DETERMINANTS OF PERCEIVED STIGMATIZATION AND DISCRIMINATION AGAINST PEOPLE LIVING WITH HIV/AIDS AMONG WOMEN OF REPRODUCTIVE AGE IN NIGERIA.

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CERTIFICATION

I certify that this research work titled " Modeling Socio and Psycho demographic factors affecting Perceived Stigmatization and Discrimination against People Living with HIV/AIDS among Women of Reproductive Age in Nigeria" was duly carried out directly under my supervision by **Miss Shodimu Motunrayo Ayinke** and also meets the regulations governing the award of the degree of M.Sc. Medical Statistics of the Department of Epidemiology and Medical Statistics, Faculty of Public Health, College of Medicine, University of Ibadan.

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DEDICATION

I dedicate this dissertation to God Almighty, the God of all Wisdom, Knowledge and Understanding. To my late mother, Alhaja Fakunbi Kuburat, my late brother, Cpl. Shodimu Olalekan and to all who contributed to the success of this research work.

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LIST OF ABBREVIATIONS AND ACRONYMS

HIV-	Human Immunodeficiency Virus
AIDS-	Acquired Immune Deficiency Syndrome
PLWHAs-	People Living with HIV and AIDS
NARHS-	National Aids and Reproductive Health Survey
CDC-	Center for Disease Control
IPPF-	International Planned Parenthood Federation
UNAIDS-	Joint United Nations Program on HIV/AIDS
NASCP-	National Aids and STDs Control Programme
MTC-	Mother to Child
MSM-	Men who have sex with men
IDU-	Injecting Drug Users
SW-	Sexual Worker
PRB-	Population Reference Bureau
ARV-	Antiretroviral
VCT-	Voluntary Counseling and Testing
UNGASS-	United Nations General Assembly Special Session.
UNICEF-	United Nations Children's Fund
WHO-	World Health Organization
PMTCT-	Prevention of mother-to-child transmission
OR-	Odd Ratios
STI-	Sexually Transmitted Infections
UNFPA-	United Nations Population Funds
ILEP-	International Leaders in Education Program
FMOH-	The Federal Ministry of Health
CI-	Confidence Interval

CHAPTER ONE

1.1 INTRODUCTION

HIV-related stigma and discrimination have been acknowledged as an impediment to mitigating the HIV epidemic since its early days, yet programming and activities to reduce stigma and discrimination have been given much less attention than other aspects of the epidemic. Recently, there has been an increase in the literature on HIV stigma as the issue has gained visibility and greater conceptual clarity (Nyblade, L. et al.,(2005), Stein and Li, (2008).

The worldwide HIV/AIDS epidemic disproportionately affects Sub-Saharan Africa where nearly two third of the world's HIV infected people live (UNAIDS 2003). About 23.5 million people were estimated to be infected with the virus in Sub-Saharan Africa and 34 million people globally (UNAIDS, 2003). Nigeria has the third largest burden of HIV in the world with 3.0 million people living with HIV (UNAIDS, 2003).

HIV/AIDS is a major public health problem in Nigeria with a national sero-prevalence rate of 4.1% (FMOH, 2010). Most profound effects of this are psychological, social and economic health of the HIV-positive person, his or her loved ones and the community (Mutalewa et al, 2008). Fear, stigma and discrimination have continued to accompany the HIV pandemic. Consequently, actions to reduce or protect against stigma and discrimination may be the most significant step that can be taken to improve the psychosocial well-being of those perceived to be living with HIV/AIDS (Dalmini, et al 2009).

Globally, the pandemic of HIV/AIDS has seriously constituted health and socioeconomic challenges for several 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 others.

The Centre for Disease Control (CDC, 2008) identified various ways by which HIV is transmitted. These include sexual intercourse, by sharing skin piercing objects with infected persons, through blood

transfusions and mother-to-child infection. However, Ajiboye (2006) categorized all the various ways by which HIV is transmitted into two viz: biological and mechanical.

The biological modes include the mother-to-child (MTC), especially while the baby is unborn. The blood of HIV seropositive mother and the foetus get in contact through the placenta, thus infecting the child. Also, HIV transmission has been largely traced to sexual intercourse through penetration and deposit of HIV infected sperm into the vaginal barrel and penetration of infected vaginal fluid into the penis. The mechanical mode of transmission is any form of HIV transmission that involves skin piercing such as cuts, incision and bruise, process of blood transfusion, bite by the baby while sucking breast, incisions on the body and any other forms of exercise that opens up the skin leading to blood contact.

1.1.2 Stigmatization

Since HIV/AIDS was first identified, the disease has been surrounded by stigma and discrimination. People who are infected, or even suspected of having HIV, have experienced emotional, physical, and structural abuse (Dlamini et al., 2007; Greeff et al.,2006), and the fear of experiencing such stigma discourage people living with HIV/AIDS (PLWHA) from seeking medical care (Pulerwitz et al., 2010). HIV/AIDS- related stigma and discrimination have serious individual and public health implications that contributed to willingness to test for HIV or to disclose positive results to partners (Dlamini, et al 2009, Mahendra et al 2007). In a study to examine relationship between HIV testing and AIDS stigmatization by Kalichman and Simbayi, (2003), it reveals that people who have tested for HIV hold fewer stigmatizing beliefs than those who have not tested, yet many people do not want to get tested because of fear of been accused for wrongdoing and placement of blame. Stigmatization is a major issue that societies and support organizations have to contend with in dealing with the problems of HIV/AIDS. Stigma can affect the care and acceptance of PLWHA in the society. After a person has tested positive of HIV, he or she faces the decisions that include how to enter and adhere to care and whether to disclose HIV sero-positivity to partners, friends, family, colleagues, employers and health care providers. Stigma is a powerful and discrediting social label that radically and negatively affects the ways individuals view themselves and the ways others view the individual as a person.

Various studies have demonstrated that HIV-related stigma is a common phenomenon worldwide that occurs in a variety of contexts including family, community, workplace, markets and healthcare settings (Mahendra et al., 2007). Studies also show that awareness about HIV/AIDS is high, but knowledge about prevention, care and support is low. Myths and misconceptions about it cannot be overlooked (Mutalewa et al., 2008).

Ezeiru and Odeyemi (2013) defined standard stigma according to Goffman (1963) as mental illness, physical deformities and what were perceived to be deviant behaviours. He described stigma as an attribute that is deeply discrediting and results in the reduction of a person or group from a whole and usual person to a tainted, discounted one (Goffman, 1963). By regarding others negatively, an individual or group confirm their normalcy and legitimize their devaluation of others (Goffman, 1963). The stigma attached to individual may be extended to their associates (Larios et al, 2009).

1.1.3 HIV/AIDS Stigmatization in Nigeria

The HIV/AIDS epidemic is less advanced in Nigeria than in East African and Southern African countries, and so the issues relating to stigmatization and discrimination of people living with HIV/AIDS (PLWHAs) have not been as fully explored. Information on the stigma of AIDS in Nigeria has been limited to a number of studies focusing on workplace discriminations, prevention programs, counseling and health provider's anxiety among others.

As the burden of disease increases within a community, individuals are faced with denial, stigma and discrimination. Mann, (1987) identified three phases of the epidemic, the HIV epidemic, the AIDS epidemic and the epidemic of Stigma, Discrimination and Denial of which the third phase is "as central to the global AIDS challenge as the disease itself". Despite international efforts to tackle HIV/AIDS, stigma and discrimination remain among the most poorly understood aspects of the epidemic.

Nigeria appears to be in between the full AIDS epidemic phase and the Stigma and discrimination phase. According to Rankin, et al (2005) as postulated by Mann, he stated that if HIV/AIDS is not quickly approached and taken care of, stigma and discrimination will become like the disease itself. HIV/AIDS-related stigma and discriminatory conduct provide opportunities for spreading of the epidemic (FMOH, 2003). It underrnines prevention, voluntary counseling and testing, care and support and also increases the impact of the infection on individuals, families, communities and nations (Population Council, Horizons, 2002).

The epidemic of HIV/AIDS stigma is greater and significant; it is facilitated to the emergence of other, disease conditions/illness such as cancer, and psychiatric disorder (Kola et al., 2005). This may be due to the fact that HIV is primarily transmitted through sexual intercourse and people sometimes erroneously link HIV infection with promiscuity and this is also applicable in Nigeria.

Different studies conducted on stigmatization and discrimination attitudes in Nigeria cut across families, workplaces, communities, health care setting, ethnical, behaviors, and gender difference among others. Such studies includes "stigma and discrimination associated with HIV/AIDS in health care settings (Essomba; 2014), discriminatory attitudes of pharmacy students and pharmacist against PLWHA Chukwuemeka et al; 2014) among others. This study examined socio and psycho demographic factors affecting perceived stigmatization and discrimination against people living with HIV/AIDS (PLHWA) among women of reproductive health in Nigeria.

1.2 Perceived Stigmatization and Discrimination Towards PLWHA

In Nigeria, as in most cases, HIV/AIDS is perceived to be a disease of other people living on the margins of society, whose lifestyles are considered perverted and sinful. Stigmatization is a term that involves both deviance and prejudice; it involves perceptions of deviance that extends to more general attributions about character and identity. Stigmatization as socially defined is a considerable variation across cultures (Dovidio et al., 2006).

People living with HIV and AIDS (PLWHA) continue to be burdened by poor care and inadequate services, while those with the power to help do little to make the situation better (Mark et al., 2005).
An estimated 4.6 percent of the population are living with HIV and AIDS in Nigeria (UNGASS, 2010).
Although HIV prevalence is much lower in Nigeria than in other African countries such as South Africa and Zambia. AIDS is not only claiming so many lives, it leads to Nigeria's life expectancy reduction (UNGASS, 2010). The average life expectancy of 54 and 53 years for women and men in 1991, has drastically reduced to 48 and 46 for women and men respectively by the year 2009 (CIA World Fact book, 2010).

Stigma and discrimination continue to affect those living with and affected by HIV disease as well as their health care providers. It has also become a substantial barrier to accessing primary and secondary HIV and AIDS care and prevention services (Rao et al., 2007). It has become a barrier to voluntary testing and counseling which results to delay in accessing care and treatments that consequently increase illness and death (Olalekan, 2012).

Perceived HIV stigma i.e HIV-related stigmatizing attitudes towards PLWHA is related to increase perceived stress (Remien et al. 2006; Riggs et al. 2007). Previous literature among HIV-positive populations found out that HIV-related stigmatizing attitudes towards them from health providers reduces willingness and attempts to access health care services, which may significantly impact the health of HIV- positive persons (Kinsler et al. 2007).

Stigma experience among the general public can be referred to as what most people think about a person with HIV or what 'most people' with HIV can expect when others learn they have HIV infection. (Nworuh O. B and Ogbalu A.I, 2013). The fears of the unexpected from the public limit the rights of those with HIV and prevents them directly or indirectly from seeking medical help and care. This makes them vulnerable and susceptible to stigma.

Women of reproductive age generally and most specifically in Africa depend on the male gender, hence the male populace is termed powerful and should be protected by the women. Leclerc-Madlala (2002) opined that the attachment of gender discrimination to HIV stigma has led to women being blamed for spreading the epidemic. Thus, women are expected to provide sexual services to the male gender, be chaste and pure and also are laden with the responsibility of preventing the spread of HIV. In instances such as this, for a woman in this age bracket i.e 15-49 to be with HIV, the consequences and load of bearing such infection is enormous.

1.2.1 HIV/AIDS among Women of Reproductive Age

Most of the 17.6 million women living with HIV/AIDS are of childbearing age (UNAIDS, 2006). In many Africa countries, women are disproportionately affected, not only by HIV/AIDS disease, but also by the related stigma and discrimination (Bond, Chase, & Aggleton, 2002).

HIV affects all the dimensions of women of reproductive age such as pregnancy, childbirth, breastfeeding, abortion, use of contraception, exposure, diagnosis and treatment of STIs and their exposure to sexual violence. It also affects their sexual health and well-being as well as men.

Due to the stigma and discrimination attached to HIV/AIDs, it is particularly important that health service providers protect the reproductive rights of women living with HIV. These rights includes having access to sexual and reproductive health services, decision on whether to be sexually active or not, spacing and timing of childbearing and they should also have the right to make these decisions free of discrimination, coercion and violence (UNAIDS, 2006).

Also, women who experience fear or stigma have less access to health care services, and research has shown that pregnant women who anticipate HIV related stigma are less likely to get tested for HIV (Turan et al, 2008). The result is that pregnant women may not be aware of their HIV-positive status, may not get the care that they need for their own health, may infect sexual partners, and may not receive medications to reduce the risk of peri-natal transmission of HIV (Desgrees-du-Lou et al., 2009). Having a greater understanding of the characteristics of women most likely to fear or experience HIV related stigma may help health care workers identify women at risk and provide more appropriate advice and services.

Furthermore, the mental health of women who are HIV-positive is disturbed because they are said to have a higher risk for depression than HIV-negative women, due to the compounding factors of medical illness and social marginalization (Catz et al. 2002). Psychological distress is also of importance among HIV-positive women because it is associated with poor coping, disease progression and quality of life outcomes among HIV-positive women, and perceived lack of support among HIV-positive individuals (Catz et al. 2002; Emlet 2006; Prachakul et al. 2007; Remien et al. 2006).

1.3 Problem Statement of the Study

Stopping the stigma and discrimination against people and marginalized groups who are affected by HIV and AIDS is as important as developing a vaccine itself (Rankin, et al 2005). Education plays a key role in diminishing stigma and discrimination. Strategies to address stigma are critical for HIV prevention and education programmes and must extend into communities to be effective. As seen with gender issues, stigma reduction should also be mainstreamed into every aspect of education policies, programmes and practices (Omololu, 2004).

