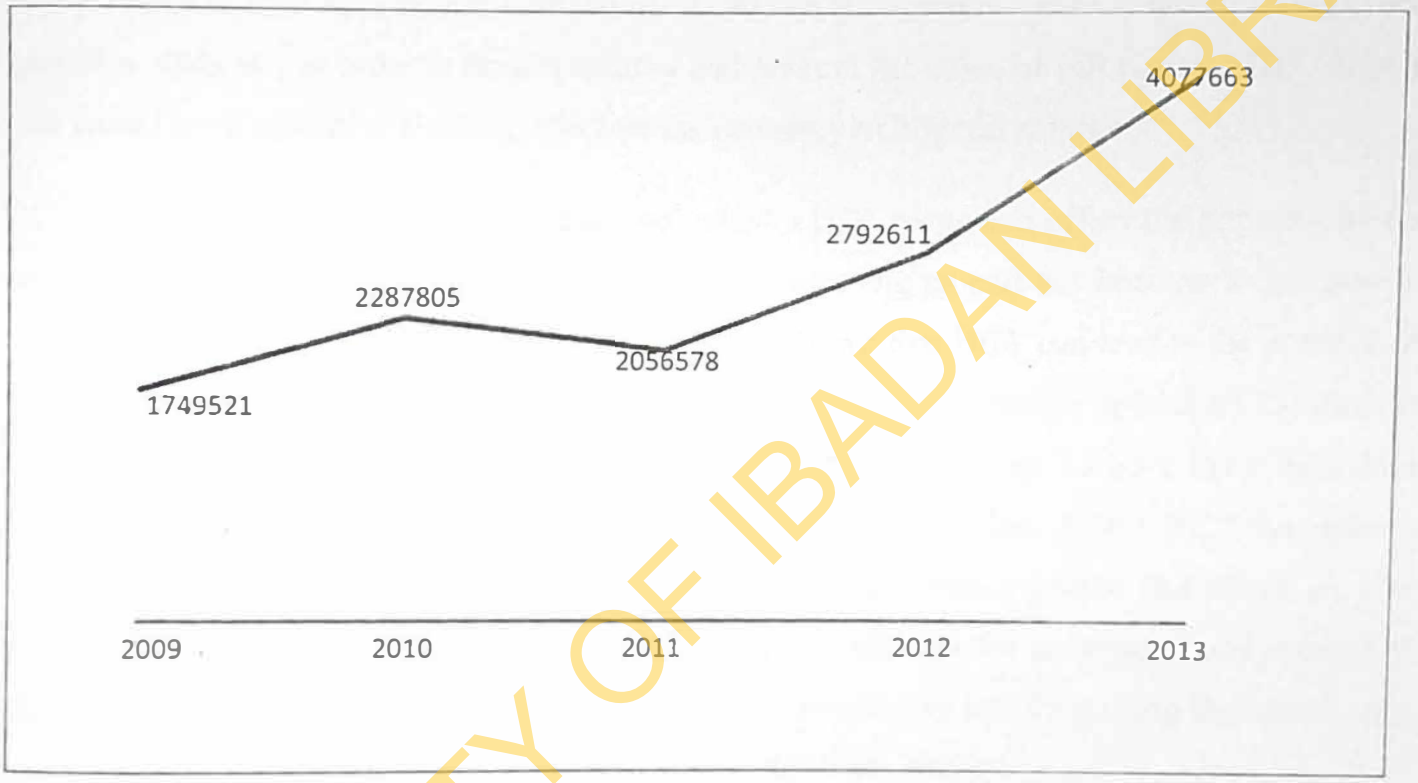


Figure 2.4: Number of Individuals counselled, tested and received test results: 2009-2013 (NACA, 2014).

2.7 The Role of HCT in Combating the HIV/AIDS Epidemic.

As there is no cure for HIV/AIDS, HIV counselling and testing has become an integral part of HIV prevention and care programmes in many countries, including Nigeria as it remains a key strategy to control the spread of HIV and to provide care and support to those who live with the virus (WHO, 2004). While recognising the importance of HCT services in reducing HIV transmission in those individuals who test sero-negative, HCT services have evolved and expanded to reflect the changing needs of communities and the changing possibilities in the management, treatment and support for HIV-infected individuals. Initially HCT was primarily

used to diagnose HIV infection in symptomatic people, but the scope of HCT has changed over the past decade (Lamptey and Gayle, 2001).

According to the WHO (2005), HCT services form the gateway to care, treatment and support for persons in need thereof. This ensures that people can exercise their right to know their status and that people with HIV can benefit from increased access to antiretroviral treatment. This also includes access to interventions to reduce mother-to-child transmission (MTCT) of HIV and interventions to treat opportunistic infections. It allows HIV-positive individuals to change their lifestyles, diets etc, in order to remain healthy and prevent the onset of full blown AIDS. This in turn would have a positive rippling effect on the economy of Nigeria at large.

HCT also helps to create awareness of an individual's HIV status and offers the opportunity for counselling on risk behavior modification. It also lessens stigma and has become a first step to accessing care (Bwambale et al, 2008). Research has shown that HCT can lead to the practice of safe sexual behaviors and increased condom use, thus preventing further spread of the disease (UNAIDS, 2007). HCT is also useful in targeting persons at high risk because risky behaviors are positively associated with the decision to take the HIV test (Miller, 1996). HCT strengthens prevention efforts through risk-reduction strategies for HIV infected people and above all else provides evidence-based approaches to specific recommendations for prevention and control of HIV/AIDS (CDC, 2001) as well as being one of the monitoring and evaluating indicators of a second-generation HIV surveillance system (UNAIDS/WHO, 2002).

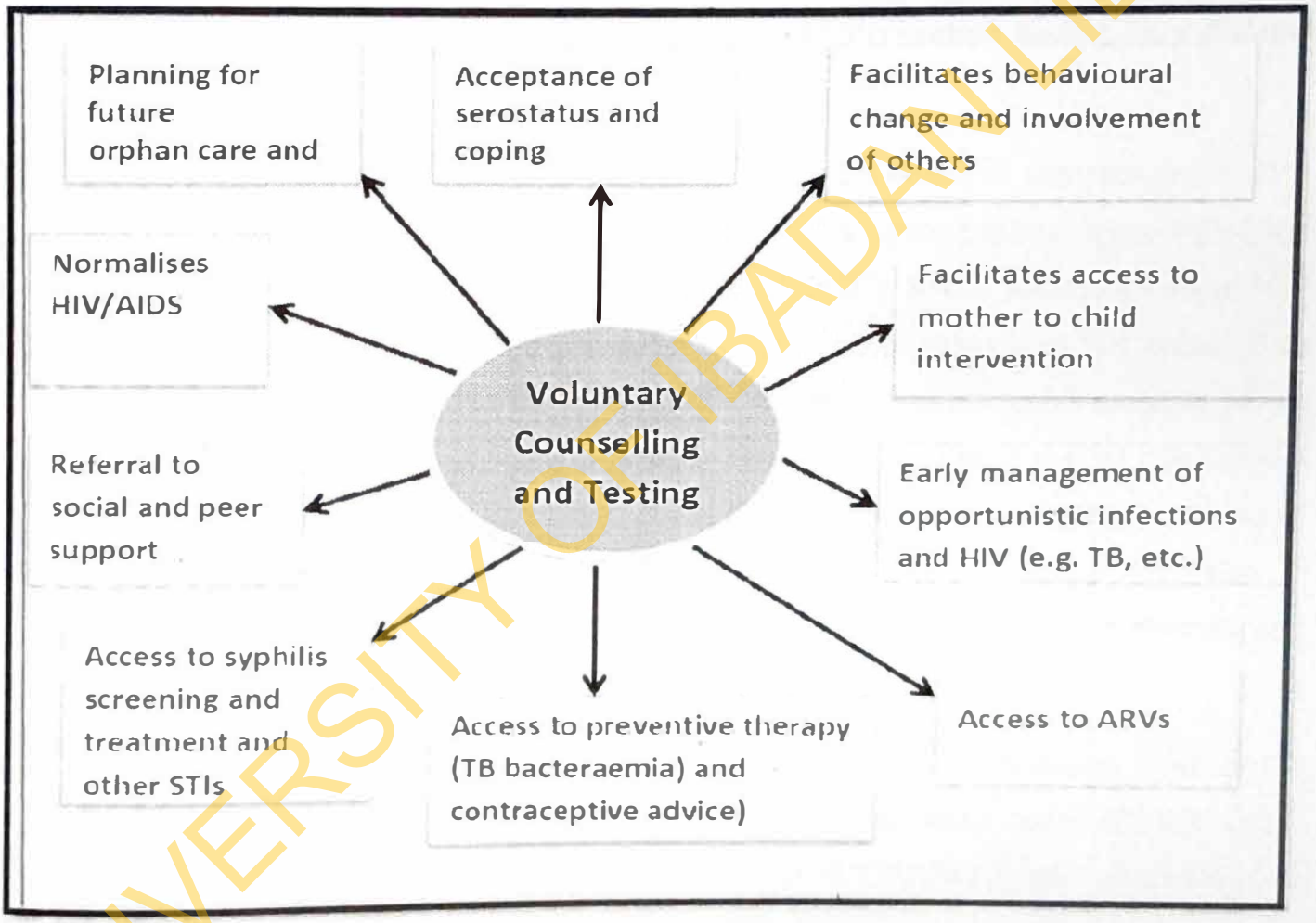
The role of HIV testing in the global response to AIDS epidemic can unequivocally be highlighted as a major tool for early diagnosis of HIV infection, timely referral to improved treatment and care and to increased quality of life of the affected ones. Its importance becomes greater considering the changing contexts and attitudes towards the HIV epidemic in the last couple of years (UNAIDS, 2008).

The goal of HCT is to facilitate behaviour change in order to prevent acquisition HIV transmission and infection and to mitigate the impact of HIV and AIDS through linkages to community care and supportive services (WHO, 2002). HCT as an effective behaviour change intervention offers a holistic approach that can address HIV in the broader context of people's lives including context of poverty and its relationship to risk practice, HCT also facilitates early

referral to comprehensive clinical and community based prevention care and support including access to Anti-Retro Viral Therapy (ART) (WHO, 2002).

As presented in Figure 2.5 below, HCT is an entry point to a web of HIV/AIDS-related services, and also offers individuals an opportunity to make life changing decisions, which may help improve one's quality of life, with the HIV infected person living positively into the future (UNAIDS, 2000)

Figure 2.5 HCT as an entry point to HIV Prevention and Care (UNAIDS, 2000).



HCT prevent new infection by helping clients assess their risk and change their behaviour and by linking clients with interventions to reduce mother to child transmission of HIV (MTCT). HCT services contribute to improved care and support of PLWHA through early and appropriate referral for testing and preventing tuberculosis (TB), sexually transmitted infection (STIs) and opportunistic infection (OIs) as well as referral for nutritional services, legal aid, spiritual support, home based care (HBC) and anti-retroviral therapy for HIV (ART) (FHI 2002).

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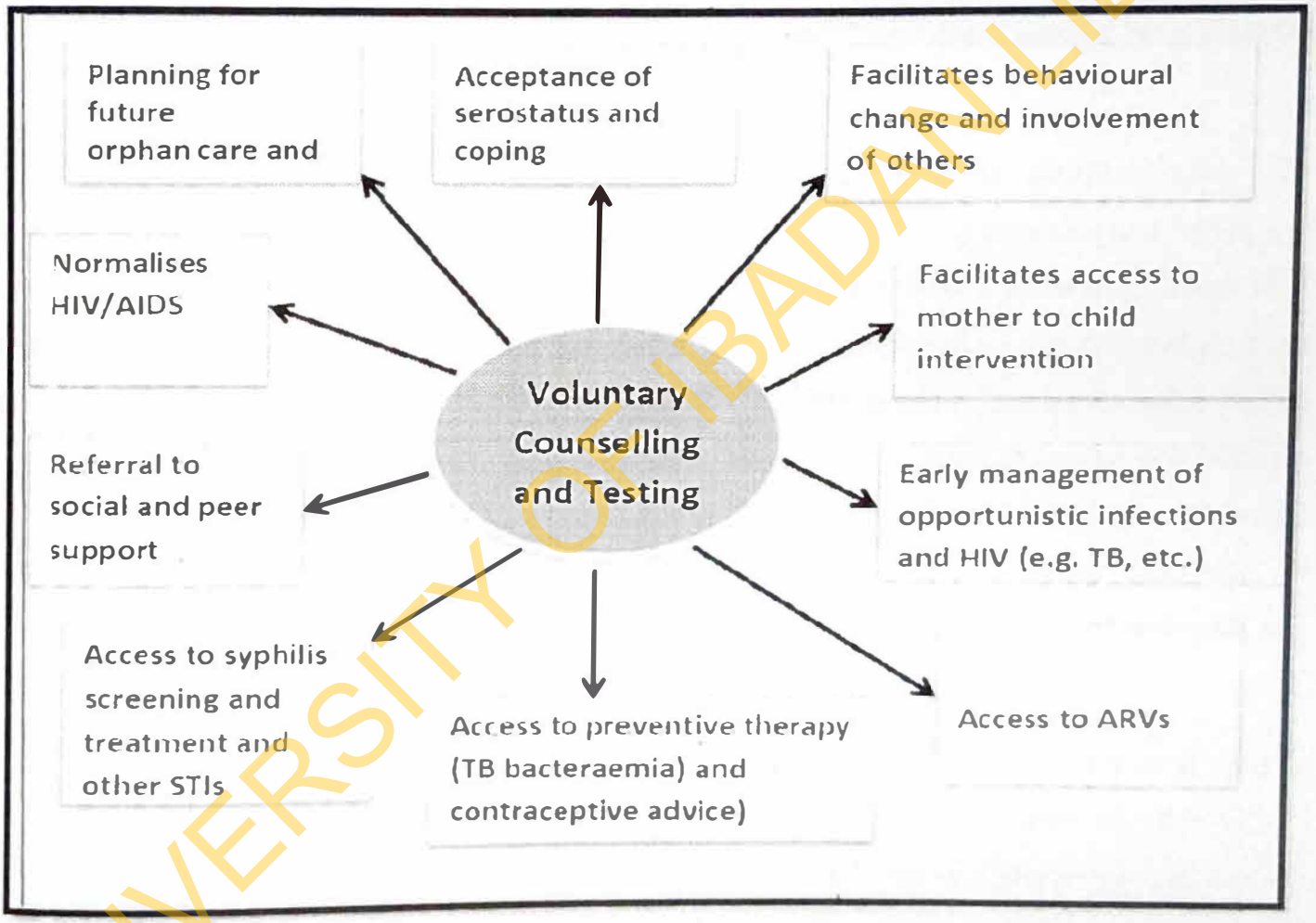

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Studies in both US and developing world have demonstrated that HCT can lead to self reported changes in high risk sexual behavior among both HIV positive and HIV negative people (USAID, 2003). Knowing one's HIV status through testing can be a motivating force for HIV-positive and HIV-negative people to adopt safer sexual behaviours. In addition it enables HIV-positive people to take active steps to prevent their sexual partners from being infected. It also enables HIV-negative people to retain their negative status by changing their sexual practices (Baggaley and Oberhaucher, 2002).

2.8 Awareness and Knowledge of HIV Transmission and Prevention among long distance commercial Bus Drivers.

HIV/AIDS education and awareness is one of the key elements in comprehensive HIV prevention. It is believed that increased knowledge along with positive attitudes and belief will lead to a positive behavior change (Olugbenga-Bello et al, 2007). Sound knowledge about HIV and AIDS is an essential prerequisite if people are going to adopt behaviours that reduce their risk of infection. Knowledge of how HIV is transmitted and prevented is crucial to enable people to avoid contracting HIV, especially long distance drivers, who are often at greater risk because of their risky sexual behaviours which include: constant patronage of CSWs, multiple and casual sex partners. Knowledge of ways of acquiring HIV and AIDS is a basic first step to understanding how to prevent it. Increasing knowledge of HIV/AIDS provides reinforcement and support for sustaining risk reduction (UNAIDS, 2003).

