PREVALENCE AND PERCEPTION OF PARTNER DISCLOSURE AMONG HIV POSITIVE CLIENTS IN PUBLIC HEALTH FACILITIES IN FEDERAL CAPITAL TERRITORY, ABUJA

BY

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DECLARATION

I declare that the work in the thesis entitled "Prevalence and Perception of Partner Disclosure among HIV Positive Clients in Public Health Facilities in Abuja" has been performed by me in the Department of Community Medicine under the supervision of Dr M.S. Ibrahim and Prof A.A. Aliyu. The information derived from the literature has been duly acknowledged in the text and a list of references provided. No part of this thesis was previously presented for another degree or diploma at any University.

________________________ ________________

Fatima Saleh Date

CERTIFICATION

This dissertation titled "Prevalence and Perception of Partner Disclosure among HIV Positive Clients in Public Health Facilities in Abuja" was carried out by Fatima Saleh meets the regulation governing the award of the degree of Master of Public Health (MPH) in Field epidemiology of Ahmadu Bello University, Zaria and is approved for its contribution to knowledge and literary presentation.

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DEDICATION

I dedicate this research work and its findings to my entire family.

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I thank Almighty God for seeing me through this work and for His mercy and blessings on me and my family.

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ABSTRACT

Introduction: HIV status disclosure to sexual partners is an important strategy for prevention as it enables HIV positive individuals to access HIV care, creates the awareness of HIV risk to sexual partners and encourages safer sex behaviour. This study was therefore conducted to investigate the prevalence and perception of partner disclosure among HIV positive clients in public health facilities in FCT, Abuja -Nigeria

Methods: A cross-sectional survey was conducted among 390 adult HIV clients accessing outpatient care in 10 selected health facilities in Abuja. Prevalence, perception of and factors for partner disclosure were assessed using a semi-structured questionnaire. Frequencies, proportions, chi-square and logistic regression were conducted to determine the independent factors influencing partner disclosure.

Results: Of 390 respondents, 247 (62.3%) disclosed their HIV status to their partners even though, 388 (99.5%) had a positive perception towards partner disclosure. The main reasons for disclosure were to gain support 94 (38.1%) and due to a sense of duty to warn partner 62 (25.0%). Of the 143 that did not disclose, a quarter (25.4%) of the respondents cited fear of stigmatization and shame as their main reason. Age 45 years or older (OR, 3.3; CI, 1.1-10.2), being in the 2^{nd} and 3^{rd} year of diagnosis (OR, 0.39; CI, 0.18-0.81) and having had 3 or more sexual partners (OR, 0.48; CI, 0.23-0.99) were the independent determinants of HIV partner disclosure among the study participants.

Conclusion: The prevalence of partner disclosure is still low despite generally good perception among the respondents. Health campaign against stigmatization of PLWHA and patient education targeted at younger patients, recently diagnosed patients and patients with multiple partners are necessary to promote partner disclosure.

Keywords: Prevalence, perception, PLWHA, Partner disclosure, HIV, AIDS

CHAPTER ONE

INTRODUCTION

Human immuno-deficiency virus/acquired immune deficiency syndrome (HIV/AIDS) is a global pandemic which has claimed lives of more than 35 million people. The global burden of HIV falls most heavily on sub-Saharan Africa.[1] Globally in 2015, 2.1 million people became newly infected with HIV and the incidence was highest in Sub-Saharan Africa accounting for two-thirds of the global new HIV infections. In the same year, the region accounted for 25.6 million out of the 36.7 million people living with HIV/AIDS (PLWHA) globally.[1] Nigeria accounts for 10% of the global HIV burden with 3.1 million PLWHA, the second largest worldwide next only to South Africa. HIV/AIDS is a major factor contributing to the lower life expectancy rate in Nigeria compared to many other countries and even poorer countries in Africa.[2] There is need to address "issues of culture and traditional roles" that contribute to increased HIV vulnerability especially cultural practices are core emphases of all global HIV interventions.[3]

The World Health Organization (WHO) and the United States Centres for Disease Control and Prevention (CDC) in their protocols for HIV testing and counseling emphasize the importance of disclosure of HIV status especially to sexual partners as an important HIV prevention goal.[4] Self-disclosure of sensitive information is generally thought to have beneficial effects on an individual's health, reduces stress, and lead to better psychological health. Disclosure of HIV sero-status may increase opportunities of obtaining social support, implementation of HIV risk reduction with partners and improving access to treatment as well as motivate partners for voluntary counseling and testing (VCT). Disclosure of HIV Status is therefore an issue to be addressed for HIV prevention & treatment.[5]

Furthermore, HIV status disclosure to sexual partners is an important strategy for HIV prevention as it enables HIV positive individuals to access HIV care and treatment programs, creates the awareness of HIV risk to sexual partners and encourages safer sex behaviour. It also enables couples to make informed reproductive health choices which can reduce unwanted pregnancies and hence reduce the risk of MTCT. In addition, it may enable individuals to receive care and socio-economic support from sexual partners, family and community.[6]

1.1 Statement of the Problem

HIV/AIDS is a disease that is accompanied with discrimination and stigmatization especially in Africa. Stigma prevents PLWHA from commencing anti-retroviral therapy (ART), and even those who commence may discontinue.[7] This would ultimately affect HIV/AIDS epidemic and the goal to reduce HIV prevalence. Disclosure has been identified as an essential step to ending the HIV pandemic, stigma and discrimination as well as facilitates initiation and adherence to antiretroviral therapy. [6] It enables a balanced discussion on treatment option thus assisting clients to make informed decision.[5]

Disclosure of HIV status especially to partners has been shown to play a key role in HIV prevention and control, failure of which increases the risk of transmission between sexual partners.[8] In Sub-Saharan Africa, HIV is most commonly transmitted through heterosexual sex between couples. [4] Hence, disclosure to partners could save and prolong lives by joint decision for appropriate precaution. If HIV positive clients disclose their status to their partners, the latter would have the need to get tested, protect themselves if uninfected and seek appropriate health-seeking behaviour if infected.[6, 9] Concealment of HIV status by PLWHA may expose HIV-negative partners to infection, increase re-infection among HIV-positive partners, and create missed opportunities for HIV care. [10, 11] In the long run, partner disclosure has the potential to help halt the spread of the infection. Thus, disclosure of HIV positive sero-status to sexual partners is beneficial not only to the partners but also to their families and community at large.[5]

Consistent with the trends in Sub-Saharan Africa, it is estimated that 80% of HIV infection in Nigeria are transmitted through unprotected heterosexual encounter; leaving 20% to transmission through other sources. [12] Among the categories of people who are constantly exposed to HIV/AIDS through the sexual route of transmission are partners of PLWHA. By testing for HIV they can learn of their own infection status and access necessary prevention and treatment services without delay. [13] Corroborating the importance of status disclosure to sexual partners especially in countries where the predominant route of HIV transmission is through sexual intercourse, studies and stakeholders have demonstrated that disclosure of HIV status to sexual partner is the main stay in prevention of HIV transmission between partners.[4,14]

A mathematical modelling analysis showed that sero-status disclosure reduced the risk of HIV transmission by 17.9% to 40.6% relative to non-disclosure.[15] Similarly, studies across sub-Saharan Africa have documented positive outcomes of HIV status disclosure. These include increased understanding and support,[4] improved mental health,[10] trust,[10,16] and HIV care uptake.[9,10,17] Other positive outcomes are social support,[18,19] reduced internalized stigma [20] and safer sexual behaviours.[17,21] Generally, non-disclosure is a major obstacle to the uptake of HIV care. Reported outcomes of non-disclosure in Maeri et al's study[17] include avoiding care, not adhering to ART regimens, anxiety in efforts to avoid suspicion and inadvertent disclosure.

There are also population-specific adverse consequences of HIV status non-disclosure to sexual partners, mostly influenced by social norms. According to UNAIDS, non-disclosure of a pregnant woman's HIV status to her partner has been associated with the suboptimal prevention of mother-to-child transmission and poor treatment adherence.[17] Females living with HIV/AIDS report significant anticipated stigma[17,22] and fears of abandonment, rejection, and violence,[21,23] which is substantiated by negative outcomes like loss of social support, social rejection, abandonment and marital dissolution,[17,24,25] breaches of confidentiality,[26] violence,[17,24,27] stigma[27] and denying access to care.[17] Non-disclosure to adolescents, who are especially vulnerable and in a turbulent age, can lead to fear and frustration.[17]

There is paucity of information on barriers to disclosure among males but it is believed that men are more concerned about consequences of exposing their own unfaithfulness and sensitivity it can cause to their partners,[29] the fear of accusation, blame and marital conflict.[17] Negative consequences appear to be exacerbated among women in response to disclosure of their HIV status, either because of social norms and hegemony which is unfavourable to women or because there are very few studies centred on status disclosure among males or both.

Despite the documented and evidence-based benefits of partner disclosure of HIV, available evidence has shown that the rate of disclosure is still low especially in Sub-Saharan Africa. Only half of PLWHA in the region are aware of their status, and one of the reasons for this is that PLWHA find disclosing their status quite complex and challenging. [10, 23] Empirical studies have documented heterogeneous disclosure rates of HIV across diverse populations and settings in Nigeria.[6,8, 30-34] In these studies, rates of disclosure was generally low except among pregnant mothers, which may be due to the impact of the PMTCT program which allows for routine pre-natal screening for HIV among women who come to register for ante-natal care in the health facilities.[3] Generally, couples do not disclose – or delay disclosure – their HIV status to their sexual partners. [35-37]

Infected patients may not be too willing to disclose such sensitive information as this because of the risks of desertion, physical violence, and feelings of shame, worry, fear, or rejection which may be powerful impediments for people to disclose their status hamper opportunities of obtaining social support, implementation of HIV risk reduction with partners, access to treatment as well as motivate partners for voluntary counselling and testing (VCT).[34] Also, empirical evidence of negative outcomes and consequences of disclosure may be contributing to non-disclosure. All these increase the chance that infected individuals inadvertently spread HIV.[38]

An HIV diagnosis is thus intertwined with the social and sexual lives of Nigerian couples.[3] It, however, needs to be voluntary, sensitive and address the risks of negative consequences.[19] Since voluntary disclosure devoid of any coercion is the only acceptable disclosure practice,[17] non disclosure by PLWHA to their sexual partners will undermine and negatively impact the success of HIV prevention efforts.