People's attitudes are shaped by what they know, what they hear, what the social norms and beliefs are and their exposure to new information or knowledge. Aside from the news or media reporting, the problems that face HIV/AIDS patients in Nigeria have not been investigated extensively, it is quite evident from studies done that people with HIV/AIDS are unfairly treated and/or discriminated against because of their actual or suspected HIV/AIDS status (Kola et al., 2005). Discrimination against people living with HIV/AIDS is not just violation of their human rights; but also of public health importance (UNAIDS, 2000). People living with HIV/AIDS have become implicitly associated with stigmatized behavior, regardless of how they actually contracted the infection. PLWHAs are stigmatized, ostracized, rejected, shunned, and experience sanctions, harassment, and even violence because of their infection or association with HIV/AIDS (Busza, 1999). Discrimination stems from fear due to lack of knowledge about how HIV/AIDS can or cannot be transmitted. It should be emphasized that illness-related stigma and discrimination are often rooted in social learned attitudes. Reducing stigma and discrimination is essential for achieving successful outcomes within all the priority areas.

Furthermore, stigmatization and discrimination has become so intense because people are sometimes fed with the wrong or incomplete information about the HIV/AIDS pandemic. The stigma and discrimination attached to being diagnosed with HIV/AIDS is far greater than and significantly distinct from being diagnosed with other illnesses such as cancer, mental retardation or even fibroid (Nduonofit et al., 2012). As a result of this, people living with HIV/AIDS (PLWHA) die not from the disease but because of the stigma and discrimination they receive from others instead of care, affection and understanding (Peniniah, 2010).

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Individuals with HIV/AIDS are stigmatized because their illness is: (1) a life-threatening disease; (2) tainted by a religious belief as to its immorality and/or thought to be contracted via morally-unsanctioned behaviour (such as promiscuity or deviant sex) and therefore, thought to represent a character blemish and contraveners deserves to be punished;(3) perceived to be contagious and threatening to the community; (4) associated with an undesirable and an unaesthetic fear of death; (5) not well understood by the lay community and viewed negatively by healthcare providers (Alonzo, 1995).

PLWHA, that had worked, were rejected, restricted from sharing toilets, canteens and sports facilities. Some lost their jobs, some were threatened with dismissal, job duties were changed, some lost prospects for promotion and excluded from insurance schemes (Greeff et al, 2008).

It is of high importance to address HIV/AIDS and its resultant stigmatization and discrimination among women of reproductive age because they are most of the times sexually active and the global health community set two important goals as part of efforts to control and eliminate the scourge of HIV/AIDS, which are virtual elimination of vertical transmission of HIV (Mother-to-Child) and a 50% reduction in HIV-related maternal mortality by 2015 (USAIDS, 2012).

1.4 Justification

HIV-stigma affects the quality of life, health opportunities received and psychological well-being of HIV positive women (Kinsler et al. 2007; Emlet 2006). Several studies have suggested that stigma is a relevant psychosocial variable that may suppress even HIV testing (Brohan et al, 2010). This was consistent with quantitative and qualitative research conducted in other African countries that have identified stigma as a major deterrent to HIV testing.

Many studies that have examined on stigma in HIV-positive women have focused predominantly on either socio-demographic (e.g., Ogilvie et al. 2007; Oladapo et al. 2005) or psychological correlates (e.g., Rao et al. 2008; and Wingood et al.2007), but limited studies had combined both socio demographic and psychological factors affecting stigmatization in Nigeria.

Several studies conducted on HIV/AIDS stigmatization found in literature includes; willingness to care for relatives living with HIV/AIDS: (Adebowale et al, 2012), impact of stigmatization on acceptance and care for PLHWA in the society (Agweda et al, 2010), discrimination in employment and workplace (Afroza et al, 2010), associated experiences and anticipation of HIV- related stigma to pregnant women

in rural kenya (Yvette et al, 2012), discriminating attitudes of pharmacy student (Chuwuemeka et al. 2014), factors for HIV/AIDS stigma and discrimination and political priority for its reduction among LG chairman in Osun, (Ademola et al, 2012). Olalekan (2012) examined the relationship between psycho demographic factors and perceived stigmatization among people living with HIV/AIDS in Ibadan. Nigeria. However, there is limited or no study done on socio and psycho demographic factors affecting perceived stigmatization and discrimination against people living with HIV/AIDS (PLHWA) among women of reproductive age in developing countries particularly in Nigeria.

In some regions, women accounted for more than half of the people infected with HIV and represent a growing proportion of people living with HIV/AIDS. The reasons being that women have greater likelihood than men of being infected in heterosexual encounters (WHO, 2006). Moreover, young women may be unable to negotiate condom use and are more likely than men to experience coerced sex (Krug EG et al. 2006).

1.5 Objectives of the Study

Main Objective

The main objective is to investigate factors affecting perceived stigmatization and discrimination against people living with HIV/AIDS (PLHWA) among women of reproductive health in Nigeria.

Specific Objectives

1. To determine the percentage of perceived stigmatization against PLWHA among women of reproductive age group in Nigeria.
2. To determine the proportion of stigmatization among women of reproductive age that are willing to take HIV test versus women that are not willing.
3. To determine the proportion of stigmatization among women of reproductive age that are willing to collect HIV test result versus women that are not willing.
4. To evaluate socio and psycho demographic factors, affecting perceived stigmatization and discrimination against people living with HIV/AIDS (PLWHA).

CHAPTER TWO

LITERATURE REVIEW

2.1 Overview of HIV/AIDS Global Pandemic

Human Immuno-Deficiency Virus (HIV) infection and the Acquired Immune Deficiency syndrome (AIDS) disease have remained one of the most complicated and intricate health problems confronting the world today. Although, in Nigeria HIV prevalence has been falling from 5.8% in 2001 to 5.0% in 2003, 4.6% in 2007 (NACA, 2009) and 3.6% in 2012 (PRB, 2012). HIV/AIDS had remained the topical disease condition that has afflicted man in recent times. The search for a definite cure still varies to expose the devastation caused by the disease worldwide. A significant proportion of the worlds' population is burdened by the disease. Worldwide estimate of people affected is still in the neighbourhood of 40 million despite greater awareness of the disease.

Sub-Saharan Africa is said to have the highest HIV rates in the world. According to UNAIDS (2007), though Sub-Saharan Africa is home to only 13% of world's population, more than two-third of people with HIV lived in the region. UNAIDS (2011) reports that 22.9 million people were estimated to be living with HIV in 2010 in Sub-Sahara Africa, which is slightly higher than that estimated (22.5 million) in 2009, whereas the proportion of HIV-positive population which involves females is 61%. Over 22 million people in Africa have been estimated to have been killed by the epidemic, while 1.6 million died in 2006 and 11.4 million children in sub-Sahara Africa have lost one or both parents to AIDS (World Bank, 2007). UNAIDS (2011) further reports that the well-being and welfare of people in this contemporary time is however threatened throughout the entire world. According to UNAIDS (op cit), 34 million people were living with HIV and 1.8 million had died from an AIDS related illness that same year.

Nigeria is considered to be the most populous country in Africa, and one of the most affected by the epidemic of HIV/AIDS. According to UNAIDS/WHO (2008), the number of people living with HIV/AIDS in Nigeria as at 1990 was estimated to be 340,000 and this increased to 2.6 million in 2007, while prevalence rate of HIV (15 - 49) years category was 0.7% and has geometrically improved to 3.1% in 2007. Moreover AIDS deaths in adult and children in Nigeria is reported to be, 9,600 in 1990. An increase from this to 170,000 in 2007 however shows that the epidemic has increased in the country.

Also, the rapid spread of HIV in Nigeria has been accounted for by a number of factors. These include sexual networking practices such as polygamy, high prevalence of untreated sexually transmitted infections, low condom use, poverty, low literacy, poor health status, low status of women, stigmatization, denial of HIV infection risk among vulnerable groups (USAIDS, 2002). The socioeconomic impact of the epidemic on the Nigerian society has not been documented but it is becoming apparent that the already fragile health care delivery system is overloaded.

HIV/AIDS has caused fear amongst the population of every country experiencing the epidemic, and this fear had lead to behaviour modification. Thus HIV infected people were believed to be living corpses or worst, poisonous living humans. It was and is still believed by various quarters that infected people will die at any moment and if touched or come in contact with, one would definitely be infected as well (Benson, 2013; Nyblade, 2005). Hence this has created a sense of avoidance, discrimination, and even stigmatization against those living with HIV/AIDS.

2.2 Historical Background of HIV/AIDS Stigmatization and Discrimination

The concept of stigma has a long ancestry and has from the earliest times been associated with deviations from the normal (Scrambler, 2009). It is a prime mechanism of informal social control and can have a positive (for example, stigma associated with rape or theft) and negative social impact (UNAIDS, 2007).

Nyblade et al (2003) and Mahendra et al (2007) refer to stigma as the negative acts that result from stigma serving to devalue and reduce the life chances of the stigmatized. It is the societal response to negative value attached to the stigma an individual may carry (Larios et al, 2009) Stigmatization is a dynamic social process that arises from the perception that an individual has undesirable attributes, thus, reducing him in the eye of the society (Nwagwu 2004).

The Joint United Nations Programme on HIV/AIDS (UNAIDS, `2014) defines stigma as a —process of devaluation of people either living with or associated with HIV and AIDS. AIDS-related stigmatization and discrimination refers to prejudice, negative attitudes, abuse and maltreatment directed at people living with HIV and AIDS (Lifson *et al.*, 2013).

HIV-related stigma and discrimination has been identified as a universal phenomenon that occurs in every country of the globe, and has become quite severe; which reinforces dominant ideologies of good and bad with respect to sex and illness, proper as well as improper behaviour (Warwick et al., 1998). In various countries, HIV/AIDS-related stigma and discrimination takes different forms and are manifested fundamentally at both macro and micro levels. At the macro level, stigma and discrimination occurs in workplaces, health care institutions as well as the community. At the microcosmic level, amongst individuals and even within the family (Omololu, 2004; UNAIDS, 2000). One synonymous factor of the levels or forms of HIV/AIDS stigma and discrimination is that at all levels and forms there is denial (Foller & Thorn, 2005). At the workplace, people suffer isolation and experience ridicule as well as other discriminatory practices, ranging from termination to refusal of employment (Jamaica Information Service, 2012).

Sexually transmitted infections have always been imbued with stigma due to their association with behaviors considered deviant or immoral (Goldin, 1994). Similarly, societies have historically reacted with fear to disfiguring, debilitating, and fatal diseases and have translated this aversion into discriminatory actions against the infected (Alonzo et al., 1995). Although AIDS stigma is a product of the HIV epidemic, the association of stigmatization with the disease is not a new phenomenon. History has shown that stigma associated with epidemic illnesses and the social groups linked to them have often hampered treatment and prevention (Herek et al., 1998). HIV/AIDS stigmatization displays continuity with many past epidemics. However in the case of AIDS, the nature and intensity of stigmatization and discrimination are shaped by the social construction of the epidemic in different countries. It takes different forms in different societies while the specific groups targeted for HIV/AIDS stigmatization vary considerably across cultures and national borders. The factors affecting this variation include the local epidemiology of HIV/AIDS beliefs and values surrounding sexuality, disease, gender and prejudices toward specific cultural out groups. It is thus an expression of social and cultural norms shaping relationships among people according to some societal norms (Alonzo and Reynolds, 1995). The stigmatized are usually considered deviant or shameful and as a result are shunned, avoided, discredited, rejected, restrained or penalized (Mill, 2003). Yet, despite the widespread attachment of stigma to people infected or affected by HIV/AIDS, the experience of discrimination has not been constant or consistent across time or place.

Regional, national, and cultural differences can and do shape the level and manifestations of HIV-related stigma. Subsequently, the impact of these social responses shapes the wider HIV epidemic itself.

HIV/AIDS related stigma and discrimination are probably as old as the disease itself. Despite the fact that developed countries provides top quality medical care to people living with HIV/AIDS. the epidemic of HIV related stigma and discrimination looms large at different levels across the globe in which Nigeria society is not excluded.

Stigmatization can be expressed at the instrumental and symbolic levels. It is considered instrumental when individual expresses concern about the risks of contracting HIV through casual contact with those living with HIV/AIDS while symbolic stigma is a vehicle for expressing religious, political, or other attitudes and values through one's perception of PLWHA (Gateway, 2008).

Herek, et al. (1998) also noted that HIV/AIDS stigma and discrimination serves different purposes for different persons. For some, it is for religious, political, or even for purposes of personal safety.

Lee, Kochman and Sikkema (2002) discovered that PLWHA experience different levels of stigmatization with some experiencing no stigma at all.

Giddens and Duneier (2006) defined stigma as any characteristics that sets an individual or group apart from the majority of the population with the result that the individual or group is treated with suspicion or hostility.

The HIV infection carries its multiple consequences on the life of the patients. However, apart from the health condition which predisposes the victim to discomfort, the financial cost of managing AIDS. (UNAIDS, 2003 and Gateway, 2008) revealed that stigmatization has become the major problems faced by the people living with HIV/AIDS (PLWHA) especially among women of reproductive age.

From the moment scientists discovered HIV and AIDS, social responses of fear, denial, stigma and discrimination have accompanied the epidemic. It has become a powerful tool of social control that is used to marginalize, and exercise power over individuals who show certain characteristics of being infected. It spread rapidly, fuelling anxiety and prejudice against the group most affected, as well as women with positive HIV status. Neglect and stigmatization against HIV patients is so rampant among Nigerians such as in different parts of the world (Sayles, 2009).

Stigmatization and discrimination against HIV positive women is also common among religious groups in Nigeria because they see immoral behaviour as being the cause of the HIV/AID epidemic (Benson et al., 2013). Also, Rankin et al (2005) in their work in Eastern and Southern Africa reported that many Christians and Moslems believe that living with HIV/AIDS implies promiscuous or sinful behaviours. Women with HIV/AIDS are stigmatized, irrespective of how the virus was contracted and HIV/AIDS infection is been misconceived as promiscuity. Paxton (2005) stated that within family and the community, women are significantly more likely to experience stigma than men, including ridicule and harassment, physical assault and being forced out of their homes. Women are often more conscious of their self identity and desire social acceptance more than men; on this note, most women with HIV may think that their identity and self worth have been damaged. Russell (2005) stated that blame is often assigned to black people and women, thereby exposing women to more stigma experience than men. Men also blame women for infecting them and also spreading the virus.

