

**SCHOOL OF PUBLIC HEALTH
COLLEGE OF HEALTH SCIENCES
UNIVERSITY OF GHANA**

**DETERMINANTS OF PARTNER DISCLOSURE OF HIV STATUS AMONG
ATTENDANTS OF SELECTED ART CLINICS IN THE ACCRA
METROPOLITAN AREA**

BY

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MASTER OF PUBLIC HEALTH DEGREE.**

JULY, 2015

DECLARATION

This is to declare that this dissertation is the result of my own research. Other people's works that have been cited have been duly acknowledged by means of referencing.

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Date

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Supervisor

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Date



DEDICATION

I dedicate this research work to Kwadwo Adjabeng, my husband, companion, friend and constant support in any and every endeavor I have put my hands to. You have taught me what two becoming one really means.

I also dedicate this work to my lovely children; Rose-Daniella Akua Afriyie and Joshua Kwadwo Adom Adjabeng, you are the ones that I do what I do for. May you continue to grow in the grace of God.



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ABSTRACT

Background: Over the years the prevalence of HIV in Ghana has reduced significantly; from a peak of 3.6% in 2003 it is now recorded as 1.6% - in 2014. Prevalence among young persons (15-24 years) which is quoted as a proxy for incidence is reported as 1.8%, higher than the national prevalence. This clearly depicts the fact that although some gains have been made in containing the disease, they remain fragile. The need to examine other unconventional means to control transmission is apparent; one of such means is Partner Disclosure. This study sought to determine the prevalence of Partner Disclosure among attendants at selected antiretroviral therapy (ART) clinics in Accra and to describe which characteristics (socio-demographic, partnership or disease progression) determined disclosure.

Methodology: This study was a cross-sectional descriptive study in design and used both quantitative and qualitative methods. The study was conducted among 380 Persons Living with Human Immune Deficiency Virus (PLHIV) and six service providers. PLHIV were sampled consecutively and six service providers purposively sampled from six (6) ART clinics in Accra Metropolitan Area. Data collection tools used were interviewer-administered structured questionnaire (used among respondent Person Living with HIV) and an interview guide (used among service providers for in-depth interviews). SPSS was used as the statistical software for analysis. This involved finding associations by the use of chi square test and determining the strength and statistically significant predictive explanatory variables done by simple and multiple logistic regression.

Results: The prevalence of Partner Disclosure was 63.9%; highest in Mamprobi Polyclinic (75.5%) and lowest in Adabraka Polyclinic (57.4%). Partner Disclosure did not vary significantly by study site ($p=0.138$). Some significant predictors of Partner Disclosure were

knowledge of partner's status (AOR= 33.066, CI 11.840-95.241, $p<0.001$), discussion with partner before testing (AOR=10.927, CI 2.364-50.512, $p<0.05$) and CD4 cell count 500 (AOR=3.835, CI 1.391-10.576, $p<0.05$).

Conclusions: The study underscores the importance of spousal communication and the maintenance of a good immune state indicated by a high CD4 cell count in predicting partner disclosure.

Keywords: - Partner Disclosure, PLHIV, Socio-demographic, Partnership, Disease Progression.



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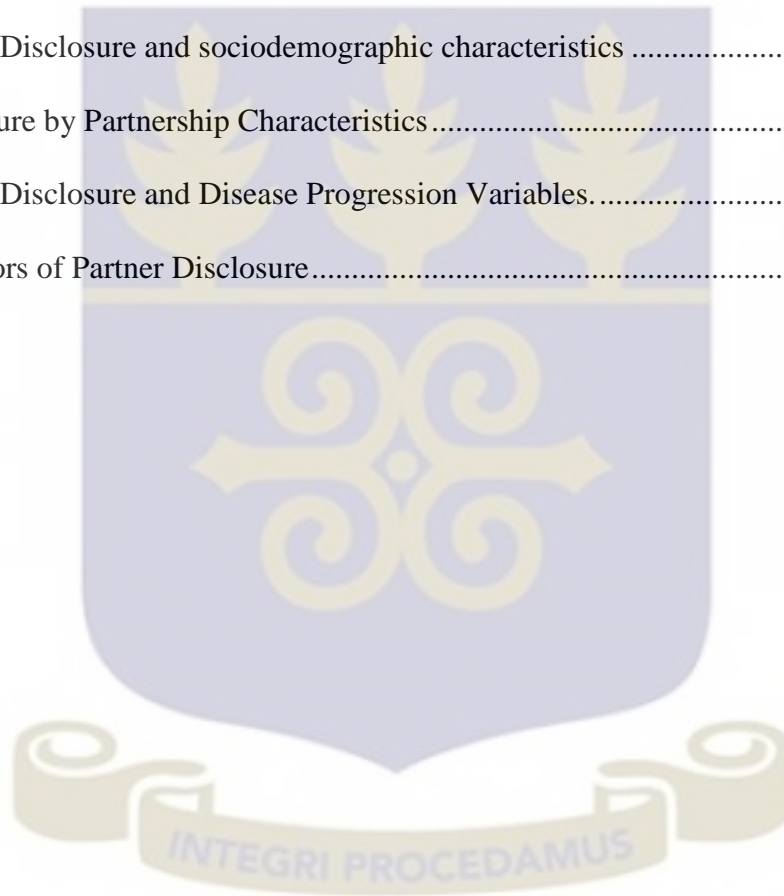
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LIST OF ABBREVIATIONS

AIDS	-	Acquired Immune Deficiency Syndrome
AMA	-	Accra Metropolitan Assembly
ART	-	Antiretroviral Therapy
HAART	-	Highly Active Anti-Retroviral Therapy
HCT	-	HIV Counselling and Testing
HIV	-	Human Immunodeficiency Virus
MSM	-	Men who have Sex with Men
NACP	-	National AIDS/STI Control Programme
PLHIV	-	Person(s) Living with HIV
PLWA	-	Person(s) Living With AIDS
PITC	-	Provider Initiated Testing and Counselling
PMTCT	-	Prevention-of-Mother-To-Child-Transmission
SD	-	Standard Deviation
STI	-	Sexually Transmitted Infections
TasP	-	Treatment as Prevention
UNAIDS	-	The Joint United Nations Programme on HIV/AIDS

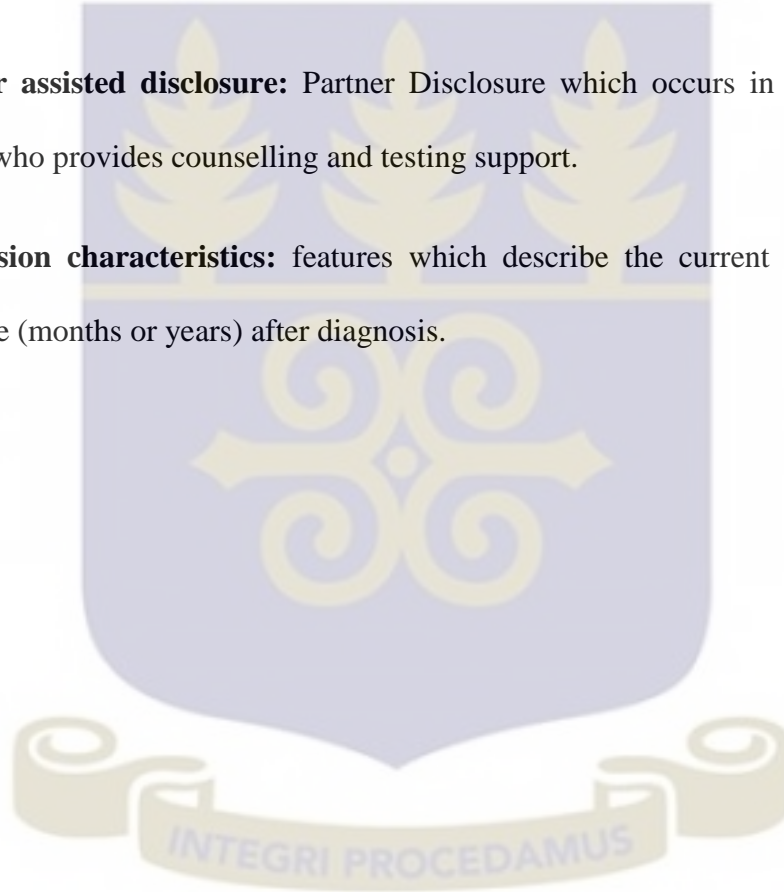
DEFINITION OF TERMS

Partner Disclosure: Disclosure in the context of this study is defined as PLHIV verbally informing their sexual partners of their positive status with or without an accompanying test result.

Self-Disclosure: This describes Partner Disclosure carried out by the PLHIV themselves without the presence of a service provider or any family member offering any assistance.

Service provider assisted disclosure: Partner Disclosure which occurs in the presence of a service provider who provides counselling and testing support.

Disease progression characteristics: features which describe the current health status of a PLHIV some time (months or years) after diagnosis.



CHAPTER ONE

INTRODUCTION

1.1 Background

Acquired Immune Deficiency Syndrome (AIDS) caused by the Human Immune deficiency Virus (HIV) is arguably one of the disease conditions which has both changed and challenged the face of health care delivery across various continents. Since the early 1980s when the first case of HIV was reported up to date knowledge of the disease itself has evolved regarding its nomenclature, causation, transmission and management. These transitions have informed and shaped the many and varied responses the health sector have proffered and indeed instituted towards controlling its spread. There is abundance of evidence to support the fact that globally, regionally and nationally giant strides have been made in containing this disease which was hitherto regarded as a raging pandemic

Globally, incidence declined from 2.3 million in 2012 to 2.1 million in 2013 (World Health Organization [WHO], 2014). In sub Saharan Africa mortality due to AIDS-related causes declined by thirty two percent (32%) between 2005 and 2011 (United Nations Programme on HIV/AIDS [UNAIDS], 2012). These gains notwithstanding sub-Saharan Africa still remains the most hardly hit region globally in terms of HIV effects.

In this sub region 1 in every 20 adults (4.9%) live with HIV, thus accounting for sixty- nine (69%) of all people living with HIV globally. The region also accounted for seventy (70%) of all HIV related deaths worldwide in 2011 (UNAIDS, 2012). The disturbing aspect of the epidemiology of HIV is that it predominantly affects those in the age group of 15 to 49 years (UNAIDS, 2012). This group forms the backbone of every country's socioeconomic

development. This is because individuals in this age bracket form its main work force (both skilled and unskilled labor). The negative impact of HIV therefore has far reaching effects.

The HIV Sentinel Survey Report of 2014 (survey among antenatal clinic attendants) indicate that over the past ten years the national prevalence rate has slowly decreased. The rate dropped from a peak of 3.6% in 2003 to as low as 1.6% in 2014 (National AIDS/STIs Control Program [NACP], 2014). This decrease has however not been steady as there has been as many as three (3) peaks in prevalence over that period of time. These have been documented as 2003 (3.6%), 2006 (3.2%) and 2009 (2.9%) (NACP, 2014).

Ghana has also not been spared the negative effects of the selective age predilection of HIV. The median prevalence rate among the age-group which forms the core of the national workforce (25-39 years) has been consistently recorded as above 2.5% over the past decade. Median prevalence among the youth (15-24 years), which is often used as a proxy for incidence in the country is also constantly quoted as above 1.2% spanning the same period. Indeed, the 2014 median youth prevalence figure was reported as 1.8%; above the national prevalence rate (NACP, 2014). Mortality from HIV in Ghana is also highest among the same age group (NACP, 2014). Thus it is obvious that Ghana is not completely out of the woods yet in terms of containing the disease.