1.2 Justification

The goal 3 of the 17 Sustainable Development Goals (SDGs) seeks to ensure healthy lives and promote well-being for all at all ages and target 3.3 seeks to, among other diseases, end the epidemics of AIDS by 2030.[39] In order to achieve this feat, self-disclosure of HIV status to partners as a potent preventive strategy must be well understood and take centre-place in all efforts to halt the disease especially in Nigeria where transmission is majorly through heterosexual encounter between couples.

It is pertinent that the prevalence, perception and factors influencing status disclosure vis-a-vis social norms among sexual partners in FCT should be well understood. These however are poorly understood among PLWHA in FCT, with a dearth of information on these subject areas.

Although there has been a lot of work to determine the rate of HIV disclosure and associated factors within and outside Nigeria, as mentioned earlier, there is paucity of information on this in FCT. This study therefore aims at assessing the magnitude of HIV status disclosure and associated factors that influence disclosure among people living with HIV/AIDS attending clinics in public health facilities in FCT, Abuja. The study will contribute to bridging the knowledge gap about HIV status disclosure in the FCT and recommend possible interventions for promoting disclosure so as to reduce spread of HIV infection. Disclosure may also increase the uptake of HIV testing and other services, and can enable a supportive and cohesive family environment.

Considering the accompanying challenges that inhibit voluntary disclosure, there is a need for contextual evidence that would assist in improving planning for HIV interventions amongst PLWHA and thus contribute to reduction in the rate of new infection and deaths as well as minimising the guilt and secrecy associated with nondisclosure.[32] Thus this study determined the prevalence of partner disclosure of HIV status, documented the perception towards HIV status disclosure, sexual behaviour of PLWHA and identified the factors associated with partner disclosure among PLWHA in FCT. Understanding these issues is critical to promoting evidence-based intervention programs to encourage people to take an HIV test and to disclose the results of the test to sexual partners.

1.3 Research Questions

The study answered the following questions:

1. What is the prevalence of partner disclosure among HIV/AIDS clients in public healthcare facilities in FCT, Abuja?

2. How do clients in public healthcare facilitiesin FCT Abuja perceive disclosure of HIV status?
3. What are the factors associated with disclosure of HIV status among clients in public healthcare facilities in FCT, Abuja?

1.4 Research Objectives

1.4.1 General Objective

To assess the prevalence and perception of partner disclosure of HIV among PLWHA in public care facilities in FCT, Abuja

1.4.2 Specific Objectives

1. To determine the prevalence of partner disclosure among HIV/AIDS clients in public healthcare facilities in FCT, Abuja.
2. To assess the perception of disclosure of HIV status among adult HIV/AIDS clients in public healthcare facilities in FCT, Abuja.
3. To identify factors associated with disclosure of HIV status among clients in public healthcare facilities in FCT, Abuja.

CHAPTER TWO

LITERATURE REVIEW

2.1 Background on HIV/AIDS Disclosure

Disclosure of HIV to sexual partners is one of the key prevention strategies as it promotes safe sex practices, prevention of new infections to partner, increase social support and reduce depression.[40,41] On the contrary, disclosure could be harmful when it brings adverse consequences such as stigma, discrimination, rejection, divorce, blame, shame, and abandonment, among others, which are major hindrances of disclosure and HIV prevention.[4]

In many countries, disclosure of one's HIV status is done by the patient himself/herself to a person whom he/she preferred to tell. However, in some countries, health care providers are the ones who decide who first to reveal the status to, whether the patient him/herself or family members. It then becomes the family's decision whether or not to tell the patient the truth or to hide it for the sake of patient's best interests.[18] However, in spite the good intention of involving family members in HIV disclosure, in some families, revelation has resulted in discrimination and psychological stress. Women suffer more from such negative consequences than men.[40, 42-44]

Worldwide, it is estimated that many HIV-infected individuals are still unaware of their status.[45-47] These individuals include the majority of men and women in relationships who are unaware of their partner's status and many people with an HIV-positive partner who are not aware of their own status, leaving many people unknowingly vulnerable to HIV infection.[48-49] Sexual relationship among sexual partners in sub-Saharan Africa is often associated with non-disclosure of HIV status to the individual partners.[35,36] In Nigeria for example, doctors have received phone calls from husbands who are HIV positive and are receiving treatment pleading with them not to let their spouses know that they are HIV positive. Such attitude to disclosure demonstrates how a sero-positive individual can infect series of unsuspecting partners.[34] The reason for this attitude may not be farfetched, as negative outcomes such as rejection, assault, separation, divorce, stigma and discrimination have been attributed to disclosure.[38]

An HIV test, consequently, is at the centre of interventions that seek to render the threat of HIV into defined, quantified, and manageable risks.[3] The impact of non-disclosure of HIV status to sexual partners is that there is increased sexual transmission of HIV within stable relationships and discouragement of the adoption of safer sex practices among regular sex partners and their sexual relationships are rarely protected because they are perceived as risk free [35,36] An upsurge of HIV risk among populations, identified by an increasing incidence of HIV is due to risk-taking behaviour, influenced by factors including indirect availability of antiretroviral, by those who are susceptible or infected without being aware of it. [50, 51] The effect of antiretroviral use in decreasing HIV incidence will be limited [52] unless diagnosis is timely especially among people who are infected but unaware of their status.[53, 54]

Nigerian women bear most of the burden of partner disclosure for obvious reasons. They are more likely to attend ante-natal clinics where they routinely get tested as part of the Prevention of Mother to Child Transmission of HIV/AIDS (PMTCT) initiative and due to the country's prevailing social norm and hegemony; [55] they face enormous challenges in persuading their partners to go for a test. It is known that women fear abandonment, violence, and stigma regardless of how their husbands learn of their status. Moreover, because women are the first to be diagnosed, they risked being blamed for their husbands' status, regardless of how the couple was exposed. Though the partner might ultimately – though reluctantly – take the test, it would do little to protect the woman socially. In line with this, Rhine argued that for many HIV positive clients, the social risk of losing a partner because of status notification is often greater than the risk of contracting the virus.[3]

2.2 Prevalence and Pattern of Partner HIV Status Disclosure and Associated Factors

According to a World Health Organization report in 2004, the rates of disclosure among studies from the developing world were notably lower than rates reported from the developed world.[56] Generally, rates of disclosure to sexual partners are higher in the developed world. In studies from Europe and United States of America, rates of disclosure ranged from 88% to 97% and 56% to 81% respectively.[4] In spite of the benefits of HIV disclosure to sexual partner, the disclosure rate in some developing countries remains low ranging from 16.7% to 86%.[17,18] Lowest rates of disclosure (16.7%-32%) were reported in sub-Saharan Africa.[56] Studies from Sub-Saharan African countries such as Burkina-Faso,[86] Kenya,[57] Ethiopia,[46] Uganda,[28] Tanzania[102] and Zambia [59] recorded low rates of disclosure to sexual partners varying from 28 % to 91%.[32]

Mlambo and Peltzer conducted a study on HIV Sero-status Disclosure and Sexual Behaviour among HIV Positive Patients who are on ART in Mpumalanga, South Africa.[47] More than half (53%) did not know the HIV status of their partner while others were either in sero-concordant (21%) or sero-discordant (13%) relationships. Among those in sero-concordant relationships, factors that influenced disclosure were poor health, pregnancy, death (e.g. child's death and testing was recommended by healthcare provider) and sero-sorting (e.g. meeting partner at ART centres). The patterns of HIV disclosure among sero-discordant couples were separation with partner after positive diagnosis (and subsequent disclosure to the new partner); partners living together with non-disclosure (positive partner tested after the negative partner and only knows the status) and partners living together after HIV disclosure (testing together). Reasons for non-disclosure included finding new partner, relationship ending, male refusal to get tested or share results, no steady partner, do not want to be blamed, partner violence, not ready to disclose, afraid of losing relationship and not knowing how to disclose.[47]

A study conducted in Ethiopia, focused on determinants and outcomes of HIV-sero positive status disclosure among women who had sexual partners. Sixty nine percent of these women had disclosed their status to their sexual partner. Education had an inverse association with disclosure while prior discussion about HIV and HIV test had a direct relationship with disclosure.[48] Length of diagnosis, though not statistically significant, also had some impact in disclosure, in that women who had known about their status for >1 year were most likely to disclose their result. Partner's age, partner's education, duration of relationships with partners, having multiple sexual partners did not have significant effect on disclosure. Eleven (26.19%) women said they did not disclose their results and were less likely to use condoms.[57]

The most common barriers to disclosure mentioned by the women in the Ethiopian study[46] include, fear of abandonment (31.3%), fear of stigma and rejection (25%), fear of confidentiality (25%), fear of embarrassing family members (12.5%) and fear of accusations of infidelity (6.2%). Among women who disclosed their test results, none experienced abandonment and physical violence, 75.9% reported positive outcomes like receiving kindness or acceptance following disclosure. Some (24.1%) of the respondents reported negative outcomes following status disclosure. All were blamed and their partners felt sad for their result for getting tested without their consent.[46]