In a study carried out among long distance truck drivers in Ibadan by Arulogun et al (2011) awareness of HIV/AIDS was high as 94.4% of the respondents were aware of HIV/AIDS. Several other recent studies have reported high awareness of HIV/AIDS (Olugbenga- Bello et al, 2007; Aniebue and Aniebue, 2011 and Ibe-Sally et al, 2014,)

A study done by Ibe-Sally et al (2014) found that 47.6% of the respondents had good knowledge of routes of HIV transmission and prevention while 52.4% had poor knowledge. Also Odeyemi and Osibogun (2003), in their study among drivers and conductors in Lagos, found 97.2% of the respondents to have heard of HIV/AIDS and 65.3% of the respondents with good knowledge of HIV/AIDS. However, misconception and inadequate knowledge of HIV transmission among

long distance drivers exist. Findings from a study in Nigeria by Iliyasu et al (2006) and another in Ethiopia (Alemu et al, 2004), indicates substantial misconceptions about modes of HIV transmission; e.g. transmission by mosquitoes and through sharing of food. Similarly Olugbenga-Bello et al (2007) in his study reported that though the level of knowledge about HIV/AIDS among the study population seems to be high, there are still misconceptions and misinformation about the disease.

HIV prevention interventions have relied on imparting knowledge to create awareness about HIV/AIDS based on the cognitive behavioral models which presumed that having knowledge would empower the individual to change behavior towards HIV prevention (Bwambale et al, 2008). Lack of knowledge and misconception about HIV/AIDS are key factors in the lack of prevention effort and it has been shown that people need a solid factual understanding of HIV and its transmission, access to relevant services and the confidence and social power to initiate and sustain behavior change in order to prevent the spread of HIV/AIDS (Wiess and Gupta, 2000).

2.9 Sexual Behaviour of Long Distance Commercial Bus Drivers.

Long distance drivers are at increased risk of sexually transmitted infections including HIV/AIDS, due to frequent recourse to casual sex. (Olugbenga- Bello et al, 2007). The high risk sexual behaviours that lead to increased incidence of HIV and STIs among long distance drivers include: unprotected sexual intercourse (Peter, 2002; Ncama et al,2013; Ibe-sally et al, 2014) premarital, extra marital and commercial sex (Araoye, et al, 1996; Peter, 2002; Olugbenga-Bello et al, 2007; Arunlogun et al, 2011), multiple sexual partners (Orubuloye et al, 1993; Peter, 2002; Ncama et al, 2013), extra vaginal sex as in homo sexual (Peter, 2002) and inconsistent or non use of condom during unsafe sexual intercourse (Araoye et al, 1996, Olugbenga-Bello et al, 2007; Ncama et al, 2013). Other characteristics that make commercial drivers a priority group include: high mobility, low literacy level and poor STI treatment (Olugbenga-Bello et al, 2007).

However, despite extensive efforts by the Nigerian health system through NGOs in promoting safe sex, condom use among long distance drivers is still relatively low with many still engaging in unprotected sexual intercourse. A study in which the knowledge and attitudes of long distance truck drivers concerning sexually transmitted diseases (STD) and sexual behaviour were

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surveyed revealed that 317 (99%) of the subjects had heard of AIDS and were aware of the correct risk-reducing behaviour. Though they knew that the use of condoms can prevent the transmission and acquisition of STDs, only 32% had ever used condoms despite the fact that 61% admitted to visiting prostitutes (Bwayo et al, 1991).

Multiple sexual partnerships are still common amongst long distance drivers thus increasing the likelihood of transmitting HIV and other STIs to their partners. Ncama et al (2013) in their study among minibus taxi drivers in Kwazulu South Africa reports that 74.3% of the respondents admitted to having more than one sexual partner in the past year. The IBBSS (2007) survey in Nigeria reports that 37.9% of the transport workers surveyed had more than one sexual partner, with 12.2% having 4 or more sexual partners 1 year prior to the study.

Also commercial sex work is believed to be one of the risky sexual practices in the spread of HIV infection and other STIs both as a first line of infection from a sex worker to a male customer and a second line of infection from a husband to an innocent wife (Oguntibeju and Fabode, 2002). Studies have shown that prolonged absence of commercial bus drivers from their spouses could possibly create an atmosphere for some to engage the services of commercial sex workers (Araoye et al, 1999). Studies among commercial drivers, conductors and motor park attendants in Lagos, showed that 74.3% of subjects had multiple sexual partners and only 11.6% reported consistent use of condoms (Ekanem et al, 2005). Furthermore, 53.4% indicated that they regularly patronize FSWs. Studies that have been conducted globally indicate that although adults have adequate knowledge relating to the transmission and prevention of HIV, this does not necessarily translate to behaviour change such as condom use, abstinence or reduction in the number of sexual partners (NACA, 2014). Risk taking behavior is still widespread among drivers, despite growing awareness of HIV and AIDS.

2.10 Risk Perception to HIV Infection among Long Distance Commercial Bus Drivers.

HIV risk perception is an important determinant of behavior change and therefore complementing HIV and other sexually transmitted infections (STIs) prevention measures. This is one's subjective perception of the risk of acquiring HIV infection and will determine whether or not one changes one's behaviour to prevent HIV infections. According to Holden (2004), susceptibility refers to "the likelihood" of being infected by HIV, which may be at individual or

group level. This "chance of being exposed to the virus" is determined by behavioural, biological, cultural and environmental factors as well as power relations (such as gender imbalances between men and women).

Acknowledging one's susceptibility to HIV infection facilitates the adoption of preventive behaviour, and knowledge plays a key role in this. (Anderson et al, 2007). Failure to acknowledge one's susceptibility to HIV infection actually raises one's risks of being infected (UNAIDS, 2004). Individual's perception of how susceptible they are to a disease is displayed in their belief regarding the possibility of contracting a disease (Edelman and Mandle 1995). People who believe that they are at risk are more likely to act in a responsible manner to prevent a disease, while people who believe that they are exposed to little or no risk are prone to engage in unhealthy behavior (Salazar 1991). Studies have however shown that despite high risk behaviours, long distance drivers consider themselves at low risk and so are not taking preventive measures in protecting themselves (Stratford et al, 2000).

In a study in Ibadan by Arulogun et al (2011), 62.7% of the respondents believed that they cannot be infected with HIV. Ibe sally et al (2014) in their study among road transport workers in Southeast Nigeria concludes that drivers seem to have a problem translating the knowledge they do have into perception of individual risk and denial is part of their attitudes to HIV/AIDS (Ibe sally et al, 2014). According to PEPFAR (2013) only 30% of adults perceive themselves as having no or low risk of HIV infection. Perception of HIV susceptibility is low among RTWs (Ibe-Sally et al. 2014).

2.11 Awareness and Utilisation of HCT Services among long distance commercial bus drivers.

Awareness and utilisation of HCT services have been studied among several populations. These studies have recorded increasing awareness of HCT services though utilisation has been all time low particularly among high risk groups. Although HCT is becoming increasingly available in the developing and middle income countries, there is still great reluctance for many people to be tested. Its utilisation in Africa and many parts of the world has however, been at an all time low (UNAIDS/UNICEF/WHO 2008). Studies done in Nigeria also show that despite the various

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efforts made to implement HIV prevention activities; HCT utilisation among men and drivers has been disappointingly low.

A study carried out by Tesfaye et al (2012) among men in Ethiopia found that of 53.2% of participants who knew a place to get HCT services, only 8.1% had ever tested for HIV. Bwambale et al (2008) found a prevalence of 23.3% utilisation of HCT services among respondents in rural western Uganda. The 2005 BSS survey in Zambia showed that only 10% of mini bus drivers had ever done a HIV test. Findings from the 2008 BSS study done among long distance drivers in Gambia, reports that 20.4% of the drivers had ever done a HIV test with 15.2% having done a HIV test in the past 1 year preceding the study.

Studies done in Nigeria also show a very low utilisation rate. In a study among professional drivers in Sagamu, Ogun state, only 13.8% had ever utilised HCT (Amoran et al, 2014). A higher percentage was however reported among long distance truck drivers in Enugu, where 43.7% of the drivers had ever been screened for HIV (Aniebue and Aniebue, 2011). A study done by Ibe-Sally et al (2014) among road transport workers in South east Nigeria revealed that 52.7% of the participants knew their HIV status and this signifies previous testing. The 2007 national IBBSS reports show that only 25% of the transport workers had ever done a HIV test of which 13.2% utilised HCT in the last 1 year preceding the study. This shows that several measures need to be taken to improve the utilisation of HCT among men and drivers in Nigeria and the African continent at large. This will in turn effectively reduce transmission of HIV to the larger population.

2.12 Factors Influencing HIV Counselling and Testing Service Utilisation among long distance commercial bus drivers.

HIV counselling and testing has been identified as the key entry point to prevention, care, treatment and support services, where people learn whether they are infected, and are helped to understand the implications of their HIV status and make informed choices for the future. Currently, most people remain unaware of their HIV status due to various reasons (IPPF and UNFPA, 2004).

The utilisation of HCT services however, varies between settings and countries and is affected by multiple factors. These factors have been characterised by different authors into different

groups. Valdiseri et al (1999) characterised these factors that influence utilisation of HCT as: socio demographic, attitudinal and behavioural and systems- related.

A review of the literature revealed that studies in sub Saharan Africa regarding factors associated with HIV testing have been focused on women attending prenatal clinics. A few studies focusing on men and other groups (e.g. drivers) have been carried out. In Nigeria, very few studies have been done regarding factors influencing HIV counselling and testing utilisation among long distance commercial bus drivers, however several studies in Nigeria and several other countries have identified factors that generally influence HCT utilisation. It is not known whether factors that influence HCT utilisation in the general population are also operational in HCT uptake by men only (Bwambale et al, 2008) and drivers.

Omobowale et al (2011) in their study on utilisation of HCT among residents in Igboora, Nigeria identified age, gender, marital status, level of education, awareness of HCT centre and knowledge of HCT as factors influencing HCT utilisation among the 384 adults in Igboora, Nigeria. Nguyen et al (2007) in their study among adults in Vietnam found that HCT utilisation was significantly influenced by marital status, residence, health problems related to HIV infection such as TB and STD, risky behaviours of clients partner and information sources of HCT service. Furthermore a survey in South Africa by Hutchinson and Mahlela (2006) showed HCT uptake to be positively associated with age, education, socio-economic status, living close to the clinic and low perception of stigma. From the findings of the study done by Bwambale et al (2008), age, occupation, fear of taking HIV test, willingness to test for HIV with partner, willingness to disclose HIV results to partner were significantly associated with HCT utilisation among the study population. Also, Odhiambo et al (2012) in their survey among Boda Boda operators in Western Kenya reported that gender, visiting HCT with partner, confidentiality of test results, fear of being seen at a HCT centre and visiting a HCT centre in which the operator is known were factors that influenced HCT utilisation among the study group.

A study carried out among men in Ethiopia reported that socio economic position, residence, religion, age, HIV related stigma and risky sexual behavior were important determinants of HCT utilisation among men (Tsefaye, et al, 2012). Aniebue and Aniebue (2011) in a cross sectional study among 200 long distance truck drivers in Enugu, Nigeria found that higher educational attainment was significantly associated with willingness to screen for HIV. Azuogu et al, (2011)

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in their study in southeast Nigeria reports that awareness of HCT, education level and knowledge of ARVs were significantly associated with HCT utilisation.

Other factors which influence utilisation of HCT services as reported by other studies include: socio-demographic characteristics such as age, gender, education, marital status (Adewole and Lawoyin, 2004; Oboh et al, 2010; Sherr et, al, 2007; Jereni and Muula 2008; Iyaniwura and Oloyede 2006), proximity to clinic (Matovu and Makumbi, 2007), sexual behavior (Jereni and Muula 2008; Iyaniwura and Oloyede, 2006), awareness/knowledge related to HIV/AIDS (Matovu and Makumbi 2007; Jereni and Muula', 2008), perception of being at risk of HIV infection (Jereni and Muula, 2008; Fylkesnes and Siziya 2004, Helen Jackson, 2002,and Foster, 2010), awareness and knowledge about HIV counselling and testing (HCT) services (Azuogu et al, 2011), perceived benefits of HCT (Abebaw et al, 2009,), psychosocial factors such as fear of HIV test results, HIV/AIDS-related stigma and discrimination (FHI, 2002; UNAIDS, 2004; Gilly et al, 2005; Iliyasu et al, 2006; Matovu and Makumbi 2007; Tsegay et al, 2013), and concerns about confidentiality (FHI, 2002, Matovu and Makumbi 2007; Tsegay et al, 2013), and supply factors such as limited access to and design of the HCT facilities (FHI, 2002; Sherr et al, 2007; Irungu et al, 2008), availability of treatment/ARV (FHI, 2002; Gilly et al. 2005; Adamshu and Fitaw, 2006; Azuogu et al, 2011).

2.13 Operational definitions

1. Long distance commercial bus drivers.

Long distance commercial bus drivers can be defined as interstate commercial bus drivers who travel relatively long and medium distances, beyond their home state or regular base, the majority who spend one or more nights in a destination town.

2. Perceived Benefit: Individuals who agreed HCT was beneficial.

3. Utilisation of HCT

A participant in the study who has ever done a HIV test.

4. Good Knowledge of HIV/AIDS Transmission and Prevention.

A participant in the study who has a knowledge score >14 out of 28 knowledge questions

5. Risky sexual behavior

A participant in the study whose sexual behaviour exposes him to the risk of HIV infection.

2.14 Conceptual framework of the study

The Health Belief Model (HBM) was used as the conceptual framework for the study. The HBM provides a conceptual framework for explaining and predicting health related behaviours, particularly in regard to uptake of health services (Janz and Becker, 1984). The HBM is an "individual cognitive model which reflects an individual's cognitive (knowing, perception) processes without a social context" (Garcia and Mann, 2003). The HBM is divided into three major components, which are: individual perceptions about health; modifying factors that include demographic, socio-psychological and structural variables; and the likelihood of action (Dennill et al, 1999). The model posits that cues to action, which may be internal or external, such as mass media campaigns, advice from others, reminder postcards from healthcare providers, illness of family members or friends, and newspaper or magazine articles, may help motivate clients to take action (Janz and Becker, 1984; Carpenter, 2010).

To conceptualise the factors influencing HCT utilisation among long distance drivers in Ibadan, this study adopted the conceptual framework of Bwambale et al (2008), which evolved from the HBM model. They used four variables: socio-demographic, socio-cultural factors, health services, and HIV/AIDS knowledge and perception, to attempt explaining utilisation of HIV counselling and testing by men at a test facility in Uganda. In the Bwambale et al (2008) framework, three of the four variables, namely socio-demographic factors, socio-cultural factors, and the organisation of health services operate as modifying components, while individual knowledge and perception operate as cognitive-perceptual components of the HBM model.

The conceptual framework adopted by this study, as seen in figure 2.6 below, outlines four input variables that shape the decision to undergo an HIV test or not. The three modifying variables under the control of the individual are socio-demographic, behavioural and cognitive factors. The other factor which is system related has to do with location of the health facility. The application of the conceptual frame work is based on the understanding/assumption that a person is motivated by several factors e.g by knowledge of a disease or perceived risk of acquiring the disease (cognitive) and therefore will take a health-related action, for example go for an HIV

test. The outcome variable measured by this study is HCT utilisation by long distance commercial bus drivers.