The need therefore to employ other strategies for control is apparent. Areas which have hitherto received little or no attention in terms of how they impact transmission should therefore be revisited and explored thoroughly to discover the various means through which they can be employed to help break transmission chain. One of such areas is Partner Disclosure of HIV status. Disclosure of HIV sero-positivity to a significant other (partner) plays a pivotal role in

reducing the risk of transmission associated with the two most popular routes of HIV transmission: vertical (from mother to child) or horizontal (between sexual partners).

1.2 Problem Statement

Important but fragile successes have been chalked in Ghana with regards to the control of HIV/AIDS. Maintaining and improving on this achieved progress requires that Ghana wholeheartedly adopts and implements to the letter the current global initiative of adopting “Treatment as Prevention” (TasP). The centrality of Partner Disclosure to the TasP agenda cannot be overemphasized. Achieving almost universal testing, effective linkage to care and maintenance in care (through adherence to medication) which are the basic tenets of TasP are contingent on effective Partner Disclosure of HIV status (World Health Organization [WHO], 2012).

An index case (Person Living with HIV-PLHIV) who does not disclose his status to his partner puts the partner at a disadvantage of not seeing the need to opt for testing. Both linkage to care and maintenance in care require support from a significant other; the absence of Partner Disclosure compromises this support and eventually compromises the quality of care a PLHIV receives.

Owing to some peculiarities in the typical African cultural setting which also pertains in Ghana, the lack of attention to the concept of Partner Disclosure will hamper efforts to meet the 2030 targets of the TasP agenda. The typical African culture fosters multiple sexual partnerships as in the case of polygamy where sexual concurrency is practiced. Within these polygamous marriages plural illicit sexual behavior is invariably endorsed. In African culture, majority of women depend on marriages for social recognition but are not able to negotiate for safe sex

within marriage (Smith, 2007). These scenarios create a situation where partners of PLHIV stand an increased risk of being infected by the virus. Index cases (PLHIV) who do not disclose their status to their partners are unlikely to practice safe sex. This predisposes them to infecting not only their immediate partners but all those in their sexual partnerships. In the very likely possibility of some of the individuals in the partnership being cases themselves, there is an increased risk of reinfection with different subtypes of the virus creating resistance strains not amenable to any Anti-Retroviral (ARV) treatment regime.

Socially, a lot of premium is placed on a mother's ability to nurse (breastfeed) her baby: indeed, motherhood is sometimes equated with the ability to nurse (Marshall, Godfrey, & Renfrew, 2007). Within the Ghanaian setting and compounded by the absence of Partner Disclosure a post-partum PLHIV whose disabling health circumstances precludes breast feeding is placed at a disadvantaged position. Such an individual is likely to fall victim to mixed feeding; in the absence of her partner, the PLHIV mother would adopt formula feeding and in his presence would be compelled to revert to the socially acceptable practice of breast feeding. This practice exposes the baby to an increased risk of infection given the fact that mixed feeding during the first month of life is independently associated with a 6.3 times (95% CI, 1.1–36.4, $p = 0.04$) increase of postnatal transmission among breastfed children (Becquet et al., 2008).

In the management of HIV/AIDS the role of social support cannot be overemphasized. Weak or nonexistent social support often stems from the lack of disclosure between couples. This lack of support adversely affects the quality of life of a PLHIV: adherence to medication and diet deteriorates and this leaves room for the development of opportunistic infections. With the passage of time, the patient also begins to develop a negative outlook on life and may even become suicidal; this is because he feels abandoned by society (Eustace & Ilagan, 2010; Sherr et

al., 2008). Partner Disclosure of HIV status would help the patient garner the much needed social support.

Having exposed the effect of the lack of Partner Disclosure, it is worth noting that in Ghana there is paucity of information on what the practice of Partner Disclosure is among PLHIV together with the factors which influence this practice. This study conducted in the Accra Metropolis whose regional prevalence (3.1%) is almost twice the national prevalence (NACP, 2014) sought to address these gaps. Given this high prevalence and its cosmopolitan nature, views and opinions would be diverse providing a true reflection of the practice.

Additionally little is known about the views of service providers on Partner Disclosure. Being one of the pillars of Health Provider Initiated Testing and Counselling (PITC), it is prime importance to know what the perspectives of service providers are. This would help to refine the current policy (National HIV/AIDS and STI Policy of February 2013) guiding the practice of Partner Disclosure in the clinical setting.

1.3 Conceptual Framework

The decision of PLHIV to disclose their status to their partners depend on a host of factors. This study sought to assess some characteristics of PLHIV and how they influenced the act of Partner Disclosure (Outcome Variable). The characteristics studied were socio-demographic, partnership and disease progression characteristics and they were collectively referred to as independent (explanatory) variables. Additionally the study set out to describe the reasons for non-disclosure, this it did by examining the perspectives of both PLHIV and Service Providers on this subject.

Some of the socio-demographic characteristics assessed were gender, age, marital status and socioeconomic status. Partnership variables included knowledge of partner's status, pre testing discussion with partner, condom use and fertility intentions. The disease progression variable measured characteristics relating to the state of health of a PLHIV after diagnosis. This included CD4 cell count, frequency of hospitalization, duration of diagnosis and length of ART use. These variables independently directly determine the outcome variable (Partner Disclosure) and also interact with each other to increase or decrease the likelihood of disclosure among PLHIV.

The conceptual framework depicts these variables and the interaction which exists between them as they influence Partner Disclosure. From literature women with low socioeconomic status or in co habiting relationships tend not to disclose their status and women with high educational status are also known to disclose their status. The study sought to validate these relationships in the sampled population.

The reasons for non-disclosure are often informed by how society perceives PLHIV. These societal perceptions create various fears in the mind of PLHIV which discourage disclosure. The study sought to explore these reasons as stated by PLHIV themselves and also as recounted by service providers based on their constant interaction with their clients. The most popular reason cited in literature as the reason for non-disclosure among women is the fear of loss of economic support; this study sought to verify this assertion.

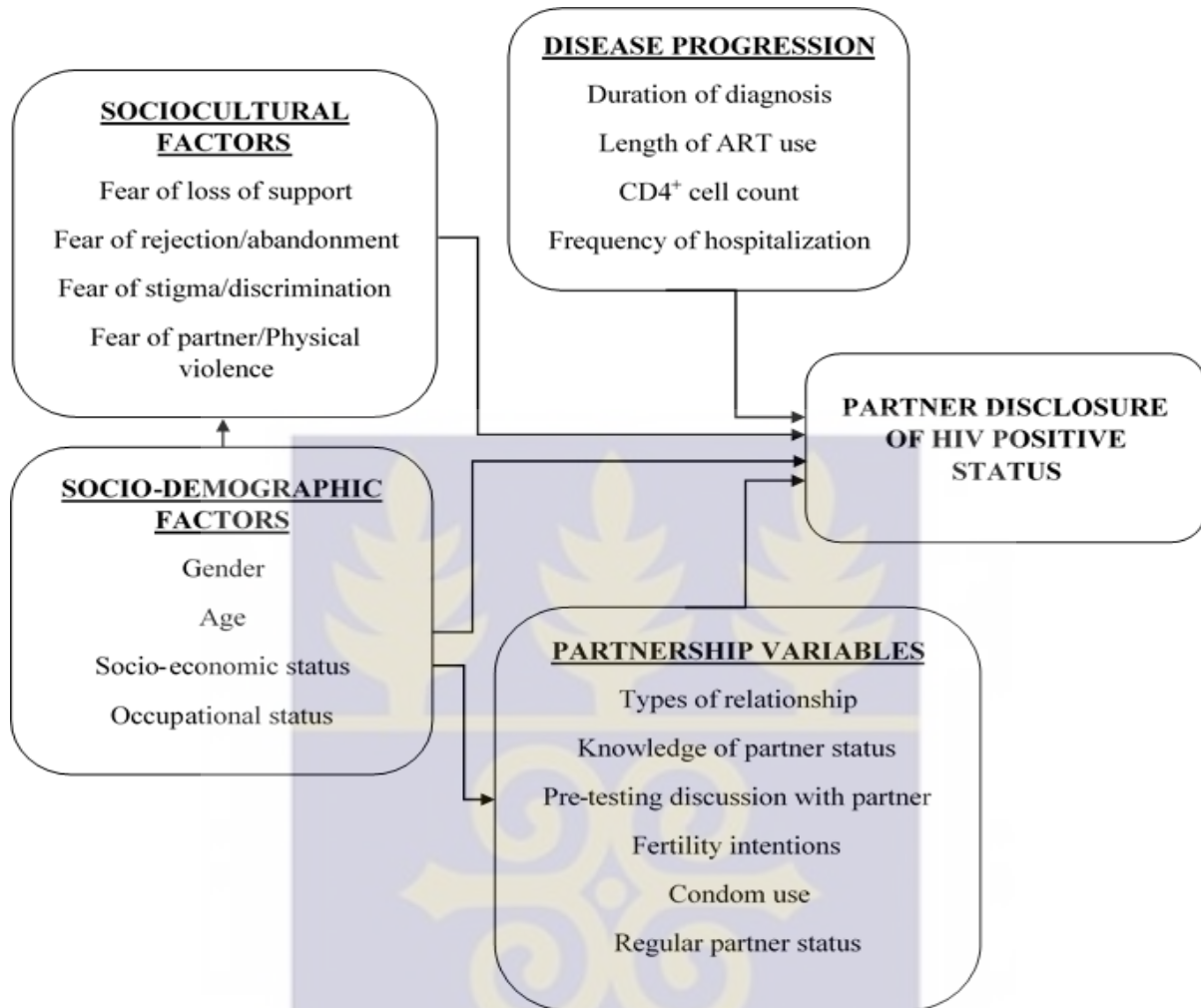


Figure 1: Conceptual Framework
Source: Author's Own Framework

1.4 Objectives

This study sought to achieve some objectives (both general and specific). This section describes these objectives and states three (3) hypotheses tested in this study.

1.4.1 General Objective

To describe the factors which determine Partner Disclosure of HIV status in selected ART clinics in the Accra Metropolitan Area.

1.4.2 Specific Objectives

1. To determine the prevalence of Partner Disclosure of HIV Status.
2. To describe the association between socio-demographic factors and Partner Disclosure of HIV Status.
3. To explain how partnership dynamics affect Partner Disclosure of HIV status.
4. To determine the association between disease progression and Partner Disclosure of HIV status
5. To explore the reasons for non-disclosure from the PLHIV and service providers' perspective.

1.4.3 Hypothesis

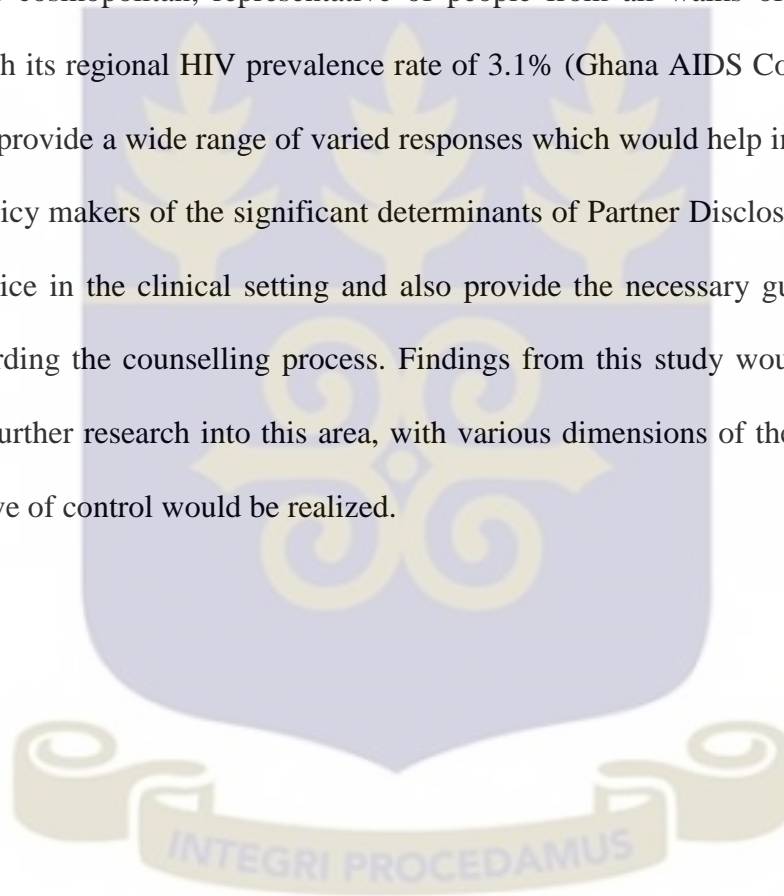
1. PLHIV with high socioeconomic status (highest wealth quintile) are more likely to disclose their status to their partners as compared to those with low socioeconomic status (lowest wealth quintile).
2. HIV positive patients who have a longer duration of diagnosis (more than three (3) years) are more likely to disclose their status to their partners as compared to those who have been recently (less than three (3) years) diagnosed.
3. HIV positive patients who have high CD4 cell count (more than 500 cells) are more likely to disclose their status to their partners than those with low CD4 cell count (less than 500 cells).