Studies across Nigeria also showed varying disclosure prevalence rate. A study by Salami *et al* in Ilorin, North-central Nigeria in 2011 reported rate of self-disclosure of HIV status to main sexual partner of 18.6%disclosure rate with more than 80% of the study population yet to disclose their HIV sero-status to their main partner.[31] Another study of HIV infected people attending Aminu Kano Teaching Hospital Kano, Nigeria recorded 67.1% of partner disclosure rate.[7] A study conducted among HIV patients at University College Hospital Ibadan, South Western Nigeria recorded a disclosure rate of 39%.[33] Studies among pregnant mothers showed partner disclosure rate of 41%,[31] 83.7%,[30] 89.7 %,[58] 90%[29] and 96%.[8]

A study was conducted among HIV positive pregnant women in five out of the six geo-political zone of Nigeria. Among those who have partners, fifty two percent were sero-discordant while 48% were sero-concordant. High sero-discordant rates were noted across three (North-Central, South-South and South-West) of the five geo-political zone studied.[60] Also in a study among HIV positive clients accessing care and treatment in 13 public hospitals in Ondo and Ekiti States, Nigeria, 59.3% had sero-discordant partners and 40.7% had sero-concordant partners. Most (75%) of the respondents have been in relationship for between one and 5years but only 56.8% of the respondents have disclosed their HIV status to their sexual partners. More respondents in concordant relationship are likely to have disclosed their HIV status to their partners (78.79% vs 41.67 %) while the rate of disclosure among the sero-discordant is lower (58.33% vs 21.21%). The study concluded that the rate of partner disclosure of HIV status is low and it is a cause for concern, as this could facilitate HIV transmission.[61]

A study conducted among married HIV positive women in Osogbo Nigeria reported that 23.8% of the respondents' partners had had HIV screening done with 3.3% being HIV positive. All HIV positive partners and 92% of HIV negative partners were aware of respondents' HIV status. Only 23% of the respondents reported that their partner knew their HIV status and that healthcare workers disclosed their HIV status to their partners or family members without obtaining their consent. One of the consequences of status disclosure among the women was sex deprivation: 62.3% of the women reported that they experience marital sex deprivation since their HIV positive status was disclosed to their partners. The reasons given for sexual deprivation included fear of their partners contracting HIV infection, respondents' illness, being pregnant, partners having other sexual partners and being blamed for testing HIV positive by their partners.[62]

In a cross-sectional study among adult HIV positive patients enrolled into the HIV/AIDS programme of SSHG, Gombe State, majority (97.5%) of the respondents had disclosed their HIV status. Out of this percentage only 36.8% disclosed their status to their spouses while others disclosed their status to their mother (18.7%), sister (13.5%), brother (9.8%), friend (7.3%), father (5.7%), child (3.6%) and boss (2.1%). Reasons for disclosure were to gain support (74.1%), gain sympathy (13.2%), adopt safer sexual practice (10.1%), be prayed for (2.1%) and to be excused from difficult work (0.5%). Age was a significant factor in status disclosure; individuals who were less than 40 years were more likely to disclose their HIV status than those who are 40 years or more in the study population.[38]

Among HIV positive mothers who were participating in the PMTCT programme at Jos University Teaching Hospital (JUTH), Jos, 74% of the mothers knew their husband's HIV sero-status. Of these, 65.4% and 34.6% of the partners were HIV positive and negative respectively. Eighty nine percent (89%) have disclosed their HIV status to their partners and disclosure increased over time. Of these, 39.6% required the assistance of health workers while 59.4% did it by themselves. Moslems were more likely to require healthcare workers' assistance with partner disclosure compared to the Christians (45.8% vs 33.5%). Following disclosure, partner's initial reaction was supportive (86.9%), indifferent (5.7%), quarrelsome/abusive (6.7%) and violent (1.0%). Subsequently, 74% were supportive, 4.3% indifferent, 20.9% quarrelsome/abusive while

0.8% were violent. Majority (63.3%) have also disclosed their HIV status to persons other than their partners: siblings, parents, in-laws and close friends. The main reasons given by clients for non-disclosure were fear of an adverse response and the suspicion that they may have been infected by their partners and so would want them to test as well before considering disclosure.[37]

2.3 Perception of HIV Sero-status Disclosure

In a qualitative study conducted among adolescents in South Africa reported that some adolescents believed that it is important to disclose HIV status to people in general, with the view that disclosure is a form of education. Some other respondents felt that it is not good idea to disclose HIV status to other people.[63] Among HIV positive pregnant women in Morogoro, Tanzania, women who perceived that there is a benefit to disclosure were 3 times more likely to disclose their HIV status to their partners compared to those who didn't perceive there is benefit. Also women who perceived counsellor did not play a role in disclosure were less likely to inform their partners about their HIV status compared to those who appreciated counsellors' role.[32] Another qualitative study carried out in Tanzania among PLWHA reported that many of the respondents have a positive attitude to HIV status disclosure and one of them viewed disclosure as an end to self-stigmatisation, boosts the functioning of medication and ARV adherence.[5]

2.4 Factors Associated with HIV Sero-status Disclosure

It is a common knowledge that HIV infected individuals often have difficulties telling others about their status. For disclosure to occur, several factors which may play a role include age, socio-economic status, level of education, marital status, social relations, knowledge, cultural factors and acquaintance on the importance of HIV disclosure. Global studies have revealed that younger people; or people with low socio-economic status and low education level are less likely to disclose their HIV status.[15,20,24,27] By and large, documented factors that influence status disclosure by PLWHA include gender, family type and marital status, period since diagnosis, awareness of partner's status, education, socioeconomic status, psychological and emotional impact.[73] Others are culture, religious beliefs and attitude.[5]

Sero-status disclosure may also be associated with sexual behaviour. Sexual intercourse is important in a sexual relationship; hence, denying a partner sex is discouraged while unprotected sexual intercourse is perceived in many cultures as strengthening the marriage institution.[64] Also, condom use is sometimes discouraged in marital sex because of couple's desire for children and its' use is equated with unfaithfulness and unnecessary indulgence by partners. Many marriages break down due to unmet sexual needs of couples.[65-68]

The use of antiretrovirals (ARVs) has been of immense help in tackling the spread of HIV as well as prolonging the lives of PLWHA. As helpful as these drugs are, there is a risk of its effect being negated through the sexual behavior of people who use them, thus posing a great challenge to HIV prevention. Risk behaviours, such as having multiple sexual partners, have been associated with nondisclosure[4] and it is assumed that sexual risk taking may increase with ART, especially in the long run once the health improves and people resume sexual activity.[69] A study by Scheer *et al*.[70] showed an increased risk of acquiring sexually transmitted infections (STIs) among heterosexual people receiving ART. Similarly, studies conducted in African settings suggests that although some risky behaviours actually decrease with ART, a substantial proportion continue to have unsafe sex, even with partners known to be HIV-negative.[71-75] For example, a study carried out in Ethiopia reported that up to one-third of individuals diagnosed with HIV infection continued to have unprotected sex usually without informing their sexual partner; this could increase transmission of HIV.[76]

A study carried out in South Africa[69] described the sexual behavior of HIV positive on ARVs. The authors categorized the respondents into three: those who were unaware of their partner's status, those in sero-concordant relationships and sero-discordance. Most respondents in sero-concordant relationships indicated that their sexual desire has changed and they use condoms since they have learned about their HIV status. Some on the other hand decided to abstain from sexual activities. Most of those in sero-discordant relationships use condom when having sex, but associated with challenges of inconsistency and condom burst. Only a few of them decided to abstain from sex while most of them noted a change in sexual desire, sometimes due to condom use. Assessment of sexual behavior of those unaware of their partner's status showed that some use condom but give different reasons for this including being weak, sick, not trusting the partner and fear. Few of these participants decided to abstain from sex but few continued to have unprotected sex for fear of losing their marriage and partner not interested in using condoms. A large number noted a change in sexual desire since diagnosis.[69]

In Adekanle's study[62] on the sexual experiences of married HIV positive women, none of the respondents willingly abstained from sex but majority (71.3%) of the women did not offer to use a condom before sex. There was however a high rejection rate (74.3%) of condom use among respondents' partners when they did offer to use one. The factors that were significantly associated with experience of marital sex deprivation were younger age, high education, partners' awareness of respondents' HIV status and nulliparity.

CHAPTER THREE

METHODOLOGY

3.1 Background

The Federal Capital Territory (FCT) of Nigeria, is an 8,000 sq. km. land area located at the centre of the country. It is located between latitudes 70 25’ and 90 20’ north of the Equator and longitudes 60 45’ and 70 39’east of Greenwich. Abuja is a planned city and was built mainly in the 1980 and it officially became Nigeria's capital on 12th December 1991, replacing Lagos. Abuja was created as are placement for Lagos, the former capital, which was faced with a number of challenges including traffic congestion, over population, its peripheral location at the extreme south-western corner of the country and the fact that the Yoruba people dominated and laid claim to the ownership of the area.[77]

It was carved out of three states of Nigeria by Decree 6 of February 5, 1976. The three states from which Abuja was excised were Plateau, Kwara and Niger.[78] At the 2006 NPC, the city of Abuja had a population of 1,406,239 and however, with an urban population growth rate of 4.1% the projected population will be 1,752,174. Federal Capital Territory has six area councils which include: Abuja Municipal, Bwari, Kuje, Gwagwalada, Kwali, and Abaji Area Councils.[79]

FCT has a total of 204 government-owned public health centres comprising of 177 primary centres, 25 secondary and 3 tertiary centres. All the 204 health facilities in FCT carry out routine HIV Counselling and Testing. However, ARV Clinic is run in only 27. Kwali has 39 government-owned health facilities out of which 38 provide primary care while one provides secondary care. Kuje has 23 government-owned health facilities out of which 22 provide primary care while one provide secondary care. Gwagwalada has 21 government-owned health facilities out of which 20 provide primary care while one provide tertiary care. Bwari has 39 government-owned health facilities out of which 37 provide primary care while two provide secondary care. AMAC has 49 government-owned health facilities out of which 22 provide primary care while 16 provide secondary care and two provide tertiary care. Abaji has 23 government-owned health facilities out of which 22 provide primary care while one provides secondary care.[80-81]

3.2 Study Design

This study was descriptive and cross-sectional in design.