These women are discriminated against within the family, community, workplace, school and health care centres. Research carried out shows that these women shy away from disclosing their HIV status or going for HIV treatments and counselling to avoid being shamed by the family and the community at large. They would rather keep their status to themselves, which will be of high disadvantage to them and the community at large. These attitudes towards HIV sero-positive individuals, often made them lose their jobs, health care denial, isolated and threatened (McCain 2003).

In some societies, laws, rules and policies can increase the stigmatization against these women. Such legislation includes compulsory screening and testing, as 'well as limitations on international travel and migration. These further stigmatized and have psychological effects on them (Gateway, 2008).

Also many researchers from various professional fields have over the years spent various resources on unraveling the mysteries of HIV and its complexities. Fear of discrimination often discourages people from seeking treatment or from disclosing their HIV status, which makes prevention and management of the disease very difficult. The stigma attached to HIV and AIDS extends into the next generation, placing a heavy emotional burden on those left behind. It is especially hard for children who may already be grieving a parent or family member (UNFPA, 2005)

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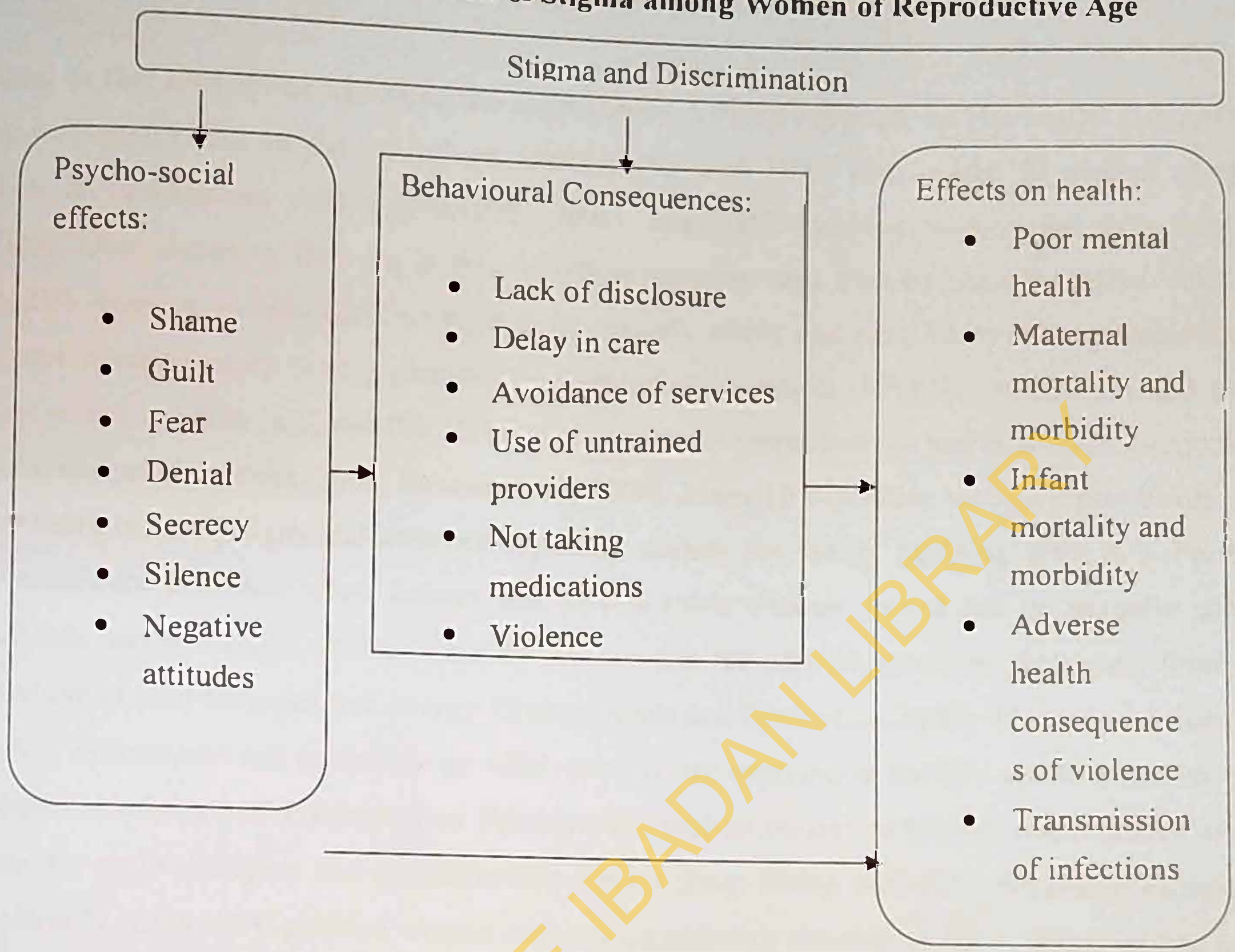
from an AIDS-affected household as well as teacher's dismissal because of their HIV status (UNFPA, 2005)

2.2.1 Conceptual Framework of Stigmatization and Discrimination

For all people living with HIV (PLHIV), theoretical frameworks and a wealth of research on HIV-related stigma and discrimination have shown that different dimensions of stigma: anticipated stigma, perceived community stigma, enacted stigma (discrimination), and self-stigma adversely affect quality of life, healthcare access, and health outcomes (Steward et al., 2008; Earnshaw et al., 2009; Holzemer et al., 2009). Further, some research suggests that stigma from close persons may have a bigger impact (Brickley et al., 2009; Brown et al., 2010; Turan et al., 2011). Figure 1 illustrates how HIV-related fears and experiences of stigma can lead to a series of known, negative psycho-social effects, which in turn lead to behavioral consequences (such as lack of disclosure and avoidance of health services), which can result in negative maternal, infant, and paternal health outcomes.

Figure 1: A Framework for the Effects of Stigma among Women of Reproductive Age



Adapted from Kumar et al., Culture, Health and Sexuality, 2009.

2.2.2 Stigmatization among Women of Reproductive Age

According to the 2008 global report of the Joint United Nations Program on HIV/AIDS (UNAIDS), women account for half of the 33 million adults living with HIV, with nearly 60 percent of HIV infections in sub-Saharan Africa (UNAIDS, 2008). Most HIV-positive women are over age 15 (UNAIDS, 2008), meaning they are in their childbearing years and may be sexually active. Like all women, HIV-positive women have the right to be sexually active and need to be able to access high-quality, non-discriminatory family planning and reproductive health (FP/RH) information and care. However, recent research indicates that HIV-positive women's reproductive health is often overlooked (Kyomuhendo and Kiwanuka, 2008; Eckman et al., 2006). Many HIV-positive women report healthcare provider hostility and judgmental attitudes regarding desires for family planning (POLICY Project, 2006). Healthcare providers often believe that HIV-positive women should not be sexually active (Kyomuhendo and Kiwanuka, 2008). When FP/RH services are offered, providers frequently limit the number of options for HIV-positive women (Kyomuhendo and Kiwanuka, 2008). This may be due to a lack of clear information and guidelines on which services are appropriate for HIV-positive women or a manifestation of stigma and discrimination. Providers themselves are part of broader communities where there may be societal stigma and discrimination toward those living with HIV (PLHIV), especially toward sexually active HIV-positive women who are considering whether to have, delay, or not have children. For these reasons, HIV-positive women's unmet need for contraception is high and often times greater than that of women in the general population. For example, in Uganda, the Centers for Disease Control and Prevention reported that 93 percent of pregnancies among pregnant women receiving antiretroviral treatment (ART) were unintended (Cohen, 2008). Similarly, research by Family Health International on women in HIV counseling and testing clinics (where women are at high risk for HIV) revealed that the majority of women said that they did not want another child in the next two years. In Kenya, it was 59 percent, 66 percent in Tanzania, and 77 percent in Zimbabwe (Cohen, 2008).

Research has shown that women of reproductive age especially pregnant women are particularly vulnerable to the adverse effects of HIV-related stigma and discrimination. Because a pregnant woman is often the first family member to be tested for HIV, she is vulnerable to blame for bringing the virus into the family and often suffers from adverse consequences of her HIV-positive status disclosure (Bond

et al., 2002 and Turan et al., 2008). There is compound settings by gender norms or relations that penalize women for perceived promiscuity (often assumed of persons living with HIV) and place women in positions of socio-economic vulnerability (Strebel et al., 2006).

Self (or internalized) HIV-related stigma is another important force that negatively affects women's quality of life, healthcare utilization, and mental health (Simbayi et al, 2007; Rahangdale et al., 2010; and Vyavaharkar et al., 2010). Pregnant women have become especially vulnerable to stigma and discrimination, as maternity services have now become prime locations for HIV testing and provision of PMTCT interventions, especially in the sub-Saharan African countries with the highest HIV prevalence. Thus, all pregnant women in these countries become aware that they will have to deal with the issue of HIV testing when visiting matemity services

2.3 Types of Stigmatization

There are three kinds of stigma, perceived stigma, enacted stigma and self stigma.

i. **Perceived Stigma** also called anticipated stigma or felt stigma is the perception, expectation or fear of discrimination and awareness of negative attitudes or practices in the society (Wess, 2006; ILEP, 2012). For example - Pregnant women may avoid seeking antenatal care or labor and delivery services during pregnancy if they fear HIV testing and anticipate stigma if found to be HIV positive.

ii. **Enacted stigma** is also called discrimination or experienced stigma. This occurs when any member of society, healthcare provider or person in the surrounding behaves negatively or discriminates by some means to the affected person (ILEP, 2012; Van Brakel, 2006). For example- Pregnant women or women who wish to become pregnant, who disclose their HIV-positive status (either advertently or inadvertently) may be physically or verbally abused or socially isolated.

ii. **Self- sigma** is called internalized stigma. This type occurs when a person start believing what others think or say about him. This in turn, may lead to loss of self-esteem and dignity with consequent development of fear, shame as well as hopelessness and guilt. (Janet et al., 2012) for example HIV-positive women may blame themselves and internalize negative perceptions about people living with HIV and may be less likely enroll in HIV care and treatment for their own health and may suffer from depression.

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Mixed stigma includes more than one type of stigma. The experience of social discrimination, fear, shame and hesitation to participate in society ultimately can lead to isolation, anxiety and depression, which further results into consequent economic burden. Also, fear of social exclusion and hesitation to participate in society can lead to disease concealment ultimately resulting into the development of disability, poor treatment adherence and the persistence of negative stereotypes (Rafferty et al., 2005)

The experience of stigmatization or the enacted stigma exist when there are actual experiences of discrimination by any member of society, family or friend while perceived stigma refers to the anticipation or fear of discrimination and negative attitudes, not necessarily by the presence of enacted stigma. Self or internalized stigma is a long term impact of continuous socialization about stigmatization which leads to the development of loss of self-esteem and dignity along with the consequent development of fear, shame, hopelessness and guilt (Wilder-Smith et al., 2008)

Also. Scambler and Hopkins, 1986 used Goffman's concept of stigma to study people with epilepsy. In their study, distinction between enacted stigma and felt stigma were made. Enacted stigma was referred to instance discrimination against people with an undesirable attribute on the ground of their perceived unacceptability or infirmity while Felt stigma was referred to as principal fear of enacted stigma which encompasses a feeling of shame associated with the unacceptable attribute.

2.4 Effects of Stigmatization and Discrimination

HIV/AIDS-related stigma and discrimination have a substantial impact on women living with HIV/AIDS and those at risk of HIV infection. The sexual and reproductive health of women living with HIV/AIDS is fundamental to their well-being and that of their partners and children (WHO. 2006).

Stigmatization has caused anxiety and prejudice against the group most affected as well as women living with HIV/AIDS in the society. It has resulted in discriminatory acts which create circumstances that fuel the spread of HIV. The fear of being identified with HIV prevents these women from learning their sero-status, changing unsafe behaviour, receiving care and emotional support needed (Busza, 1999).

It has also shown from research that stigmatization act as a barrier to HIV Voluntary Counseling and Testing (VCT) as well as to the effectiveness of prevention and care services (Boer, 2004; Carr, 2004; Doherty, 2006; Kalichman, 2003; and Turan, 2008). Often these barriers are most profound in settings with limited access to antiretroviral therapies (ARVs) especially among pregnant women.

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Stigma associated with HIV in Africa is documented to be a barrier to disclosure of HIV status. Attitudes involved are shame, blame and judgment among others (Lifson et al., 2013). A study conducted in Buea in Cameroon, one of the first in a hospital setting, showed that the major problems faced by the PLWHA with regard to stigmatization and discrimination were gossiping and verbal abuse through insults and derogatory language (Nguyen et al., 2009).

The effects of HIV-related stigma and discrimination are often so severe that most members of society fear them (Aggleton, 2000). Potential HIV positive women can prevent or avert stigma and discrimination by going into denial. The denial of a stigmatized condition such as HIV/AIDS may be experienced by those who have not been tested irrespective of their assessment or their vulnerability.

2.5 Factors affecting Stigmatization

Many factors enable HIV/AIDS related stigma and discrimination to thrive. Omololu, 2004 and Rankin et al., (2005) believed that in Africa, stigmatization and discrimination is powered by inaccurate understanding of HIV/AIDS transmission, which means low level of HIV/AIDS knowledge.

Also, mental health of PLWHA is affected by the discrimination of health workers against PLWHA. Kayode et al., (2000) found that health care workers discriminate against PLWHA during clinical practice and this makes them to experience severe emotional and social problem.