Most of these factors enhance (positively influence) HCT utilisation. For example, it is believed that an individual with high risk perception to HIV infection, will want to know his/her HIV status, thus will go for HCT. Thus in this study it is assumed that drivers with high risk perception to HIV infection will more likely utilise HCT services than those with a low risk perception. Similarly drivers who are aware of HCT services and know where to get these services are more likely to utilise the services than those who do not, hence awareness of HCT and facility offering HCT services would positively influence the utilisation of HCT services. Other factors which enhances HCT utilisation includes: Good knowledge of HIV transmission and prevention, higher educational status, risky sexual behaviours (sex with CSWs, multiple sexual partnership, inconsistent condom use, e.t.c)

Conversely, some other factors mitigate (negatively influence) HCT utilisation. Studies have consistently shown that younger age groups are more likely to have a HIV test than those in the older age group, i.e. HIV testing rates decrease with advancing age (Bwambale et al, 2008, Tsefaye et al, 2012). Thus it is assumed in this study that drivers in the older age group will less likely utilise HCT than drivers in the younger age group. This means that increasing age negatively influences HCT utilisation. Other factors which mitigates HCT utilisation include: low income, low risk perception, long distance to HCT centres and e.t.c)

These factors have therefore been classified in the conceptual frame work as either positively influencing (enhances) or negatively influencing (mitigates) HCT utilisation as shown in fig 2.6 below.

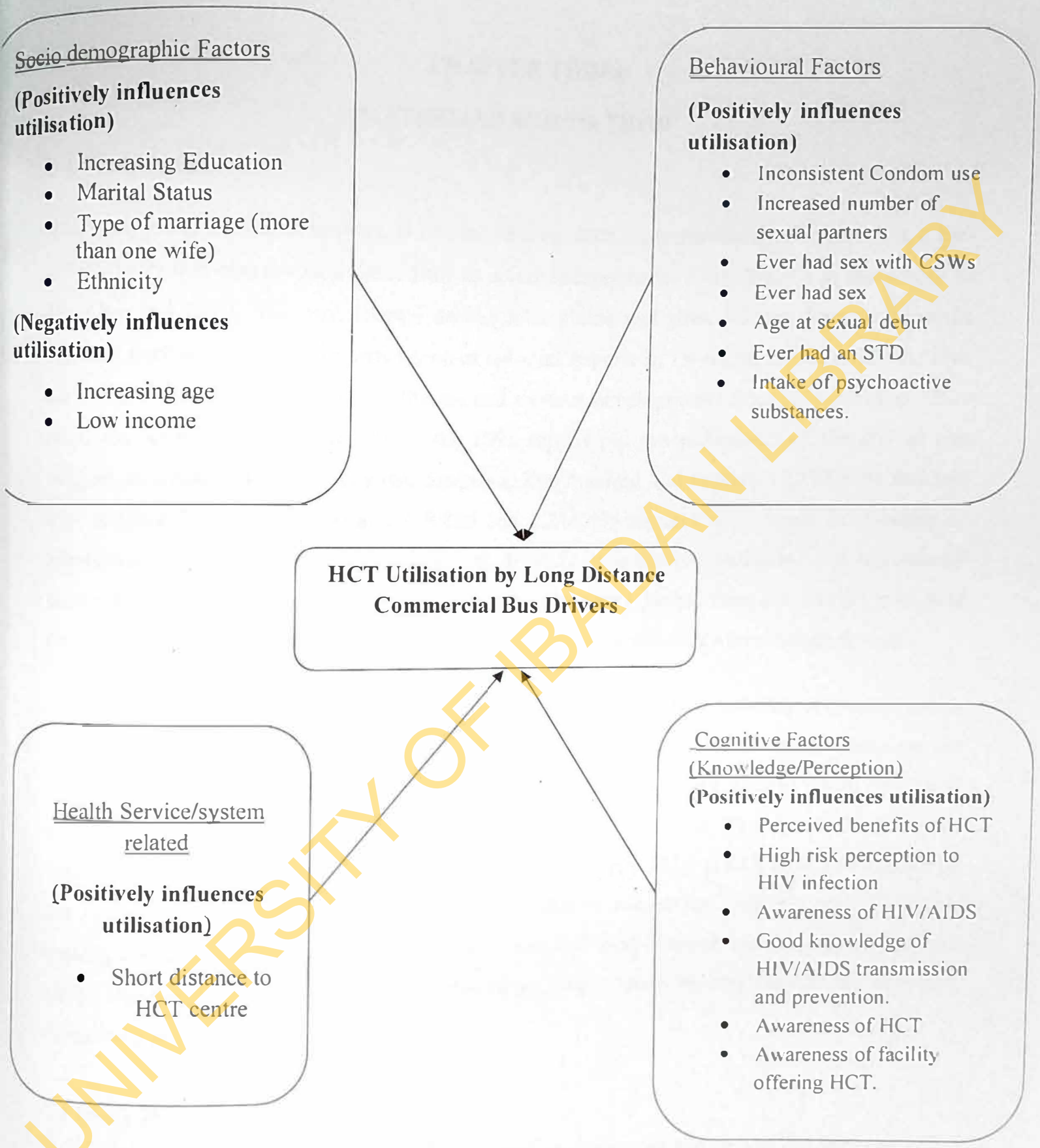

Figure 2.6 Conceptual framework for utilisation of HCT services adopted from Bwambale et al (2008) and modified by Investigator.

CHAPTER THREE

MATERIALS AND METHOD

3.1 Study Area.

The study area, Ibadan metropolis, is located in Oyo State, in southwestern Nigeria. It is a pre-colonial city that was founded about 1829 as a war encampment of contingents of the armies of Ife, Oyo and Ijebu. The city, located amidst hills plains and river valleys, later became the regional capital of the then western region of colonial Nigeria in 1946 and subsequently the Oyo state capital in May, 1967. Both traditional and modern developments litter its landscape. Once rated the largest city in black Africa, the 1991 census put the population of the city at one million, two hundred and seventy two thousand, five hundred and seventy (1,272,570) and less city at 606,637 while in 2006 at 1,418,820 and 1,211,934 respectively. Apart from being an administrative center, the city is a major and growing commercial, industrial and educational center, housing railways, three television stations, a university, polytechnic etc. Ibadan is located on latitude 7°21` and 3°54`E. The area is located within the tropical rainforest (high forest).

There are eleven (11) Local Government areas in Ibadan metropolis consisting of five (5) urban LGAs in the city and six semi-urban/rural Local Governments in the rural areas. These are the Ibadan North Local Government, Ibadan North East Local Government, Ibadan South East local Government, Ibadan South West Local Government and Ibadan North West Local Government, Akinyele LGA, Egbeda LGA, Ido LGA, Lagelu LGA, Ona-Ara LGA and Oluyole LGA. Each of the 11 LGA has one motor park for long distance drivers except for Akinyele which has two making a total of 12 motor parks with not less than 100 long distance commercial bus drivers each. These motor parks are mostly located along major roads leading outside the city and connecting other towns.

3.2 Study Design

A descriptive cross-sectional study was conducted to determine the factors influencing HCT utilisation among long distance commercial bus drivers utilising an interviewer administered questionnaire with both closed and open-ended questions.

3.3 Study Population

The study involved long distance commercial bus drivers who travel such a distance that necessitate overnight stay.

3.4 Eligibility Criteria

3.4.1 Inclusion Criteria

- Inter- state commercial bus drivers who have been driving for more than 6 months prior to study,
- Commercial bus drivers who travel such distance as to necessitate overnight stay.

3.4.2 Exclusion Criteria

- Interstate commercial bus drivers with less than 6 months driving experience.
- Commercial bus drivers who are retired and not in active service.

3.5 Sample Size Determination

The minimum sample size for this study was determined using the sample size formula below

$$n = D\ \frac{Z_a^2 pq}{d^2}$$

Where

n = sample size

Z_a = z value at 95% confidence interval = 1.96

P = the proportion of the target population who have ever utilised HCT service which is 13.8% (Amoran et al, 2014)

P + q = 1, thus q = 1-p, therefore q = (100 – 13.8) % = 86.2%

d = precision set at 5% (limit of standard error)

D= design effect = 2

$$n = \frac{1.96 \times 1.96 \times 0.138 \times 0.862}{0.05 \times 0.05}$$

$$n = \frac{2\,(0.45698137)}{0.0025}$$

n = 2 (182.8)

n = 365.6

n = 366

Non Response Rate

n =1 / (1-NR)

= n x 1 / 1-10%

=366 x 1 /1.0.1

=366/0.9

=406.7

= 407

3.6 Sampling Technique

The study involved a cluster sampling technique. Each motor park in this study represented a cluster. A total number of 5 clusters were selected from the 12 clusters using simple random sampling technique. The 5 clusters selected for this study include: Akinyele LGA 1, Akinyele LGA 2, Oluyole LGA, Ibadan North LGA and Ibadan North East LGA. In each selected cluster, all consenting long distance commercial bus drivers available at the park during the visits, who met the eligibility criteria, were included in the study.

3.7 Instrument for Data Collection.

Data was collected using an interviewer's administered questionnaire with both closed and open-ended questions. The questionnaire comprises 85 questions divided into five sections; Section A: socio-demographic details of respondents (11 questions), Section B; awareness and knowledge of HIV transmission and Prevention (21 questions with 11 sub-questions), Section C; Sexual behavior of respondents (25 questions), Section D; Risk perception to HIV infection (4 questions) and Section E; Awareness and utilisation of HCT among respondents (18 questions) and attitude towards people living with HIV/AIDS (6 questions). The questionnaire was pre-tested among long distance commercial bus drivers in Osogbo using 10% (53) of the total sample size to ensure the questions met the specific objective.

3.8 Study Variables: The following variables were used to answer the study question:

Dependent/Outcome variable

- HCT utilisation

Independent/Exposure variables

- Socio-demographic factors: age, marital status, ethnicity, religion, educational level, driving experience, duration of trip, income per trip, number of nights spent outside station per trip.
- Behavioural factors: ever had sex, transactional sex, number of sexual partners, condom use, ever had STD, substance use.
- Cognitive factors: awareness and knowledge about HIV/AIDS transmission and prevention, risk perception to HIV infection, awareness and perceived benefits of HCT.
- Service related factors: distance to HCT centers

3.9 Data Collection Technique

Data was collected from respondents through an interviewer administered semi-structured questionnaire in July 2014. A total of 522 respondents participated in the study. All consenting long distance commercial bus drivers available at the park during the visits to each selected parks (Appendix 3) were interviewed on their socio-demographic characteristics, awareness and knowledge of HIV transmission and prevention, sexual behavior, risk perception to HIV infection , awareness and utilisation of HCT services. Four research assistants (with previous) experiences were recruited and trained prior to data collection. The principal investigator supervised the data collection.

3.10 Data Analysis and Management

Data was analysed using the statistical package for social sciences (SPSS) version 16. Results were presented in percentages, means, standard deviations and diagrams for quantitative variables.

Knowledge Score: Twenty-eight questions on the study instrument were used to assess respondents' knowledge about the routes of transmission and modes of prevention of HIV/AIDS.

One mark was awarded for every correct answer and 0 marks awarded for every wrong answer (Appendix 4). The total knowledge scores of each respondent were calculated at the end with scores ≤14 and >14 considered as poor and good knowledge respectively.

The bi-variate analysis, based on the chi-square statistics, served as a preliminary insight into the association/relationship between all selected independent variables and utilization of HCT (dependent variable) at a value of P <0.05 considered to be significant.

The chi-square findings which showed a significant association (p value <0.05) were further analyzed using a Logistic regression model to measure the strength of the association and to identify factors influencing HIV counselling and testing service utilisation among long distance commercial bus drivers. A P value of <0.05 was considered statistically significant.

3.11 Ethical Considerations

Ethical approval was obtained from the Oyo State Ethical Review Committee. Permission to undertake the study was obtained from key opinion leaders/chairmen from the transport unions (National Union of Road Transport Workers (NURTW) and Road Transport Employers Association of Nigeria (RTEAN)) of each selected motor park.

All participating respondents were provided with a clear purpose of the study. They were given the opportunity to decide on whether they want to participate or not. Each participant signed an informed consent form for the study. Anonymity and confidentiality was assured as no names of participants reflected on the questionnaires. Participants were informed of their right to withdraw from the study at any point without any consequences.

CHAPTER FOUR

RESULTS

4.1 Socio-demographic characteristics of respondents

A total of five hundred and twenty-two long distance commercial bus drivers were interviewed. Respondents were males with mean age of 42.82±10.06 years. Most (91.2%) of them are married with 37.5% having more than one wife. Three hundred and thirteen (60.0%) are Muslims and 81.8% belong to the Yoruba ethnic group. Two hundred and twenty nine (43.8%) had attained only primary education while 43.9% had at least secondary education (Table 4.1).

Table 4.1: Socio-demographic characteristics of respondents

Variables	Frequency (n=522)	Percentage (%)	Mean±SD
Age (years)			
<30	38	7.3	42.82±10.06
30-39	178	34.2	
40-49	161	30.8	
50-59	103	19.7	
≥60	42	8.0	
Marital status			
Single	32	6.2	
Married	476	91.2	
Widower	6	1.1	
Seperated	6	1.1	
Divorced	2	0.4	
If married, number of wives (n=476)			
1	298	62.5	1.53±0.89
≥2	178	37.5	
Religion			
Christian	203	38.9	
Islam	313	60.0	
Tradition	6	1.1	
Ethnicity			
Yoruba	427	81.8	
Igbo	49	9.4	
Hausa	27	5.2	
Others	19	3.6	
Highest level of education			
None	64	12.3	
Primary	229	43.8	
Secondary	194	37.2	
Tertiary	35	6.7	

Table 4.1: Socio-demographic characteristics of respondents

Variables	Frequency (n=522)	Percentage (%)	Mean±SD
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40-49	161	30.8	
50-59	103	19.7	
≥60	42	8.0	
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Single	32	6.2	
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Hausa	27	5.2	
Others	19	3.6	
Highest level of education			
None	64	12.3	
Primary	229	43.8	
Secondary	194	37.2	
Tertiary	35	6.7	

4.2: Work history of respondents

Thirty one (5.9%) of the respondents have <5 years driving experience. One hundred and eighty five (35.5%) earn ≤ 5000 naira as income per trip. Three hundred and ninety nine (76.5%) sleep more than one night outside station per trip ranging from 4 to 10 trips per month (Table 4.2)

Table 4.2: Work history of respondents

Variables	Frequency (n=522)	Percentage (%)	Median	IQR
Driving experience (Years)				
≤4	31	5.9	19.0	10 - 29
5-9	53	10.2		
10-14	91	17.4		
15-19	89	17.0		
20-24	75	14.4		
25-29	56	10.7		
30-34	65	12.5		
≥35	62	11.9		
Duration of Trip (hours)				
5-9	288	55.1	9.0	6 - 12
10-14	172	33.0		
15-19	21	4.0		
≥20	41	7.9		
Income per Trip (Naira)				
≤5000	185	35.5	10,000	5,000 -15,000
5001-10000	162	31.0		
>10000	175	33.5		
Number of nights slept outside station per trip				
1	123	23.6	3.0	2 - 4
2	131	25.1		
3	121	23.2		
≥4	147	28.2		
Number of trips made in a month				
1-3	100	19.2	6.0	4 - 10
4-6	204	39.1		
7-9	78	14.9		
≥10	140	26.8		

4.3. Awareness of HIV/AIDS and Knowledge of HIV transmission and prevention among respondents.

4.3.1 Respondents Awareness of HIV/AIDS and knowledge of HIV transmission routes.

Five hundred and eighteen (99.2%) of the respondents have heard of HIV/AIDS while 11.7% of them knew someone infected with or have died from HIV/AIDS. Thirty four (6.5%) of the respondents have a close relative or friend infected with or who have died from HIV/AIDS.

Four hundred and seventy four (90.8%) of the respondents knew HIV can be transmitted through unprotected sexual intercourse followed by using unsterilized sharp objects (89.3%). Low proportion (5.9%) knew HIV as Human immune-deficiency virus (Table 4.3.1).

Overall, 70.5% of the respondents had good knowledge of HIV/AIDS transmission routes (Table 4.3.3).