3.3 Study Population

The study population consisted of adult HIV positive clients attending public healthcare facilities in FCT, Abuja.

3.3.1 Inclusion Criteria

1. HIV positive clients who were 18 years and above.
2. HIV positive clients who have at least one sexual partner.

3.3.2 Exclusion Criteria

1. HIV positive pregnant women as they attend PMTCT clinic which is different from ARV clinic attended by other PLWHA.
2. HIV positive clients accessing in-patient and emergency care as they may be too physically sick to participate.
3. Clients with mental or physical impairment.
4. People living with HIV and Aid (PLWHA) who refuse to give informed consent.

3.4 Sample Size Determination

The sample size was determined using the formula for calculating sample size in cross sectional studies.[80]

$$n = \frac{z^2}{d^2} p\, q$$

Where:

n = minimum sample size required

z = 1.96; standard normal deviate at 95% confidence interval

p = 18.6%; prevalence of HIV positive status disclosure to partners in Ilorin.[31]

q = complementary probability = 1- p = 1-

d = margin of error i.e. 5%

Sample size was calculated thus:

$$n = \frac{(1.96)^2 \times 0.186 \times (1 - 0.186)}{(0.05)^2}$$

n = 232.7

A 90% response rate and a design effect of 1.5 were used to adjust for the sample size. Thus;

Adding the non-response rate: n = 232.7/0.90 = 258.6

Adding a design effect of 1.5, a total sample size of 388 was obtained, approximated to 390.

Therefore, a total of 390 respondents were recruited to participate in the study.

3.5 Sampling Technique

A multistage sampling technique was used to select respondents into the study. The stages used are shown below:

Stage 1

The public health facilities in FCT with ARV clinics were stratified on the basis of level of care and the area council where they are situated (Appendix 1). Only facilities with at least 100 patients were included in the sampling frame. The ratio of health facilities sampled, by level of care was 3:13:5 (Appendix 1).

Stage 2

Simple random sampling was used to select ten health facilities for the study. The facilities were proportionately selected across the level of care: 2 tertiary, 6 secondary and 2 primary health facilities.

Tertiary health facilities

There are three tertiary health facilities, two in the AMAC area council and one in Gwagwalada area council. The tertiary health facility in Gwagwalada area council was proportionately selected while one was selected in the AMAC area council using simple random sampling by balloting (Appendix I and II).

Secondary health facilities

There are 14 secondary health facilities and to select six out of them for the study, area councils with only one secondary health facility (Abaji, Kuje and Kwali) were purposively selected. Simple random sampling was then used to select two facilities from AMAC area council and one from Bwari area council (Appendix I and II).

Primary health facilities

Of the 11 health facilities, five health facilities, two were randomly selected (Appendix I and II).

Thereafter, proportionate sampling was used to determine the number of respondents that were studied in each of the ten facilities using the number of patients on ARVs in each of the ten facilities, the total number of patients on ARVs in all the ten facilities and the sample size for the study is shown (Appendix II).

Stage 3

Systematic random sampling was used to select the respondents that were studied in each of the selected facilities using the client list register as the sampling frame for patients on ARVs. The number of clients that will be interviewed daily at the health facility had been predetermined based on proportionate allocation. The kth term was determined by dividing the total number of clients on the daily register by the number to be interviewed. The first respondent was selected randomly while subsequent respondents determined by the sampling interval.

3.6 Data Collection

3.6.1 Data collection method

The quantitative method of data collection was used to collect data for the study. A semi-structured interviewer-administered questionnaire was used to collect the data (Appendix III). The study objectives were used in dividing the questionnaire into five sections. Section A addressed the socio-demographic characteristics of respondents; section B focused on the sexual behaviour of the respondents; section C addressed factors associated with HIV disclosure to sexual partners; and the perception of respondents to HIV sero-status disclosure was documented using questions in Section D. Four research assistants (Youth Corps members) and two supervisors with health-related backgrounds were trained by the researcher for one day in order to standardize data collection procedures for the purpose of this study. The research assistants were trained on the general principles of data collection, interpersonal communication skills as well as the content of the questionnaire for effective administration of the questionnaire. Data was collected on clinic days and lasted for 28 days. Each questionnaire took an average of 30 minutes to administer. Eligible respondents were identified and formal introduction done to seek for permission to conduct the study. The questionnaires were administered on consenting respondents and reviewed daily for completeness and accuracy by the research assistants, supervisors and study investigator.

3.6.2 Validity and reliability of the instruments

The questionnaire was developed after consultation of relevant literatures and also subjected to review of the study's supervisors. Supportive information that enhanced the content of the questionnaire was obtained after the pre-test. The instrument used to collect data for the study was pre-tested among adult HIV/AIDS patients attending General hospital, Suleja. The questionnaire was pre-tested among 39 (10% of the sample size) eligible respondents. Thereafter, the questionnaire was subjected to a measure of internal consistency using the Cronbach's Alpha model technique. This reliability coefficient obtained from this analysis was used to ascertain the statistical reliability of the instrument.

3.7 Data management and statistical analysis

The data was entered into Microsoft excel and pass worded. It was then cleaned, and exported into Epi-Info 7 statistical software package (CDC Atlanta Georgia USA) for analyses. The prevalence and perception of partner disclosure of HIV status was summarized using frequencies and proportions. To identify factors associated with partner disclosure of HIV status inferential statistics (Chi-square and Logistic regression) were conducted. Chi square test was used to determine the presence or absence of relationship between variables of interest while regression analysis was used to determine the direction of the relationship. All tests were conducted using two tails with level of significance of $P \leq 0.05$ and results were presented with appropriate graphical illustrations, diagrams and tables. (Appendix IV).

3.7.1 Measurement variables

Socio-demographic variables included age, gender, tribe, religion, educational status, occupation, marital status and type of family. Variables relating to disclosure were time of HIV diagnosis, partner disclosure, initial and subsequent reaction to disclosure, person disclosed to, duration from diagnosis to disclosure, reaction of the person disclosed to, reason for disclosure, spontaneity of disclosure, reason for non-disclosure, unprotected sex since diagnosis and views about disclosure.

3.7.2 Scoring criteria

All the ten perception questions were positively worded. Each of questions was assigned a score of 1 for a yes, a strongly agree or an agree response and no score was assigned for a no, a disagree or a strongly disagree response. The highest obtainable score is 10. Perception scores of ≤ 5 and >5 were respectively categorized as negative and positive.

3.8 Ethical Consideration

Ethical clearance was obtained from Health Research Ethics Committee, Federal Capital Territory Administration, Secretariat, FCT, Abuja. Permission to carry out the study was sought from heads of selected health facilities. Informed oral consent was obtained from participants and they were informed of their right to opt out of the study any time without any consequence. Participants' information was kept confidential and privacy was assured by keeping data secured in a pass-worded computer. Each questionnaire was assigned a unique number for identification, with no names obtained from respondents.

3.9 Limitations of the Study

The major limitations of the study are:

1. Case control or prospective cohort study design could not be used because of the time required. Hence the risks found in this study from the cross-sectional design may not be exact and should be interpreted with caution.
2. Reporting Bias: Similar to most behavioural surveys, the issue of under-reporting risk behaviours among participants must be considered. Due to social stigma, some behaviours such as condom use, male to male sex, anal sex, drug injection, or needle sharing may be under-reported by respondents because the study relied on interviewer-administered questionnaire.

CHAPTER FOUR

RESULTS

This section highlights results obtained from the quantitative analysis of 390 respondents A total of the 390 HIV clinic attendees, were enrolled into the study and interviewed, giving a response rate of 100%. Their mean age was 33 ± 8.8years.

Table 1: Socio-demographic characteristics of HIV seropositive clients attending public health facilities in FCT, (n=390)

Socio-demography	Frequency (n)	Percent (%)
Age		
15-24	48	12.3
25-34	198	50.7
35-44	104	26.7
>45	40	10.3
Gender		
Female	244	62.6
Male	146	37.4
Educational Status		
None	19	4.9
Primary	28	7.2
Secondary	144	36.9
Tertiary	199	51.0
Occupation		
Business/trader	132	33.9
Civil servant	95	24.4
Farmer	30	7.6
Student	60	15.4
Unemployed	47	12.1
Others*	26	6.6
Marital status		
Married	212	54.4
Single	13	3.3
Other**	165	42.3
Ethnicity		
Igbo	88	22.6
Yoruba	75	19.2
Hausa/Fulani	86	22.1
Gbagi	17	4.4
Others***	124	31.7
Family Type		
Monogamous	148	69.8
Polygamous	64	30.2

***full housewife,NGO, private firm.** ***separated, divorced, widowed.* ***Tiv, Edo, Ebira, Idoma, Igala, Bassa etc*.

Almost two-thirds (62.6%) were female, 343 (87.9%) had secondary or higher education status, and more than half 199 (51%) had a tertiary education. More than half (54.4%) were married, about one-third (30.2%) were from polygamous setting and 257(66.0%) were employed. In term of ethnic groups, 88 (22.6%) were Igbo, 75 (19.2%) were Yoruba, 68 (17.7%) were Hausa, and 18 (4.6%) were Gbaygi. About half (50%) of the respondents' age fell between 25-34 years. Farmers were among the least to those who participated in the survey 30 (7.7%).