The Federal Ministry of Health (FMOH, 2001) estimated that there will be increased risks of HIV transmission to the wider community due to the increasing rate of drug injection among female sex workers, unsafe sexual relations between IDUs and people living with HIV and the low prevalence of condom use among female sex workers.

Prostitution, alcohol and the use of illegal drugs, are problems that have emerged as a rapid social change that has increased vulnerability of HIV/AIDS spread among women of reproductive age which in turn leads to stigmatization (WHO, 2006).

2.6 Consequence of Stigmatization

The consequences of stigma, discrimination, denial, and shame on prevention and care can be viewed from the perspectives of the individual, the society, and the caregivers. In the case of the individual, fear of rejection, discrimination, and even deadly violence can discourage people from taking an HIV test, sharing the results, and complying with treatment even when they learn of the advantages of early detection (Wright, 2000), (Anonymous, 2001). Similarly, the self-imposed sense of shame about HIV infection can affect an individual's ability to take even elementary preventive actions such as condom use (Aggleton, 2000). For example, a South Pacific woman who knew her husband was having casual sex when away from the family felt too ashamed presumably of her own helplessness, subordination, and humiliation to ask him to take precautions against infection (Anonymous, 1993).

The stigma attached to AIDS not only affects the individual's access to health services and employment, but also their treatment by community, social, and religious groups. (Anonymous, 2000)

In response to the fear of stigmatization and social isolation, many PLWHAs avoid becoming involved in community AIDS education even though their involvement would provide a tremendous opportunity for correcting many misconceptions about the virus and its transmission (Muyinda, 1997).

AIDS orphans experience major psychosocial effects on the loss of parents, including stigmatization and learning difficulties at school, social ostracism, low levels of social support, discrimination in all areas of life, and economic hardship. In addition, children who lose their parents to AIDS become fearful of losing other people close to them. They experience desolation, extreme loneliness, a high rate of concealment as to the cause of parental death, and unresolved grief (Devine, 1999).

Society may use stigmatization and discrimination in defense of norms and values, but the public health consequences of driving the HIV/AIDS epidemic underground are devastating to the health, economy, and social life of the society (Anonymous, 2000).

2.7 Reasons for Stigmatization

The basis of stigma and discrimination in the early stages of the epidemic was the prevailing myth that HIV could be contracted through normal social contact. In Uganda, for example, it was believed that if one person in a family had AIDS, the rest of the family would become infected. Consequently, many

community members terminated social relationships when a person's HIV status became known (Muyinda, 1997). The blame of women and sex workers for the spread of HIV and other sexually transmitted infections (STIs) has resulted in considerable discrimination against them (Maduna, 1997). Criminal sanctions that seek to regulate the sex industry, however, tend to cause sex workers to operate secretly and therefore out of reach of intervention efforts (Gasu, 1996).

Men who have sex with men (MSM) had their own concerns about stigma before the HIV epidemic. Early HIV prevalence rates among MSM heightened that sense of insecurity. Because of this anxiety, MSM in Trinidad kept quiet about their sexual orientation and HIV sero-status (Sealey, 1995 and Nack, 2000). The same association of sexual orientation with HIV infection resulted in the reluctance to share HIV test results in Chile (Astorga, 1992).

There is a prevailing notion that PLWHAs are morally irresponsible. This view was observed among some Kenyan medical students, which suggests that medical knowledge of the epidemic does not fully address the fundamental issues of moral sanction and stigma (Baguma, 1992). In the general population, outright myths about the spread of HIV can fuel considerable stigma. A significant proportion of the population may not know that most HIV-positive people appear and feel well. Many believed that HIV could be transmitted by sharing a public toilet (Ajayi et al., 2013). In 2003, one in ten respondents surveyed in markets in Oyo State believed mosquitoes could transmit HIV/AIDS (Adeokun, 2004).

In the absence of general HIV testing, speculation about the status of individuals can form the basis for stigmatization and discrimination. In high HIV prevalence settings, the death of spouses within a year or two of one another has been taken as rough confirmation that they both died of AIDS (Adeokun, 2004).

The justifications for stigmatizing PLWHAs vary, and also is the patterns of stigma and discrimination they elicit. Those who view HIV as a contagion may reject PLWHAs in forms ranging from the benign to the harsh. Understanding the relationship between the justification and the pattern of stigma is a prerequisite for tailoring stigma-reducing interventions to the social and cultural realities of the situation. The goal of such interventions is to change stigmatizing attitudes and behaviors of members of the target group and thereby reduce or eliminate the negative impacts of stigmatization.

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CHAPTER THREE

METHODOLOGY

3.1 Study Area

Nigeria is the most populous country in sub-Saharan Africa with population of 140,431,790 (FRN Official Gazette, 2009). She has 36 states including Federal Capital Territory (FCT). Nigeria has six geo-political zones; South-West, South-South, South-East, North-central, North-East and North-West. The country comprises of different ethnic groups and several languages with three major ones as Yoruba, Igbo and Hausa.

3.2 Study Design

This study utilized data obtained from National HIV/AIDS and Reproductive Health Survey (NARHS Plus II) that was conducted in 2012. It is a cross-sectional study of men and women within reproductive age15-64 years and 15-49 years respectively.

The 2012 National HIV and AIDS and Reproductive Health Survey (NARHS Plus II) was a nationally representative survey carried out to provide information on key HIV & AIDS and reproductive health knowledge and behaviour related issues such as AIDS programme knowledge, attitudes, beliefs and on other available literature (Xinming, 2003; WHO, 2008).

The questionnaire started by outlining the benefits and aims of the study and recording the demographic characteristics of the study sample (age, sex, marital status, level of education, sexual behavior, sexual history, condom use, STI and many others).

It also provides the much needed information on HIV infection in the various categories of the population which is essential to guide policy makers and programme managers as they plan and implement interventions to address the HIV & AIDS epidemic. The survey included a second wave of the biological marker component (HIV testing) and was called NARHS Plus II.

3.3 Study Population

It is a nationally representative sample of females aged 15-49 years and males aged 15-64 years living in households in rural and urban areas in all the 36 states and the Federal Capital Territory (FCT) in Nigeria. Females within reproductive age 15- 49 years was used for this study.

3.4 Sampling Techniques

Probability sampling was used for the survey. Multi-stage cluster sampling method was used to select eligible persons with known probability. Stage 1 involved the selection of rural and urban localities. Stage 2 involved the selection of Enumeration Areas (EA) within the selected rural and urban localities. Stage 3 involved the listing and selection of households while stage 4 involved selection of individual respondents for interview and testing. Overall, 35,520 households and 35,520 individual respondents were selected for final interview of which 32,190 households (91%) and 31,235 individuals (88%) were successfully interviewed; resulting in a 2.5% non-response rate. A total of 24,152 of the individuals that responded to the interview (which represent 78%) were successfully tested for HIV.

3.5 List of Variables Included for Analysis

3.5.1 Dependent Variables:

Questions / variables used to measure perceived stigmatization and discrimination include:

1. Would you be willing to eat from the same dish with a person you knew had the virus that causes AIDS (HIV)?
2. If a male relative of yours became ill with AIDS, would you be willing to care for him in your household?
3. If a student has the virus that causes AIDS (HIV) but is not sick, should he or she be allowed to continue attending school?
4. 4. If a female relative of yours became ill with AIDS, would you be willing to care for him in your household?
5. If a female teacher has the virus that causes AIDS (HIV) but is not sick, should she be allowed to continue teaching in school?
6. If you knew a shopkeeper or food seller who had the virus that causes AIDS (HIV), would you buy food from him/her?

7. In your own view, do you think your community cares and support PLWHA.

These seven stigmatizing and discriminating related questions were used to create and compute the dependent variable. Responses were scored (Adewuya & Makanjuola, 2008) and assigned values such as agree =0, neutral =1, and disagree =2 which were summed up to generate total stigma scores.
The total stigma scores was disaggregated into 3 categories using percentiles ranges. The 25th, 50th and 75th percentiles were 2, 4 and 7 respectively. Values less than 4 (0-3) was categorized as "low" stigma, values between 4-6 represented "moderate" stigma, and values ≥ 7 indicated "high" stigma.

3.5.2 Independent Variables:

The explanatory variables used in this analysis were:

1. Socio-demographic variables
2. Psycho- demographic variables such as drug use, sexual history/ behavior, knowledge of STI and HIV Infection, HIV Counseling/ Testing

3.5.2.1 The Socio-demographic Variables were:

1. Sex of the respondent: female
2. How old were you as at your birthday?
3. What is your occupation i.e what kind of work do you mainly do? Director/ upper management, other management, sales manager/representative/insurance, professional/ specialist/ self employed etc
4. What is your highest level of school you attended? Qua'anic only, primary, secondary or higher?
5. What is your religion?: Islam, Christian, and traditional etc
6. Which of these best describes your marital status? Are you.....currently married, separated, divorced, never married etc

3.5.2.2 The Psycho-demographic Variables were:

1. **Alcohol use:** Some people take alcohol, others don't, during last 4 weeks, and how often have you had drinks containing alcohol?
2. **Condom knowledge and usage:** Have you ever heard of male condom?

Sexual History/ behaviour

3. **Sexual history**: At what age did first have sexual intercourse, if ever?
4. **Commercial sex**: Have you ever had sex in exchange for money/favours or gifts? yes or no
5. **Multiple partners**: Surveys reveal that people have had more than one sexual partner a same time. Would you say this has ever happened to you? Yes or no

Sexually Transmitted Infections:

STI symptoms were measured using four questions such as:

6. Have you had an abnormal genital discharge during the past 12 months? Yes or no
7. Have you had genital itching during the past 12 months? Yes or no
8. Have you had a genital sore/ ulcer during the past 12 months? Yes or no
9. Have you had genital rash during the past 12 months? Yes or no

Any 'yes' response from at least one of the four questions implies presence of STI symptom while a 'no' response from all the questions implies absence STI symptom.

Knowledge of HIV Infection:

In line with UNGASS comprehensive HIV knowledge and (Bandura, 1986) social-cognitive framework, this study adopts to measure the knowledge and opinion about HIV/AIDS based on a set of variables.

10. How can a person get the virus that causes AIDS? mosquito bites/bugs, witchcraft, sharing food with an infected person etc
11. Is it possible that a healthy- looking person has the virus that causes AIDS? Yes or no
12. What can a person do to avoid getting the virus that causes AIDS? Use of condoms, staying with faithful uninfected partner. Abstinence from sex etc
13. On which media have you heard of HIV prevention messages? radio, television, billboards etc

14. Which of these HIV prevention messages did you hear? Prevention of STI, Treatment of infected people, PMTCT etc

15. Have you heard about special antiretroviral drugs that people infected with the virus that causes AIDS (HIV) can get from a doctor or a nurse to help them live longer? Yes or no

HIV Counseling and Testing:

16. Do you know a place where you can go for HIV (AIDS) test? Yes or no

17. Have you ever been tested to find out if you have the virus that causes AIDS? Yes or no

18. Would you like to have a test to find out if you have the virus that AIDS (HIV)? Yes or no

19. I don't want to know the result of your test, but did get the results of the test? Yes or no

20. Would you rate your chances of getting AIDS as high, low or no risk at all?

3.6 Data Management

Analysis was done using the statistical package for social sciences (SPSS) Version 20.0 (SPSS, Chicago IL, USA). Descriptive Statistics such as means, S.D, median, ranges were used to summarize quantitative variables while qualitative variables are summarized with percentages. Chi-square and Multinomial Logistic Regression analysis was also performed with SPSS.

The dependent variable was HIV- related perceived stigma and discrimination which was measured using seven questions about respondents' discriminatory attitudes against people living with HIV/AIDS selected based on previous studies conducted (Adewuya & Makanjuola 2008).

Pearson's chi square test was used to determine the association between perceived stigmatization and those willing to take HIV test versus those who are not. It was also employed to determine association between perceived stigmatization and those willing to collect HIV test result versus those who are not as well as other relationships between perceived stigmatization and every other independent variables p-values < 0.05 were considered statistically significant.

Multinomial Logistic Regression analysis method was employed to determine the contribution of explanatory variables (factors) on perceived stigmatization and negative feeling against people living with HIV/AIDS. The Odd Ratio (OR) for perceived stigmatization was calculated for relevant variables and their 95% confidence interval (CI) determined.

The explanatory variables that were utilized in the multinomial logistic regression analysis are socio (age, education, marital, occupation and religion) and psycho demographic variables such as alcohol, sexual history and behavior, STIs, HIV knowledge, prevention, misconceptions, testing and risk perception. Seven questions were used to measure comprehensive knowledge of HIV/AIDS with the use of scoring based on literatures a threshold set by UNGASS (ochako et al., 2011; Sophoan, 2013). Thereafter, multinomial logistic regression model was used to determine association between stigmatization against PLWHA and several explanatory variables.

The knowledge section of the questionnaire had several questions about HIV/AIDS modes of transmission, prevention, risk of acquiring HIV infection, misconceptions, and whether they had ever tested, on HIV/AIDS or not. Knowledge status was determined by sum of correct responses for each respondent. A 'yes', if the respondent answered all seven questions about HIV and AIDS correctly, and 'no', if the respondent had any incorrect answers. This is in line with UNGASS accepted definition of comprehensive HIV and AIDS knowledge as used widely and also adopted by this study. Responses were also scored. 1 point was awarded for a correct answer and 0 point for an incorrect choice or no response. Total scores for each respondent ranged from 0-7. 'Score 0-3', meaning the persons had poor comprehensive knowledge about HIV transmission routes and beliefs, and 'Score 4-7' meaning the persons had a good comprehensive knowledge about HIV transmission routes and beliefs.

Also in the communication section of the questionnaire, any HIV prevention messages heard on media and type of prevention message heard through any media was recomputed as a variable. Any 'yes' response from at least one of the questions used implies HIV prevention messages were heard through the media while a 'no' response from all the questions implies HIV prevention messages were not heard through a media.