Table 4.3.1: Respondents awareness of HIV/AIDS and correct knowledge of HIV transmission routes

Variables (n=522)	Frequency	Percentage (%)
Proportion that have ever heard of HIV/AIDS	518	99.2
Proportion that knows someone infected with or died from HIV/AIDS	61	11.7
Proportion that have a close relative/friend infected with or died from HIV/AIDS	34	6.5
Proportion that knows the full meaning of HIV/AIDS	31	5.9
Proportion that reported that AIDS is incurable	110	21.1
Proportion that reported that it is possible for a healthy-looking person to have the AIDS virus.	267	51.1
Proportion that reported HIV could be transmitted through the following ways;		
Transfusion with infected blood	455	87.2
Sharing skin piercing or unsterilized sharp object	466	89.3
Having unprotected sex with an infected person	474	90.8
Injection of drugs with needles or syringes contaminated with HIV	463	88.7
from an infected mother to an unborn child	315	60.3
Proportion that reported HIV could NOT be transmitted through the following ways;		
Coughing and sneezing	278	53.3
Insect bite	231	44.3
Touching and Hugging	382	73.2
Kissing	242	46.4
By using the same toilet with infected person	309	59.2
By shaking hands	383	73.4
Eating together with an infected person	343	65.7
Living together in the same house with an infected person	342	65.5

4.3.2 Respondents correct knowledge of HIV prevention methods

Four hundred and thirty three (83.0%) of the respondents knew that avoiding sharing of sharps objects was a way of preventing HIV infection followed by avoiding unprotected sexual intercourse with a CSW (65.3%). Only ninety (17.2%) of the respondents knew that praying to God does not prevent infection with HIV/AIDS (Table 4.3.2). Overall, 39.1% of the respondents had good knowledge of HIV prevention methods (Table 4.3.3).

Table 4.3.2 Respondents correct knowledge of HIV prevention methods.

Variables	Respondents with correct response	Percentage (%)
What can a person do to avoid being infected with HIV (n=522)		
Proportion that reported staying with one faithful partner	331	63.4
Proportion that reported using condom always	330	63.2
Proportion that reported abstaining from sex	237	45.4
Proportion that reported delay in onset of sexual intercourse	228	43.7
Proportion that reported avoiding sex with a CSW	341	65.3
Proportion that reported avoiding sharing of sharp objects	433	83.0
Proportion that reported the following ways DOES NOT PREVENT infection with HIV		
Reducing the number of sexual partners	126	24.1
Praying to God	90	17.2
Going for check up	103	19.7
Using antibiotics	175	33.5
Seeking protection from traditional healer	280	53.6
Proportion that reported a person can find out if he/she has HIV/AIDS by going for counselling and testing?	284	54.4

On the total knowledge score of HIV transmission and prevention, 64.2% had good knowledge, with mean knowledge score of 15.42±5.27 (Table 4.3.3)

Table 4.3.3 Total knowledge scores of HIV transmission and Prevention among respondents.

Total knowledge score	Frequency (n=522)	Percentage (%)	Mean±SD
Knowledge score for HIV transmission (16)			
Good (>8/16)	368	70.5	
Poor (≤8/16)	154	29.5	9.75±3.74
Knowledge score for HIV prevention methods (12)			
Good (>6/12)	204	39.1	
Poor (≤6/12)	318	60.9	5.67±2.54
Knowledge score for HIV transmission and prevention(28)			
Good (>14/28)	335	64.2	
Poor (≤14/28)	187	35.8	15.42±5.27

4.4.1 Sexual behaviours of respondents

Five hundred and twenty one (99.8%) of the respondents have ever had sex with mean age of first sex 18.46±4.29 years. Four hundred and ninety two (94.4%) had more than one life time sexual partner of which 94.0% were their spouses/live-in partner followed by girl friends (86.2%). Two hundred and twelve (40.7%) had sex with more than one partner in the last 6 months of which 33.2% were non-spousal partners. Among the non-spousal partners with whom the respondents had sex with in the last 6 months, 90.2% were their regular girl friends followed by casual friend (27.0%). Eighty (46.0%) of the respondents did not use condom during their last sexual intercourse with a non-spousal partner and 31.6% reported never using condom with non spousal partner in the last 6 months during sex (Table 4.4.1).

Table 4.4.1: Sexual behaviours of respondents

Variables	Frequency	Percentage (%)	Mean±SD
Ever had sex (n=522)			
Yes	521	99.8	
No	1	0.2	
Age at first sex (in years) (n=521)			
10-15	161	30.9	18.46±4.29
16-20	235	45.1	
>20	125	24.0	
Number of Lifetime sexual partners (n=521)			
1	29	5.6	9.4
>1	492	94.4	
*** Partners ever had sex with in life time (n=521)**			
Commercial sex workers	183	35.1	
Casual friend	222	42.6	
Regular girl friend	449	86.2	
Spouse/Live-in partner	490	94.4	
Had sex with more than one partner in the last 6 months (n=521)			
Yes	212	40.7	
No	309	59.3	
Had sex with non-spousal/live-in partner in the last 6 months (n=521)			
Yes	174	33.4	
No	347	66.6	
Sex with non-spousal/live-in partner in the last 6 months by marital status(n=174)			
Single	15	8.6	
Married	152	87.4	
Widower/separated/divorced	7	4	
*** Type of non- spousal/live-in partner had sex with in the last 6 months (n=174)**			
CSW	36	20.7	
Casual friend	47	27.0	
Regular girl friend	157	90.2	
Used condom during last sexual intercourse with non- spousal partner (n=174)			
Yes	94	54.0	
No	80	46.0	
How often condom was used when having sex with a non-spousal partner in the last 6 months (n=174)			
Always	66	37.9	
Sometimes	53	30.5	
Never	55	31.6	

***Multiple responses allowed.**

4.4.2 Exposure to commercial sex workers (CSW) among the respondents

More than a third (35.1%) of the respondents have had sexual intercourse with a CSW. Thirty six (19.7%) had patronised CSWs within the last 6months. Nine (25%) did not use condom during last sexual intercourse with a CSW and 66.7% always used condom during sexual intercourse with CSWs in the last 6months (Table 4.4.2).

Table 4.4.2: Exposure to commercial sex workers (CSW) among the respondents

Variables	Frequency (n=521)	Percentage (%)	Mean±SD
Ever had sex with a commercial sex worker			
Yes	183	35.1	
No	338	64.9	
When did you have your last sexual intercourse with a commercial sex worker (n=183) (months)			
≤6	36	19.7	
>6	147	80.3	
Condom use during sexual intercourse with a CSW in the last 6 months (n=36)			
Yes	27	75.0	
No	9	25.0	
How often condom was used in the last 6 months when having sex with CSW (N=36)			
Always	24	66.7	
Sometimes	3	8.3	
Never	9	25.0	

Table 4.4.2: Exposure to commercial sex workers (CSW) among the respondents

Variables	Frequency (n=521)	Percentage (%)	Mean±SD
Ever had sex with a commercial sex worker			
Yes	183	35.1	
No	338	64.9	
When did you have your last sexual intercourse with a commercial sex worker (n=183) (months)			
≤6	36	19.7	
>6	147	80.3	
Condom use during sexual intercourse with a CSW in the last 6 months (n=36)			
Yes	27	75.0	
No	9	25.0	
How often condom was used in the last 6 months when having sex with CSW (N=36)			
Always	24	66.7	
Sometimes	3	8.3	
Never	9	25.0	

4.4.3 Last Sexual experience of respondents

Two hundred and sixty eight (51.4%) of the respondents had their last sexual intercourse less than 5 days to the study and 79.3% reported their spouse/live- in partner as last sexual partner. Five hundred and fourteen (98.7%) reported vaginal sex as the type of intercourse had followed by oral sex (9.8%). Four hundred and thirty two (82.9%) did not use condom during their last sexual intercourse. Among reasons for non-usage of condom, 72.9% reported "she is my wife and she is faithful" followed by "there is no pleasure having sex with condom" (21.3%). The reasons given for condom use are "To avoid unwanted pregnancy'' (36.0%), "for protection against sexually transmitted infection'' (49.5%), " she is not my spouse so I don't trust her" (6.7%), "Just felt like using it" (3.4%) . (Table 4.4.3)

Table 4.4.3: Last Sexual experience of respondents

	Frequency (n=521)	Percentage (%)
When the last sexual intercourse happened (n=521)		
Less than 24 hours	60	11.5
1-5days	208	39.9
>5days	253	48.6
Partners had last sexual intercourse with (n=521)		
Spouse/Live in partner	413	79.3
Casual friend	12	2.3
Regular girlfriend	81	15.5
CSW	15	2.9
***Type of sexual intercourse had (n=521)**		
Oral	51	9.8
Anal	44	8.4
Vaginal	514	98.7
Used condom at last sexual intercourse (n=521)		
Yes	89	17.1
No	432	82.9
Reasons for condom use at last sexual Intercourse (n=89)		
To avoid unwanted pregnancy	32	36.0
For protection against sexually transmitted infection	44	49.5
She is not my spouse so I don't trust her	6	6.7
Just felt like using it	3	3.4
Partner requested for it	2	2.2
Partner was menstruating	2	2.2
Reasons for not using condom (n=432)		
Because she is my wife/She is a faithful wife	315	72.9
Don't like using it when having sex/there is no pleasure	92	21.3
Because I want children	8	1.9
I have never seen it and don't know how to use it	13	3.0
Have done family planning	4	0.9

*** Multiple responses allowed**

4.5 Experience of STD and intake of psychoactive substance among the respondents

More than a third (37.2%) had ever had sexually transmitted diseases (STD) with almost a quarter (24.0%) having them in the last 1 year. Three hundred and fifty three (67.6%) had ever taken alcohol. Seventy three (14%) reported that either partner took alcohol during last sexual intercourse. About 34.9% had ever smoked. The substances reported to have ever been smoked include; Cigarette (88.5%), Weed (21.9%) and Indian hemp (2.7%) (Table 4.5).

Table 4.5 Experience of STD and intake of psychoactive substances among the respondents

Variables	Frequency	Percentage (%)	Mean±SD
Ever had STD(n =521)			
Yes	194	37.2	
No	307	59.0	
Don't know	20	3.8	
Last time had STD in years (n=194)			
≤1	30	15.0	15.3±11.1
2-10	55	28.5	
11-20	60	31.1	
>20	49	25.4	
Takes alcohol			
Yes	353	67.6	
No	169	32.4	
Alcohol intake by either partner during last sex (n =521)			
Yes	73	14.0	
No	448	86.0	
Ever smoked			
Yes	182	34.9	
No	340	65.1	
***Substance smoked (n=182)**			
Cigarette	161	88.5	
Weed	40	21.9	
Indian hemp	5	2.7	
Others(Jedi)	13	7.1	

*Multiple responses allowed

Table 4.5 Experience of STD and intake of psychoactive substances among the respondents

Variables	Frequency	Percentage (%)	Mean±SD
Ever had STD(n =521)			
Yes	194	37.2	
No	307	59.0	
Don't know	20	3.8	
Last time had STD in years (n=194)			
≤1	30	15.0	15.3±11.1
2-10	55	28.5	
11-20	60	31.1	
>20	49	25.4	
Takes alcohol			
Yes	353	67.6	
No	169	32.4	
Alcohol intake by either partner during last sex (n =521)			
Yes	73	14.0	
No	448	86.0	
Ever smoked			
Yes	182	34.9	
No	340	65.1	
***Substance smoked (n=182)**			
Cigarette	161	88.5	
Weed	40	21.9	
Indian hemp	5	2.7	
Others(Jedi)	13	7.1	

*Multiple responses allowed

4.6 HIV risk perception among respondents

Four hundred and seventy six (91.2%) reported that they cannot be infected with HIV. Reasons for not being at risk include: I trust my sexual partner/partners (76.5 %), I have only one faithful partner(53.7%), HIV is a spiritual attack/it can never be my portion(53.5%). Of the proportion (8.8%) who reported they can be infected with HIV 45.7% rated their chances of being infected as low (Table 4.6).

Table 4.6: HIV risk perception among respondents

	Frequency (n=522)	Percentage (%)
Think you can be infected with HIV		
Yes	46	8.8
No	476	91.2
Chances of been infected with HIV (n=46)		
High	6	13.0
Moderate	19	41.3
Low	21	45.7
***Reasons respondents think they cannot be infected with HIV n=476**		
I have never had sexual intercourse	1	0.2
I have only one faithful sexual partner	240	53.7
I trust my sexual partner/partners	342	76.5
I seek protection from traditional healer	232	51.9
HIV is a spiritual attack/It can never be my portion	239	53.5
I use condom always during casual sex	34	7.6
HIV does not exist/it is a lie	10	2.2
I do not go to prostitutes	39	8.7
***Reasons respondents think they can be infected with HIV n=46**		
Anybody can be infected with HIV	8	17.4
I have had sex with multiple partners without condom	12	26.1
I have had sex with a commercial sex worker in the past	11	23.9
I have shared sharp objects in the past	21	45.7
Others	6	13.0

***Multiple responses allowed**

4.7. Awareness and Utilisation of HIV Counselling and Testing (HCT) Services

4.7.1 Awareness of HIV Counselling and Testing services among respondents.

Five hundred (95.8%) respondents have ever heard of HCT or VCT while only 1.4% of them knew the meaning of HCT. About 84.8% agreed HCT has benefits. While 59.1% perceived HCT as a safe way to know ones HIV status, 51.9% perceived it as an entry point for prevention, care and support. Three hundred and fourty three (65.7%) respondents were aware of a facility offering HCT services. The types of facilities offering HCT reported by the respondents includes Government hospital (89.8%) followed by the private hospital (27.1%). About 43.4% of the respondents reported that the distance of the closest facility to their house is greater than 5km (Table 4.7.1).