Table 2: Pattern of partner disclosure of HIV status among HIV clients Attending public health facilities in FCT

Variable	Frequency	Percent (%)
Method of disclosure	**(n=247)**	
Disclosed by self	197	79.8
Disclosed through others	50	20.2
Partner HIV sero-status	**(n=247)**	
Do not know	25	10.1
HIV negative	94	38.1
HIV positive	128	51.8
Sex with partner before disclosure	**(n=247)**	
Yes	117	47.4
No	130	52.6
Protected sexual intercourse prior to partner disclosure	**(n=117)**	
Yes	59	50.4
No	58	49.6

Of 390 respondents, about two-third 247 (63.3%) had disclosed their HIV status to their partners. Of the 247 that disclosed, majority (79.8%) disclosed by themselves to their partners. And one-third of the partners (32.8%) were known to be HIV positive by the respondents. Nearly half (47.4%) of those that disclosed had sex with their partners before disclosing their status. Only half (50.4%) of those who had sexual intercourse prior to partner disclosure practiced safe sex. For 84 (34.0%) of those that disclosed, their partners went for HIV sero-status testing after the disclosure while for 43 (17.4%), their partners had prior knowledge of their status and 120 (48.6%) participants did not respond.

Table 3: Main reasons for disclosure and non-disclosure of seropositive status among HIV clients attending public health facilities in FCT (n=390)

Reasons	Frequency	Percent (%)
Disclosure	**n=247**	
Gain support	94	38.1
Sense of duty	62	25.1
Partner can adopt safe sex	40	16.2
Want sympathy	27	10.9
Others*	24	9.7
Non-disclosure	**n=143**	
Stigma	52	36.3
Feeling of shame	42	29.4
Fear of rejection	31	21.7
Fear of discrimination	14	9.8
Others**	4	2.8

Encourage partner testing, prevent rumors, *

About one-third (24.1%) of the respondents disclosed their seropositive status to their partners in order to gain support. About (13.3%) did not disclose their status to avoid stigma or shame.

Table 4: Perception scores of partner disclosure among HIV clients attending public health facilities in FCT, (n=390)

Partners of perception	Frequency	Percent (%)
Good to tell partner HIV status	388	99.5
Good for people to know their status	350	89.7
Would recommend telling partner one's HIV status	339	86.9
Disclosure of one's HIV status to his/her partner is advantageous	366	93.9

About (99.5%) of respondents agreed that it is good to disclose HIV seropositive status to partner and also most (93.9%) of the respondents agreed that disclosure of HIV status to partner is advantageous.

Table 5: Perceived benefit scores of partner disclosure among HIV clients attending public health facilities in FCT (n=390)

Perceived benefit	Frequency	Percent (%)
Prevention of HIV spread	369	94.6
Decrease HIV mortality	337	86.4
Does disclosure safeguard health workers health	332	85.1
Does disclosure enable HIV positive individuals to get correct treatment	372	95.4
Whether disclosure enable partners to make informed decision	357	91.5
Does disclosure prevent transmission from mother to child	348	89.2

Out of 390 respondents got 94.6% agreed that disclosure can help in the prevention of HIV spread while 5.4% do not. Similarly, 86.4% of respondents agreed that timely disclosure can lead to decrease HIV mortality. Also 95.4% and 91.5% of the respondents had agreed that disclosure can enable HIV positive individuals to get correct treatment and enable partners to make informed decision respectively.

Table 6: HIV diagnosis and therapy received among respondents accessing care in public care facilities in FCT (n=390)

Variable	Frequency	Percent (%)
Duration of HIV diagnosis (months)		
<12	60	15.6
13-36	134	34.9
37-60	68	17.7
>61	122	31.8
Currently on HIV drugs		
Yes	385	98.7
No	5	1.3
Length on ART (months)		
<12	60	15.6
13-36	134	34.9
37-60	68	17.7
>61	122	31.8

About 134 (34.9%) of the respondents agreed that the duration of HIV diagnosis can last up to 13-36 months and 385 (98.7%) of them are currently on HIV drugs.

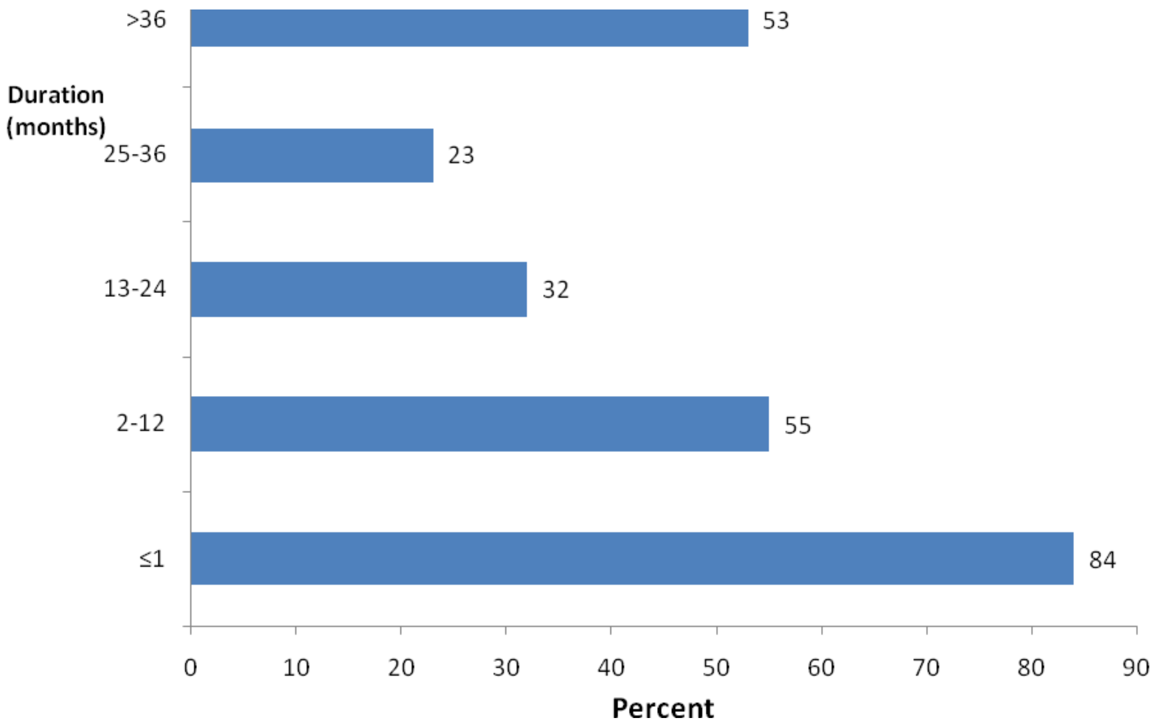

Figure 1: Graphic representation of the duration of HIV diagnosis to partner disclosure among clients attending HIV clinics in public health facilities of the study area

More than one-third (34%) disclosed in 1 month of diagnoses and 22.3% informed their partners within 2 to 12 months of diagnoses. Only about 9% of participants disclosed their HIV test results to their partners within 36months of diagnoses.

Table 7: Sexual Behavior of HIV seropositive clients attending public health facilities in FCT (n=390)

Sexual Behavior of Respondents	Frequency	Percent (%)
Main sexual partner		
Spouse	202	51.8
Boyfriend/girlfriend	168	43.1
Other*	20	5.1
Has had unprotected sexual intercourse since HIV diagnosis		
Yes	212	54.4
No	178	45.6
Used condom during intercourse with main partner		
Yes	303	77.7
No	87	22.3
Frequency of condom use		
Always	199	51.0
Most times	31	7.9
Sometimes	62	15.9
Rarely	9	2.3
Refused to say	89	22.8

**Acquaintance, fiancé, lady friends*

A slight majority 202(51.8%) of respondents reported their spouse as their main sexual partner. While, 212 (54.4%) had had unprotected sexual intercourse since they had been aware of their HIV status. Over two third (77%) indicated they don't use condom during intercourse with main partner but they frequently or always use it 199 (51.0%) outside their main partners.

Table 8: Disclosure status by sexual behaviour among clients attending public health care facilities in FCT Abuja, 2017 (n=390)

Variable	Frequency	Percent (%)
Told anyone else about HIV sero-positive status		
Yes	172	44.1
No	218	55.9
Disclosure time to non-partner to partner disclosure (n=172)		
Before telling partner	48	12.3
After telling partner	82	21.0
Relationship with person* (n=172)		
Mother	83	21.3
Sibling	43	11
Father	37	9.5
Friend	31	7.9
Pastor/imam	27	6.9
Spouse	18	4.6
Child	13	3.3
Sister-in-law	4	1.0

*Indicates multiple responses

About 55.9 % (218) had not informed anyone else about their seropositive status. However, among 172(44%) that had disclosed their status, 82(21%) had partner disclosure before informing anyone else. Mothers (21.3%) were the persons to whom respondents most frequently disclosed their HIV status, followed by sibling (11.0%), father (9.5%), friends (7.9%), religion leader (6.9%), spouse (4.6%) and children (3.3%).