1.5 Justification

Ghana has made significant but delicate gains in controlling the transmission of HIV; from a peak prevalence of 3.6% in 2003 after about a decade it now (2014) stands at 1.6% (NACP, 2014). Maintaining these gains calls for the need to project and promote the practice of

Partner Disclosure among PLHIV; as promoting this practice would reduce the risk of spread between partners and from mother to child. In spite of this pivotal role, little is known about what determines the practice of disclosure to partners among PLHIV in Ghana. This study therefore seeks to address this dearth of knowledge.

Being one of the most densely populated cities in the country, Accra's population can be best described as cosmopolitan; representative of people from all walks of life. Against this backdrop and with its regional HIV prevalence rate of 3.1% (Ghana AIDS Commission., 2014), this study would provide a wide range of varied responses which would help inform both service providers and policy makers of the significant determinants of Partner Disclosure. This will help improve its practice in the clinical setting and also provide the necessary guidelines in policy formulation regarding the counselling process. Findings from this study would also serve as a springboard for further research into this area, with various dimensions of the area well known the broad objective of control would be realized.



CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviewed literature in relation to the objectives of this study. The literature was organized into eight sections, starting with a discussion of the concept of partner disclosure, delving into disclosure theories and ending with a description of service providers' perspective on disclosure. Literature included in this review included journals, books, online articles, newspaper articles all obtained from various offline and online sources such as Google Scholar, HINARI, PUBMED, Elsevier, ScienceDirect, OnlineWiley Oxford Journals, SCOPUS, SAGEPUB, Taylor and Francis and other databases.

2.2 Partner Disclosure

Partner Disclosure is the process of making known to a significant others one's seropositive or seronegative status with regard to HIV infection (Médecins Sans Frontières, 2011). Disclosure can be explicit or implicit depending on both the act and content of the disclosure. Verbally informing or notifying another person with or without an accompanying test result constitutes explicit disclosure. Conversely a popular form of implicit form of disclosure involves Anti-retroviral medication being left in the open for the intended recipient(s) of the disclosure to chance upon. The decision to disclose and indeed the process involve critically evaluating factors such as the audience, timing, and an enabling environment (Medley, Garcia-Moreno, McGill, & Maman, 2004).

The audience for disclosure varies from significant others (Partners) to family members and even work colleagues and neighbors. This study focuses on disclosure to sexual partners and for the purposes of this study, Partner Disclosure is defined as the act of verbally informing one's

sexual partner of their HIV positive status. Little or no emphasis is placed on the presence of a test result at the time of disclosure. Sexual partner is defined as a spouse, boy or girlfriend, casual partner and commercial sex worker (Wong et al., 2009). Disclosure among family members is significantly higher than between partners. This is the general trend across the whole continent.

Partner Disclosure rates vary across sub Saharan countries. Countries in eastern Africa report eighty percent (80%) partner disclosure rates (Bachanas et al., 2013) concurrently in South Africa, a twenty percent (20%) non-disclosure rate exists among PLWA and their most recent partner.(Vu et al., 2012).This sharply contrasts the situation in West Africa where lower rates have been recorded. In Nigeria, Amoran (2012) reports a Partner Disclosure rate of almost fifty- one percent (50.9%). Similarly in Ghana three consecutive studies consistently quote Partner Disclosure rates below fifty percent. These are Ashanti region – 49.5% (Frimpong, 2006), Tema Metropolitan Area – 34.9 % (Sakitey, 2010) and Ridge Hospital- 39.5 % (Ofosu, 2012).

PMTCT is one of the pillars of reducing HIV transmission and disclosure between couples has a direct bearing on the pregnant woman's uptake and strict practice of the tenets of PMTCT. In the United States, pregnant women in the South Western States recorded disclosure rates of over ninety percent (90%) even with a sero-discordant partner and sixty- eight(68%) with partners whose HIV status was unknown (Nacius, Levison, Minard, Fasser, & Davila, 2013). Whereas across fifteen (15) Sub Saharan Countries, the rates range from as low as 16.7% to 86% (Medley et al., 2004)

It is worth noting that these disclosure rates differ significantly depending on the period between diagnosis and disclosure. Most PLWA defer disclosure for months and sometimes, even years after diagnosis this leaves a lot of loopholes for risky sexual behavior fostering transmission.

2.3 Socio-demographic characteristics and Partner Disclosure

Socio-demographic characteristics of both PLWAs and their respective partner have an influence on disclosure. Characteristics considered in this study were gender, age, and marital status, educational, occupational and economic status.

2.3.1 Gender and Partner Disclosure

The term gender refers to either the male or female sex. Owing to their unique features males and females handle matters pertaining to disclosure differently. Females tend to disclose their status to their family members rather than to their spouse or life partner whilst men disclosed most often to their spouse (Klopper, Stellenberg, & van der Merwe, 2014). This correlates well with findings that females are less likely to disclose their status to their sex partners (Bachanas et al., 2013).

There however seems to be no consensus regarding the male gender and disclosure. Some studies report that males disclose their status to their partners more than their female counterparts (Deribe, Woldemichael, Wondafrash, Haile, & Amberbir, 2008; Skogmar et al., 2006). Conversely, another study postulates that the male gender is rather associated with non-disclosure of HIV status. (Olley, Seedat, & Stein, 2004).

Having said the above it is important to note that gender on its own is a weak determinant of disclosure. It is said to act in concert with other factors to determine whether an individual

would disclose his status to his partner or not (Åsander, Belfrage, Pehrson, Lindstein, & Björkman, 2004; Dave, Stephenson, Mercey, Panahmand, & Jungmann, 2006).

2.3.2 Age and Partner Disclosure

There appears to be some form of consensus of opinions on how age relates to disclosure. There is the view that younger women are more likely to disclose their status to other persons apart from their partners (Makin et al., 2008; O'Brien et al., 2003). Concurrently another study reports the mean age for disclosure to be 36.02 years and non-disclosure to be 19 years, representing the fact that increasing age is associated with disclosure (Klopper et al., 2014). Younger PLWA are more likely to feel a sense of security among family members than partners who they might have been coerced to marry. They are therefore more likely to disclose to their family members than partners.

2.3.3 Educational/Economic status and Partner Disclosure.

There is an intricate relationship between educational level and economic status. An individual's educational level often determines their economic status except for people who operate in the informal sector. Higher education elevates a PLWA's level of autonomy because it exposes him to a wide scope of information on treatment and care options. This would positively influence disclosure.

However in terms of educational status and disclosure, there are dissenting views on whether the educational status of the PLHIV or that of the partner determines disclosure. A study in Burkina Faso reports that women with higher educational level are more likely to disclose their status (Issiaka et al., 2001). This is however in contrast to the view that a woman's

educational level has no impact on disclosure, but she is rather more likely to disclose if her partner has had tertiary education (Makin et al., 2008).

A strong financial standing also improves an individual's autonomy and makes him more assertive. Disclosure to a sexual partner was found to be high among those with high socioeconomic status (Wong et al., 2009). In Sub Saharan Africa women generally look up to their partners for financial support. This practice can sometimes be even detrimental to the health of the woman. A woman who has a low socioeconomic status is mostly reliant on her partner and the fear of loss of socioeconomic support from a partner is a well-documented reason for non-disclosure among women. (Akani & Erhabor, 2006; Amberbir, Woldemichael, Getachew, Girma, & Deribe, 2008).

2.4 Partnership variables and Partner Disclosure

Couples operate many and varied relationships. Relationship types range from formalized monogamous marriages to couples cohabiting and others involved in polygamous marriages. This study examines disclosure of HIV status among these couples.

Disclosure is relevant in both sero-concordant and discordant couples. A couple is said to be sero-d discordant when one of them is HIV positive and the other's status is negative or unknown. The existing number of couples who are HIV sero-d discordant in Sub Saharan Africa is high. Couples most affected are those who are married or co habiting. (Eyawo et al., 2010). Among these couples regular intercourse appears to be the rule rather than the exception. These couples represent the target population for (Matthews et al., 2014).

There is an interesting and delicate interplay of a number of factors which work together to influence a PLWA's decision to disclose his status to his partner. This study examines some of them and their contributory role.

2.4.1 Types of Relationship and Partner Disclosure

The type of relationship the PLHIV finds himself in is of prime importance in Disclosure of HIV status. Among females living with HIV instance prompt or delayed decision to disclose her status to her partner is largely influenced by the type of relationship they find themselves in. (Makin et al., 2008). PLHIV in a monogamous marriage are more likely to disclose their status to their partners as opposed to those in polygamous marriages. (Amaran, 2012; Antelman et al., 2001). Monogamy by and large implies exclusivity. In these relationships there is a high sense of commitment and moral obligation; these facilitate disclosure.

The practice of co-habitation has become increasingly popular and this raises the question of the effect this kind of association has on disclosure. There is the view that living with a partner does not make disclosure more likely (Makin et al., 2008) and concurrently a woman's choice to disclose is not influenced by whether she is living with a partner or not (Deribe et al., 2008).

2.4.2 Prior Discussion with Partner about HIV testing and Partner Disclosure

Effective communication between couples with regard to HIV testing before the test is actually carried out engenders disclosure. Disclosure also thrives in an atmosphere of honesty and openness. A number of studies both in Ethiopia and South Africa show a strong association between prior discussion with partners by HIV infected women and disclosure of status when they are confirmed positive (Alemayehu, Aregay, Kalayu, & Yebyo, 2014; Seid, Wasie, & Admassu, 2012; Sendo, Cherie, & Erku, 2013) and (Makin et al., 2008) respectively.

2.4.3 Knowledge of Partner's Status and Partner Disclosure

Opinions are divided on the role the knowledge of a partner's sero-status plays in disclosure. There is a general belief that knowledge of one's partner's serostatus (whether negative or positive) is significantly associated with disclosure (A Moran, 2012; Bachanas et al., 2013; Peltzer, Tabane, Matseke, & Simbayi, 2010). Contrary to this assertion however PLHIV are said to be more likely to disclose to a partner who they know is seropositive than to a seronegative partner or a partner whose serostatus is unknown (Simbayi et al., 2007). Disclosure to a seropositive partner is more likely because there is some form of security and comfort in knowing that you and your partner have similar challenges.