Table 4.7.1: Awareness of HIV Counselling and Testing (HCT) Services

Variables	Frequency	Percentage (%)	Mean±SD
Ever heard of HCT or VCT			
Yes	500	95.8	
No	22	4.2	
Knew the meaning of HCT (n=500)			
Yes	7	1.4	
No	493	98.6	
Agreed that HCT is beneficial			
Yes	424	84.8	
No	52	10.4	
Don't know	24	4.8	
***Perceived benefits of HCT (n=424)**			
Provide entry point for prevention, care and support	220	51.9	
Promotes safe sexual behavior	62	14.7	
Easy way to know your HIV status	250	59.1	
Breaks the vicious circle of stigma	10	2.4	
Allows those infected to seek long term care and support services	36	8.5	
Allows early treatment of opportunistic infections	64	15.1	
Others	4	0.9	
Aware of facility offering HCT			
Yes	343	65.7	
No	179	34.3	
***Type of facilities offering HCT known (n=343)**			
Private hospital	93	27.1	
NGO	13	3.8	
Government hospital	308	89.8	
Others	4	1.2	
Distance of the closest facility to the house (Km) n=343			
≤5	194	56.6	13.9±43.4
6-10	61	17.7	
>10	88	25.7	

*Multiple responses allowed

Majority [352/500(70.4%)] of the respondents had heard of HCT/VCT from the mass media followed by the public enlightment campaign system 194/500 (38.8%) (Figure 4.1)

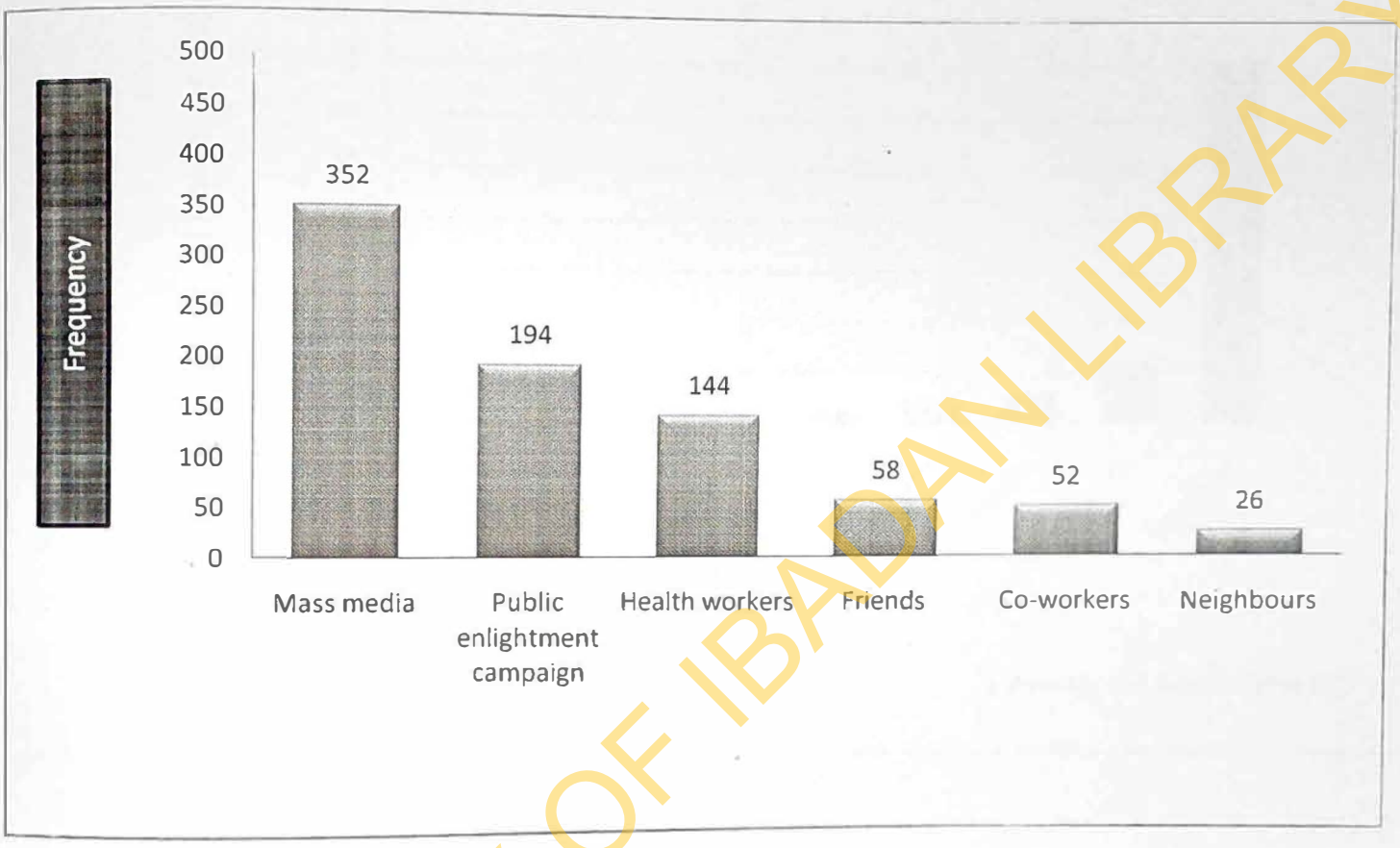

Figure 4.1 Sources of information about HCT/VCT among respondents

Majority (72.0%) of the respondents reported that everyone should benefit from HCT

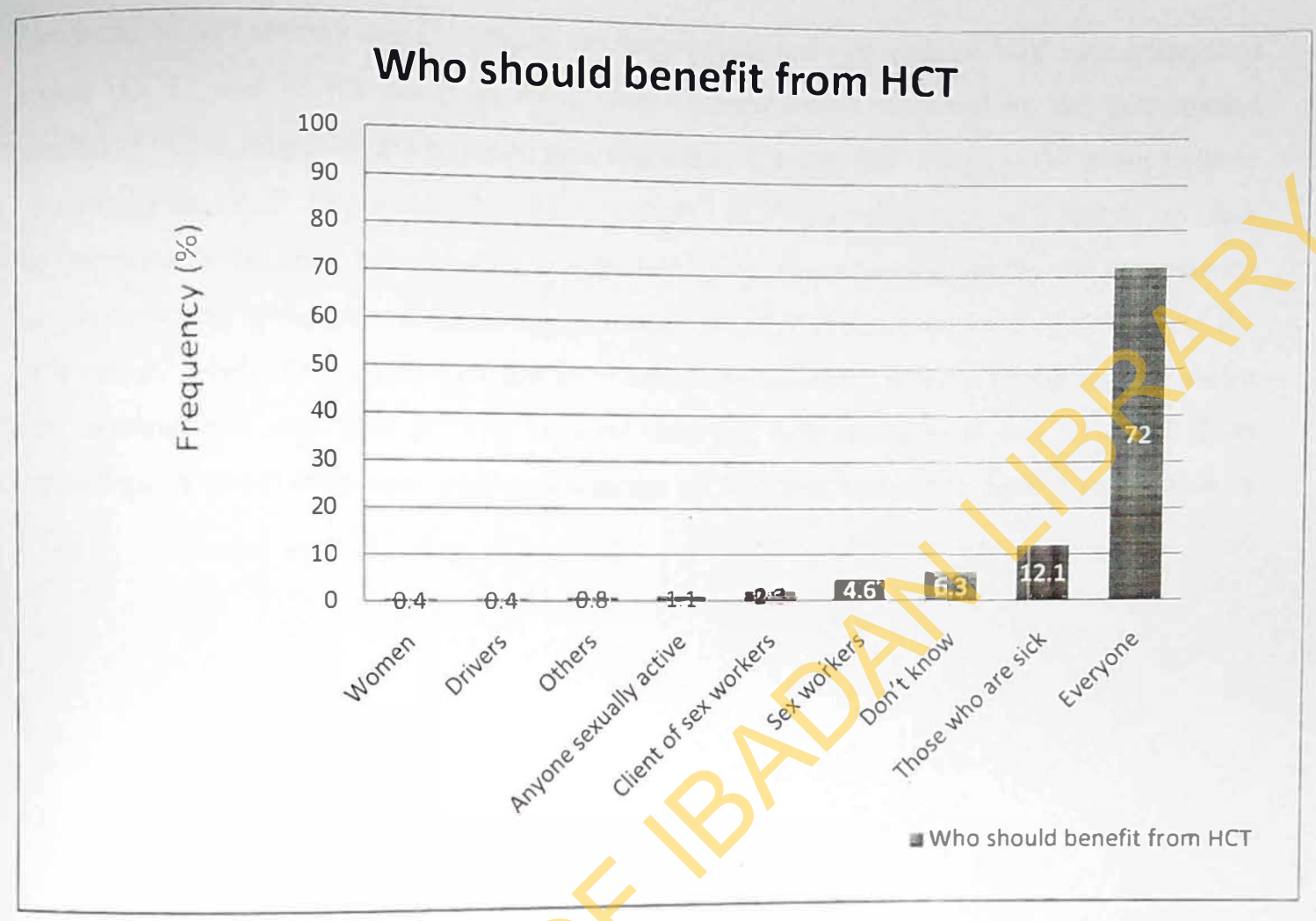

Figure 4.2 Who should benefit from HCT.

4.7.2 Utilisation of HCT services among the respondents

Two hundred and seventy one (51.9%) of the respondents had ever utilised HIV counselling and testing (HCT) and 45.7% did it in the mobile clinic/outreach followed by the government hospital (37.0%). About 49.8% reported personal desire to know their status as the major reasons for undergoing HCT. Two hundred and fourty three (89.7%) reported they will like to go back for re-testing at the same location they did the last HCT. The reasons given by the respondents for not re-testing at the same location were distance to (39.3%) and time wasting (39.3%) at the HCT center. About 42.1% had their last HIV test in the last three months preceding the study. Two hundred and sixty five (97.8%) reported they got their result as at last HIV test. Four hundred and two (77.0%) were willing to undergo HCT if they had never done it before (Table 4.7.2).

Table 4.7.2: Utilisation of HCT among the respondents

	Frequency (522)	Percentage (%)	Mean±SD
Ever done HCT			
Yes	271	51.9	
No	251	48.1	
Where the last HCT was done (n=271)			
Government Hospital	100	37.0	
Private hospital	44	16.3	
Non-Governmental organization	3	1.1	
Mobile clinic/outreach	124	45.7	
*** Reasons for going for HCT (N=271)**			
Personal desire to know status	135	49.8	
Others were doing it, so I did it too	92	33.9	
Was sick	24	8.9	
Required for visa/work	9	3.3	
Blood donation	13	4.8	
Pre-marital	4	1.5	
Others	8	3.0	
Will you go back for re-testing at the same location (n=271)			
Yes	243	89.7	
No	28	10.3	
*** Reasons for not re-testing at the same location (n=28)**			
Lack of confidentiality	1	3.6	
It's too far away	11	39.3	
Too much time is wasted there	11	39.3	
Others	9	17.8	
Last time HIV test was done in months (n=271)			
≤3	114	42.1	16.1±30.8
4-6	41	15.1	
7-9	23	8.5	
10-12	24	8.9	
>12	69	25.1	
Did you get your result (n=271)			
Yes	265	97.8	
No	6	2.2	
Like to undergo HCT even if never done before (n=522)			
Yes	402	77.0	
No	88	16.9	
Don't know	32	6.1	

*** Multiple responses allowed**

4.8 Associations between socio-demographic characteristics, work history and ever done HCT among the respondents

Among the associations between socio-demographic characteristics, work history of respondents and ever done HCT, highest level of education was statistically significant. Majority (71.4%) of those with tertiary education had ever done HCT compared to those that had secondary (56.2%), primary (47.6%) and no formal education (43.8%), p=0.017 (Table 4.8).

Table 4.8: Associations between socio-demographic characteristics, work history and ever done HCT among the respondents

	Ever done HCT		Total	Chi-square	P-value
	Yes n (%)	No n (%)			
Age (years)					
<30	18(47.4)	20(52.6)	38	6.73	0.151
30-39	96(53.9)	82(46.1)	178		
40-49	74(46.0)	87(54.0)	161		
50-59	63(61.2)	40(38.8)	103		
≥60	20(47.6)	22(52.4)	42		
Marital status					
Single	15(46.9)	17(53.1)	32	1.18	0.553
Married	247(51.9)	229(48.1)	476		
Widowed/divorced/separated	9(64.3)	5(35.7)	14		
Religion					
Christian	114 (56.2)	89 (43.8)	203	3.14	0.208
Muslim	153 (48.9)	160 (51.1)	313		
Tradition	4 (66.7)	2 (33.3)	6		
Ethnicity					
Yoruba	218 (51.1)	209 (8.9)	427	8.34	**0.039**
Igbo	32 (65.3)	17 (34.7)	49		
Hausa	9 (33.3)	18 (66.7)	27		
Others	12 (63.2)	7 (36.8)	19		
Highest level of education					
None	28 (43.8)	36 (56.2)	64	10.18	**0.017**
Primary	109 (47.6)	120 (52.4)	229		
Secondary	109 (56.2)	85 (43.8)	194		
Tertiary	25(71.4)	10(28.6)	35		
Driving experience					
0-9	46(54.8)	38(45.2)	84	0.57	0.904
10-19	95(52.8)	85(47.2)	180		
20-29	66(50.4)	65(49.6)	131		
≥30	64(50.4)	63(49.6)	127		
Duration of trip(hours)					
5-9	153 (53.1)	135 (46.9)	288	2.81	0.245
10-14	92(53.5)	80(46.5)	172		
≥15	26(41.9)	36(58.1)	62		
Income per trip					
≤10000	180 (51.9)	167 (48.1)	347	0.00	0.978
>10000	91 (52.0)	84 (48.0)	175		
Number of Nights slept outside station per trip					
≤2	106 (41.7)	148 (58.3)	254	0.62	0.431
>2	121 (45.1)	147 (54.9)	268		

Table 4.8: Associations between socio-demographic characteristics, work history and ever done HCT among the respondents

	Ever done HCT		Total	Chi-square	P-value
	Yes n (%)	No n (%)			
Age (years)					
<30	18(47.4)	20(52.6)	38	6.73	0.151
30-39	96(53.9)	82(46.1)	178		
40-49	74(46.0)	87(54.0)	161		
50-59	63(61.2)	40(38.8)	103		
≥60	20(47.6)	22(52.4)	42		
Marital status					
Single	15(46.9)	17(53.1)	32	1.18	0.553
Married	247(51.9)	229(48.1)	476		
Widowed/divorced/separated	9(64.3)	5(35.7)	14		
Religion					
Christian	114 (56.2)	89 (43.8)	203	3.14	0.208
Muslim	153 (48.9)	160 (51.1)	313		
Tradition	4 (66.7)	2 (33.3)	6		
Ethnicity					
Yoruba	218 (51.1)	209 (8.9)	427	8.34	**0.039**
Igbo	32 (65.3)	17 (34.7)	49		
Hausa	9 (33.3)	18 (66.7)	27		
Others	12 (63.2)	7 (36.8)	19		
Highest level of education					
None	28 (43.8)	36 (56.2)	64	10.18	**0.017**
Primary	109 (47.6)	120 (52.4)	229		
Secondary	109 (56.2)	85 (43.8)	194		
Tertiary	25(71.4)	10(28.6)	35		
Driving experience					
0-9	46(54.8)	38(45.2)	84	0.57	0.904
10-19	95(52.8)	85(47.2)	180		
20-29	66(50.4)	65(49.6)	131		
≥30	64(50.4)	63(49.6)	127		
Duration of trip(hours)					
5-9	153 (53.1)	135 (46.9)	288	2.81	0.245
10-14	92(53.5)	80(46.5)	172		
≥15	26(41.9)	36(58.1)	62		
Income per trip					
≤10000	180 (51.9)	167 (48.1)	347	0.00	0.978
>10000	91 (52.0)	84 (48.0)	175		
Number of Nights slept outside station per trip					
≤2	106 (41.7)	148 (58.3)	254	0.62	0.431
>2	121 (45.1)	147 (54.9)	268		

4.9Associations between awareness of HIV/AIDS, knowledge of HIV transmission and prevention, HIV risk perception and ever done HCT among the respondents

Among the associations between awareness of HIV/AIDS, knowledge of HIV transmission and prevention, HIV risk perception and ever done HCT among the respondents, Knowledge of HIV transmission and prevention was statistically significant. More than half (59.4%) of those with good knowledge of HIV transmission and prevention had ever done HCT compared to those with poor knowledge (38.5%), $p<0.001$ (Table 4.9).

Table 4.9: Associations between awareness of HIV/AIDS, knowledge of HIV transmission and prevention, HIV risk perception and ever done HCT among the respondents.

	Ever done HCT		Total	Chi-square	P-value
	Yes n (%)	No n (%)			
Ever heard of HIV/AIDS					
Yes	270 (52.1)	248 (47.9)	518	**0.355	
No	1 (25.0)	3 (75.0)	4		
Knows someone infected with HIV					
Yes	34 (55.7)	27 (44.3)	61	0.40	0.525
No	237 (51.4)	224 (48.6)	461		
Has a close friend/family member infected with HIV					
Yes	21 (61.8)	13 (38.2)	34	1.41	0.235
No	250 (51.2)	238 (48.8)	488		
Knowledge of HIV transmission and prevention					
Good	199 (59.4)	136 (40.6)	335	21.00	**<0.001**
Poor	72 (38.5)	115 (61.5)	187		
Do you think you can be infected with HIV					
Yes	20(43.5)	26(56.5)	46	1.44	0.230
No	251(52.7)	225(47.3)	476		

**Fishers exact test

Table 4.9: Associations between awareness of HIV/AIDS, knowledge of HIV transmission and prevention, HIV risk perception and ever done HCT among the respondents.