Table 9: Disclosure status by Socio- demographic characteristics of respondent in FCT, 2017

Socio-demographics	Disclosed =247 n(%)	Not Disclosed =143 n(%)	O.R	C.I	p-value
Age group					
15-24	25(10.1)	23(16.1)	ref		0.0023*
25-34	107(43.3)	91(63.6)	1.1	0.58-2.0	
35-44	81(32.8)	23(16.1)	3.24	1.6-6.7	
> 45	34(13.8)	6(4.2)	5.2	1.8-14.7	
Gender					
Female	152(61.5)	92(64.3)	0.89	0.58-1.4	0.5820
Male	95(38.5)	51(35.7)	ref		
Ethnicity					
Igbo	33(23.1)	55(22.3)	0.86	0.29-2.5	0.6954
Hausa Fulani	32(22.4)	54(21.9)	0.85	0.29-2.4	
Yoruba	26(18.2)	49(19.8)	0.76	0.26-2.2	
Gbagi	7(4.9)	10(4.1)	ref		
Other	45(31.5)	79(32.0)	0.81	0.29-2.3	
Religion					
Christianity	176(71.3)	99(69.2)	1.1	0.70-1.7	0.6727
Islam	71(28.7)	44(30.8)	ref		
Educational status					
None	13(5.3)	6(4.2)	ref		0.4320
Primary	18(7.3)	10(7.0)	0.83	0.24-2.9	
Secondary	106(42.9)	38(26.6)	1.3	0.46-3.6	
Tertiary	110(44.5)	89(62.2)	0.57	0.21-1.6	
Occupational status					
Business trader	98(39.7)	34(23.8)	7.3	3.7-14.4	<0.0001*
Civil servant	78(31.6)	17(11.9)	11.6	5.4-25.0	
Farmer	19(7.7)	11(7.7)	4.3	1.7-11.1	
Unemployed	19(7.7)	28(19.6)	1.7	0.76-3.9	
Student	17(6.9)	43(30.1)	ref		
Other	16(6.5)	10(7)	4.0	1.5-10.7	
Marital status					
Married	181(73.3)	31(21.7)	11.4	6.9-18.7	<0.0001*
Single	56(22.7)	109(76.2)	ref		
Other**	10(4.0)	3(2.1)	6.4	1.7-24.5	
Family type					
Monogamous	127(51.4)	21(14.7)	1.1	0.49-2.5	0.7859
Polygamous	54(21.9)	10(7)			

**Widow, separated or divorced   * significant results

There is a significant association between age, occupation, marital status and disclosure status of the respondents.

Table 10: Disclosure status by sexual behaviors of people living with HIV among clients attending public health care facilities in FCT Abuja, 2017

Variable	Disclosed =247 n (%)	Not Disclosed =143 n (%)	O.R.	C.I	P value
Sexual partner having other sexual partner					
Yes	41(16.6)	14(9.8)	ref		
No.	127(51.4)	26(18.2)	0.16	0.09-0.26	<0.0001*
Don't know	79(32)	103(72)	0.60	0.29-1.3	
Who is your main sexual partner?					
Spouse	175(70.9)	27(18.9)	ref		<0.0001*
Boy friend/girl friend	58(23.5)	110(76.9)	0.08	0.05-0.14	
Other	14(5.7)	6(4.2)	0.36	0.13-1.02	
Partner education					
No formal/do not know	17(6.9)	7(4.9)	ref		0.1984
Primary	14(5.7)	13(9.1)	0.4	0.12-1.4	
Secondary	82(33.2)	30(21)	1.0	0.37-2.9	
Tertiary	134(54.3)	93(65)	0.54	0.20-1.4	
Condom use					
Yes	185(61.1)	118(38.9)	0.63	0.38-1.1	0.0815
No	62(71.3)	25(28.7)	ref		
Number of sexual partner ever had					
1	97(24.9)	27(6.9)	ref		0.0009*
2	56 (14.4)	29 (7.4)	0.31	0.15-0.63	
3	44 (58.82)	26 (6.7)	0.25	0.12-0.54	
4	17 (11.3)	31 (7.9)	0.07	0.03-0.17	
5 and more	37 (9.5)	30 (7.6)	0.23	0.11-0.46	
Number of current sexual partner					
0	9 (2.3)	44 (11.3)	ref		<0.0001*
1	219 (56.2)	87 (22.3)	12.3	5.7-26.3	
2	15 (3.8)	2 (0.5)	36.7	7.1-189.1	
3 and more	4 (1.0)	10 (2.6)	2.0	0.5-7.6	

*significant result

There is a statistically significant association between having sexual partners other than main partner, having more than one partner and disclosure of HIV status.

Table 11: Disclosure status by HIV diagnosis, ART receipt among clients attending public health care facilities in FCT, 2017

Variable	**Disclosed =247 n (%)**	**Not Disclosed =143 n (%)**	**O.R.**	**C.I**	**P value**
Duration of HIV diagnosis (months)					
< 12	36(9.3)	24 (6.2)	ref		0.0205*
13-36	68 (17.4)	69 (17.9)	0.69	0.3-1.3	
37-60	43 (11.0)	28 (7.2)	0.94	0.47-1.9	
> 61	100 (25.6)	22 (5.6)	3.0	1.5-6.1	
Currently on antiretrovirals					
Yes	245(99.2)	140(97.9)	2.6	0.43-15.9	0.2758
No	2(0.8)	3(2.1)	ref		

*significant result

There was a statistically significant association between duration of HIV diagnosis (months) and partner disclosure. There was no significant relationship between disclosure and current use of antiretrovirals.

Table 12: Disclosure status by response to detection of HIV sero-positive status among respondents attending public health care facilities in FCT, 2017

Variable	Disclose=247 n(%)	Not Disclose=143 n(%)	O.R.	C.I	P value
Suicidal intent					
Yes	31(12.6)	32(22.4)	0.50	0.29-0.86	0.0111*
No	216(87.4)	111(77.6)	ref		
Cried					
Yes	70(28.3)	55(38.5)	0.63	0.41-0.98	0.0390*
No	177(71.7)	88(61.5)	ref		
Felt sad					
Yes	146(59.1)	115(80.4)	0.35	0.22-0.57	<0.0001*
No	101(40.9)	28(19.6)	ref		
Took it in good faith					
Yes	119(48.2)	25(17.5)	4.4	2.7-7.2	<0.0001*
No	128(51.8)	118(82.5)	ref		

Respondents with a negative reaction on detection of sero-positive HIV status had lower odds of disclosing. However, those who took the results in good faith were more likely to disclose their status.

Table 13: Disclosure to persons other than partner among clients attending public health care facilities in FCT, 2017

Variable	Disclosed =247 n(%)	Not Disclosed =143 n(%)	O.R.	C.I	P value
Disclosure of HIV sero-positive status to non-partners					
Yes	113(45.75)	59(41.26)	1.0	0.41-2.5	0.3894
No	134(54.25)	84(58.74)			

There is no statistically significant association between partner disclosure and disclosure to non-partner.

Table 14: Predictor Factors associated with partner disclosure among HIV clients attending public health care facilities in FCT Abuja, 2017

Variable	**A.O.R.**	**95%C.I.**
Age (years)		
15-24	**Ref**	
25-34	1.2	0.58-2.5
35-44	1.8	0.74-4.2
≥45	3.3	1.1-10.2*
Length of HIV diagnosis (months)		
≤12	**Ref**	
13-36	0.3878	0.18-0.81*
37-60	0.57	0.24-1.3
≥61	0.49	0.22-1.1
Number of sexual partners		
1	**Ref**	
2	0.64	0.32-1.3
3	0.48	0.23-0.99*
4	0.37	0.17-0.79*
≥5	0.37	0.19-0.73*
Felt sad on receipt of HIV diagnosis	**0.49**	**0.29-0.84***

A.O.R. = Adjusted odd ratio C.I.=Confidence interval

Controlling for multiple confounders, multivariate analysis shows that disclosure to sexual partners was statistically significantly associated with older age. Those who are 45 years old and above, are 3.3 times more likely to disclose their HIV status compared to their younger counterparts as can be seen in table 14. Other predictor factors topartner disclosure in PLWHA include length of HIV diagnosis and number of sexual partners.

CHAPTER FIVE

DISCUSSION

This chapter discusses the findings on the prevalence and perception of partner disclosure among HIV positive clients in public health facilities in FCT, Abuja.

The finding revealed that there were more females respondents (62.6%) than males (37.4%) constituting about two third of the total sample population. The proportion of males in this study is at variance with what was reported at Sagamu, Nigeria[58] where male respondents were 71% two third of the total sample population. However, the lower proportion of males in our studies agrees with figures of 29.0%[82] and 32.0%[83] reported in Niger Delta and Ogun state, Nigeria respectively.

Almost half (49.0%) of the participants were aged 28-37years with mean age of 33±8 years. This gives a further understanding from previous findings in medical literature which shows that youth and economically productive people are most affected by HIV. Our results on age of respondents is similar to findings from Togo[84] Ethiopia[85] Nnewi, South Eastern Nigeria[30] and Jos, Northern Nigeria.[37]

The survey also revealed a prevalence of 63.3% of those who disclosed their HIV status. The disclosure rate that we found was similar to an overall disclosure rate of HIV status of women to their sexual partner which was 63.8% in Mekelle hospital, Ethiopia.[85] Disclosure of HIV positive status has two sets of contrary effects. It may motivate partner for voluntary counselling and testing or on the other hand, it may cause blame, discrimination, depression and loss of economic support.[7,37, 86-87] The disclosure of seropositive status through counseling and testing to partners provide couples and sexual partners an opportunity to make appropriate reproductive health choices that will prevent or reduce transmission between partners and mother to child transmission. This study was actually designed to examine the prevalence and perception of partner disclosure of HIV among PLWHA in public healthcare facilities in FCT, Abuja.