2.4.4 Number of partners and Partner Disclosure

Owing to the practice of polygamy and open relationships some PLHIV are likely to have more than one partner. There are dissenting views on how the number of partners a PLHIV has affects disclosure. Longetti, Santacatterina, El- Khatib (2014) opine that the number of partners is not associated with disclosure (Longinetti, Santacatterina, & El-Khatib, 2014). On the contrary PLHIV who have more partners are less likely to disclose (Antelman et al., 2001). Amongst partners disclosure rates differ, disclosure is higher between main partners close to ninety-one percent (90.8%) as opposed to close to thirty-nine percent (38.5%) among casual partners.(Deribe et al., 2008).

2.4.4 Condom use and Partner Disclosure

Condom use during coitus remains the safest barrier method to prevent transmission of HIV. Communication and cooperation between partners goes a long way to determine effective Condom use. Condom Use during sexual intercourse is intricately linked to Partner Disclosure.

The rational expectation is that any PLHIV would insist on condom use irrespective the partner's status. Infrequent condom use by a PLHIV invariably increases the risk of transmission.

There is a general consensus that disclosure is associated with knowledge of partner's HIV status and consistent condom use (Bachanas et al., 2013; Irungu et al., 2013; Peltzer et al., 2010). In the same study, Bachanas et al. (2013) however opine that women are less likely to disclose their status and also less likely to use condoms consistently even when they know their partner was seronegative (Bachanas et al., 2013). This assertion questions the inherent ability of women to negotiate for and subsequently practice safe sex. Needless to say, a PLHIV who desires fertility will not use condoms. The desire to get pregnant plays the role of an effect modifier; after adjusting with the knowledge of a partner's HIV status, fertility intention is found to be negatively associated with consistent Condom use (Bachanas et al., 2013).

2.4.5 Fertility intention and Partner Disclosure

The decision to have children is ideally made by a couple who are ready to shoulder together every responsibility their decision would come with. This decision and even the desire of any PLWA to have children should be thoroughly discussed with respective partners. In sub-Saharan Africa, women of childbearing age account for approximately sixty percent (60%) of estimated current HIV prevalence, and most of these women have desires to be mothers just as much as their HIV-negative counterparts (Diane Cooper et al., 2009). Given this high prevalence in this age bracket critical to PMTCT, the concern is whether or not women in this group desiring children disclose their status to their partners.

There appears to be a general consensus with regards to fertility intention among PLHIV in Sub Saharan Africa. In South West Nigeria a study reports a high percentage of PLHIV within the reproductive age group desiring and actually intending to have children in future. This was in

spite of their current socio-demographic and health related factors which were disabling (Oladapo, Daniel, Odusoga, & Ayoola-Sotubo, 2005). Concurrently studies in Southern and Eastern Africa countries report a significantly high number of PLHIV who still desire children. (Cooper et al., 2007; Mumah, Ziraba, & Sidze, 2014; Wekesa & Coast, 2014).

Traditionally, pregnancy is achieved in the event of unprotected sexual intercourse which creates a thriving atmosphere for HIV spread. It increases the risk of HIV acquisition (male to female) and transmission (female to male) and also exposes the PLHIV to re-infection with different strains in the event of either partner being positive (Boily et al., 2009). Pregnancy most importantly poses a danger of mother to child transmission of HIV (Mofenson, 2010). Cardinal to reducing the risk of transmission both between partners and to the unborn child is the issue of Partner Disclosure as it requires the concerted efforts of both partners.

In serodiscordancy, the use of ART by both the infected partner and uninfected partner reduces substantially (by 96% and 75% respectively) sexual transmission (Cohen et al., 2011). A pregnant mother on ARTs and generally observing the rules of PMTCT reduces the risk of transmitting the virus. In view of this the partner of a PLHIV should necessarily know the status of the index case.

Trends of Partner Disclosure among pregnant PLHIV and those desiring pregnancy in Sub Saharan Countries appear generally low. In South Africa 41% of women and 32% of men with recent (partner) pregnancy did not know their partners sero status, similarly in Nigeria PLHIV desiring fertility report reduced the likelihood of disclosure (Matthews et al., 2014; Oladapo et al., 2005). This obviously raises concerns about the risk of infection and re infection amongst couples and the success of PMTCT.

2.5 Disclosure theories

The personal decision of an individual PLHIV to disclose his or her status to a partner is informed to a large extent by factors peculiar to the disease. These factors border on the natural or treated history of the disease and the negative or disabling societal perspectives of the disease which have been built overtime. In the light of this, 2 (two) classical theories have been proposed to be that which underlie the practice of disclosure. These are: *'The Disease Progression Theory'* and *'The Consequence Theory'*.

Individuals pioneered studies about 2 decades ago in order to validate these theories. With the passage of time various modifications have been made to these theories. This study seeks to assess the current relevance of these theories evaluate their central role or otherwise in determining Partner Disclosure of HIV positive status.

2.5.1 The Disease Progression Theory

HIV primarily attacks the immune system of its sufferers; resulting in the individual's increased susceptibility to a host of infections. This subsequently takes a toll on the general health and well-being of the patient. Challenges of the debilitating health status plays out as worsening physical appearance, frequent hospitalization and the threat of imminent death (Babcock, 1998; Kalichman, 1995). Repeated and sometimes protracted hospital stay raises suspicion among close associates especially significant others and this prompts the PLHIV to offer an explanation. HIV therefore as it steadily progresses to AIDS can no longer be kept a secret (Babcock, 1998; Kalichman, 1995). Indeed disclosure is employed by the PLHIV as a means of securing the needed resources both financial and social required for securing good health care. (Holt et al., 1998).

Various indices of disease progression has been used to substantiate the relationship between disease progression and disclosure in numerous studies. (Hays et al., 1993; Marks, Bundeck, et al., 1992; Marks, Richardson, Ruiz, & Maldonado, 1992; Mason, Marks, Simoni, Ruiz, & Richardson, 1995). These indices include pointers of disease severity which are symptoms of the disease and length of diagnosis. Symptoms of HIV and indeed as it progresses to AIDS are depicted by the frequency and the number of opportunistic infections the PLHIV presents with. This can therefore be used as a proxy of disease severity. With regards to the use of length of diagnosis as an index of disease progression the assumption is that long standing diagnosis in the absence of therapy implies poor prognosis.

Disease progression was found to be positively associated with disclosure to family members and friends (Mansergh, Marks, & Simoni, 1995). The same relationship however does not exist with regards to sexual partners (Mansergh et al., 1995).

The introduction and upscale of Anti-Retroviral Therapy (ART) use have significantly improved the quality of life of a PLHIV changing the hitherto gloomy picture to a more hopefully one (Van Tam et al., 2012). The initial standard pattern of declining health is no longer exhibited. A PLHIV who is on ART and is doing well in terms of health indices would need another motivation to disclose his status; disease progression may therefore no longer be a component of the disclosure process. This brings into perspective an alternative theory: The Consequence Theory which considers disclosure after careful deliberation of the positive and negative consequences associated with the event.

2.5.2 The Consequence Theory

Every voluntary act is influenced by what the individual perceives as the benefits and risks linked to the act. With reference to disclosure, a PLHIV would disclose his status to his partner if he regards the rewards of disclosure as abundantly beneficial far outweighing any associated risk (Thibaut & Kelley, 1959). Associated risks however remote should therefore be kept at the barest minimum. The consequences which the PLHIV anticipates will result from the disclosure to a large extent influences the decision to disclose or not.

Disclosure to significant others and or sexual partners come with benefits such as social, physical, psychological or emotional support. (Thibaut & Kelley, 1959). The risks associated with disclosure are however many and varied and these risks are more pronounced between partners. This is because the act of disclosure is complicated by the admission of socially unacceptable behavior such as illicit sexual behavior or plural injection drug use. Admission of such short falls leads to the PLHIV's partner taking drastic decisions leading to rejection, isolation and even abandonment. (Lovejoy, 1989; Stulberg & Buckingham, 1988; Zuckerman & Gordon, 1988).

A PLHIV will therefore critically weigh these risks against the benefits and would make the decision to disclose based on which option produces positive dividends. This study seeks to assess the relevance or otherwise of these two theories in the light of a review of current studies which reveal the following:

2.6 Disease progression and Partner Disclosure

For the purposes of this study the indicators of disease progression assessed included duration of diagnosis, stage of disease, length of ART use, frequency of hospitalization and the presence of a morbidity within the past six (6) months.

2.6.1 Length (duration) of diagnosis and Partner Disclosure

There is consensus that the length of diagnosis correlates well with partner disclosure of HIV positive status. Long duration of diagnosis is positively associated with disclosure. A PLHIV with a longer the duration of diagnosis is more likely it is to disclose to his partner his status as compared to a colleague who have a relatively shorter duration of diagnosis (Dankoli et al., 2014). This is because the lapse of time gives the PLHIV the opportunity to come to terms with the condition and map out a strategy for disclosure and better prepare for any outcome of the event.

2.6.2 Stage of disease and Partner Disclosure

The stage of disease is assessed either by the WHO staging or the CD4 cell count. The WHO Stage depends on the set of signs and symptoms the client presents with. Staging therefore evolves with time; the stage at diagnosis does not stay same through the progress of the disease. There is agreement in literature that advanced stage of disease (severe disease) is associated with disclosure to a sexual partner. PLHIV with an early clinical Stage I and II are less likely to disclose to their partners as compared to those in Stage III and IV of disease case definition of advanced disease (Deribe et al., 2008).

CD4 cell counts can be used as an estimation of the stage; on this account there is evidence to support the fact that individuals with lower CD 4 cell counts are more likely to

disclose their status (Akani & Erhabor, 2006). However evaluating CD4 cell count as a variable on its own, it has been found that PLHIV with increased CD4 cell count are more likely to disclose their status to their partners (Wong et al., 2009).

2.6.3 ART use and Partner Disclosure

There has been an upscale of ART use across Sub-Saharan Africa and the benefits cannot be overemphasized. Opinions are however divided about the role it plays in partner disclosure of HIV status. There appears to be general agreement that availability and the actual initiation of ART is positively associated with disclosure of HIV status. Studies conducted in four sub Saharan countries: Tanzania, Ethiopia, Zambia and South Africa gives credence to this assertion (Amberbir et al., 2008; Maman et al., 2003; Matthews et al., 2014; Wong et al., 2009).

The length of use of ART also plays a significant role in partner disclosure. The use of ARTs gives the PLWA a good sense of well-being and after being on this medication for a period of time, the individual comes to terms with his condition and this facilitates disclosure. This view is corroborated by a study conducted in both Tanzania and Mozambique where after 12 months of initiating ARTs, PLWA disclose their status to their partners (Pearson et al., 2011).

Contrary to this, some studies report no association between ART and HIV disclosure (Klitzman et al., 2007; Skogmar et al., 2006).

2.7 Barriers to Disclosure/ Consequence Theory

In line with evaluating the consequence theory barriers to disclosure or reasons for non-disclosure are assessed. Some PLWA are not inclined to disclose their status to their partners and indeed have remained resolute on their decision not to because they perceive the associated risk linked to disclosure far outweighing the benefits. There are various reasons informing non-

disclosure. Some of the reasons are fear of loss of economic support from partner, fear of accusation of infidelity, and fear of abandonment (Akani & Erhabor, 2006; Amberbir et al., 2008).

Others are the fear of violence, and fear of stigma and discrimination (Amberbir et al., 2008; Bassett et al., 2009; Deribe et al., 2008; Turan et al., 2012).

2.8 Service (Health) providers' perspectives on Partner Disclosure

The subject of Partner Disclosure as it relates to the health care provider cannot be overlooked. The debate about the various forms of disclosure and the policy or law that should influence them is still ongoing. The debate cover Mandatory Disclosure to Partners, Health Workers disclosing status without partner's consent and the criminalization of HIV non-disclosure (Obermeyer, Baijal, & Pegurri, 2011).