	Ever done HCT		Total	Chi-square	P-value
	Yes n (%)	No n (%)			
Ever heard of HIV/AIDS					
Yes	270 (52.1)	248 (47.9)	518	**0.355	
No	1 (25.0)	3 (75.0)	4		
Knows someone infected with HIV					
Yes	34 (55.7)	27 (44.3)	61	0.40	0.525
No	237 (51.4)	224 (48.6)	461		
Has a close friend/family member infected with HIV					
Yes	21 (61.8)	13 (38.2)	34	1.41	0.235
No	250 (51.2)	238 (48.8)	488		
Knowledge of HIV transmission and prevention					
Good	199 (59.4)	136 (40.6)	335	21.00	**<0.001**
Poor	72 (38.5)	115 (61.5)	187		
Do you think you can be infected with HIV					
Yes	20(43.5)	26(56.5)	46	1.44	0.230
No	251(52.7)	225(47.3)	476		

**Fishers exact test

4.10 Associations between sexual behaviour of respondents and ever done HCT

Among the associations between sexual experience of respondents and ever done HCT, none was statistically significant. Higher proportion (52.4%) of those with >1 sexual partners had ever done HCT compared to those with one sexual partner (44.8%), p=0.425 (Table 4.10).

Table 4.10: Associations between sexual behaviour of respondents and ever done HCT

	Ever done HCT		Total	Chi-square	P-value
	Yes n (%)	No n(%)			
Ever had sex					
Yes	271(52.0)	250(48.0)	521	**0.481	
No	0(0)	1(100)	1		
Age at first sex in years					
≤15	83(51.6)	78(48.4)	161	0.020	0.888
>15	188 (52.2)	172 (47.8)	360		
Number of lifetime sexual partners					
1	13 (44.8)	16 (55.2)	29	0.64	0.425
>1	258 (52.4)	234 (47.6)	492		
Ever had sex with a CSW					
Yes	93 (50.8)	90 (49.2)	183	0.16	0.688
No	178 (52.7)	160 (47.3)	338		
Sex with more than 1 partner in the last 6 months					
Yes	108(50.9)	104(49.1)	212	0.17	0.685
No	163(52.8)	146(47.2)	309		
Sex with non-spousal partner in the last 6 months					
Yes	84(48.3)	90(51.7)	174	1.39	0.239
No	187(53.7)	160(46.3)	347		
Time of last had sexual intercourse(days)					
<24 hours	28 (46.7)	32 (53.3)	60	0.78	0.676
1-5 days	110 (52.9)	98 (47.1)	208		
>5 days	133 (52.0)	120 (47.4)	253		
Partners had last sexual intercourse with					
Spouse/Live in partner	222 (53.8)	191 (46.2)	413		
Casual friend	8 (66.7)	4 (33.3)	12	6.70	0.082
Regular girlfriend	37 (45.7)	44 (54.3)	81		
CSW	4 (26.7)	11 (73.3)	15		
Condom use at last sexual intercourse					
Yes	43 (48.3)	46 (51.7)	89	0.59	0.443
No	228 (52.8)	204 (47.2)	432		

**Fishers exact test

4.11 Association between experience of STD, intake of psychoactive substance among the respondents and ever done HCT

Among the association between experience of STD and psychoactive substance intake among the respondents and ever done HCT, ever had STD was statistically significant. A higher proportion (60.3%) of those that have ever had STD compared to those that never had (47.0%) had ever done HCT, p=0.003 (Table 4.11).

4.11 Association between experience of STD and psychoactive substance intake among the respondents and ever done HCT

	Ever done HCT		Total	Chi-square	P-value
	Yes	No			
Ever had STD					
Yes	117 (60.3)	77 (39.7)	194	8.71	**0.003**
No	154 (47.0)	174 (53.0)	328		
Takes alcohol					
Yes	183 (51.8)	170 (48.2)	353	0.00	0.961
No	88 (52.1)	81 (47.9)	169		
Either partner took alcohol during last sexual Intercourse					
Yes	43(58.9)	30(41.1)	73	1.66	0.198
No	228(50.8)	220(49.2)	448		
Ever Smoked					
Yes	84 (46.2)	98 (53.8)	182	3.72	0.054
No	187 (55.0)	153 (45.0)	340		

4.12 Associations between awareness of HCT services and ever done HCT among respondents.

Among the associations between awareness of HCT services, and ever done HCT; Awareness of HCT services, its importance and facilities offering HCT were statistically significant. A higher proportion (54.2%) of those that have ever heard of HCT services had ever done HCT compared to those that have not heard (0.0%), p=<0.001. A higher proportion (63.0%) of those that knows the importance of HCT had ever done HCT compared to those that were not aware (5.3%), p=<0.001. A higher proportion (69.1%) of those that knew facilities offering HCT had ever done HCT compared to those that did not know (19.0%), p= <0.001 (Table 4.12).

Table 4.12: Associations between awareness of HCT services and ever done HCT

	Ever done HCT		Total	Chi-square	P-value
	Yes n(%)	No n (%)			
Ever heard of HCT service					
Yes	271 (54.2)	229 (45.8)	500	24.80	**<0.001**
No	0 (0.0)	22 (100.0)	22		
Knows that HCT is beneficial					
Yes	267 (63.0)	157 (37.0)	424	86.46	**<0.001**
No	4 (5.3)	72 (94.7)	76		
Aware of facility offering HCT					
Yes	237 (69.1)	106 (30.9)	343	118.30	**<0.001**
No	34 (19.0)	145 (81.0)	179		
Distance of closest Facility offering HCT					
≤5km	134(69.1)	60(30.9)	194	0.00	0.991
>5km	103(69.1)	46(30.9)	149		

4.13 Logistic regression analysis between several variables and ever done HCT and among the respondents.

The main significant predictors of utilisation of HCT among the respondent were; Highest level of education; Knowledge of HIV transmission and prevention; ever had STD, awareness of facility offering HCT and perceived benefits of HCT. Respondents with tertiary education were about 3 times more likely to have ever done HCT compared to those that had no formal education (OR=3.2, 95% CI=1.3-7.8). Those with good knowledge of HIV/AIDS transmission and prevention were 2 times more likely to have ever done HCT compared to those with poor knowledge (OR=2.3, 95% CI=1.6-3.3). Those who have ever had an STD were more likely to have ever used HCT than those who have not had an STD (OR=1.7, 95% CI=1.2-2.5). Those who agreed HCT was beneficial were 21 times more likely to have ever done HCT compared to those who did not agree (OR=21.7, 95%CI = 7.5-62.3). Those that were aware of a facility offering HCT were 9 times more likely to have ever done HCT compared to those that were not aware (OR=9.5, 95% CI=6.2-14.8) (Table 4.13).

Table 4.13: Logistic regression analysis between several variables and ever done HCT among the respondents

Variables	Odd ratio	95% Confidence interval Lower	Upper	P-value
Ethnicity				
Yoruba	2.1	0.9	4.7	0.080
Igbo	3.8	1.4	10.2	0.009
Others	3.4	1.0	11.7	0.049
* Hausa				
Highest level of education				
Primary	1.2	0.7	2.0	0.586
Secondary	1.7	0.9	2.9	0.085
Tertiary	3.2	1.3	7.8	**0.010**
* None				
Ever heard of HIV/AIDS				
Yes	3.3	0.3	31.6	0.307
* No				
Ever heard of HCT/VCT services				
Yes	1.2	0.9	1.4	0.061
*No				
Knowledge of HIV transmission and prevention				
Good	2.3	1.6	3.3	**<0.001**
* Poor				
Ever Had an STD				
Yes	1.7	1.2	2.5	**0.003**
*No				
Knows HCT has benefits				
Yes	21.7	7.5	62.3	**<0.001**
*No				
Aware of facility offering HCT				
Yes	9.5	6.2	14.8	**<0.001**
* No				

* Reference group

CHAPTER FIVE

DISCUSSION

5.1 Socio-demographic characteristics of respondents.

All respondents in the study were males with age range 20-65 years and mean age of 42.8±10.1 years. Higher proportions (34.1%) of the respondent fall within the age bracket of 30-39 years. This age bracket has been associated with high level of sexual activities (Arulogun et al, 2011). This group constitute the work force which if affected could lead to massive economic problems. Aniebue and Aniebue, (2011) in their study among long distance truck drivers in Enugu, Nigeria, reported similar results in which majority (42.6%) of the respondents were between 30-39 years of age. Similarly, Arulogun et al (2011) reported higher proportions (41.2%) of the respondents within 31-40 years.

The respondents were predominantly Yorubas (81.8%), this finding is not surprising in view of the fact that the community is a Yoruba community. Majority of our respondents (60.0%) were Muslims. This is also in tune with the predominant religion in the study community. About 43.8% and 6.7% of the respondents had attained only primary and tertiary education respectively. Similar comparable figures have been recorded in previous studies. Aniebue and Aniebue (2011) reported 48.7% and 11.7% of the truckers in Enugu to have attained only primary an tertiary education respectively. Olugbenga –Bello et al (2007) in their study among intercity commercial bus drivers in Ilorin recorded that majority (38.9%) of the drivers had attained only primary education while 8.2% had attained tertiary education. Arologun et al (2011) also reported that 40.3% of the truckers in Ibadan had attained only primary education. Most (91.2%) of the respondents were married with 37.5% having more than one wife. Similarly Arulogun et al (2011), reports that most (75.1%) of the truck drivers in Ibadan were married with 31.4% having more than one wife.

5.2 Awareness and knowledge of HIV transmission and prevention.

The findings of this study revealed that majority (99.2%) of the respondents were aware of HIV/AIDS. The high level of awareness of HIV/AIDS in this study was corroborated by a study by Odeyemi and Osibogun, (2003) done in Lagos, Nigeria among drivers and conductors, in which 97.2% of the respondents had heard of HIV infection. Similarly the NDHS 2013 survey

reports that overall 96% of men have heard of AIDS while in Oyo, 93.7% of men had heard of HIV/AIDS. Aniebue and Aniebue (2011) also reported that 94.9 % of truckers in Enugu, Nigeria had heard of HIV/AIDS. Also a study among men in Ethiopia reported that a great proportion of the study participants (96%) had heard of HIV/AIDS (Tsefaye et al, 2012).

Accurate knowledge regarding possible routes of transmission is not only critical for decreasing infection rate, it is also important to dispel persistent myths and partial knowledge can further perpetuate the risk of infection (Babakian et al., 2004). Overall, Knowledge about HIV/AIDS transmission and prevention was "moderately high" in this study as 64.2% of the respondents had good knowledge. The good knowledge of HIV/AIDS in this study was corroborated by a study done by Odeyemi and Osibogun (2003) in lagos, Nigeria where 65.3% of the respondents had good knowledge of HIV/AIDS and can differentiate between HIV and AIDS.

However, as in the findings from a study in Nigeria by Iliyasu et al (2006) and another in Ethiopia (Alemu et al, 2004), the present study indicated substantial misconceptions about modes of HIV transmission as most of the respondents believed HIV can be transmitted through Kissing (53.6%), insect bites (55.7%) and coughing and sneezing (46.7%), despite the good level of knowledge about transmission routes. Similarly Olugbenga-Bello et al (2007) in his study among the intercity commercial drivers in Ilorin reported that though the level of knowledge about HIV/AIDS among the study population seems to be high, there are still misconceptions and misinformation about the disease. In his study, 81.4% of the drivers believed HIV could be transmitted through insect bite. A lower percentage of respondents were observed in Lagos where only 17.2% had such misconceptions (Odeyemi and Osibogun, 2003). Inappropriate knowledge and misconceptions could hamper preventive efforts for the control of HIV/AIDS especially behavioral change by diverting attention to these other perceived though false causes. These misconceptions need to be corrected as it could determine respondents' attitudes to people living with HIV/AIDS (PLWHA), their acceptance and interaction with this group of people as well as their care for PLWHA. Efforts at addressing these misconceptions using the media and other sources of information need to be instituted.

Other studies however reports that high awareness of HIV/AIDS amongst drivers does not imply they always have the necessary knowledge of transmission routes and prevention methods. For instance, work done in a Burkina Faso, nearly all (96%) road transport workers of high-risk

reports that overall 96% of men have heard of AIDS while in Oyo, 93.7% of men had heard of HIV/AIDS. Aniebue and Aniebue (2011) also reported that 94.9 % of truckers in Enugu, Nigeria had heard of HIV/AIDS. Also a study among men in Ethiopia reported that a great proportion of the study participants (96%) had heard of HIV/AIDS (Tsefaye et al, 2012).

Accurate knowledge regarding possible routes of transmission is not only critical for decreasing infection rate, it is also important to dispel persistent myths and partial knowledge can further perpetuate the risk of infection (Babakian et al., 2004). Overall, Knowledge about HIV/AIDS transmission and prevention was "moderately high" in this study as 64.2% of the respondents had good knowledge. The good knowledge of HIV/AIDS in this study was corroborated by a study done by Odeyemi and Osibogun (2003) in lagos, Nigeria where 65.3% of the respondents had good knowledge of HIV/AIDS and can differentiate between HIV and AIDS.

However, as in the findings from a study in Nigeria by Iliyasu et al (2006) and another in Ethiopia (Alemu et al, 2004), the present study indicated substantial misconceptions about modes of HIV transmission as most of the respondents believed HIV can be transmitted through Kissing (53.6%), insect bites (55.7%) and coughing and sneezing (46.7%), despite the good level of knowledge about transmission routes. Similarly Olugbenga-Bello et al (2007) in his study among the intercity commercial drivers in Ilorin reported that though the level of knowledge about HIV/AIDS among the study population seems to be high, there are still misconceptions and misinformation about the disease. In his study, 81.4% of the drivers believed HIV could be transmitted through insect bite. A lower percentage of respondents were observed in Lagos where only 17.2% had such misconceptions (Odeyemi and Osibogun, 2003). Inappropriate knowledge and misconceptions could hamper preventive efforts for the control of HIV/AIDS especially behavioral change by diverting attention to these other perceived though false causes. These misconceptions need to be corrected as it could determine respondents' attitudes to people living with HIV/AIDS (PLWHA), their acceptance and interaction with this group of people as well as their care for PLWHA. Efforts at addressing these misconceptions using the media and other sources of information need to be instituted.

Other studies however reports that high awareness of HIV/AIDS amongst drivers does not imply they always have the necessary knowledge of transmission routes and prevention methods. For instance, work done in a Burkina Faso, nearly all (96%) road transport workers of high-risk

populations have heard of AIDS, their knowledge of HIV transmission routes, transmission risk and available preventive measures was quite low (Meda et al, 1998) when compared to the result of this study where 64.2% of the respondents had good knowledge of HIV transmission and prevention. In studies of Kenyan truck drivers, almost all of them (99%) have heard of HIV/AIDS (Bwayo et al., 1991), although the extent of knowledge about specific aspects of HIV/AIDS was less consistent. The inconsistent knowledge about HIV prevention methods from this study however conforms to the studies by Meda et al (1998) and Bwayo et al (1991).Only 45.4%, 63.4% and 63.2% of the respondents knew that Abstinence, Being faithful to one uninfected partner and consistent and correct condom use respectively, where key prevention strategies. Overall knowledge of HIV prevention methods was very poor as only 39.1% had good knowledge.

5.3 Risky Sexual Behaviour of Long Distance Commercial Bus Drivers.

Prevalence of HIV in the population is perpetuated primarily through heterosexual transmission. Abstaining from sex or delay in sexual debut and discouraging premarital sexual activities reduces exposure to HIV/AIDS. Almost all (99.8%) respondents in the study had ever had sex with mean age of sexual debut being 18.5 years. One hundred and sixty one (30.9%) of the respondents reported being sexually active before the age of 15 years.

Majority (94.4%) of the respondents had multiple lifetime sexual partners with a mean of 9.4 partners. A high percentage was observed from the study done in Ilorin (Araoye et al, 1996) where 91% of the drivers who were still single had multiple sex partners and in Sagamu, Nigeria by Amoran et al (2014) where majority, (78.3%) of the study participants had multiple sexual partners. Also 74.3% of minibus drivers in Kwazulu Natal, South Africa reported having more than one sexual partner in the 12 months preceeding their study (Ncama et al, 2013). Aniebue and Aniebue (2009) in their study found that 84.5% of the drivers in Enugu, Nigeria engaged in extramarital sexual relationships and 42.9% of these had multiple sexual partners.