The prevalence of partner disclosure in this study which was 62.3% was lower than findings in a study on disclosure among people living with HIV/AIDS in in Jos University Teaching Hospital (89.0%)[37] Ethiopia (63.8%)[88] and Gombe (36.8%)[89] and higher than result of studies conducted in Ilorin, Kwara state (18.6%),[31] and Tanzania (56.8%).[5] The possible reasons for these variations might be due to difference in study population and level of sensitization and awareness on partner disclosure in our study area compare to similar studies. The level of non- disclosure is high and this might increase risk of transmission of the HIV infection among the sexual partners of seropositive clients. Also, non-disclosure has detrimental effects on the person living with HIV/AIDS and it is associated with personal distress, loneliness and social isolation.[90,91] Disclosure is an essential component of HIV prevention as it encourages sexual partners to adopt safer sexual practices and facilitate partners and family members to seek counseling and testing themselves.[92]

The findings on the perception of disclosure of HIV status among adult HIV/AIDS clients in public healthcare facilities in FCT, Abuja revealed that almost all (99.5 %) of the respondents agreed that it is good to disclose HIV seropositive status to partner and most (93.9%) of the respondents agreed that disclosure of HIV status to partner is advantageous. Some of the reason the respondents advanced as the perceived benefit of disclosure include: prevention of HIV spread, decrease HIV mortality, it safeguards health workers health, it enable HIV positive individuals to get correct treatment, it help enables partners to make informed decision and it helps prevent transmission from mother to child. Our findings are consistent with what was reported in a study among adolescents in Tanzania and Botswana. [93,94]. The findings suggested that the perceived knowledge of HIV status provided HIV-infected adolescents with opportunities to take care of themselves and to adhere to treatment.

The duration of diagnosis is directly related to the length of commencement of antiretroviral drugs. Hence, irrespective of the duration of diagnosis, 98.7% of the respondents are on antiretroviral drugs**.** The relationship between the duration of diagnosis and clients starting period of antiretroviral therapy might be due to proper counseling by the health-workers prior to HIV testing and after diagnosis. Therefore, clients are fully aware of their conditions and the need for immediate access to treatment so as to slow down the sequalae of the infection and stay healthy.

Disclosure to partner is directly related to time of diagnosis. One-third of respondents in this study disclosed their HIV status to their partner within 1 month of diagnosis and another 22.3% informed their partners within 2-12 months of receiving HIV test results. However, 9% had partner disclosure at 36 months of diagnosis. The findings were inconsistent with another study where majority disclosed their HIV status to partners immediately.[95] Although, the scope of this study did not cover discussion of HIV/AIDS among partners, it is possible that partners had discussed about HIV/AIDS prior to testing which might have given the affected person, assurance of social support from partner. Effective communication between couples and sexual partners is important to enhance partner disclosure of seropositive status.

This study also found that, 59% of the participants were aware of their partners HIV status, only 12% knew of their partner status prior to their diagnosis and about 47% had had sex with their partners prior to disclosure and 50% of them had unprotected sex. These findings are consistent with another study, where 60.5% were aware of their partner HIV status [96]. Other literatures showed high level of unprotected sex among seropositive clients and their partners.[30, 97] Sexual relationships in sub- Saharan Africa has been characterized with non-disclosure of HIV status.[95, 98] Reasons identified for disclosure include; gain support (38%), sense of duty (25%), adopt safer sex (16%), want sympathy (7.9%), encourage testing, prevent tumors (11%). Study conducted in Gombe state, identified similar reasons for partner disclosure of HIV sero-positive status.[38]

In this study, the independent predictors of HIV serostatus disclosure on multivariate analysis included age and number of sexual partners. Respondents over 45 years of age were more likely to disclose their HIV status to partners. Similarly, married participants were more likely to disclose than single persons. However, religion was not a predictor of HIV serostatus disclosure in this study. This is dissimilar with a previous study conducted in Nnewi, Nigeria.[30]

Length of HIV diagnosis (months) was also shown to be an independent predictors of HIV serostatus disclosure on multivariate analysis. This finding corroborates other studies in Kenya and Nigeria[99,100] where having known one's status for less than 3 months was an independent significant predictor for non disclosure. Women who had a short duration of knowing their HIV status were more likely not to disclose their HIV status. In a Kenyan study, women with long duration of knowing their HIV status were more likely to disclose their HIV status.[97] In Northern Nigeria, 94.6% of HIV positive women took more than a year to disclose their status.[37] Long duration enables women to adjust to their result especially if the result is positive.[101] Stigma, feeling of shame, fear of rejection, fear of discrimination had been implicated for partner non-disclosure and delay in disclosing the HIV status in this study. Several studies have documented similar findings.[95-97] In our study these other factors were not statistically significant.

Sexual relationship in sub- Saharan Africa has been characterized with non-disclosure of HIV status.[84,85,102] More than half (51.8%) of respondents mentioned spouse as main sexual partners and about 54.4% has had unprotected sexual intercourse since diagnosis and only 51% use condom always during sexual intercourse. In this study, the findings were contrary to previous study conducted in Burkina Faso where illiterate women reported rarely disclosed her seropositive status to their partner compare to more educated.[99] Other studies have shown high rates of unprotected sexual intercourse with main partners.[101,103-104] Possible reasons for the low use of condom might be due to rejection from partners based on the cultural belief that condom use reduces sexual enjoyment. Analysis of factors associated with sexual behavior and condom use had no influence on partner disclosure.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

The prevalence of disclosure of HIV seropositive status to partners was low despite an overallgood perception of partner disclosure among the respondents. The predictors of partners disclosure of HIV seropositive status include: age, length of HIV diagnosis (months) and number of sexual partners.

6.2 Recommendations

1. HIV programs such as HCT and ART clinics should be designed to increase the coverage of provision of education and counselling on importance of disclosure of HIV status.
2. Health education and counseling to promote partner disclosure and curtail the spread of HIV infection should be targeted more at younger patients, recently diagnosed patients and patients with multiple partners who have been shown in this study to be less likely to disclose their HIV seropositive status
3. FCT Area Councils should organize health campaigns against stigma and discrimination of PLWHA so as to encourage disclosure of seropositive status.

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APPENDICES

APPENDIX I

Public Healthcare facilities with ARV Clinic in FCT

S/N	Level of Care	Hospital	Area Council	Number of Patients
1	Tertiary	National hospital, Abuja	AMAC	5918
2		University of Abuja Teaching hospital Gwagwalada	Gwagwalada	9488
3		Federal Medical Centre Jabi	AMAC	700
4	Secondary	Asokoro General Hospital	AMAC	3647
5		Maitama General Hospital	AMAC	4000
6		Abaji General Hospital	Abaji	1064
7		Bwari General Hospital	Bwari	916
		Kubwa General Hospital	Bwari	700
8		Kuje General Hospital	Kuje	600
9		National institute for pharmaceutical research IDU, Abuja	AMAC	3055
10		Garki General hospital	AMAC	1102
11		General hospital karshi	AMAC	920
12		Custom staff clinic	AMAC	406
13		Federal staff hospital, Gwarinpa	AMAC	71
14		General Hospital Rubouchi	Kuje	40
15		Kwali General Hospital	Kwali	391
16		Jikwoyi Medical centre	AMAC	1047
17	Primary	Gwagwalada Township clinic	Gwagwalada	465
18		Primary health care centre Karu	AMAC	14
19		Primary Health centre dagiri	Gwagwalada	194
20		Galuwyi primary health centre	Bwari	174
21		Gasakpa primary health centre	Abaji	722
22		Primary health centre kujekwa	Kuje	2
19		Primary health centre Agwai	Kuje	2
20		Primary health centre Rubochi	Kuje	6
21		Primary health centre kawu	Bwari	3
22		Primary health centre kabin mangoro	Kuje	1
23		Abaji Public Health Centre	Abaji	300
				35648

APPENDIX II

Health facilities selected for the study

S/N	Level of Care	Hospital	Area Council	No of patients on ARVs (n)	No of patients recruited = n/N x sample size
1	Tertiary	National hospital, Abuja	AMAC	5918	86
2		University of Abuja Teaching Hospital, Gwagwalada	Gwagwalada	9488	139
3	Secondary	Asokoro General Hospital	AMAC	3647	53
4		Maitama General Hospital	AMAC	4000	58
5		Abaji General Hospital	Abaji	1064	15
6		Bwari General Hospital	Bwari	916	13
7		Kuje General Hospital	Kuje	600	9
8		Kwali General Hospital	Kwali	391	6
9	Primary	Abaji Public Health Centre	Abaji	300	4
10		Gwagwalada Township clinic	Gwagwalada	465	7
	Total			26789 (N)	390

APPENDIX III

QUESTIONNAIRE

PARTNER DISCLOSURE OF HIV STATUS AMONG HIV POSITIVE PATIENTS ATTENDING PUBLIC HEALTH FACILITIES IN ABUJA

Introduction

Good day. I am **Fatima Saleh**, a postgraduate student in the Department of Community Medicine, Faculty of Medicine, Ahmadu Bello University Zaria. I am conducting a research on partner disclosure of HIV status among HIV positive patients attending public health facilities in Abuja. The research takes place over three months.

This questionnaire is designed to determine the factors responsible for self-disclosure or non-disclosure of HIV status. The findings from this study will be used only for research purposes to understand the consequences of non-disclosure of HIV status, inform policies that will influence stigma reduction and improve on issues of lost to follow-up. Any information you provide will be anonymous and cannot be traced back to you. This is because your name, address or other identifiers will not be asked or recorded. Additionally, your responses will be kept confidential.