Intricately linked to disclosure is the risk violating fundamental human rights of confidentiality and privacy and also poor adherence to ART medication because before the initiation of therapy an adherence partner is required (Nam et al., 2009). Health services providers are supposed to play a supportive role in the area of partner disclosure however several factors get in the way of achieving this goal.

There are three main interrelated areas where staff can facilitate partner disclosure by the way they conduct their work. The first is reducing stigma and discrimination associated with the condition thus normalizing it. Some studies however report discrimination against PLHIV even on the premises of health facilities. This is played out in how health workers treat them differently; extreme and excessive precautions when handling them and sometimes offering substandard care (Mills et al., 2006; Turan et al., 2012).

The second is staff competence in the area of to whom, how and where to disclose patients status (Turan et al., 2012). It has been well documented in various settings that health workers sometimes communicate test results of clients to individuals other their clients. A comparative study in India, Indonesia, the Philippines, and Thailand, states that as much as 34% of HIV-positive respondents report that health care workers had revealed their HIV status to someone else without their consent (Paxton et al., 2005).

Similarly, a study in China found that health providers often informed family members of an HIV diagnosis before informing the patient (Chen et al., 2011). These forms of non-consented disclosure have negative implications on the socioeconomic well-being of PLHIV. Probably more importantly, it brings to light the health workers' difficulty in balancing medical confidentiality and the need to keep significant others aware for the sake of their health (Obermeyer et al., 2011).

The third and possibly most important area is health workers encouraging testing of partners to promote disclosure by PLHIV in order to mobilize adequate support for treatment and prevention from the partners. This objective defies the rule of patients' absolute confidentiality as a patient would have to inform his or her partner of his status to facilitate testing. There has been considerable difficulty in this field. In Côte d'Ivoire, only 23% of partners of HIV-positive women attending a program on prevention of mother-to-child transmission were subsequently tested for HIV (Brou et al., 2008).

In Tanzania among pregnant women, only 17% report their test results to their partners whereas 69% of partners who agreed to test were seropositive, underscoring the missed opportunity for prevention.(Kilewo et al., 2001).

In spite of these difficulties, there is good consensus that health workers play a focal role in helping people to cope with disclosure and its aftermath. The idea of facilitated disclosure has received a lot of patronage. In facilitated disclosure also known as assisted, dual or counselor-supported disclosure, a counselor is present during the disclosure process and provides information and support (Greene, Derlega, & Mathews, 2003). Facilitated disclosure serves the advantage of increasing support and decreasing the without risk of adverse social events.

A study in China shows good relations between patients and providers led to positive health outcomes after disclosure, particularly when families were unsupportive because of HIV-related stigma (Chen et al., 2011). In some Sub-Saharan African countries this concept has been further developed to Home-Based Counseling and HIV Testing (HBCT). This is a strategy used to expand access to couple HIV testing services. Various studies have proven it to be feasible, acceptable, and cost-effective (Dalal et al., 2013; Naik, Tabana, Doherty, Zembe, & Jackson, 2012; Negin, Wariero, Mutuo, Jan, & Pronyk, 2009).



CHAPTER THREE

METHODS

This chapter presents the methods used in this study; it describes the study design, study location, study population with its inclusion and exclusion criteria and study variables. Detailed in this chapter also are the sampling techniques (sample size estimation and sampling methods), data collection tools and techniques, pretesting, data analysis and processing. This section ends by describing concerns for ethical consideration and quality assurance.

3.1 Type of Study

This study was a Facility- based Cross Sectional Study which used both quantitative and qualitative methods to explore the subject of Partner Disclosure of HIV status. Views on the subject among PLHIV were sampled through quantitative means and to complement this qualitative methods were used to assess service provider perspectives.

3.2 Study Location

The study was carried out in the ART clinics of six (6) hospitals in the Accra Metropolitan area of the Greater Accra Region. Greater Accra is the smallest of the ten (10) administrative regions in Ghana in terms of its geographical coverage. It is however densely populated housing 15.4% of Ghana's total population. Administratively the region is divided into two (2) metropolis; Accra and Tema Metropolitan areas. The Accra Metropolitan Area (AMA) is further divided into five (5) sub-Metropolitan area: Okai Koi, Ablekuma, Ashiedu Keteke, Osu Clottey and Ayawaso.

There are a total of fourteen (14) ART clinics in these sub metros, eleven (11) public (Government) owned facilities and three (3) privately owned. This wide spread distribution of the ART clinics across the various sub metros ensures easy access to health care by PLHIV. The

Government facilities serve the needs of majority of the community members where they are located. Among these Government owned facilities, six (6) were sampled (one from each sub metro) and used as study sites. A brief description of the various clinics with regards to their clinic days and client mix is recounted in the subsequent part of this section.

The ART clinic at Achimota Hospital run two separate clinic days- Mondays and Wednesdays. Mondays is a special clinic day dedicated to PMTCT; pregnant women, HIV exposed infants and HIV positive children are attended to on this day. Wednesdays are general clinic days for all other clients. The average monthly attendance is about 150 clients. Mamprobi Polyclinic, like Achimota hospital, also operates two ART clinic days – Mondays and Thursdays. Mondays are PMTCT days and Thursdays are general clinic days. An average client attendance of 160 is recorded every month. Mamobi General Hospital has similar clinic days and clients distribution as Mamprobi. Located within a predominantly Muslim community; the clientele is significantly Muslim with an average monthly attendance of 100.

Ridge Regional Hospital and Ridge OPD (Adabraka Polyclinic) are both located in the Osu Clotey sub-Metro but serve different clientele. Across all the six (6) ART clinics, Ridge Regional Hospital has the highest monthly attendance of six hundred (600) clients. Throughout the week the ART clinic is operational serving different clients with varying needs. Mondays are special clinic days for professionals, it starts from 6.30 am and closes by 9.00am to allow their clients time to report early to their offices. Tuesdays are dedicated to clients requiring a refill of their medication and those needing adherence counselling. Wednesdays are general clinic days, Thursdays for PMTCT and Fridays are for Pediatric cases.

Adabraka Polyclinic however has only one clinic day- Wednesdays. On this day both general cases and PMTCT clients are seen; however some of the pregnant women requiring ART services are attended to at the Antenatal Clinic. The average monthly attendance is 240. The ART clinic is located very close to a Sexually Transmitted Infections (STI) clinic and this encourages the concept of integration of services. At Ussher Polyclinic the ART clinic is opened to serve clients all week through, major clinic days are Thursdays. It is a relatively quiet clinic with a monthly attendance of 70 clients. Most of the clients at Ussher Polyclinic are pregnant women and a few Men who have sex with Men (MSM) who are treated with utmost anonymity.

All these clinics have been empowered to carry out HIV antibody testing. HIV testing therefore is done in these clinics and this facilitates counselling.

3.3 Study Variables

This study had two types of variables; one outcome (dependent) variable and three (3) independent (explanatory) variable.

3.3.1 Independent (explanatory) variables

The study assessed three (3) groups of independent variables of the respondent PLHIV and how they determined Partner Disclosure of HIV status. These were socio-demographic variables, partnership variables and disease progression variables. The individual characteristics which define these variables are operationalized as follows:-

Socio-demographic Variables

Characteristics assessed included age, sex, religion, educational status, marital status, occupational status and socioeconomic status.

Partnership Variables

These variables describe the features which characterized the sexual relationship of PLHIV. Features assessed included the type of relationship, discussion with partner before testing, knowledge of partner's status and partner's actual status. Others were condom use, sexual activity, fertility intention, and family planning use.

Disease Progression Variables

The current health status of a PLHIV after diagnosis were assessed with these variables. Characteristics of the health status assessed included recent CD4 cell count, presence and number of morbidities within past six (6) months and frequency of hospitalization within past six (6) months. Others were stage of disease ART use, duration of diagnosis and length of ART use.

The reasons for non-disclosure were examined by evaluating the responses of PLHIV on how the following reasons; fear of loss of economic support, fear of stigma or discrimination, fear of rejection or abandonment, fear of violence, fear of accusation of infidelity informed their decision not to disclose. Service providers were also required through the interview to describe from their view point reasons for non-disclosure.

3.3.2 Dependent variable

The dependent variable for this study was partner disclosure, this was a binary variable whose response was either Yes or No. It measured whether or not the respondent PLHIV had disclosed their status to their respective partners.

3.4 Study population

The study population included two (2) categories of respondents. These were PLHIV assessing care at ART clinics and the service providers of the ART clinics.

3.4.1 Inclusion criteria

PLHIV aged 18 years and above who have or have ever had a sexual partner who consent to take part in the study and nurses in charge of the ART clinics.

3.4.2 Exclusion criteria

PLHIV who were below 18 years or those who have never had a sexual partner for the quantitative study and for the qualitative study other service providers apart from nurses in charge.

3.5 Sampling

This section describes sample size estimation, choice of ART clinics for the study, distribution of the sample size across the ART clinics and the choice of respondents (PLHIV and the service providers).

3.5.1 Sample size estimation

The sample size for the study was determined using the Cochran (1977) single proportion population formula;

$$n = z^2 p (1-p) / d^2$$

Where n is the minimum sample size required for the study, p is the prevalence rate, z score for the desired confidence level (α) and d is the margin of error or the desired width of the confidence interval. Partner Disclosure prevalence rate of 39.5% (0.395) for Ridge Hospital as

reported by Ofori (2012) was used with a level of significance of 95% with z-score of 1.96, expected margin of error of 0.05, the minimum sample size required was estimated to be 367. Assuming a 2% non-response rate, the sample size increased to 374, field work yielded a sample size of 380.

3.5.2 Selection of ART clinics

The Accra Metropolitan Area is subdivided into five (5) sub metros and within these sub metros there are a total of fourteen (14) hospitals with ART clinics. Of these 14, a total of four (4) were excluded from the study. Three (3) were excluded based on the fact that they were privately owned facilities and often refer their patients to the government facilities and one (Korle-Bu Teaching Hospital) because it was a referral Centre which served clients from outside the metropolis.

After excluding these facilities a total of ten (10) ART clinic remained and this formed a sampling frame. There were two (2) clinics per each sub metro; these were numbered 1 or 2; simple random sampling was used to select five (5) ART clinics from this sampling frame; one per each sub metro. The following hospitals' ART clinics were selected- Achimota hospital (Okai Koi sub-Metro), Mamprobi Polyclinic (Ablekuma sub-Metro), Mamobi General Hospital (Ayawaso sub metro), Ussher Polyclinic (Ashiedu Keteke sub-Metro) and Ridge Regional Hospital (Osu Clotney sub-Metro). Adabraka Polyclinic which is also found in the Osu Clotney sub metro was purposively sampled in addition to Ridge Regional Hospital because it is considered as an outpatient department of Ridge Regional Hospital.

3.5.3 Distribution of sample size across ART clinics.

Data collection was done over a month period. Based on the average monthly attendance of the six (6) ART clinic a ratio was computed and used to estimate the proportion of the sample size (374) required from each of these clinics. The number of respondents to be sampled per ART clinic were as follows: Achimota Hospital (42), Adabraka Polyclinic (67), Mamobi General Hospital (28), Mamprobi Polyclinic (46), Ridge Regional Hospital (169) and Ussher Polyclinic (22).

On the field, however, the observed monthly attendance of some of the clinics (Ridge Regional Hospital and Adabraka Polyclinic) was less than the expected. Adjustment was therefore made to the allotted sample sizes of the various clinics to achieve the total sample size. The following were the actual number of respondents sampled from the ART clinics:- Achimota Hospital (57), Mamobi General Hospital (58), Mamprobi Polyclinic (53), Ussher Polyclinic (40), Adabraka Polyclinic (47) and Ridge Regional Hospital (125).