Findings from this study show that 35.1% of the respondents had ever had sex with a CSW, of these, 23.0% engaged in casual sex with CSWs in the last 6 months preceding the study and 25% did not use a condom at their last sexual intercourse with CSW. This practice puts the drivers at high risk of contracting HIV infection, considering the high prevalence (27.4% and 21.7% for

BBFSW and NBBFSW respectively) of HIV among the CSWs. Similar result was observed in a study done among commercial drivers in Ilorin, where 30.6% of the drivers patronised sex workers (Olugbenga-Bello, et al, 2007). Also the behavioural surveillance survey conducted in Zambia in 2000 on long distance drivers found patronage of CSWs by 30% while on transit. Furthermore, Agawal et al (2012) in their study among truck drivers in India found that 26.1% of the drivers reported sexual intercourse with at least one commercial partner in the last 3 months preceeding the study and 29.7% did not use a condom.

The risk of HIV transmission is considerably reduced through the consistent and correct use of condoms. A study in Uganda, the first country in Sub- Saharan Africa to reverse its HIV/AIDS epidemics, conducted among high risk groups including drivers showed that condom use was responsible for the reversal in HIV/AIDS epidemic, though majority of respondents still continue with multiple sexual partners (Ntozi et al, 2003). However studies have shown that condom use among LDDS has been found to be low and erratic. In this study 63.2% of the bus drivers knew that consistent use of condom can prevent HIV transmission however only 54% used condom at last sexual intercourse with a non-spousal/live in partner. Lower percentages were recorded by Olugbenga-Bello et al (2007) were only 43.2% of the drivers with extramarital relationships were using condom. Similarly in a study among long-distance truck drivers in major truck stops along Nigerian highway, 70% of the drivers knew about condom but only 28.3% had ever used condom in a sexual relationship, while only 9% had used condom consistently in the last three sexual episodes before the survey (Sunmola, 2004).

Similar finding were observed in Mombasa by Bwayo et al (1991). In their study, it was observed that though high percentage of drivers (76%) knew condom can prevent the transmission of STDs, only 32% had ever used condom. Also, Aniebue and Aniebue (2009) in their study among drivers in Enugu, Nigeria, reported that despite the high level of knowledge about HIV/AIDS, many drivers still engaged in risk taking behavior including extra-marital sex, and only 43.1% had ever used condoms, while 28.6% used condoms consistently during sex with casual partners. These findings of this study show a clear lack of correlation between the correct knowledge of condom use and its application in the prevention of acquisition and transmission of HIV. Much is therefore to be done in making the use of condoms more consistent. Protection from HIV and other STIs transmission by condom use can only be effective if condom is

consistently and correctly used. If not, the infection rate is as for the non-condom users (Finger, 1996).

More than half of the respondents (67.6%) admitted to taking alcohol with 14% taking alcohol at last sexual contact. Alcohol, a catalyst to risky sexual behavior and unprotected sexual intercourse (Pisani et al, 2006) is widely consumed in Nigeria. One cannot underestimate the role of alcohol and or alcohol-based concoctions in the spread of HIV/AIDS. Low level of education in this study may have contributed to high risk sexual behaviours among the drivers as only 6.7% had achieved more than secondary education. Low level of education has been associated with high level of promiscuity among men (Olugbenga-Bello et al, 2007; Paris et al, 2006).

5.4 HIV Risk Perception among Respondents.

Acknowledging one's own susceptibility to HIV infection is an important step towards the adoption of preventive behaviour, including actively seeking HCT. The finding of this study show that individual risk perception was very low as only 8.8% of the respondents perceived themselves at risk of HIV infection, yet risky behaviors that expose them to HIV infection is evident. The major reasons the drivers think they are at risk include: having shared sharp objects in the past (45.7%), having had sex with multiple partners without using condom (26.1%) and having had sex with a CSW (23.9%). This low level of risk perceived among the respondents was also reported in various studies conducted elsewhere in the country. Aniebue and Aniebue et al (2011) reports that only 25.4% of the truck drivers in Enugu admitted they were at risk of contracting HIV and they attributed this risk to indulgence in extramarital relationship, non use of condoms and sharing of clippers/razors with others. Similarly, results from the study by Ekanem et al (2005) show that only 7.2% of the drivers in Lagos, Nigeria perceived themselves at being at of HIV infection. More so, results from the 2005 national IBBSS shows that Overall, HIV risk perception among transport workers is poor as Only 2.7% and 6.2% of LDDs interviewed considered themselves as being at high and moderate risk for HIV respectively in. The low level of risk perception observed among the respondents could be a good indication of the fact that apparently high level of awareness about the disease is not sufficient enough to bring the desired level of change in perception about the disease.

Furthermore, in a study among Ugandan men, only 9.1% of participants perceived themselves to be at a high risk of HIV yet the study found the majority of men, especially single men, having

multiple sexual relationships. However, in spite of the risky sexual behaviour, the men reported very low perception of risk, especially in the oldest cohort (Bwambale et al, 2008). In addition, Meda et al (1998) reported that the truck drivers studied seem to have a problem translating the knowledge they do have into perception of individual risk, and denial is a part of their attitudes to HIV/AIDS as fewer than half of drivers studied felt they were at risk, and less than one-fifth (18%) reported using condoms. Similarly, in the 2008 behavioural surveillance survey among long distance drivers in Gambia, Only 17% consider themselves to be at risk of being infected with HIV. The low risk perception among the drivers in this study, may lead to acquisition of HIV/AIDS in our community. Lack of accurate assessment of personal risk and inability to link behavior and susceptibility to the infection prevents people from taking the important first steps in preventing the disease (Amu et al, 2013).

Finding from this study however is noted to be at variance with the findings of Oduwole et al (2000) where 70% of their respondents perceived themselves to be at a risk of HIV infection. One possible explanation for the apparent discrepancy between multiple sexual partners and risk perception may be that multiple sexual partners are a societal norm and men do not perceive it as risky behaviour.

5.5 Awareness and Utilisation of HCT

In order to protect oneself and to prevent infecting others, it is important for individuals to know their HIV status. Also, knowledge of one's status is a critical factor in the decision to seek treatment. Majority (95.8%) of the respondents in this study were aware of HCT. This finding is in agreement with other studies done in Nigeria (Aniebue and Aniebue, 2011; Oluwole et, al, 2010). Mass media played a great role as a source of information on the awareness of HCT. This increased awareness of HCT might be due to the increased campaigns on mass media over the years. On benefits of HCT, 84.8% believed the service was beneficial; however most of the drivers could only identify the benefits of easy way to know HIV status (59.1%) and providing an entry point for prevention, care and treatment (51.9%). Also, 65.7% of the drivers knew where to get HCT. According to reports from study done in by Ibe-Sally et al (2014), 49.7% of the road transport workers had access to HIV counselling and testing services.

The practice of HIV screening is still low among drivers despite their high risk sexual conducts and high awareness of HCT. This study however recorded a HCT utilisation rate of 51.9% amongst the drivers. The major reasons for screening was personal desire to know status (49.8%) and because it was free (33.9%). According to reports from a study done in Nigeria by Ibe- Sally et al (2014), 52.7% of the respondents claimed to know their HIV status, which signifies prior testing. Also a comparable low level of screening among truck drivers in Enugu was reported by Aniebue and Aniebue (2011), where 43.7% have been screened for HIV and the reasons for screening were mainly doctors' recommendation (19.3%) and voluntary self screening (18.8%). Also, findings from the study done by Azuogu et al (2011) in southeast Nigeria showed a 41.4% utilisation of HCT among the study group.

Much lower percentages have been reported; In 2010 IBBSS survey in Nigeria, only 35 % of transport workers had ever been tested for HIV and in Ethiopia, 30.8% long distance drivers had ever been tested (Ethiopia BSS, 2005). Barios et al (1993) reported a similar low level of screening (35.0%) amongst adults with various risk factors for HIV/AIDS including men who engaged in unprotected sexual relationships with multiple sexual partners. Bwambale et al (2008) in their study reports that 23.3% of the respondents had ever utilised full HCT services. In Zambia 2005 BSS only 10% of the minibus drivers studied had ever utilised HCT. The uniquely increased rate of HIV testing in this study, though still low could be attributed to the strong promotion of HCT within the national program and the availability of HIV testing through outreach programmes by non-governmental organizations in the various parks. Interestingly, a large proportion of the drivers underwent HIV testing during outreach programmes in the parks indicating also the success of work place counselling and testing.

5.6 Factors Influencing HCT Utilisation

Few studies of this nature exist among long distance commercial bus drivers on the utilisation of HCT for us to compare our findings with however findings from the present study show that level of education, knowledge of HIV transmission and prevention, ever had STD, perceived benefits of HCT and Awareness of facility offering HCT significantly influenced the utilsation of HCT among long distance commercial bus drivers in this study.

Higher levels of education was also significantly associated with utilisation of HCT services as commercial bus drivers with tertiary education were more likely to have utilised HCT than those with no for formal education. This finding is consistent with those of other studies like the (Hutchinson and Mahlalela, 2006; Jereni and Muula, 2008; Sherr et al, 2007; Omobowale et al, 2011 and Amu et al, 2013), which all reported that higher educational levels were positively associated with HCT utilisation. A study by Iliyasu et al (2006) also found a positive relationship between education and adults' willingness to accept HCT services. Similarly Oboh et al (2010) also found a positive association between HCT utilisation and level of education among respondents. The positive and significant contribution of education and utilisation of HCT services may be explained thus: education enhances driver's ability to understand the importance of undergoing HCT services. Thus, improving the level of education of drivers may help to increase their probability of utilising HCT services. Another possible interpretation of the positive association between the level of education and testing is that less educated men may fail to appreciate the importance of HCT or may have less access to these services as well as to health education and promotion in general.

There is however conflicting associations between HIV test and education in that some previous research concerning the level of education and acceptability of HIV testing has been inconsistent in that studies have shown that low education level is associated sometimes with increased and sometimes with decreased testing acceptability. Several studies (Matovu et al, 2005; Thior et al. 2007) showed reduced HCT uptake among educated individuals. The fact that they used different population groups in their studies may explain these inconsistencies.

HIV/AIDS-related knowledge among the respondents in this study was significantly associated with HCT utilisation. Respondents with good knowledge of HIV transmission and were two times more likely to have ever utilised HCT services than those with poor knowledge. These results highlight the importance of reinforcing primary prevention messages on HIV, as poor understanding indeed affects the decision of a driver to test for HIV. Previous studies have linked HCT uptake with people's knowledge of HIV/AIDS transmission and prevention (FMOH 2006, 2008). Similarly Tsefaye et al (2012) in their study among men in Ethiopia reported that high or comprehensive HIV/AIDS related knowledge were significantly and positively associated with

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HCT utilization only in the rural stratum. Also, Sher et al (2007) reports that good knowledge of HIV is a motivating factor to seek HIV test.

Awareness of facility offering HCT also showed a strong significant association for HCT utilisation among the respondents. Omobowale et al (2011) in their study also found awareness of HCT centre as a factor influencing HCT utilisation.

The perceived benefits of HCT also showed a strong significant association with utilisation of HCT services. Similarly, Abebaw et al (2009) and Baggaely (2001) identified perceived benefits of HCT as an independent predictor of HCT uptake among their study subjects.

5.7 Study limitations

1. This was a cross sectional study (snapshot study) hence, changes over time cannot be assessed and the situation may provide differing results if another time frame had been chosen.
2. Also, some information needed a recall memory so recall bias was possible as respondents were asked on their previous life time sexual history and some six months prior to the study. However, probing questions were asked to ensure they were minimized.
3. It is possible that the factors influencing HCT utilisation among the long distance commercial bus drivers were underestimated and not exhaustive as few studies were available to compare results.

5.8 Conclusion.

The findings of this study reveals that utilisation of HCT services among long distance commercial bus drivers in Ibadan was poor despite the good Knowledge of HIV/AIDS transmission and prevention and high awareness of HIV/AIDS and HCT services. Risky sexual behaviours were evident though there was generally a low perceived risk of HIV infection among the studied population. Several factors in this study significantly influenced utilisation of HCT among long distance commercial bus drivers in Ibadan. These factors include: level of education, knowledge of HIV transmission and prevention, ever had an STD, awareness of facility offering HCT and perceived benefit of HCT.

5.9 Recommendations

1. Studies have demonstrated that health education is effective in improving HIV knowledge and reducing high risk behaviours and could lead to better and improved attitude and preventive practices. It is recommended that continuous health education programs and seminars on HIV prevention practices be organized by NGOs and Ministries of Health to inform the drivers and equip them with skill to protect them from the infection.

2. Also, Prevention programmes at the work environment have been said to be a feasible strategy which allows a better understanding of the workers' setting and development of customized educational intervention (Olugbenga et al, 2011) thus particular program/HIV campaigns targeting long distance commercial bus drivers in their workplace(parks) is recommended with appropriate examples and sub- cultural relevance.

3. Since the finding of this study correlates with the literature which suggests that a higher educational level significantly increases HCT utilisation, provision of basic education as a necessary basis for higher education which, in turn, impacts on the health-seeking behaviour of the population is recommended.

4. Interventions promoting the benefits of HIV testing need to be developed and communicated to the target population to act as cues for utilisation of HCT services

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APPENDIX 1

Informed Consent Form

My name is UZODINMA Chidinma Nneamaka; I am a student of the Department of Epidemiology and Medical Statistics (EMS), College of Medicine, University of Ibadan. As part of my studies, I am conducting a research for my MPH in Field Epidemiology dissertation titled "Factotrs Influencing HIV Counselling and Testing service Utilisation among Long Distance Commercial Bus Drivers in Ibadan, Nigeria".

Specifically, I would require you to answer some questions on your knowledge of HIV/AIDS and use of HIV Counselling and Testing (HCT) services as well as your background and sexual practices. Participation is voluntary and should cause you no inconvenience other than responding to the questions asked. This interview should take approximately thirty (30) minutes of your time. Please note that your answer will be kept confidential. The information you and other people provide us is extremely important and valuable, as it will help the Government understand better ways of providing HCT services to those who need it, thus increase its use and thus combating the spread of preventable diseases.

All the information you provide will be kept confidential and will not be shared with anyone else without your consent. Your name or any identifying information will not reflect on the questionnaire. You are free to refuse to take part in this research. You may refuse to answer any question without consequence. You have a right to withdraw at any given time if you choose to. We will greatly appreciate your help in responding to the survey and taking part in the study

Consent: Now that the study has been well explained to me and I fully understand the content of the study process, I will be willing to take part in the study.

_____ _____

Signature or thumbprint of participant/Date **Signature of interviewer/date**

_____

Signature / Thumbprint of witness / Date (if required)

APPENDIX 2

DEPARTMENT OF EPIDEMIOLOGY AND MEDICAL STATISTICS

FACULTY OF PUBLIC HEALTH

COLLEGE OF MEDICINE

UNIVERSITY OF IBADAN, IBADAN

QUESTIONNAIRE ON FACTORS INFLUENCING HIV COUNSELLING AND TESTING (HCT) SERVICE UTILISATION AMONG LONG DISTANCE COMMERCIAL BUS DRIVERS IN IBADAN, OYO STATE.

Dear Respondents,

I am Uzodinma, Chidinma, a student of the above named department and University undertaking a research titled " Factors influencing HIV counselling and testing service utilisation among long distance commercial bus drivers in Ibadan, Oyo State" for my Masters of Public Health, (MPH) degree.