3.7 An Overview of Multinomial Logistic Regression

The multinomial (polytomous) logistic regression model is a simple extension of the binomial logistic regression model. It is used when the dependent variable has more than two nominal or unordered categories, in which dummy coding of independent variables is quite common to the dependent (response) variable. Meaning that there is a variable for all categories but one, so if there are M categories there will be M-1 dummy variables. All but one category has its own dummy variable. Each category's dummy variable has a value of 1 for its category and a 0 for all others. One category, the reference category, does not need its own dummy variable, as it is uniquely identified by all the other variables being 0. A separate binary logistic regression model is estimated for each of those dummy variables giving a result of M-1 binary logistic re gression models. The most significant factor to consider is the one that tells the effect of the risk of predictors on the probability of success in that category, in comparison to the reference category.

The generalized linear modelling technique of multinomial logistic regression can be used to model unordered categorical response variables. This model is understood as a simple extension of logistic regression that allows each category of an unordered response variable to be compared to an arbitrary reference category providing a number of logit regression models. A binary logistic regression model compares one dichotomy (for example, passed-failed, died-survived, etc.) whereas multinomial logistic regression model compares a number of dichotomies. The outputs procedure number logistic regression models that make specific comparisons of the response categories. When there are j categories of the response variable, the model consists of j-1 logit equations which are fit simultaneously. Multinomial logistic regression is a technique that basically fits multiple logistic regressions on a multi-category unordered response variable that has been dummy coded.

3.7.1 Multinomial Logistic Regression Model

Multinomial logistic regression allows each category of an unordered response variable to be compared to a reference category, providing a number of logistic regression models. For example, to model three responses to stigma-related questions (there are three categories in the unordered response variable), two logit models are computed; low stigmatizing attitude to PLWHA and high stigmatizing attitude. The

model of choice between three responses to stigma-related questions can therefore be represented using two (i.e., j -1) logit models.

$$\log \frac{Pr\ (Y=low\ Stigma\ \text{to PLWHA})}{Pr\ (Y=moderate\ stigma\ \text{to PLWHA})} = \alpha+\beta_1 X_1+\beta_2 X_2+\ldots+\beta_k X_k$$

$$\log \frac{Pr\ (Y=low\ Stigma\ \text{to PLWHA})}{Pr\ (Y=high\ stigma\ \text{to PLWHA})} = \alpha+\beta_1 X_1+\beta_2 X_2+\ldots+\beta_k X_k$$

This is useful information as the effect of the explanatory variables (X_k) can be assessed for each logit model (i.e., the effect of X_1 on low stigmatizing attitude vs. high stigma *and* the effect of X_1 on low stigmatizing attitude vs. moderat). It is also useful to interpret a single parameter for each explanatory variable in order to derive a single parsimonious model of the response variable. The multinomial logistic regression model allows the effects of the explanatory variables to be assessed across all the logit models and provides estimates of the overall significance (i.e., for all comparisons rather than each individual comparison). The general multinomial logistic regression model is shown below:

$$\text{Log}\ \frac{Pr\ (Y=j\ )}{Pr\ (Y=j')} = \alpha+\beta_1 X_1+\beta_2 X_2+\ldots+\beta_k X_k$$ where j is the high stigma and j' is the no stigma

3.7.2 Features of Multinomial Logistic Regression

1. Multinomial logistic regression is a simple extension of binary logistic regression that allows for more than two categories of the dependent or outcome variable. Like binary logistic regression, multinomial logistic regression uses maximum likelihood estimation to evaluate the probability of categorical membership.

2. Multinomial logistic regression does necessitate careful consideration of the sample size and examination for outlying cases. Like other data analysis procedures, initial data analysis should be thorough and include careful univariate, bivariate, and multivariate assessment. Sample size guidelines for multinomial logistic regression indicate a minimum of 10 cases per independent variable (Schwab, 2002).

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3. Specifically, multicollinearity should be evaluated with simple correlations among the independent variables. Also, multivariate diagnostics (i.e. standard multiple regression) can be used to assess for multivariate outliers and for the exclusion of outliers or influential cases.

4. Multinomial logistic regression is often considered an attractive analysis because; it does not assume normality, linearity, or homoscedasticity. A more powerful alternative to multinomial logistic regression is discriminant function analysis which requires these assumptions are met.

5. Indeed, multinomial logistic regression is used more frequently than discriminant function analysis because the analysis does not have such assumptions. Multinomial logistic regression does have assumptions, such as the assumption of independence among the dependent variable choices. This assumption states that the choice of or membership in one category is not related to the choice or membership of another category (i.e., the dependent variable). The assumption of independence can be tested with the Hausman-McFadden test.

6. Furthermore, multinomial logistic regression also assumes non-perfect separation. If the groups of the outcome variable are perfectly separated by the predictor(s), then unrealistic coefficients will be estimated and effect sizes will be greatly exaggerated.

3.7.3 Preference of Multinomial Logistic Regression to other Techniques

Most of multivariate analysis techniques require the basic assumptions of normality and continuous data involving independent and/or dependent variables. Multinomial logistic regression is used when the above assumptions is violated.

A multinomial logistic regression model is a form of regression where the outcome variable is binary or dichotomous and the independents are continuous variables, categorical variables, or both.

The comparisons equivalent for a dummy-coded dependent variable, with the group with the highest numeric score used as the reference group.

Multinomial logistic regression handles case of dependents with more classes. It provides a set of coefficients for each of the classes which is referred to as the multivariate case.

It is expected that multinomial logistic regression approach would do better when there is evidence of substantial departures from multivariate normality as in case where there are dichotomous or zero/one variables or where distributions are highly skewed or heavy-tailed.

In MLR, hypotheses on significance of explanatory variables cannot be tested in quite the same way as linear regression because in linear regression, if the response variables are normally distributed, one can use t- or F-test statistics for testing significance of explanatory variables.
But in logistic regression, the response variables are bernoulli distributed, meaning that a risk analyst has to use different test statistics, which exact distributions are unknown.

To effect this, two different types of test statistics, the (log) likelihood ratio statistic (often referred to as the -2log or deviance) and the Wald statistic are used. The model is written somewhat differently in some software (cf. SPSS & STATA) than usual mathematical approach. In some software (cf. SAS), the sign is a plus, suggesting that increases in predictor values leads to an increase of probability in the *lower*-numbered response categories. The converse is true for software such as SPSS with a minus sign between the intercept and all the regression coefficients .This is a convention ensuring that for positive beta coefficients, increases in predictor values leads to an increase of probability in the higher-numbered response categories.
In general, the likelihood statistic is superior to the Wald statistic (in the sense that it gives more reliable results), so the paper would mainly concentrate on the likelihood ratio statistic (the reason for considering the Wald statistic too, is that it is computationally easy and is given automatically in the output of most statistical computer packages.

3.7.4 Advantages of Multinomial Logistic Regression

Tabachnick et al. (2001) argued that multinomial logistic regression technique has number of major advantages as a summary to the discussion above: (1) it is more robust to violations of assumptions of multivariate normality and equal variance-covariance matrices across groups; and (2) it is similar to linear regression, but more easily interpretable diagnostic statistics. Further, advantages of the analysis that raise its popularity come from the following assumptions: (3) most importantly, MLR does not assume a linear relationship between the dependent and independent variables; (4) independent variables need not to be interval (5) MLR does not require that the independents be unbounded and lastly (6) normally distributed error terms are not assumed.

3.7.5 Estimation Parameter Techniques in Multinomial Logistics Regression

There are different parameter estimation techniques based on the inferential goals of multinomial logistic regression analysis. The ways of applying multinomial logistic regression when strata or clusters apparent in the data are;

1. Unconditional logistic regression (Breslow & Day, 1980) refers to the modeling of strata with the use of dummy variables (to express the strata) in a traditional logistic model. In this technique, one model is applied to all the cases and the stata are included in the model in the form of separate dummy variables, each reflecting the membership of cases to a particular stata.

2. Conditional logistic regression (Breslow & Day, 1980; Vittinghoff, Shiboski, Glidden, & McCulloch, 2005) refers to applying the logistic model to each of the stata individually. The coefficients of the predictors (of the logistic model) are *conditionally* modeled based on the membership of cases to a particular stata.

3. Marginal logistic modeling (Vittinghoff, Shiboski, Glidden, & McCulloch, 2005) refers to an aggregation of the stata so that the coefficients reflect the population values averaged across the stata. As a rudimentary example, consider averaging each of the conditional logistic coefficients, from the previous paragraph, to arrive at set marginal coefficients for all members of the population – regardless of stata membership.

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CHAPTER FOUR

RESULTS

4.1. Characteristics of Respondents

A total of 15,639 records were available for analysis. The mean age of the women was 29.08years (SD=9.5yrs). Table 4.1 and 4.2 provides information on socio and psycho demographic variables, as well as on levels of perceived stigma among women of reproductive age.

4.1.1: Socio- demographic Characteristics

The age distribution showed that women within age group 25-39yrs were 7012 (44.8%) relative to those within 15-24yrs (5583 (35.7%)) and 40yrs above (3044 (19.5%)).

Majority of respondents (5769, 36.9%) had secondary education, 2620 (16.8%) had primary education, and 1486 (9.5%) had higher education. A total of 5640 (36.1%) and 5202 (33.3%) were unemployed and self employed respectively. Students were 2733 (17.5%) and 1004 (6.4%) had skilled employment.

Majority of the respondents practiced Christianity (8920 (57.2%)), 6514 (41.7%) were Muslims and only 169 (1.1%) practiced the traditional religion.

Also, 10714 (69.4%) of the respondents were married or living with sexual partners, 3850 (24.9%) were never married, and 499 (3.2%) were widowed. Table 4.1 shows the socio-demographic characteristics of the respondents.

Table 4.1: Socio-demographic characteristics of the respondent

Characteristics	N= 15639 n (%)
Mean Age (S.D)	29.08 (± 9.541)
Age group	
15 -24	5583 (35.7)
25-39	7012 (44.8)
40-49	3044 (19.5)
Education	
Quranic /No Education	5746 (36.8)
Primary	2620 (16.8)
Secondary	5769 (36.9)
Higher	1486 (9.5)
Occupation	
Unemployed/housewife/pensioner/others	5640 (36.1)
Student	2733 (17.5)
Unskilled/informal sector/hawkers/vendors	1030 (6.6)
Self employed/farmer/forestry/fishing/mining	5202 (33.3)
Skilled/professional/directors/clerk/civil servant	1004 (6.4)
Religion	
Islam	6514 (41.7)
Christianity	8920 (57.0)
Traditional/others	169 (1.1)
Marital Status	
Currently Married/LW sexual partner	10714 (69.4)
Never Married	3850 (24.9)
Separated/Divorced	377 (2.4)
Widowed	499 (3.2)

4.1.2 Psycho-Demographic characteristics for women of reproductive age

A total of 283 (1.8%) took alcohol every day, while 13698 (87.6%) had never had alcohol. The median age at first sex was 18years with range of 38 years. Majority had heard about the male condom (9888 (63.6%)), 744(5.8%) had sex in exchange for gifts while 1207(9.2%) had more than one sexual partner. Respondents with STIs symptoms were 1219 (7.8%) compared to those that do not have STIs (14311 (92.2%)). The distribution of these women in terms of HIV comprehensive knowledge revealed that 10130 (76.8%) had good comprehensive HIV and AIDS knowledge, while 3099 (23.4%) had poor knowledge. A high proportion of the respondents (7816 (72.3%)) had heard of antiretroviral drugs that could make infected women live longer, 4415 (32.1%) of the respondents had ever been tested to know their HIV status, 9244 (67.2%) knew where to get tested, 7411 (78.4%) were willing to test, while 2736 (67.7%) were willing to collect test result. Mass media, especially radio and television (6514 (42.3 %) and 4310 (28.0%)), constitutes a major source of information about HIV/AIDS. Respondents that heard HIV prevention methods on condom use were 5387 (72.2%), while 2934 (39.3%) heard the messages on STIs prevention. Table 4.2 shows Psycho demographics variables of the respondents.