You are not under any obligation to participate in this study. Your decision to take part is voluntary. You have the right to freely withdraw from this study at any stage.

Thus, I solicit your honest and sincere responses to the questions. Thanks for the anticipated co-operation.

Do you agree to participate in the study? YES [ ] NO [ ]

Signature/Thumb print of participant ……………………

Signature of Investigator ……………………

Contact Address:

1. **Name and address of Investigator:** Dr. Fatima SalehNigeria Field Epidemiology and Laboratory Training Program 50, Halle Selassie Street, Asokoro, Abuja.

   Phone number: 08054771691

   Email address: fatimasale72@yahoo.com

2. **Name and address of supervisor:** Dr. M S Ibrahim, consultant Community MedicineAhmadu Bello University, Zaria

   Phone number: 08037053845

   Email address: firstmsibrahim@yahoo.com

Instructions: In this sections, please tick (√) the appropriate box(es) that correspond(s) to your answer(s) or complete the spaces provided. Please select/fill only one response in this section

SECTION A: SOCIO-DEMOGRAPHIC CHARACTERISTICS

S/No	Questions	Response	Note
1	How old are you? (in years)	----------------	
2	Sex	Male [ ] Female [ ]	
3	Ethnicity	Hausa [ ] Fulani [ ] Yoruba [ ] Igbo [ ] Others (specify) --------------	
4	Religion	Christianity [ ] Islam [ ] Traditional [ ] Others (specify)___________	
5	Highest level of Education	None [ ] Arabic/Quranic [ ] Primary [ ] Secondary [ ] Tertiary [ ] Others (specify)---------------	
6	Occupation	Student [ ] Civil Servant [ ] Farmer [ ] Business man/Trader [ ] Artisan [ ] Unemployed [ ] Others (specify)--------------- -	
7	Marital status	Single [ ] Married [ ] Cohabiting [ ] Widowed [ ] Divorced [ ] Separated [ ]	**If married, please answer Q8. Otherwise, skip to Q9**
8	Type of Family	Monogamous [ ] Polygamous [ ]	
9	Number of living children	---------	

SECTION B: DISCLOSURE OF HIV POSITIVE STATUS

S/No	Questions	Response	Note
10	For how long have you known you have HIV?	_______________Months	
11	What was your reaction when you were first told you have HIV?	I felt sad about it [ ] I cried [ ] I thought of committing suicide [ ] I took it in good faith [ ] Others (specify)________________	Two or more responses may be selected
12	Why did you opt to be tested for HIV?	I was sick [ ] Partner's illness/death [ ] Child's illness/death [ ] Heard on the radio/TV/outreach program [ ] Self initiative [ ] Recommendation of health provider [ ] Family/friend encouraged me to get tested [ ] I was pregnant and the clinic tested me [ ] Others (specify)______________	
13	Are you currently taking any medication for HIV?	Yes [ ] No [ ]	If 'NO' skip to Q15
14	For how long have you been taking the medications in Q20 above?	_________________Months	
15	Have you told your partner about your HIV status?	Yes [ ] No [ ]	If 'YES' skip to Q18 If 'NO' answer Q16 and Q17 then skip to Q27
16	Why have you not told your partner your HIV status?	I feel ashamed [ ] Fear of being abandoned/rejected [ ] Fear of discrimination [ ] Fear of stigma [ ] Others (specify)	
17	Will you be willing to tell your partner your HIV status?	Yes [ ] No [ ]	
18	How long after your diagnosis did you disclose your status to your partner	______________Months	
19	How did you tell your partner your HIV status	Self [ ] Healthcare provider [ ] Others (specify)_______________	

S/No	Questions	Response	Note
20	Did you have sexual intercourse with your partner before you told him/her?	Yes [ ] No [ ]	
21	Was the sexual intercourse protected?	Yes [ ] No [ ]	
22	Why did you tell to your partner your HIV status	I wanted to gain his/her support [ ] I wanted to gain his/her sympathy [ ] Adopt safer (protective) sexual practice [ ] Sense of duty and obligation [ ] To control disclosure [ ] Others (specify)________________	
23	How would you describe your partner's initial reaction after learning about your HIV status?	Shocked but supportive [ ] Indifferent [ ] Quarrelsome/abusive [ ] Violent [ ] Rejected me/Sent me away [ ]	
24	How would you describe your partner's subsequent reaction after learning about your HIV status?	Shocked but supportive [ ] Indifferent [ ] Quarrelsome/abusive [ ] Violent [ ] Rejected me/Sent me away [ ]	
25	What is your main partner’s HIV status	HIV positive [ ] HIV negative [ ] I don’t know [ ]	If HIV negative, skip to Q27
26	Did your partner know his/her HIV positive status before or after you told him?	Before [ ] After [ ]	
27	Have you told anyone your HIV status to apart from your partner	Yes [ ] No [ ]	If ‘NO’ skip to Q30
28	What is the person’s relationship to you	Spouse [ ] Pastor/Imam [ ] Father [ ] Mother [ ] Child [ ] Sibling [ ] Friend [ ] Others (specify)____________________	
29	When did you tell the person in Q28 above?	Before telling your partner[ ] After telling your partner [ ]	

SECTION C: PERCEPTION OF HIV SEROSTATUS DISCLOSURE

S/No	Questions	Response	Note
30	It is good to tell your partner your HIV status?	Yes [ ] No [ ]	
31	It is good for people to know the status of their partner?	Yes [ ] No [ ]	
32	I would recommend telling one's partner HIV status?	Yes [ ] No [ ]	
333	I believe that there is advantage attached to an HIV positive individuals telling his/her partner about his/her status?	Yes [ ] No [ ]	

	Telling partner one's HIV status will:	**Strongly Agree**	**Agree**	**Undecided**	**Disagree**	**Strongly disagree**
34	Prevent spread of HIV					
35	Decrease HIV/AIDS mortality rate					
36	Safeguard health workers' health					
37	Enable HIV positive individuals to get correct treatment					
38	Enable partner to make informed decision					
39	Prevent transmission from mother to child					

SECTION D: SEXUAL BEHAVIOUR

Serial No	Questions	Response	Note
40	How many sexual partners have you ever had?		
41	How many sexual partners do you currently have?		
42	Does your sexual partner have other sexual partners?	Yes [ ] No [ ] Don't Know [ ]	
43	Who is your main sexual partner	Spouse [ ] Boyfriend/Girlfriend [ ] Acquaintance [ ] Others (specify)_________	
44	Main partner's highest level of Education	None [ ] Arabic/Quranic [ ] Primary [ ] Secondary [ ] Tertiary [ ] Postgraduate [ ] Others (specify)__________	
45	Have you had unprotected sexual intercourse since you were diagnosed as HIV positive?	Yes [ ] No [ ]	
46	Do you use condom when you have sexual intercourse with your main partner	Yes [ ] No [ ]	If 'NO' skip to Q19
47	How often do you use condom when you have sexual intercourse with your partner?	Always [ ] Most times [ ] Sometimes [ ] Rarely [ ]	

APPENDIX IV

Data Analysis Plan

NO	Objective	Analysis	Expected outcome
1	To determine the prevalence of partner disclosure among HIV clients in public health facilities in FCT, Abuja	Univariate	Frequencies and proportions
2	To assess the perception of Partner disclosure of HIV status among HIV clients in public health facilities in FCT, Abuja	Univariate	Frequencies and proportion
3	To identify factors associated with partner disclosure of HIV status among HIV clients in public health facilities in FCT, Abuja	Bivariate Multivariate	Odd's ratio and 95% Confidence Intervals Chi-square Logistic regression

APPENDIX V

ETHICAL CLEARANCE

FEDERAL CAPITAL TERRITORY

Health Research Ethics Committee

Research Unit, Room 10, Block A Annex, HHSS, FCTA Secretariat, No. 1 Kapital Street Area 11, Garki, Abuja - Nigeria

Name of Principal Investigator:	Dr. Fatima Saleh
Address of Principal Investigator:	Nigeria Field Epidemiology & Laboratory Training Programme, No 50 Haille Selassie Street, Asokoro, Abuja.
Date of receipt of valid application:	14/10/2016

Notice of Research Approval

Approval Number: FHREC/2016/01/81/07-11-16

Study Title: Prevalence and Perception of Partner Disclosure among HIV/AIDS Patients in Public Health Facilities in Abuja.

This is to confirm that the FCT Health Research Ethics Committee (FCT HREC) has approved the research described in the above stated protocol.

Effective Date: - 07/11/2016
Expiration Date: - 06/11/2017

Note that no activity related to this research may be conducted outside of these dates. Only the FCT HREC approved informed consent forms may be used when written informed consent is required. They must carry FCT HREC assigned protocol approval number and duration of approval of the study.

The National Code of Health Research Ethics requires you to comply with all institutional guidelines, rules and regulations, and with the tenets of the code. The FCT HREC reserves the right to conduct compliance visit to your research site without prior notification.

Modifications: Subsequent changes are not permitted in this research without prior approval by the FCT HREC.

Problems: All adverse events or unexpected side effects arising from this project must be reported promptly to FCT HREC.

Renewal: This approval is valid until the expiration date. If you are continuing your project beyond the expiration date, endeavor to submit your annual report to FCT HREC early, and request for renewal of your approval to avoid disruption of your project.

Closure of Study: At the end of the project, a copy of the final report of the research should be forwarded to FCT HREC for record purposes, and to enable us close the project.

Desmond Emereonyeokwe
For: Secretary, FCT HREC