I will be very grateful if you could provide your sincere answers to these questions

Section A: Socio-demographic characteristics of respondents

1. Age as at last birthday?.....
2. Marital status? 1.Single[ ] 2. Married[ ] 3.Widower[ ] 4.Cohabiting[ ] 5.Divorced[ ] 6. Others(specify).....
3. If married, how many wives do you have?.....
4. Religion? 1.Christianity[ ] 2.Islam[ ] 3.Pagan[ ] 4.Others (specify).....
5. Ethnicity? 1. Yoruba[ ] 2. Igbo[ ] 3. Hausa[ ] 4. Others (specify).....
6. Highest level of educational qualification? 1.None[ ] 2.Primary[ ] 3.Secondary[ ] 4. Tertiary[ ] 5. Others (specify).....
7. Number of years working as a driver?.....
8. Duration of trip (in hours)?.....
9. Income per trip?.....
10. How many nights do you sleep outside your station per trip due to work?.....
11. How many trips do you make in a month?.....

Section B: Knowledge of HIV transmission and prevention

12. Have you ever heard of HIV or the disease called AIDS? 1.Yes[ ] 2.No[ ] 3.Don't know[ ]
13. What is the full meaning of HIV/AIDS?.....
14. Does AIDS have a cure? 1.Yes[ ] 2.No[ ] 3.Don't Know[ ]
15. Do you know anyone who is infected with HIV or who has died of AIDS?
    1. Yes[ ] 2. No[ ] 3. Don't know[ ]
16. Do you have a close relative or friend who is infected with HIV or have died of AIDS?
    1. Yes[ ] 2. No[ ] 3. No response[ ]

17. Is it possible that a healthy-looking person has the virus that causes AIDS?
1.Yes[ ] 2. No[ ] 3. Don't Know[ ]

Please answer Yes(Y), No(N) or Don't Know(DK) for each of the following question below

HIV can be transmitted through the following;

	Y	N	DK
18. Transfusion with HIV-infected blood	☐	☐	☐
19. By sharing unsterilized skin piercing object or sharp object	☐	☐	☐
20. Having unprotected sex with an HIV infected person	☐	☐	☐
21. Injection of drugs with needles or syringes contaminated with HIV	☐	☐	☐
22. Through coughing and sneezing	☐	☐	☐
23. Through insect bite	☐	☐	☐
24. Touching and hugging	☐	☐	☐
25. By kissing	☐	☐	☐
26. By using the same toilet with an infected person	☐	☐	☐
27. By shaking hands with an infected person	☐	☐	☐
28. From Mother to Unborn Child	☐	☐	☐
29. Eating together with an infected person	☐	☐	☐
30. Living together in the same house with an infected person	☐	☐	☐

31. What can a person do to avoid getting the virus that causes AIDS?

	Yes	No	Don't Know
a. Staying with one faithful partner?	[ ]	[ ]	[ ]
b. Using condom always?	[ ]	[ ]	[ ]
c. Abstaining from Sex?	[ ]	[ ]	[ ]
d. Delaying the onset of sexual Intercourse?	[ ]	[ ]	[ ]
e. Avoiding sex with CSWs?	[ ]	[ ]	[ ]
f. Reducing the number of sexual partners?	[ ]	[ ]	[ ]
g. Avoid sharing of Sharp objects like needle, razors?	[ ]	[ ]	[ ]
h. Praying to God?	[ ]	[ ]	[ ]
i. Going for checkups?	[ ]	[ ]	[ ]
j. Using antibiotics?	[ ]	[ ]	[ ]
k. Seek protection from a traditional healer?	[ ]	[ ]	[ ]

32 Can a person find out if he/she has HIV/AIDS by going for counselling and testing?

1. Yes[ ] 2. No[ ] 3. Don't Know[ ]

Section C: Sexual behavior

33. Have you ever had sex? 1. Yes [ ] 2. No[ ]

34. ***If no to Q 33 above skip to 54***, If yes, at what age did you have your first Sexual intercourse? .....years old

35. What is the total number of partners/people you have ever had sex with during your life time?.....

36. Which of these partners have you ever had sex with?(***Multiple response possible***)
1. CSW[ ] 2.Casual Friend[ ] 3.Regular Girlfriend[ ] 4. Spouse/Live in Partner[ ]

37. Have you had sex with more than one partner in the last 6 months? 1. Yes [ ] 2. No [ ]

38. ***If no to Q37 above, skip to 42,*** if yes, is any of these partners non spousal (***not your wife/live in partner***)? 1.Yes [ ] 2.No [ ]

39. If no to Q38 skip to 42, if yes which of the non- spousal partners did you have sex with in the last 6 months ***(multiple response possible)*** 1. CSW [ ] 2. Casual Friend [ ] 3. Regular girlfriend[ ]

40. The last time you had sex with your non-spousal partner, did you use a condom? 1. Yes [ ] 2. No [ ]

41. How often have you used condoms when you have sexual intercourse with your non-spousal partner? 1. Always [ ] 2. Sometimes [ ] 3. Never [ ]

42. Have you ever had sex with a Commercial Sex Worker (CSW)? 1. Yes[ ] 2.No[ ]

43. ***If no to Q 42 above skip to Q46***, If yes, when did you have your most recent sexual intercourse with a CSW?.....

44. During your last sexual intercourse (most recent) with a CSW, did you use a condom? 1. Yes [ ] 2. No [ ] 3. No Response[ ]

45. If within the last 6months you have had sex with a CSW, how often did you use a condom? 1. Always [ ] 2. Sometimes [ ] 3. Never[ ]

46. When did you have your last sexual intercourse? (prior to data collection date/day)
.....

47. Which of these sexual partners did you have your last sexual intercourse with? 1.Spouse[ ] 2.Casual friend[ ] 3.Regular girlfriend[ ] 4.CSW[ ]

48. What type of sexual intercourse did you have in your last sexual intercourse?***(Multiple response possible)***
1. Oral [ ] 2. Anal [ ] 3.Vaginal[ ] 4.Others(specify).....

49. Did you use a condom in your last sexual intercourse? 1.Yes[ ] 2.No[ ]

50. If yes to Q 49 above, why.....

51. If no to Q49, why not.....

52. Have you ever had any STD? 1. Yes [ ] 2. No [ ] 3. Don't Know[ ]

53. ***If no to Q 52, skip to 54,*** If yes, When last did you have an STD.....

54. Do you take Alcohol? 1. Yes [ ] 2. No[ ]

55. ***If no to Q 54 skip to Q 56***, if yes, did you or your partner drink any form of alcohol during your last sexual intercourse 1. Yes [ ] 2. No[ ] 3. Don't Know [ ]

56. Have you ever smoked? 1. Yes [ ] 2. No [ ]

57. ***If no to Q 56 above skip to 58***, If yes, which of these substances do you smoke 1.Cigarette [ ] 2. Weed [ ] 3. Marijuana [ ] 4.Others (specify).....

Section D: Risk perception of HIV

58. Do you think you can be infected with HIV? 1.Yes[ ] 2.No[ ] 3.Don't know[ ]

59. If no to Q58, why not.....

60. If yes to Q58 above, why?.....

61. ***If no to Q 58 above skip to 60,*** if yes, what are your chances of getting infected with HIV? 1. High [ ] 2. Moderate [ ] 3. Low [ ]

Section E: Awareness and Utilization of HIV Counseling and Testing (HCT) Services

62 Have you ever heard of HCT or VCT services? 1. Yes [ ] 2. No[ ]

63 If yes, what is the full meaning of VCT/HCT?

.....

(Tell the respondents the full meaning of HCT and continue with the questions)

64 What is the source of your information?(***Multiple response allowed***)

1.Mass media[ ] 2. Public Enlightment campaign [ ] 3. Health workers [ ]

4. Friends[ ] 5.Neighbours[ ] 6.Co-workers[ ] 7.Others (specify).....

65 Do you agree that HCT has benefits? 1.Yes[ ] 2.No[ ] 3.Don't Know[ ]

66 ***If no to Q 65 skip to 67***, if yes, What are the benefits of HCT? ***(Multiple response possible. Please do not read out the options, tick as the subject responds)***

1. Provide entry point for prevention, care and support[ ]
2. Promotes safe sexual behavior[ ]
3. Easy way to know your HIV status[ ]
4. Breaks the vicious circle of stigma[ ]
5. Allows those infected to seek long term care and support services[ ]
6. Allows early treatment of opportunistic infections[ ]
7. Others(specify).....

67 Generally, who should go for a HIV/AIDS test?

1. Sex worker [ ] 2.Clients of sex workers[ ] 3.Those who are sick[ ]

4. Anyone sexually active[ ] 5.Drivers[ ] 6. Everyone[ ]

7.Others(specify).....

68 Are you aware of any facility offering HCT services? 1. Yes[ ] 2. No[ ]

69 ***If no to 68 above skip to 71***, if yes, what type of facility offers the HCT service?

1. Private hospital[ ] 2.NGO[ ] 3.Government hospital[ ] 4. Others (specify).....

70 How far is the facility from your house (Km)?.....

71 Have you ever done a HIV test? 1. Yes [ ] 2. No[ ]

72 ***If no to Q 71 above skip to 78***, if yes, where did you go for the test?.....

73 Why did you go for HCT?

1. Personal desire to know status[ ] 2.Was sick[ ] 3. Required (visa,work,etc.)[ ]

4. Blood donation[ ] 5. Pre-marital[ ] 6. Others (specify).....

74 Would you go back to get tested for HIV again at the same centre/place you last tested at? 1. Yes [ ] 2. No [ ]

75 If no to Q74 above, why would you not go to the same centre?***(Please do not read out the options, tick as the subject responds: Multiple response possible)***

1. Lack of confidentiality/privacy[ ] 2. It's too far away[ ] 3.Too much time is wasted there[ ] 4.Others (specify).....

76 When last did you do a HIV test?.....*(prior to data collection date)*

77 Did you get your result? 1. Yes[ ] 2. No[ ]

78 If No to Q 71, why not? ***(Multiple response possible, please do not read out the options)***

1. I have no risk of HIV [ ]
2. Do not know where to get the service[ ]
3. Lack of money[ ]
4. Fear of discussing the horrible consequences of testing positive to HIV/AIDS[ ]
5. Knowing sero-status has no benefit/Don't believe it will help me[ ]
6. Fear of being seen in the HCT centre/Stigma[ ]
7. Afraid to get the result[ ]
8. No Nearby Service centre[ ]
9 Others (specify).....

79. Will you undergo HCT if offered to you though you didn't have it before?
1. Yes[ ] 2. No[ ] 3. Don't know[ ]

Section F. Attitude towards people living with HIV/AIDS

80. Do you think people living with HIV/AIDS should be quarantined? 1. Yes[ ] 2. No[ ] 3. Don't know[ ]
81. Will you be willing to share a meal with a person you knew had HIV/AIDS?
1. Yes[ ] 2. No[ ] 3. Don't know[ ]
82. Will you be willing to buy food stuffs from a seller who you knew has HIV, the virus that causes AIDS? 1. Yes[ ] 2. No[ ] 3. Don't know[ ]
83. If a relative of yours became ill with HIV, would you be willing to care for him or her?
1. Yes[ ] 2. No[ ] 3. Don't know[ ]
84. If A Bus driver has HIV but is not sick, should he be allowed to continue work?
1. Yes[ ] 2. No[ ] 3. Don't know[ ]
85. If a member of your family became ill with HIV, the virus that causes AIDS, would you want it to remain a secret? 1. Yes[ ] 2. No[ ] 3. Don't know[ ]

Date of Interview /____/____/_____/
dd mm yyyy

Name of Interviewer:_____ Sig._____ Date_____

Checked by Supervisor: Name_____ Sig._____ Date_____

1. Lack of confidentiality/privacy[ ] 2. It's too far away[ ] 3.Too much time is wasted there[ ] 4.Others (specify).....

76 When last did you do a HIV test?.....*(prior to data collection date)*

77 Did you get your result? 1. Yes[ ] 2. No[ ]

78 If No to Q 71, why not? ***(Multiple response possible, please do not read out the options)***

1. I have no risk of HIV [ ]
2. Do not know where to get the service[ ]
3. Lack of money[ ]
4. Fear of discussing the horrible consequences of testing positive to HIV/AIDS[ ]
5. Knowing sero-status has no benefit/Don't believe it will help me[ ]
6. Fear of being seen in the HCT centre/Stigma[ ]
7. Afraid to get the result[ ]
8. No Nearby Service centre[ ]
9 Others (specify).....

79. Will you undergo HCT if offered to you though you didn't have it before?
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Date of Interview /____/____/_____/
dd mm yyyy

Name of Interviewer:_____Sig._____Date_____

Checked by Supervisor: Name_____Sig._____Date_____

APPENDIX 3

The list of motor parks for long distance trips in Ibadan, including the estimated Number of Long distance Commercial bus drivers in each park.

S/N	Location of Motor Parks	Population of long distance commercial bus drivers	Actual number of drivers interviewed from each park
1	**Ibadan North LGA**	**150**	**65**
2	**Ibadan North East LGA**	**200**	**95**
3	Ibadan South East LGA	150	-
4	Ibadan South West LGA	165	-
5	Ibadan North West LGA	200	-
6	**Akinyele LGA 1**	**650**	**240**
7	**Akinyele LGA 2**	**150**	**52**
8	Egbeda LGA	180	-
9	Ido LGA	150	-
10	Lagelu LGA	120	-
11	Ona-Ara LGA	100	-
12	**Oluyole LGA**	**200**	**70**

APPENDIX 4

Scoring Pattern for Knowledge of HIV transmission and prevention

Question	Yes (scores)	No	Don't Know
Knows the full meaning of HIV/AIDS?	1	0	0
Does AIDS have a cure?	0	1	0
Is it possible for a healthy-looking person to have the AIDS virus?	1	0	0
HIV be transmitted through the following ways;			
Transfusion with infected blood	1	0	0
Sharing skin piercing or unsterilized sharp object	1	0	0
Having unprotected sex with an infected person	1	0	0
Injection of drugs with needles or syringes contaminated with HIV	1	0	0
from an infected mother to an unborn child	1	0	0
Coughing and sneezing	0	1	0
Insect bite	0	1	0
Touching and Hugging	0	1	0
Kissing	0	1	0
By using the same toilet with infected person	0	1	0
By shaking hands	0	1	0
Eating together with an infected person	0	1	0
Living together in the same house with an infected person	0	1	0
What can a person do to avoid been infected with HIV			
Staying with one faithful partner	1	0	0
Using condom always	1	0	0
Abstaining from sex	1	0	0
Delay in age of sexual debut	1	0	0
Avoiding sex with a CSW	1	0	0
Avoiding sharing of sharp objects	1	0	0
Reducing the number of sexual partners	0	1	0
Praying to God	0	1	0
Going for check up	0	1	0
Using antibiotics	0	1	0
Seeking protection from traditional healer	0	1	0
Can a person find out if he/she has HIV/AIDS by going for counselling and testing?	1	0	0
Total	**14**	**14**	**0**

TELEGRAMS.....

TELEPHONE.....

MINISTRY OF HEALTH

DEPARTMENT OF PLANNING, RESEARCH & STATISTICS DIVISION

PRIVATE MAIL BAG NO. 5027, OYO STATE OF NIGERIA

Your Ref. No. .....

All communications should be addressed to

the Honorable Commissioner quoting

Our Ref. No. AD 13/ 479/ Vol I

24th September, 2014

The Principal Investigator,
Department of Epidemiology & Medical Statistics,
Faculty of Public Health,
University of Ibadan,
Ibadan.

Attention: Uzodinma Chidinma

Ethical Approval for the Implementation of your Research Proposal in Oyo State

This acknowledges the receipt of the corrected version of your Research Proposal titled: "Factors Influencing Utilization of (HCT) HIV Voluntary Counselling and Testing Services Among Long Distant Commercial Bus Drivers in Ibadan."

2. The committee has noted your compliance with all the ethical concerns raised in the initial review of the proposal. In the light of this, I am pleased to convey to you the approval of committee for the implementation of the Research Proposal in Oyo State, Nigeria.

3. Please note that the committee will monitor closely and follow up the implementation of the research study. However, the Ministry of Health would like to have a copy of the results and conclusions of the findings as this will help in policy making in the health sector.

4. Wishing you all the best.

Sola Akande (Dr)
Director, Planning, Research & Statistics
Secretary, Oyo State, Research Ethical Review Committee