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Table 4.2A: Psycho-demographic characteristics for women of reproductive age

Characteristics	N= 15365 n (%)
Alcohol in-take during last 4 weeks	
Everyday	283 (1.8)
At least once a week	911 (5.9)
Less than once a week	606 (3.9)
Never	13698 (88.0)
Not sure	70 (0.4)
Sexual history and behavior	
Median Age at first sexual intercourse (Range)	18 (38)
Have you ever heard of male condom?	
Yes	9888 (63.6)
No	5660 (36.4)
Have you ever had sex in exchange for money/favour or gifts?	
Yes	744 (5.8)
No	12194 (94.2)
Have you ever had more than one sexual partner at the same time?	
Yes	1207 (9.2)
No	11880 (90.8)
Have you heard of disease that can be transmitted through sexual intercourse (STIs)	
Yes	9784 (63.0)
No	5751 (37.0)
Any symptoms of STI in the last 12 months?	
STI Absent	14311 (92.2)
STI Present	1219 (7.8)

Table 4.2B: Psycho-demographic characteristics for women of reproductive age

Comprehensive knowledge of HIV/AIDS prevention methods and beliefs	
How can a person get the virus that causes AIDS?	
Sharing eating utensils with HIV infected person	
No	2455 (23.3)
Yes	8074 (76.7)
Mosquito/bed bugs	
No	2562 (25.0)
Yes	7677 (75.0)
Supernatural means(Witchcraft)	
No	1684 (17.8)
Yes	7774 (82.2)
Can healthy-looking person have the virus that causes AIDS?	
Yes	9098 (84.1)
No	1725 (15.9)
What can a person do to avoid getting the virus that causes AIDS?	
Staying with one faithful uninfected partner	
No	514 (4.1)
Yes	12077 (95.9)
Use of condom every time during intercourse	
No	1788 (17.7)
Yes	8292 (82.3)
Abstinence from sex	
No	1416 (11.8)
Yes	10586 (88.2)
HIV Comprehensive knowledge	
Poor knowledge	3099 (23.4)
Good knowledge	10130 (76.6)
Have you heard about antiretroviral drugs that help HIV infected people to live longer?	
Yes	7816 (72.3)
No	2994 (27.7)

Table 4.2C: Psycho-demographic characteristics for women of reproductive age

HIV testing and counselling	
Do you know a place to get HIV (AIDS) test?	
Yes	9244 (67.2)
No	4506 (32.8)
Have you ever tested to find out if you have the virus that causes AIDS?	
Yes	4415 (32.1)
No	9338 (67.9)
Would you like to have a test to find out if you have AIDS (HIV) virus?	
Yes	7411 (78.4)
No	2042 (21.6)
Did you get test result last time you had the test?	
Yes	2736 (67.7)
No	1306(32.3)
How would you rate chance of getting AIDS?	
High	212 (1.7)
Low	5933 (47.5)
No risk at all	6258 (50.1)
Already have AIDS	83 (0.7)

Table 4.2D: Psycho-demographic characteristics for women of reproductive age

HIV prevention methods and media message	
On which media have you heard of HIV prevention messages?	
Radio	
Yes	6514 (42.3)
No	8895 (57.7)
Television	
Yes	4310 (28.0)
No	11103 (72.0)
Billboard	
Yes	1857 (12.1)
No	13545 (87.9)
Newspaper	
Yes	1934 (12.6)
No	13474 (87.4)
Which of these HIV prevention methods did you hear?	
PMTCT	
Yes	2337 (31.3)
No	5131 (68.7)
Injection safety	
Yes	3322 (44.5)
No	4144 (55.5)
Condom use	
Yes	5387 (72.2)
No	2078 (27.8)
Abstinence	
Yes	4735 (63.4)
No	2729 (36.6)
Prevention of STI	
Yes	2934 (39.3)
No	4530 (60.7)
Use of safe screen blood	
Yes	3147 (42.2)
No	4317 (57.8)
HIV counseling and testing	
Yes	3321 (44.5)
No	4143 (55.5)
Treatment of infected people	
Yes	3143 (42.1)
No	4321 (57.9)

4.1.3 Characteristics of Respondents who reported Perceived Stigmatization

A total of 6168 (44.9%) women agreed to eat from the same dish with person they knew have virus that causes HIV/AIDS while 6752 (49.1%) disagreed. Majority of the respondents (9622 (70.0%)) agreed to care for male relative that is ill with AIDS in their household while 3208 (23.3%) disagreed. A total of 7844 (63.6%) agreed that a female teacher with the virus that causes AIDS (HIV), should be allowed to continue teaching in school while 3755 (27.3%) disagreed. A high proportion of the respondents 7254 (52.8%) disagreed to buy food from a shopkeeper or food seller who they knew had the virus that causes AIDS (HIV) while 5557 (52.8%) agreed. Thirty–six percent of the respondents agreed that the community cares and support PLWHA. 5714 (42%) was neutral while 3021 (22%) disagreed.

Table 4.2E shows the distribution of the characteristics of perceived stigmatization.

4.2A The Prevalence of Perceived Stigmatization

It was revealed that 6039 (44%) of the respondents had low stigma, 2907 (21%) had moderate stigma while 4805 (35%) had high stigma. The prevalence of perceived stigmatization among respondents is shown in figure 2.

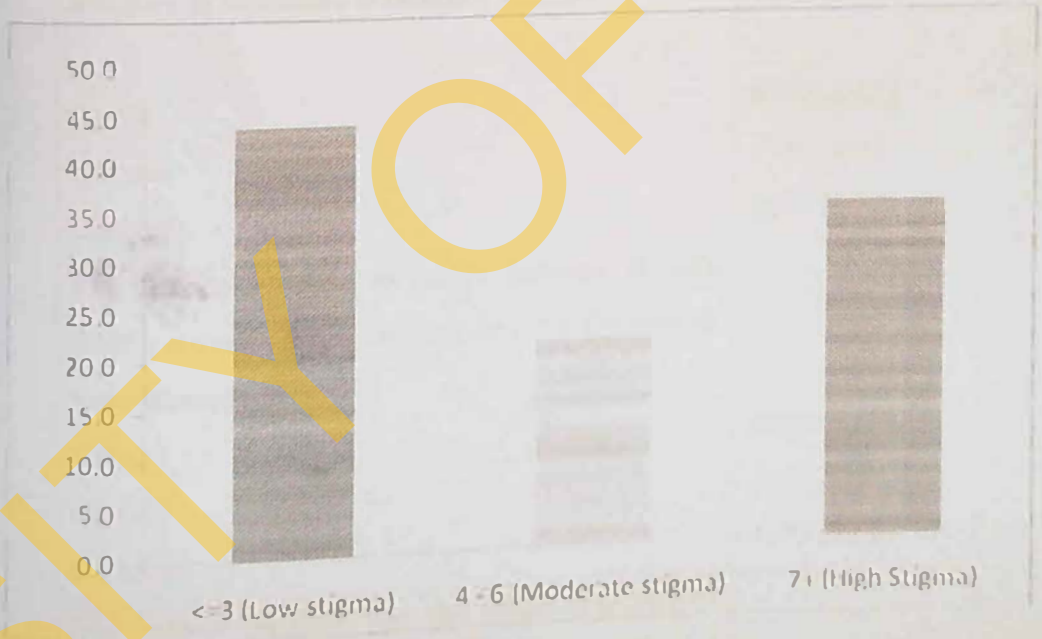

Figure 2: Graphical presentation of perceived stigmatization among women of reproductive age

Table 4.2E: Distribution of Perceived Stigmatization among Respondents.

Characteristics	N= 15639 (%)
Would you be willing to eat from the same dish with a person you knew had the virus that causes AIDS (HIV)?	
Agree	6168 (44.9)
Neutral	830 (6.0)
Disagree	6752 (49.1)
If a male relative of yours became ill with AIDS, would you be willing to care for him in your household?	
Agree	9622 (70.0)
Neutral	918 (6.7)
Disagree	3208 (23.3)
If a student has the virus that causes AIDS (HIV) but not sick, should he or she be allowed to continue attending school?	
Agree	8978 (65.3)
Neutral	1181 (8.6)
Disagree	3589 (26.1)
If a female relative of yours became ill with AIDS, would you be willing to care for him in your household?	
Agree	9636 (70.1)
Neutral	960 (7.0)
Disagree	3152 (22.9)
If a female teacher has the virus that causes AIDS (HIV) but is sick, should she be allowed to continue teaching in school?	
Agree	7844 (63.6)

Characteristics	N= 15639 (%)
Neutral	1249 (9.1)
Disagree	3755 (27.3)
If you knew a shopkeeper or food seller who had the virus that causes AIDS (HIV), would you buy food from him/her?	
Agree	5557 (40.4)
Neutral	936 (6.8)
Disagree	7254 (52.8)
In your own view, do you think your community cares and support PLWHA.	
Agree	5003(36.4)
Neutral	5714 (41.6)
Disagree	3021 (22.0)

4.3 Association between Socio-demographic factors and Perceived Stigmatization among Women of Reproductive Age

4.3.1 Age Group

Forty-three percent reported low stigmatization in the 15-24years age group, compared to 46% in the 25-39years group and 42% in the 40-49 age group. There was a significant association between age group and perceived stigmatization among women of reproductive age ($X^2 = 20.93$, $p < 0.001$). (Table 4.3).

4.3.2 Educational Level

About 45% respondents with quranic education reported high stigmatization compared to 37% with primary education, 31% with secondary education and 16% with higher education. There was a significant association between education and perceived stigmatization among women of reproductive age ($X^2 = 580.05$, $p < 0.001$). (Table 4.3).

4.3.3 Occupational Level

Table 4.3 shows that highest proportion of respondents with high stigmatization were women that are not working and artisan (unskilled); (38.8) and (39.2%) respectively while respondents with low stigmatization were women that are skilled/professional (59%). ($X^2 = 147.91$, $p < 0.001$). Table 4.3 shows the association between respondent's occupation and perceived stigmatization among women of reproductive age.

4.3.4 Marital Status

About 40% of the respondent that are separated or divorced had high stigmatization, 24% of the widowed respondents had moderate stigmatization while 46% of those that have never married had low stigmatization. ($X^2 = 22.99$, $p = 0.001$).Table 4.3 shows the association between marital status and perceived stigmatization among women of reproductive age.

4.3.5 Religion

Thirty-eight percent of the respondent that practices Islam had high stigmatization compare to 27% of Christian that had moderate stigmatization and 51% traditional respondent with low stigmatization. Religion is significantly related to perceived stigmatization among women of reproductive age (X^2 = 404.03, p< 0.001). (Table 4.3).

Table 4.3: Socio-demographic factors and perceived stigmatization among women of reproductive age

Variable	Low stigma n (%)	Moderate Stigma n (%)	High Stigma n (%)	Total	χ^2	P value
Age group						
15 -24	2057 (43.0)	1022 (21.1)	1762 (36.4)	4841 (100.0)		
25-39	2867 (45.9)	1287 (20.6)	2089 (33.5)	6243 (100.0)	20.93	**<0.001**
40-49	1115 (41.8)	598 (22.4)	954 (35.8)	2667 (100.0)		
Total	6039 (43.9)	2907 (21.1)	4805 (34.9)	13751(100.0)		
Education						
Quranic /No formal Education	1502 (34.4)	885 (20.3)	1983 (45.4)	4370 (100.0)		
Primary	956 (40.2)	553 (23.2)	872 (36.6)	2381 (100.0)	580.05	**<0.001**
Secondary	2663 (47.5)	1190 (21.5)	1716 (31.0)	5539 (100.0)		
Higher	940 (64.9)	276 (19.0)	233 (16.1)	1449 (100.0)		
Total	6031 (43.9)	2904 (21.1)	4804 (35.0)	13739(100.0)		
Occupation						
Unemployed/housewife/pensioner/other	1852 (40.6)	941 (20.6)	1773 (38.8)	4566 (100.0)		
Student	1214 (47.2)	552 (21.5)	807 (31.4)	2573 (100.0)		
Unskilled/informal sector/hawkers/vendors	362 (39.3)	198 (21.5)	361 (39.2)	921 (100.0)	147.91	**<0.001**
Self employed						

4.3.5 Religion

Thirty-eight percent of the respondent that practices Islam had high stigmatization compare to 27% of Christian that had moderate stigmatization and 51% traditional respondent with low stigmatization. Religion is significantly related to perceived stigmatization among women of reproductive age (X^2 = 404.03, p< 0.001). (Table 4.3).

Table 4.3: Socio-demographic factors and perceived stigmatization among women of reproductive age

Variable	Low stigma n (%)	Moderate Stigma n (%)	High Stigma n (%)	Total	χ^2	P value
Age group						
15 -24	2057 (43.0)	1022 (21.1)	1762 (36.4)	4841 (100.0)		
25-39	2867 (45.9)	1287 (20.6)	2089 (33.5)	6243 (100.0)	20.93	**<0.001**
40-49	1115 (41.8)	598 (22.4)	954 (35.8)	2667 (100.0)		
Total	6039 (43.9)	2907 (21.1)	4805 (34.9)	13751(100.0)		
Education						
Quranic /No formal Education	1502 (34.4)	885 (20.3)	1983 (45.4)	4370 (100.0)		
Primary	956 (40.2)	553 (23.2)	872 (36.6)	2381 (100.0)	580.05	**<0.001**
Secondary	2663 (47.5)	1190 (21.5)	1716 (31.0)	5539 (100.0)		
Higher	940 (64.9)	276 (19.0)	233 (16.1)	1449 (100.0)		
Total	6031 (43.9)	2904 (21.1)	4804 (35.0)	13739(100.0)		
Occupation						
Unemployed/housewife/pensioner/other	1852 (40.6)	941 (20.6)	1773 (38.8)	4566 (100.0)		
Student	1214 (47.2)	552 (21.5)	807 (31.4)	2573 (100.0)		
Unskilled/informal sector/hawkers/vendors	362 (39.3)	198 (21.5)	361 (39.2)	921 (100.0)	147.91	**<0.001**
Self employed						

Variable	Low stigma n (%)	Moderate Stigma n (%)	High Stigma n (%)	Total	χ^2	P value
/farmer/forestry/fishing/mining	2035 (43.3)	1047 (22.3)	1623 (34.5)	4705 (100.0)		
Skilled/professional/ directors/clerk/civil servant	565 (58.6)	169 (17.5)	230 (23.9)	964 (100.0)		
Total	6028 (43.9)	2907 (21.2)	4794 (34.9)	13729(100.0)		
Marital Status						
Currently Married	4029 (43.3)	1950 (20.9)	3329 (35.8)	9308 (100.0)		
Never Married	1640 (46.0)	778 (21.8)	1144 (32.1)	3562(100.0)		
Separated/Divorced	151 (43.8)	57 (16.5)	137 (39.7)	345 (100.0)	22.99	**0.001**
Widowed	183 (41.5)	104 (23.6)	154 (34.9)	441(100.0)		
Total	6003 (44.0)	2889 (21.2)	4764 (31.1)	13656(100.0)		
Religion						
Islam	2727 (49.2)	708 (12.8)	2107 (38.0)	5542 (100.0)		
Christainity	3224 (40.1)	2169 (27.0)	2640 (32.9)	8033 (100.0)	404.03	**<0.001**
Traditional/others	75 (51.4)	24 (16.4)	47 (32.2)	146 (100.0)		
Total	6026 (43.9)	2901 (21.1)	4794 (34.9)	13721(100.0)		

4.4 The Relationship between Psycho-demographic factors and Perceived Stigmatization among Women of Reproductive Age

4.4.1 Condom Awareness

It was revealed from table 4.4 that respondents that have heard about male condom had highest percentage of low stigmatization (4684 (48.8%)) while those that are not aware of male condom had highest proportion of high stigmatization (1985 (48%)). Condom use and awareness was significantly associated with perceived stigmatization among women of reproductive age ($X^2 = 469.75$, $p < 0.001$).