3.5.4 Selection of participants/respondents

Respondents of this study were PLHIV and health service providers at the ART clinic. PLHIV who access care at the various clinics were informed of the study. One research assistant; a nurse at the clinic, was stationed at the nurses' desk in front of the consulting room. Every other PLHIV leaving the consulting room was approached and an initial screening question asked. This question was whether or not the client have or have had a sexual partner; once the client answered in the affirmative he or she was directed to either of two consulting room dedicated for data collection. At the consulting room the client was consented and recruited for the study. Attached is a copy of the Informed Consent form as Appendix one (1).

All the six (6) Nurses in Charge of the ART clinics were purposively recruited for the study. This is because they served as frontline workers who had close interactions with the clients PLHIV.

3.6 Data collection

This section describes data collection tools and techniques, pretesting, training of research assistants and the actual practice of data collection

3.6.1 Data collection tools /techniques

The study used mixed methods to gather information on the subject; in this regard two data collection tools were used. These were structured questionnaires for the respondent PLHIV and an interview guide for the service providers. The questionnaires were interviewer administered. Attached as Appendices two (2) and three (3) are copies of the questionnaire and interview guide.

3.6.2 Pretesting

A pilot study was conducted at Tema General Hospital ART clinic. Here the data collection tools (questionnaires and interview guide) were pretested among PLHIV and service providers. Based on this pretest sections of the questionnaire were revised to include questions on: - types of disclosure, sexual activity after disclosure and the use of family planning methods among respondents as detailed in Appendix 3. The interview guide was also reviewed to include questions on:-type of partner notification, service provider initiated disclosure and the need or otherwise of a law mandating disclosure. These are detailed in Appendix 4. Also attached as Appendix four (5) is a letter requesting for pretesting and approval from the Public Health Specialist in charge of Tema General Hospital.

3.6.3 Training of research assistants.

Owing to the sensitive nature of the subject being studied, it was relevant to use familiar faces at the various ART clinics to ensure that respondents would not feel ill at ease sharing what they consider to be private information with a perceived “stranger” thus research assistants recruited to help with data collection were nurses who already worked at the ART clinics.

At each ART clinic two (2) nurses were recruited and trained. Areas of training included explaining to the research assistants what information every question on the questionnaire sought to retrieve from the PLHIV and coaching them on how to ask the various questions to ensure uniformity. Research assistants were also alerted and cautioned to remain professional throughout the setting of the interview and to avoid being judgmental.

3.6.4 Practice of data collection

A consulting room or office secluded from the view and attention of other clients was used to administer the questionnaire. This was to reduce the risk of respondent PLHIV giving socially desirable answers in the event of them being overheard by colleagues. Questions in the tool covered five (5) different sections; socio-demographic characteristics, partnership variables, sexual activity of respondents, disease progression variables and socioeconomic status of respondents. Completing it required the research assistant engaging the respondent PLHIV in an interview lasting for about twenty (20) minutes. Data collection was over a month period, and within this time frame regular supervisory and participatory visits were paid to the various ART clinics by the principal investigator.

During these sessions the principal investigator after being introduced to the respondents took part in the data collection whilst ensuring that the right thing was being done by the trained

research assistants. At the end of each clinic day, the questionnaires were checked for completeness by the nurses in charge of the clinic.

In depth interviews with the service providers (nurses in charge of the ART clinics) were conducted by the principal investigator. These interviews were carried out in the offices of the nurses in charge of the clinic. Some of the issues discussed were: - factors which facilitate or motivate disclosure among their clients, the practice of disclosure at their clinic, their opinions on mandatory disclosure and the role health workers could play to motivate disclosure among clients. This interviews were recorded on tape and lasted for about thirty (30) to forty-five (45) minutes.

3.7 Data processing and analysis

This section describes all the steps and activities carried out to facilitate data analysis.

3.7.1 Data entry and cleaning

All the questionnaires were given unique identification (ID) numbers. A data entry template was created in the SPSS software and pre coded questionnaires were entered. Initial frequencies were run after data entry and in a few instances where missing values were observed with some of the variables, the individual questionnaires were retrieved and the necessary corrections effected; this constituted data cleaning.

3.7.2 Data analysis

Quantitative Data analysis for this study was done at three (3) levels. Initially frequencies and percentages were found for the characteristics of all the variables (both dependent and independent). The socioeconomic status of the respondents was measured by assessing the respondents' household items and the amenities they used. To create the variable socioeconomic

status and its categories, Principal Component Analysis was used and five (5) wealth quintiles created. These were Lowest, Second, Middle, Fourth and Highest quintiles.

Where indicated, categories were created again for certain variables and their frequencies (percentages) found. Some of the variables which were categorized again included age, level of education, duration of diagnosis, length of ART use, number of morbidities and CD4 cell count category (500). The frequencies and percentages of these categories are presented in Tables 1, 2, 3 and 4. Missing values were represented by the symbol ^. The mean age with the respective standard deviation (SD) were also found for entire sample and subgroups of those reporting disclosure and non-disclosure, these are presented in text in the results chapter.

Bivariate analysis (chi square analysis) was used to assess the associations between outcome variable (Partner Disclosure) and the various characteristics of the three (3) explanatory variables (socio-demographic characteristics, partnership variables and disease progression variables). These are presented in Tables 5, 6 and 7. Additionally under bivariate analysis, simple logistic regression was used to determine the strength of association between the outcome variable and the explanatory variables. Crude Odds ratios and their accompanying 95% Confidence Interval (CI) and p values were found for these variables. This is presented in Table 8.

The final level of analysis was multiple logistic regression analysis, it involved the development of a multiple logistic regression model. As used by Laar, Taylor, & Akasoe, (2015), standard logistic regression modelling in SPSS (the “Enter” method) was employed in this analysis (Laar, Taylor, & Akasoe, 2015). From previous studies (Bachanas et al., 2013, Amoran, 2012) variables reported to be associated with the outcome variable or found to be associated (at

p of <0.25) at the level of bivariate analysis were entered and a full model generated in a single step. The model created was to determine the significant predictors of Partner Disclosure. Adjusted odds ratios with their accompanying 95% Confidence Interval (CI) and p values were found. This is presented in Table 8. At all the levels of analysis (chi square, simple and multiple regression), the associations with p-value < 0.05 were regarded statistically significant; these were represented with the symbol * (* representing p<0.05 and ** representing p<0.001).

The second part of analysis for this study was the analysis of the qualitative data. Tape recordings of the six in depth interviews were transcribed into text (Microsoft word) and manually analyzed. Similar themes which emerged were documented and the relevant ideas or quotes grouped beneath the various themes.

3.8 Ethical considerations

Prior to the beginning of data collection, ethical clearance in the form of an approval was sought and obtained from the Ghana Health Service Ethical Review Committee and permission to conduct the study was sought and obtained from the Regional Health Directorate (Greater Accra region). These are attached as Appendix 4 and 5. Subsequently approval was sought and obtained from the authorities of the hospital where the ART clinics were located.

Before information was obtained from the respondents (PLHIV and service providers) during field work; their informed consent was obtained. Their rights as study participants were also clearly explained to them; these were their right to privacy, confidentiality and anonymity. Respondents PLHIV were assured that their refusal to partake in the study would in no way compromise the care they receive. No

compensation was offered to any of the respondents.

To ensure confidentiality due diligence was observed with activities concerning data storage and usage. Pre coded answered questionnaires and tape recordings of In-depth Interviews were kept and continue to be kept under lock and key in a cupboard, the key being kept by only the principal investigator. Data collected was entered within 24 hours of collection, and was saved under a password known to only the principal investigator. Soft copy of data were stored on a CD-ROM and external hard drive as well.

3.9 Quality assurance

Throughout the study various steps were put in place to ensure that high standards of quality were maintained. This included: - training of all the research assistants (two nurses each from the six ART clinics) by the Principal Investigator, this was to ensure uniformity of questioning and the Principal Investigator paying regular supervisory visits to the various ART clinics. Data collection also took place in consulting rooms which were out of the view and attention of other colleague PLHIV; this was to ensure that respondents would not give socially desirable answers

Others activities to ensure quality were the checking of completeness of all questionnaires at the end of every clinic day by the nurses in charge and data cleaning at the end of data entry.

4.0 Conflict of interest

Apart from the academic and public health importance of this study the principal investigator has no personal interest in the study

CHAPTER FOUR

RESULTS

4.1 Introduction

This facility based cross sectional study employed both quantitative and qualitative tools to provide varied perspectives on the different dimensions of the subject of partner disclosure. Views from a total of 380 respondents were sampled from six (6) ART Clinics. Additionally, six (6) service providers who actually work as front line staff (nurses in charge of the ART Clinics) were interviewed. Views and opinions of clients themselves together with their health care providers have been synthesized and clearly represented in this chapter.

4.2 Socio-demographic characteristics.

Table 1 depicts the respondents' major socio-demographic characteristics. Majority of the respondents (77.1%) were females and 22.9% males. About half (44.3%) of the respondents were in the age bracket 30-39 years, disaggregated as 30-34 years-21.9% and 35-39 years-22.4%. The mean age of the respondent was 37.06 years (SD=9.174). Christianity (77.6%) was the predominant religion, with Muslims (20.5%) and traditional adherents (0.3%) being in the minority. More than half of them (59.5%) report being currently married, 22.4% and 18.3% were never married and widowed or divorced respectively. A great majority (84.2%) of the respondents report having been exposed to some form of formal education. This significant percentage is disaggregated as follows: Junior High School (JHS) - 37.2%, Senior High School (SHS)- 20.1%, Primary-19.2% and in the minority Tertiary level- 7.9%. Most of them (80.3%) report being in some regular employment with almost equal percentages of the respondents (between 19.7-20.3%) being found in each of the five (5) Wealth Index quintiles.

Table 1:- Socio-demographic characteristics of respondents.

Socio-demographic characteristics	Frequency	Percent
Sex of Respondent		
Male	87	22.9
Female	293	77.1
Age of Respondent		
18-24	21	5.6
25-29	54	14.4
30-34	82	21.9
35-39	84	22.4
40-44	57	15.2
45 or older	77	20.5
Level of Education		
No Formal Education	60	15.8
Some Formal Education	320	84.2
Occupational Status		
Unemployed	75	19.7
Employed	305	80.3
Religion		
No Affiliation	5	1.3
Traditional	2	0.5
Christianity	295	77.6
Muslim	78	20.5
Marital Status		
Married	226	59.5
Divorced	43	11.5
Widowed	26	6.8
Never Married	85	22.4
Socioeconomic status(Wealth Index Quintiles)		
Lowest	76	20.0
Second	75	19.7
Middle	77	20.3
Fourth	76	20.0
Highest	76	20.0

4.3 Partnership characteristics and sexual activity of respondents.

Table 2 represents some characteristics that were assessed with regards to how the dynamics of a PLHIV's sexual relationship influenced partner disclosure. Almost half of the respondents (49.5%) were married, cohabitation was the second most popular form of partnership (24%) and only 3.4% of the respondents admitted to some form of multiple partnership where their partners had other partners. Those who reported having either regular or casual partners in addition to their main or married partners represented only 10.7% and 16.4% of the respondents respectively. As high as 21.3% and 13.4% non-responses were recorded with respect to both categories.

Among the respondents 54% reported knowing what their partner's status was and of these, 48.6% had negative partners while 51.4% had positive partners. Half of the respondents (50.5%) either had no discussion before testing or did not have the opportunity for prior discussion (31.1%). Only 18.4% of the respondents had discussed with their partners prior to testing. PLHIV who were diagnosed through routine antenatal care as part of PMTCT and some who went through Provider Initiated Testing and Counselling (PITC) had no opportunity for prior discussion with their respective partners.