4.4.2 Multiple Partners

Of the 1112 respondents that had more than one sexual partner at the same time, 48.2%, 20.7% and 31.1% reported low, moderate and high stigmatization respectively. Having multiple partners was significantly related to perceived stigmatization among women of reproductive age ($X^2 = 9.87$, $p = 0.007$). (Table 4.4)

4.4.3 Commercial sex and Alcohol in-take

Table 4.4 below indicated that there was no association between perceived stigmatization and having sex in exchange for money, favour or gift, and alcohol intake ($p > 0.05$).

4.4.4 Symptoms of STI

On comparing respondents that showed absence of STI to those with presence of STI symptoms, 35.3% reported high stigmatization among those with absence status while 48.9% revealed low stigmatization among those with STI symptoms. Symptoms of STI was significantly related to perceived stigmatization among women of reproductive age ($X^2 = 14.05$, $p = 0.001$). (Table 4.4).

4.4.5 HIV/AIDS Comprehensive Knowledge

Respondents with good HIV/AIDS knowledge had lowest proportion of low stigmatization (21.3%) compared with 54% respondents with poor HIV/AIDS knowledge that had high stigmatization There was significant association between perceived stigmatization and HIV/AIDS comprehensive knowledge ($X^2 = 879.59$, p-value < 0.001).

4.4.6 Antiretroviral drugs

The findings revealed that a large number of the respondents who have heard of antiretroviral drugs that could help HIV infected people live longer had high stigmatization (2493 (36.3%)) while those who have not were 841 (32.1%) . There was significant relationship between perceived stigmatization and knowledge of antiretroviral drugs (X^2 = 35.69, p-value <0.001). (Table 4.4).

4.4.7 HIV Test Centers

Forty four percent of respondents that knew where to go for HIV test had low stigmatization compared to 37% high stigmatization among those who do not know where to get tested. HIV test location was statistically associated with perceived stigmatization among women of reproductive age (X^2 = 9.99, p-value =0.007). (Table 4.4).

4.4.8 Ever Tested

Out of 6482 respondents that have ever tested to find out if they have the virus that causes AIDS, 44.5%, 22.8% and 32.7% reported low, moderate and high stigmatization respectively.

HIV testing is statistically related to perceived stigmatization among women of reproductive age (X^2 = 225.32, p-value <0.001). (Table 4.4).

4.4.9 Willingness to Test

About 33% of the respondents that are willing to test to find out if they have the virus that causes AIDS had high stigmatization compared with 44.5% and 22.8% with low and moderate stigmatization respectively. There was a significant association between perceived stigmatization and those willing to find out if they have the virus that causes AIDS (X^2 = 198.33, p-value <0.001). (Table 4.4).

4.4.10 Willingness to Collect Test Result

Out of 2477 respondents willing to get HIV test results, 43.9% had low stigmatization while 22.3% and 33.8% showed moderate and high stigmatization respectively. Willingness to collect test result and perceived stigmatization was significantly related (X^2 = 9.33, p-value =0.009). (Table 4.4).

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4.4.11 AIDS Risk

From table 4.4, it was revealed that there is no significant association between perceived stigmatization and respondents that would rate their chance of getting AIDS as high, low or no risk at all (p-value >0.05).

4.4.12 HIV Prevention Messages through Media

Respondents that have heard about HIV prevention messages through media had 43.6% low stigmatization and those that have not heard about HIV prevention messages had 35.1% of high stigmatization. HIV prevention messages through media was statistically significant with perceived stigmatization ($X^2 = 6.36$, p-value =0.042). (Table 4.4).

4.4.13 Methods of HIV Prevention Message Ever Heard

There is no significant association between perceived stigmatization and methods of HIV prevention message ever heard (p-value >0.05). (Table 4.4).

Table 4.4: Association between Psycho-demographic factors and Perceived Stigmatization among Women of Reproductive Age

Variable	Low stigma n (%)	Moderate Stigma n (%)	High Stigma n (%)	Total	χ^2	P value
Alcohol in-take during last 4 weeks						
Everyday	99 (39.3)	51 (20.2)	102 (40.5)	252 (100.0)		
At least once a week	379 (45.7)	186 (22.4)	264 (31.8)	829 (100.0)	8.05	**0.429**
Less than once a week	249 (42.9)	130 (22.4)	201 (34.7)	580 (100.0)		
Never	5269 (44.0)	2520 (21.0)	4191 (35.0)	11980 (100.0)		
Not sure	31 (47.0)	14 (21.2)	21 (31.8)	66 (100.0)		
Total	6027 (44.0)	2901 (21.2)	4779 (34.9)	13707(100.0)		
Have you ever heard of male condoms?						
Yes	4684 (48.8)	2103 (21.9)	2817 (29.3)	9604 (100.0)	469.75	**<0.001**
No	1348 (32.6)	799 (19.3)	1985 (48.0)	4132 (100.0)		
Total	6032 (43.9)	2902 (21.1)	4802 (35.0)	13736(100.0)		
Have you ever had sex in exchange for money/favour or gifts						
Yes	300 (43.1)	142 (20.4)	254 (36.5)	696 (100.0)	1.098	**0.577**
No	4763 (44.2)	2291 (21.3)	3726 (34.6)	10780(100.0)		
Total	5063 (44.1)	2433 (21.2)	3980 (34.7)	11476(100.0)		
Have you ever had more than one sexual partner at the same time?						
Yes	536 (48.2)	230 (20.7)	346 (31.1)	1112 (100.0)		
No	4571 (43.6)	2224 (21.2)	3694 (35.2)	3694 (100.0)	9.87	**0.007**
Total	5107 (44.0)	2454 (21.2)	4040 (34.8)	11601(100.0)		
Have you heard of diseases that can be transmitted through sexual intercourse (STIs)?						
Yes	4564 (47.8)	2180 (22.8)	2804 (29.4)	9548(100.0)	428.07	**<0.001**
No	1471 (35.1)	724 (17.3)	1997 (47.6)	4192 (100.0)		
Total	6035 (43.9)	2904 (21.1)	4801 (34.9)	13740(100.0)		

Variable	Low stigma n (%)	Moderate Stigma n (%)	High Stigma n (%)	Total	χ^2	P value
Any symptoms of STI?						
Absent (No)	5477 (43.5)	2670 (21.2)	4452 (35.3)	12599(100.0)		
Present (Yes)	5560 (48.9)	235 (20.7)	347 (30.5)	1138 (100.0)	14.05	**0.001**
Total	6033 (43.9)	2905 (21.1)	4799 (34.9)	13737(100.0)		
Knowledge about HIV						
HIV Comprehensive knowledge						
Poor Knowledge	743 (24.0)	679 (22.0)	1668 (54.0)	3090 (100.0)	897.59	**<0.001**
Good knowledge	5205 (51.4)	2151 (21.3)	2762 (27.3)	10118 (100.0)		
Total	5948 (45.0)	2830 (21.4)	4430 (33.5)	13208 (100.0)		
Have you heard of antiretroviral drugs that help HIV infected people to live longer						
Yes	2771 (40.4)	1595 (23.3)	2493 (36.3)	6859 (100.0)	35.69	**<0.001**
No	1236 (47.2)	543 (20.7)	841 (32.1)	2620 (100.0)		
Total	4007 (42.3)	2138 (22.6)	3334 (35.2)	9479(100.0)		
Do you know place where you can go to get an HIV (AIDS) test?						
Yes	3569 (43.5)	1818 (22.2)	2811 (34.3)	98198 (100.0)	9.99	**0.007**
No	1680 (42.7)	800 (20.3)	1454 (37.0)	3934 (100.0)		
Total	5249 (43.3)	2618 (21.6)	4265 (35.2)	12132(100.0)		
Have you ever been tested to find out if you have the virus that causes AIDS?						

Variable	Low stigma n (%)	Moderate Stigma n (%)	High Stigma n (%)	Total	χ^2	P value
Yes	1784 (45.1)	908 (22.9)	1268 (32.0)	3960 (100.0)	25.32	**<0.001**
No	3467 (42.4)	2203 (21.0)	2996 (36.6)	8177 (100.0)		
Total	5251 (43.3)	2622 (21.6)	4264 (35.1)	12137(100.0)		
Would you like to a have test to find out if you have the virus that causes AIDS?						
Yes	2886 (44.5)	1477 (22.8)	2119 (32.7)	6482 (100.0)	198.33	**<0.001**
No	632 (35.1)	259 (14.4)	908 (50.5)	1799 (100.0)		
Total	3518 (42.5)	1736 (21.0)	3027 (36.6)	8281 (100.0)		
Did you get the result of the test?						
Yes	1087 (43.9)	552 (22.3)	838 (33.8)	2477 (100.0)	9.33	**0.009**
No	546 (47.3)	277 (24.0)	332 (28.7)	1155 (100.0)		
Total	1633 (45.0)	829 (22.9)	1170 (32.2)	3632 (100.0)		
Would you rate your chance of getting AIDS as high, low or no risk at all?						
High	66 (39.5)	36 (21.6)	65 (38.9)	167 (100.0)		
Low	2164 (41.8)	1158 (22.4)	1855 (35.8)	5177 (100.0)	11.27	**0.08**
No risk at all	2492 (44.3)	1234 (21.9)	1899 (33.8)	5625 (100.0)		
Already have AIDS	21 (33.3)	17 (27.0)	25 (39.7)	63(100.0)		
Total	4743 (43.0)	2445 (22.2)	3844 (34.8)	11032(100.0)		
Heard about HIV prevention through media?						
No	3035 (44.6)	1383 (20.3)	2387 (35.1)	6805 (100.0)	6.36	**0.042**
Yes	2943 (43.6)	1490 (22.1)	2311 (34.3)	6744 (100.0)		
Total	5978 (44.1)	2873 (21.2)	4698 (34.7)	13549 (100.0)		

Variable	Low stigma n (%)	Moderate Stigma n (%)	High Stigma n (%)	Total	χ^2	P value
Heard of HIV prevention methods such as PMCT, injection safety, abstinence, condom use etc						
No	223 (42.8)	124 (23.8)	174 (33.4)	521 (100.0)	0.96	**0.618**
Yes	2733 (43.6)	1376 (22.0)	2158 (34.4)	6267 (100.0)		
Total	2956 (43.5)	1500 (22.1)	2332 (34.4)	6788 (100.0)		

4.5 Multinomial Logistic Regression of perceived Stigmatization on both Socio-demographic and Psycho-demographic Variables

4.5.1 Moderate Stigmatization relative to Low stigmatization

Table 4.5 shows the results of a multinomial logistic regression model of perceived stigmatization on both socio demographic and Psycho-demographic variables.

For moderate stigma relative to low stigma the results revealed that among the occupation categories, respondents that were unemployed /not working were 2 times more likely to experience moderate stigma relative to low stigma compared to those that were skilled / professional. (OR = 1.84, 95% C. I = 1.136-2.972, p = 0.013). Respondents that were unskilled/ artisans were 2 times more likely to experience moderate stigma relative to low stigma compared to those that are skilled/ professional/ directors/ sales manager or into blue collar employment. (OR = 1.82, 95% CI= 1.006-23. 286, p=0.046). It was also observed that respondents that were self employed were 2 times likely to experience moderate stigma relative to low stigma when compared to those that were skilled/professional (OR = 1.98, 95% C.I = 1.243-3.159, p = 0.004).

Respondents with no symptoms of STI were about 3 times more likely to experience moderate stigma relative to low stigma when compared with those who have symptoms of STI (OR = 2.54, 95% C.I = 1.722-3.748, p < 0.001).

Respondents who have heard about special antiretroviral drugs that help HIV infected people to live longer were about 2 times more likely to experience moderate stigma relative to low stigma when compared to respondents that have not heard about antiretroviral drug. (OR =1.64, 95% CI = 1.226-2.205, p = 0.001).

Respondents with poor knowledge about HIV were 2 times more likely to experience moderate stigma relative to low stigma when compared with those that have good knowledge about HIV (OR = 2.26, 95% C.I =1.711-2.975, p < 0.001).

Respondents who have not heard about HIV prevention through media were more likely to experience moderate stigma relative to low stigma when compared to those who have heard about HIV prevention through media (OR = 1.35, 95% C.I = 1.082-1.683, p = 0.008).

Table 4.5A: Multinomial logistic regression analysis of factors associated with perceived stigmatization.