Table 2 depicts that in relation to the recent sexual activity of respondents, almost two-thirds (58.9%) of the respondents admitted to being sexually active over the past 3 months. Assessing the frequency of condom use at last sexual intercourse revealed that just about half (52.0%) of the respondents observed this practice, with condom use being popular with married or main partners (83.9%). Occasional condom use was observed in 48.9% of respondents and this occasional use was frequently (80%) informed by availability of condoms. Less than a

quarter (19.7%) of the respondents use family planning methods and indeed almost half (47.4%) of them intend to have more children in spite of their status.

Table 2:- Partnership characteristics and sexual activity of respondents.

Sexual Partnership Characteristics	Frequency	Percent
Type of Relationship		
Had partner but now single	87	22.9
One partner – Cohabiting	92	24.2
Married and living with partner	188	49.5
Knowledge of Regular Partner's Status(n=336[^])		
Yes	182	54.2
No	154	45.8
Regular Partner's Status		
Negative	87	48.6
Positive	92	51.4
Discussion with partner before testing		
Did not Discuss	192	50.5
Discussed	70	18.4
No Opportunity to Discuss	118	31.1
Sexual Activity of Respondents		
Sexual Activity Within Past 3 months	224	58.9
Condom Use at Last Sexual Intercourse	192	52
Who condoms are used with		
Married/Main Partner	209	83.9
Regular Partner	28	11.2
Casual Partner	12	4.8
Frequency of Condom Use		
No Use	34	12.1
Occasional Use	138	48.9
Use at every Sexual Intercourse	110	39.0
Family Planning Use	75	19.7
Intends to have children (Fertility Intention)	180	47.4

[^]44 missing, 11.6% non-responses

4.4 Disclosure patterns among respondents

The key outcome variable the study assessed was disclosure of status between partners. From Table 3, 63.9% of respondents had disclosed their status to their partner and 36.1% had not disclosed their status. Among those who disclosed, the partner to which disclosure was made was predominately (88.9%) the main /married partner. Most (61.7%) of the acts of disclosure was carried out by the PLHIV themselves (self-disclosure). Disclosure occurred at different times post testing; more than half (61.7%) reported having disclosed their status within 1 week of testing, 16.9% and 9.5% did so within 1 month and 6 months of testing respectively whilst only 3.7% deferred disclosure to a year after testing.

About a fifth of the respondents (19.7%) reported negative outcome of disclosure such as divorce or separation, partner neglect and partner telling others about respondents' status. A great majority of the respondents (80.2%) reported acceptance and support as the outcome of disclosure. Among those who had disclosed, after disclosure half (51.9%) of them reported no change in the frequency of sexual activity, 44.0% reported reduced activity and 4.2% reported increased activity.

4.4.1 Reasons for non-disclosure

Fear informed the decision of non-disclosure among respondents, the highest reported reason was the fear of abandonment or divorce (38.0%) and the least reported reason was the fear of violence and physical abuse (13.1%). Others were the fear of loss of economic support (23.4%), fear of stigma or discrimination (34.3%) and fear of accusation of infidelity (19.0%). This question allowed for multiple responses.

Of those who had not disclosed their status 67.1% expressed an intention to do so; however, of those with disclosure intentions, most of them (86.9%) abstained from stating a

specific time they planned to disclose. Half (50%) of those who gave a specific time to disclose wanted to defer it for a year. The rest gave times ranging from 6 months (10%) to 1 week (30%).

Table 3:- Disclosure patterns of respondents

Disclosure Characteristics	Frequency	Percent
Disclosure (n=380)		
Yes	243	63.9
No	137	36.1
Type of Disclosure (n=243)		
Self-Disclosure	150	61.7
Assisted By Family Member	1	0.4
Assisted By Service Provider	92	37.9
Target of Disclosure (n=243)		
Married Partner	216	88.9
Regular Partner	20	8.2
Casual Partner	7	2.9
Time Taken to Disclose (n=243)		
Within 1 week of test	150	61.7
Within 1 month of test	41	16.9
Within 3 months of test	20	8.2
Within 6 months of test	23	9.5
After 1 year of test	9	3.7
Sexual Activity Post Disclosure (n=243[^])		
No Change	112	51.9
Reduced Activity	95	44.0
Increased Activity	9	4.2
Reasons for Non-Disclosure (n=137)		
Fear of loss of support	32	23.4
Fear of Stigma/Discrimination	47	34.3
Fear of Abandonment/Divorce	52	38.0
Fear of Accusation of Infidelity	26	19.0
Fear of Violence/ Physical Abuse	18	13.1
Intention to Disclose (n=137)	75	67.0

[^]27missing, 11.1% non-responses

4.5 Disease progression characteristics of respondents

Assessment of the disease progression of the respondents' individual condition employed variables which measured their health status. With reference to Table 4, most of the respondents (80.3%) were in Stage 1 of the disease whilst only 16.8% were in stage 2. A great majority (94.7%) of the respondents reported being on ARTs. More than half (63.4%) of the respondents had been living with HIV for less than 36 months. More than two thirds (65.7%) of the

respondents had recent CD4 cell counts below 500, only about a third (34.3%) had recent CD 4 cell counts of above 500. This is closely linked to the fact that majority of them (84.2%) admit to experiencing some form morbidity within the past 6 months. These morbidities were predominantly (98.1%) low in nature with the respondents reporting one to four symptoms over the past 6 months. The morbidity experience of the respondents translated into their reporting of hospital admission; a majority of the respondents (87.9%) report no admission while 12.1% report being admitted once or twice over the past 6 months.

Table 4:- Disease progression characteristics of respondents

Disease Progression Characteristics	Frequency	Percent
Stage of Disease		
I	305	80.3
II	64	16.8
III	11	2.9
Duration of Diagnosis		
Less than 36 months	241	63.4
More than 36 months	139	36.6
Presence of Morbidity within the past 6 months		
Yes	320	84.2
Morbidity Category (n=320)		
Low Morbidity	314	98.1
High Morbidity	6	1.9
ART use(Yes)	360	94.7
Length of ART Use		
Less than 36 months	245	68.1
More than 36 months	115	31.9
CD4 Categories(n=321[^])		
500 or less	211	65.7
More than 500	110	34.3

[^]22(5.8%) missing- no record of recent CD4 cell count in respondent folder.

4.6 Partner disclosure and selected characteristics of respondents.

This section highlights associations which exist between Partner Disclosure and some selected characteristics of the respondents (PLHIV). These associations are further supported or otherwise by information garnered from in depth interviews with service providers (nurses in-charge) of ART clinics.

4.6.1 Partner Disclosure and Socio-demographic Characteristics.

With reference to Table 5, about two thirds (66.7% of males and 63.1% of females) report disclosure, this association was however not statistically significant. ($p=0.547$). This is supported by a service provider who stated that:-

rejection and separation. With the men too only a few are able to tell their wives so it is just about 50 50". (Service Provider)

From Table 5, age was not significantly associated with disclosure ($p=0.607$), disclosure was however higher among the middle age groupings. More than half of the respondents in those categories reported disclosure (30-34 years- 52.1%, 35-39 years-70.2%, 40-44 years- 66.7%) as compared to those in the extremes of age; 18-24 years and 45 years or older who report 12% and 24% respectively. The mean age of disclosure was 36.80 years ($SD= 8.867$) and the mean age of non-disclosure was 37.51 years ($SD= 9.708$). Among the PLHIV who were married Partner Disclosure was commonplace; as high as 78.9% of the married PLHIV had disclosed their status as compared to the 34.1% reporting disclosure among the never married. Married PLHIV were significantly more likely to disclose as compared those who were never married. ($p < 0.001$)

With reference to Table 5 Partner Disclosure was higher among the employed (66.9%)

than the unemployed (52.0%). A PLHIV who was employed is more likely to disclose his status as compared to his unemployed colleagues; the association being statistically significant. ($p < 0.05$) Closely linked to this findings is the fact that being in the highest wealth quintile was significantly associated with disclosure ($p < 0.05$). Unanimously views from service providers give credence to this assertion and offered explanations as to why this trend exists among the rank and file of their clients. They stated that:

those with good socio-economic standing rather disclose often than those with a weak one. Those with sound economic status because they are educated, they understand better but forgive me for using this word; with the illiterate their believe in hear say is excessive. Every suggestion you make is considered in the light of what they have heard from friends or a false

(Service provider)

Some are not really working and for those working their income is very small the major support is from their partners. They believe telling them their status will lead to their partners

(Service Provider)

From table 5 the practice of disclosure did not significantly differ across the six (6) facilities. ($p > 0.05$). It ranged from 75.5% at Mamprobi Polyclinic to 57.4% at Adabraka Polyclinic.

Table 5:- Partner Disclosure and socio-demographic characteristics

VARIABLE CHARACTERISTICS	DISCLOSURE		Chi Square	P value
	NO N (%)	YES N (%)		
Name of Facility				
Achimota Hospital	24(42.1)	33(57.9)	5.880	0.318
Adabrasah Polyclinic	20(42.6)	27(57.4)		
Mamobi Gen. Hosp	24(41.4)	34(58.6)		
Mamprobi Polyclinic	13(24.5)	40(75.5)		
Ridge Reg. Hosp	42(33.6)	83(66.4)		
Ussher Polyclinic	14(35.0)	26(65.0)		
Sex of Respondent				
Male	29 (33.3)	58(66.7)	0.362	0.547
Female	108 (36.9)	85 (63.1)		
Age of Respondent				
18-24	9 (42.9)	12 (57.1)	3.609	0.607
25-29	20 (37.0)	34 (63.0)		
30-34	30 (36.6)	52(63.4)		
35-39	25(29.8)	59 (70.2)		
40-44	19(33.3)	38 (66.7)		
45 or older	33 (42.9)	44 (57.1)		
Education Category				
No formal education	18(30)	42(70)	1.132	0.287
Some formal education	119(37.2)	201(62.8)		
Occupational Status				
Unemployed	36 (48.0)	39(52.0)	5.785	0.016*
Employed	101(33.1)	204(66.9)		
Religion Category				
No Affiliation	3(60)	2(40)	1.860	0.395
Christianity	103(34.9)	192(65.1)		
Muslim	31(39.7)	47(60.3)		
Marital Status				
Married	47 (21.1)	176(78.9)	60.333	<0.001*
Divorced	19 (41.3)	27 (58.7)		
Widowed	15 (57.7)	11(42.3)		
Never Married	56(65.9)	29 (34.1)		
Socioeconomic Status (Wealth Quintiles)				
Lowest	29(38.2)	47(61.8)	15.879	0.003*
Second	29(38.7)	46(61.3)		
Middle	28(36.4)	49(63.9)		
Fourth	37(48.7)	39(51.3)		
Highest	14(18.4)	62(81.6)		

*p<0.05, **p<0.001

4.6.2 Partner Disclosure by partnership characteristics.

The type of sexual relationship or partnership a PLHIV engages in and the interplay of certain factors in the context of the relationship determine whether or not they will disclose their status. A host of these factors were assessed and an exposition on how these relate to disclosure is shared subsequently.

Table 6 clearly shows that majority (84.6%) of PLHIV married and living with partners had disclosed their status to their partners as compared to their colleagues in all the other forms of partnership. Among those who reported some form of multiple partnership (present partner has other partners) only about a quarter (23.1%) reported disclosure. The association between disclosure and the type of relationship the PLHIV operates was found to be statistically significant. ($p < 0.001$).

PLHIV who knew their partner's status were more likely to disclose their status as compared to those who did not know. Among those who knew their partner's status 93.3% had disclosed their status as compared to only about a third (31.8%) of disclosure observed among those who did not know their partner's status. This association was found to be statistically significant ($p < 0.001$), however the exact status of partner (whether negative or positive) depicted no statistical significant association with disclosure. ($p > 0.05$).