Variables (Moderate stigma relative to low stigma)	OR	Coefficient B	Standard Error	P-value	95% Confidence Interval	
					Lower Bound	Upper Bound
Age group						
15-24	1.227	0.204	0.174	0.240	0.873	1.724
25-29	1.024	0.024	0.136	0.862	0.785	1.336
*40-49						
Education						
Quranic /No formal Education	1.015	0.015	0.215	0.944	0.666	1.549
Primary	1.522	0.420	0.218	0.054	0.993	2.332
Secondary	1.179	0.164	0.185	0.374	0.820	1.693
*Higher						
Occupation						
Unemployed/housewife/pensioner/other	1.838	0.608	0.245	0.013	1.136	2.972
Student	1.561	0.445	0.290	0.124	0.884	2.754
Unskilled/informal sector/ hawkers/vendors	1.818	0.598	0.302	0.048	1.006	3.286
Self employed/farmer/forestry/ fishing/mining	1.981	0.684	0.238	0.004	1.243	3.159
*Skilled/professional/directors/clerk/civil servant						
Marital Status						
Currently Married	0.858	-0.153	0.283	0.588	0.493	1.493
Never Married	1.259	0.231	0.337	0.494	0.650	2.439
Separated/Divorced	0.827	-0.190	0.427	0.657	0.358	1.911
*Widowed						
Religion						
Islam	2.100	0.742	1.078	0.491	0.254	17.357
Christianity	5.303	1.668	1.072	0.120	0.648	43.376
*Traditional/others						

Variables (Moderate stigma relative to low stigma)	OR	Coefficient B	Standard Error	P-value	95% Confidence Interval	
					Lower Bound	Upper Bound
Condom awareness and usage						
Yes	0.856	-0.155	0.148	0.294	0.641	1.144
*No						
Have you ever had more than one sexual partner at the same time?						
Yes	0.776	-0.253	0.180	0.159	0.545	1.104
*No						
Any symptoms of STI?						
Absent (No)	2.541	0.932	0.198	<0.001	1.722	3.748
Present (Yes)						
Do you know place where you can go to get an HIV (AIDS) test?						
Yes	0.979	-0. 021	0.189	0.912	0.677	1.417
*No						
Have you ever been tested to find out if you have the virus that causes AIDS?						
Yes	3.620	1.286	1.075	0.231	0.440	29.750
*No						
Did you get the result of the test?						
Yes	0.886	-0.121	0.113	0.285	0.709	1.106
*No						
Have you heard of antiretroviral drugs that help HIV infected people to live longer						
Yes	1.644	0.497	0.150	0.001	1.226	2.205
*No						

Variables (Moderate stigma relative to low stigma)	OR	Coefficient B	Standard Error	P-value	95% Confidence Interval	
					Lower Bound	Upper Bound
HIV Comprehensive knowledge						
Poor Knowledge	2.256	0.813	0.141	<0.001	1.711	2.975
*Good knowledge						
Heard about HIV prevention through media?						
No	1.349	0.300	0.113	0.008	1.082	1.683
*Yes						

*Reference category

4.5.2 High Stigmatization relative to Low Stigmatization

Table 4.6 below shows the results of a multinomial logistic regression model of perceived stigmatization on both socio demographic and Psycho-demographic variables.

For high stigma relative to low stigma, the results shows that among age groups, respondents in age group 15-24 were more likely to experience high stigma relative to low stigma when compared with those in age group 40-49 (OR = 1.47, 95% C. I = 1.074-2.017, p= 0.016).

Respondents with quranic/ no formal education were 3 times more likely to experience high stigma relative to low stigma when compared with those that have higher education (OR = 3.067, 95% C.I = 1.914-4.913, p < 0.001). Respondents with primary education were 4 times more likely to experience high stigma relative to low stigma when compared with those that have higher education (OR = 4.083, 95% C.I = 2.531-6.587, p <0.001). Respondents with secondary education were 2 times more likely to experience high stigma relative to low stigma when compared with those that have higher education (OR = 2.30, 95 % C.I = 1.493-3.551, p < 0.001) .

The odds of respondents that have knowledge of condom use were 24 percent less likely to experience high stigma relative to low stigma when compared with those that do not have knowledge of condom use (OR = 0.763, 95% C.I = 0.588-0.990, p = 0.042).

Respondents who have poor knowledge of HIV were 4 times more likely to experience high stigma relative to low stigma when compared with those that have good knowledge of HIV (OR = 3.860, 95% C.I = 3.026-4.925, p< 0.001).

4.5.3 Goodness of Fit Test

By using Pearson Chi square and Deviance to test for fitness of the model, it was observed that the values greater than the cut-off point of 0.05. This implies that the model is fitted for the sample size and the covariates used. (X^2p = 2716.01, p= 0.254), (X^2d = 2755.41, p= 0.116).

Table 4.5B: Multinomial logistic regression analysis of factors associated with perceived stigmatization.

Variables (High stigma relative to Low stigma)	OR	Coefficient B	Standard Error	P-value	95% Confidence Interval	
					Lower Bound	Upper Bound
Age group						
15-24	1.472	0.387	0.161	0.016	1.074	2.017
25-29	0.763	-0.023	0.127	0.857	0.763	1.253
*40-49						
Education						
Quranic /No formal Education	3.067	1.121	0.240	<0.001	1.914	4.913
Primary	4.083	1.407	0.244	<0.001	2.531	6.587
Secondary	2.302	0.834	0.221	<0.001	1.493	3.551
*Higher						
Occupation						
Unemployed/housewife/pensioner/other	0.892	-0.114	0.229	0.619	0.570	1.397
Student	0.716	-0.333	0.297	0.262	0.400	1.283
Unskilled/informal sector/ hawkers/vendors	1.314	0.273	0. 272	0.316	0.771	2.239
Self employed/farmer/forestry/ fishing/mining	1.018	0.018	0.220	0.934	0.661	1.569
*Skilled/professional/directors/clerk/civil servant						
Marital Status						
Currently Married	1.106	0.101	0.277	0.716	0.642	1.906
Never Married	1.163	0.151	0.339	0.657	0.598	2.261
Separated/Divorced	1.400	0.336	0.392	0.392	0.649	3.020
*Widowed						
Religion						
Islam	1.885	0.634	0.729	0.384	0.452	7.864
Christianity	2.814	1.035	0.724	0.153	0.681	11.637
*Traditional/others						

Variables (High stigma relative to Low stigma)	OR	Coefficient B	Standard Error	P-value	95% Confidence Interval	
					Lower Bound	Upper Bound
Condom awareness and usage Yes *No	0.763	-0.270	0.133	0.042	0.588	0.990
Have you ever had more than one sexual partner at the same time? Yes *No	0.802	-0.220	0.174	0.206	0.570	1.129
Any symptoms of STI? Absent (No) *Present (Yes)	1.126	0.119	0.156	0.447	0.829	1.528
Do you know place where you can go to get an HIV (AIDS) test? Yes *No	1.111	0.105	0.188	0.574	0.769	1.605
Have you ever been tested to find out if you have the virus that causes AIDS? Yes *No	0.821	-0.198	0.620	0.750	0.243	2.767
Did you get the result of the test? Yes *No	1.049	0.047	0.110	0.666	0.845	1.301
Have you heard of antiretroviral drugs that help HIV infected people to live longer Yes *No	1.293	0.257	0.135	0.058	1.992	2.205
HIV Comprehensive knowledge Poor Knowledge *Good knowledge	3.860	1.351	0.124	<0.001	3.026	4.925

Variables (High stigma relative to Low stigma)	OR	Coefficient B	Standard Error	P-value	95% Confidence Interval	
					Lower Bound	Upper Bound
Heard about HIV prevention through media?						
No	0.999	-0.001	0.111	0.994	0.805	1.241
*Yes						

*Reference category

Table 4.5C: Model Fit

Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	2716.005	2668	.254
Deviance	2755.410	2668	.116

CHAPTER 5

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 DISCUSSION

Stigmatization is one of the major issues contending with HIV/AIDS pandemic. This study determined the socio and psycho demographics factors that contribute to perceived stigmatization among women of reproductive age in Nigeria.

5.1.1 Socio and Psycho-demographic Characteristics of the Respondents.

It was discovered that the mean age of the women in this study was 29.08 years with majority of the respondents in age group 25-39 years. This is in line with the study on reducing HIV-related stigma through health education carried out among traders in model markets in Lagos, Nigeria by Ezeiru and Odeyemi, (2013) where the mean age was 31.3 years and the majority of the respondents were between age 20-39 years. This study revealed that the levels of perceived stigma are significantly higher among young women, those below 24 years. This is consistent with findings of a study by Chellan R. et al., (2011) done among male youth. This may be due to the fact that young people usually have erroneous beliefs about the modes of transmission and prevention practices. It was also observed that level of education also play an important role in stigmatization towards PLWHA; people with lower level of education have considerably more perceived stigma than others.

Also of importance is the knowledge about condom use. Those who knew that condom use can prevent them from contacting the virus are less likely to experience stigmatization. This is however contrary to what Chellan R et al (2011) opined in their study that those who know about the benefits of condom use to prevent transmission of the virus are more likely to have perceived stigma.

This study also discovered that those who are unskilled discriminate more against people living with HIV. This is consistent with the work done by International Labour Organization and the Global Network of people living with HIV (2012).

HIV testing (i.e the willingness to make use of HIV testing services) has been in the fore front of efforts aimed at controlling HIV/AIDS globally. The study results suggest that having HIV test is a relevant psycho demographic factor that may suppress stigmatization. This is consistent with quantitative and qualitative research conducted in other African countries that have identified stigma as a major deterrent to HIV testing (Kalichman et al., 2003). If people fear that living with HIV results in social sanctions and maltreatment by others, then it stands to reason that they would be reluctant to put themselves in a circumstance such as testing that could result in an HIV diagnosis which may lead to stigmatization.

Greater knowledge about HIV was positively associated with stigmatization which has previously been reported in several studies (Gage & Ali, 2005; Lee et al, 2005), whereas others have found no significant association (Fako, 2006; Kalichman & Simbayi, 2003). However, it can be understood that although HIV knowledge is important for people to know how to prevent themselves from being infected with HIV, it does not necessarily mean that people with good knowledge about HIV would always change their stigmatizing behaviours.

5.1.2 Rates of Stigmatization

The findings obtained from the study revealed that respondents with low stigma constituted the highest while respondents with moderate stigma were few. This is consistent with the work done by Oduguwa et al (2014). This could be as a result of high level of awareness about HIV; its modes of transmission, prevention practices and possible complications that could arise from having the virus. Considering the fact that HIV services (these includes counselling, testing and prevention against mother- to- child) are part of ante-natal package offered for pregnant women in Nigeria, hence, the increase in knowledge and awareness which resulted in the overall low stigma against PLWHA among this group of women.

The highest educational level attained by majority of the respondents was secondary education, which implies that at least half of the respondents were literate. This study shows that those who are not educated or with lower education attainment tends to show more discriminatory attitudes towards PLWHA. This is consistent with the findings of Lau & Tsui (2005) in Hong Kong and Kola et al, (2005).

This is expected because people in this category tend to be less knowledgeable; hence, they might end up having a wrong perception about PLWHA.

Most of the women were unemployed, full house wives and pensioners compared to respondents that are skilled, or are into professional occupations. This study revealed that stigma rate among unemployed women was high. This finding is consistent with the nine-country study conducted by the International Labour Organization and the Global Network of people living with HIV (2012) which reported a small proportion of people living with HIV who reported discriminatory attitudes had it from their employers and co-workers. The proportion ranged from 8 percent in Estonia to 54 percent in Malaysia. But it contradicted the study conducted by Holzemer et al, (2009) in five African countries, including Lesotho, Malawi, South Africa, Swaziland, and Tanzania which documented high levels of HIV stigmatization among nurse living with HIV. This contrary result could be as a result of a higher prevalence of HIV in those countries when compared with Nigeria.

This study further showed that the mass media, especially radio and television, constitutes a major source of information about HIV/AIDS and has a significant effect on level of stigmatization. This is in line with the work done by previous researchers (Banerjee & Mattle, 2005, Ezeiru & Odeyemi (2013). This is probably the reason for the high level of awareness reported. Mass media has over the time been the most common means of communication irrespective of the socioeconomic status of the individuals in a community. Radio and television has been observed to be readily available for all cutting across every strata of life, hence information communicated through these medium reaches receiver on time and promptly. Respondents who had heard about HIV prevention through mass media showed a lower rate of stigma than those who had not heard about HIV prevention through this medium.

5.1.3 Factors associated with Stigmatization

A number of socio and psycho-demographic factors were seen to influence the level of stigmatization towards PLWHA in this study. It was revealed that occupation has a significant effect on stigmatization towards PLWHA. This is contrary to the findings of Chellan R et al., (2011), they opined that occupation does not have a significant effect on stigmatization. People with lower level of education are more likely to be discriminatory to PLWHA. This is consistent with the work of Lau & Tsui (2007) and Chellan R t al., (2011) in their study.

The findings further revealed that knowledge of condom use have significant effect on level of stigmatization. This study showed that people who use condoms or who are aware of the benefits of condom use are less likely to discriminate against PLHWA. However on the contrary, Chellan R et al., opined in their findings that people who were aware of condom use can help prevent or reduce the chance of contracting the virus are more likely to perceive stigma.

From this study, HIV prevention messages through mass media was seen to be a significant factor associated with stigmatization. This study also discovered that age has a significant effect on stigmatization, with younger respondents reporting stigmatization more than the older respondents. This is in line with the findings of study by Lau & Tsui (2005). However the mass media can either have a negative or positive impact based on the quality of information passed across.

This study also finds out that knowledge of antiretroviral drugs for PLWHA which enables them to live longer has a significant association with level of stigmatization. People who are aware that antiretroviral drugs for PLWHA make them live longer may tend to report less stigmatizing behavior.

5.1.4 Study Limitations

The limitation of the study is the fact that studies found on stigmatization were not among women of reproductive age, this made comparison very difficult. Despite these limitations, it is believed that important lessons can be learned from this study. Findings could inform researchers, policymakers, program managers and communities of the importance of social and psycho demographics variables that are linked to perceived stigmatization. Further research is thus needed in this regard.

5.2 CONCLUSION

Stigmatization rates or levels varied among women of reproductive age with less than half reporting low stigma. The study explored socio and psycho-demographics variables associated with stigmatization among women of reproductive age in Nigeria. The study revealed that occupation and antiretroviral drugs awareness, HIV knowledge were significantly related to stigmatization among women of reproductive age in Nigeria.

5.3 RECOMMENDATION

Stigma and discrimination reduction is an essential piece of delivering care for women of reproductive age especially pregnant women who are particularly vulnerable to the adverse effects of HIV-related stigma. More emphasis should be laid on increase in knowledge of condom use, HIV knowledge and ART, as this has been shown to be related to stigmatization. Information, Education and Communication campaigns on HIV/AIDS need to be intensified to dispel some of the prevailing misconceptions about HIV/AIDS. Only clear and concise information about how HIV is and is not transmitted will alleviate unnecessary fear and wrong perception about PLWHA.

Furthermore, PLWHA should be portrayed as useful members of the society in spite of the virus they harbour, rather than been seen as a vulnerable group of people.

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