With reference to Table 6, none of the three variables assessed on condom use among respondents revealed any statistically significant association with disclosure (all $p > 0.05$). PLHIV who does desire to have children were more likely (67.5%) to disclose his status than those who did not (59.8%). This association however lacked statistical significance. ($p > 0.05$).

Table 6:- Disclosure by Partnership Characteristics

Characteristics	NO N (%)	YES N (%)	Chi square	P value
Type of Relationship				
Had a partner but now Single	44(50.6)	43(49.4)	72.532	<0.001**
Co habitation	54(58.7)	38(41.3)		
Married and living with partner	29(15.4)	159(84.6)		
Present Partner has other partners	10(76.9)	3(23.1)		
Knowledge of Partner's Status				
No Knowledge	107 (68.2)	50 (31.8)	137.360	<0.001**
Knowledge of Status	12 (6.7)	166 (93.3)		
Regular Partner's Status				
Negative	10(11.1)	80 (88.9)	1.245	0.265
Positive	6(6.5)	87 (93.5)		
Prior Discussion with Partner Before Testing				
Did not Discuss	109 (56.8)	83 (43.2)	74.189	<0.001**
Discussed	6 (8.6)	64 (91.4)		
No Opportunity to discuss	22 (18.6)	96 (81.4)		
Condom Use at last sexual intercourse.				
No	72(40.7)	105(59.3)	2.456	0.117
Yes	63(32.8)	129(67.2)		
Frequency of Condom Use				
No Use	4(30.8)	9(69.2)	0.281	0.869
Occasional Use	11(37.9)	18 (62.1)		
At every sexual intercourse	35 (33.3)	70 (66.7)		
Partner with whom Condom is Used				
Casual	4(33.3)	8(66.7)	5.513	0.064
Regular	14(50.0)	14(50.0)		
Main/Married	59(28.2)	150(71.8)		
Family Planning Use				
No	118(38.7)	187(61.3)	4.657	0.031*
Yes	19(25.3)	56(74.7)		
Fertility Intention				
No	65(32.5)	135(67.5)	2.441	0.118
Yes	72 (40.2)	107 59.8)		

*p<0.05, **p<0.001

4.6.3 Partner Disclosure and Disease Progression

The health status of a PLHIV heavily impacts on disclosure; as it worsens, the arguments for disclosure become more compelling. The association between disclosure and some health indices of PLHIV were used to assess this.

From Table 7, a higher proportion (72.7%) of respondents in the category of CD4 cell count of more than 500 cells had disclosed as compared to 27.3% who reported disclosure among those in the category of CD4 cell less than 500. This association was statistically significant ($p < 0.05$). The same table show no statistically significant relationship with regards to the frequency of hospitalization within the past 6 months and disclosure ($p > 0.05$).

From Table 7, longer duration of diagnosis and ART use (36 months or more) among PLHIV was significantly associated with partner disclosure ($p < 0.05$). With reference to Table 7 it is clear that at every stage of the disease (I, II or III) more than half of the respondents (65.6%, 56.3% and 63.6% respectively) had disclosed their status to their partners, disclosure thus appeared high at every stage of the disease. This association was however not statistically significant ($p > 0.05$).

With reference to Table 7, in terms of disease progression, PLHIV with positive health status indices were disclosing their status more to their partners as opposed to those with negative indices.

Table 7:- Partner Disclosure and Disease Progression Variables.

DISEASE VARIABLES	NO N (%)	YES N (%)	Chi Square	P
Duration of Diagnosis Category				
36 months or less	36(39.8)	145(60.2)	4.086	0.043
More than 36 months	41(29.5)	98(70.5)		
Stage of Disease				
I	105(34.4)	200(65.6)	0.540	0.463
II	28(43.8)	36(56.3)		
III	4(36.4)	7(63.6)		
ART Use				
No	6(30)	14(70)	0.335	0.562
Yes	131(36.4)	229(63.6)		
Length of ART Use Category				
36 months or less	98(40.3)	145(59.7)	3.886	0.049
More than 36 months	34(29.6)	81(70.4)		
CD 4 category 1				
350 or less	43 (35.2)	79 (64.8)	0.068	0.795
More than 350	73(36.7)	126(63.3)		
CD 4 Category 2				
500 or less	86 (40.8)	125 (59.2)	5.698	0.017*
More than 500	30 (27.3)	80 (72.7)		
Frequency of Hospitalization				
None or Once	133(36.0)	236(64.0)	0.000	0.983
Twice or More	4(36.4)	7(63.6)		
Presence of Morbidity within past 6 months				
No	16 (27.1)	43(72.9)	2.418	0.120
Yes	12 (37.7)	200 (62.3)		
Morbidity Category				
Low Morbidity	115(36.6)	199(63.4)	0.027	0.868
High Morbidity	2(33.3)	4(66.7)		

*p<0.05, **p<0.001

Tables 5, 6 and 7 represent characteristics of respondents and their associations Partner Disclosure was found to be significant. Those with significant associations include marital status, occupational status and socioeconomic status, type of relationship, knowledge of partner's status, discussion with partner before testing and family planning use. The rest were disease progression characteristics such as duration of diagnosis, length of ART use and CD4 cell count 500 category.

4.7 Predictors of Partner Disclosure at the Multivariate level.

This section describes the predictors of Partner Disclosure. A multiple regression model (standard logistic regression modelling in SPSS known as the “Enter” method) was used to determine the significant predictors of Partner Disclosure. From previous studies ((Bachanas et al., 2013, Amoran, 2012) variables reported to be associated with the outcome variable or found to be associated (at p of <0.25) at the level of bivariate analysis were entered and a full model generated in a single step.

Variables in this model were occupational, marital status, socioeconomic status, type of relationship, knowledge of partner’s status, discussion with partner before testing, condom use at last sexual intercourse, fertility intentions, duration of diagnosis, length of ART use and CD4 cell count. The significant predictors of Partner Disclosure after adjusting for all these variables were marital status(widow) , knowledge of partner’s status, discussion with partner before testing and CD4 cell count of 500 and above.

From Table 8, PLHIV who were employed were 1.774 times as likely to disclose their status to their partners as their unemployed colleagues. (AOR= 1.774, CI 0.656-4.798, $p>0.05$). Closely linked to this is the finding that respondents in the highest wealth quintile were almost twice as likely to disclose their status to their partners as those in the lowest quintile. (AOR 1.901, CI 0.507-7.124, $p>0.05$). These associations were not statistically significant thus the first hypothesis of PLHIV with high socioeconomic (highest wealth quintile) being more likely to disclose their status as compared to their colleagues with low socioeconomic status (lowest wealth quintile) was rejected.

Table 8 also depict the fact that marital status (widowhood) was a significant negative predictor of Partner Disclosure. As compared to being married all other forms of marital status (Divorced, Widowed or Never Married) had lower odds of disclosure and after controlling for

other variables only the widow status remained statistically significant. (AOR=0.014, CI 0.001-0.185, $p<0.001$).

With reference to Table 8, knowledge of a partner's status was the most significant determinant of disclosure. PLHIV who knew their partners' were at a significantly higher odds of disclosing their status to their partners as compared to those who did not know (AOR=33.066, CI 11.480-95.241, $p<0.001$). Closely linked to this positive association is the finding that partners who discussed HIV testing before testing were ten times as likely to disclose their status as compared to those who did not (AOR=10.927 CI 2.364-50.512, $p<0.05$).

Table 8 also depicts that PLHIV who have been diagnosed more than 36 months were at a lower odds of disclosure as compared to those who had been diagnosed for 36 months or less.(AOR= 0.453, CI 0.116-1.769, $p>0.05$). Given these findings, the second hypothesis of this study which states 'that PLHIV who have a longer duration of diagnosis are more likely to disclose their status to their partners than those who have been recently diagnosed was rejected. PLHIV with recent CD4 cell count of more than 500 were at a significantly higher odds of disclosure as compared to their counterparts with CD4 cell count lower than 500. (AOR= 3.835 CI 1.391-10.576, $p<0.05$). This study failed to reject this hypothesis.

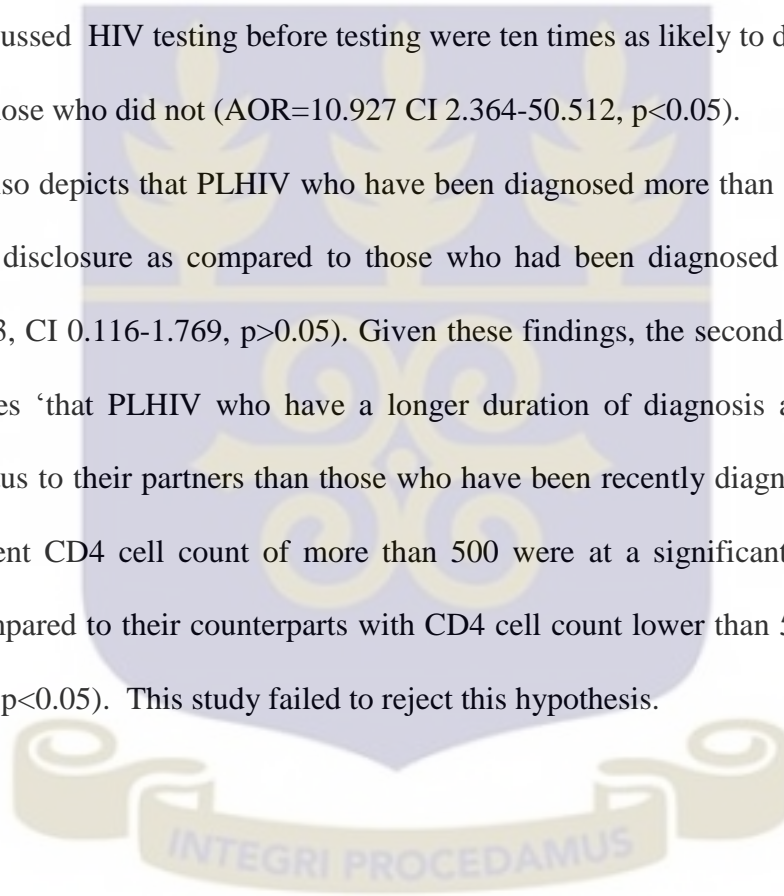


Table 8:- Predictors of Partner Disclosure

Characteristics	Unadjusted Odds ratio, OR (95% CI)	Adjusted Odds ratio ,AOR(95% CI)
Sex		
Male	Ref	
Female	0.856 (0.517-1.419)	
Age		
18-24	Ref	
25-29	1.275(0.457-3.556)	
30-34	1.300(0.491-3.443)	
35-39	1.770(0.663-4.729)	
40-44	1.500(0.538-4.180)	
45 or older	1.000(0.377-2.651)	
Occupational Status		
Unemployed	Ref	
Employed	1.864(1.117-3.111)*	1.774(0.656-4.798)
Education Category		
No Formal Education	Ref	
Some Formal Education	0.724(0.399-1.315)	
Marital Status		
Married	Ref	
Divorced	0.379(0.914-0.741)*	0.346(0.063-1.904)
Widowed	0.196(0.084-0.455)**	0.014 (0.001-0.185)**
Never Married	0.138(0.080-0.240)**	0.240(0.059-0.979)
Socioeconomic Status (Wealth Quintile)		
Lowest	Ref	
Second	0.979(0.508-1.886)	1.377(0.351-5.397)
Middle	1.080(0.561-2.080)	0.535(0.156-1.837)
Fourth	0.650(0.341-1.240)	0.372(0.100-1.386)
Highest	2.733(1.301-5.739)*	1.901(0.507-7.124)
Type of Relationship		
Had a Partner but now single	Ref	
Co habitation	0.720 (0.399-1.300)	0.346(0.099-1.345)
Married and living with partner	5.610(3.150-9.993)**	0.569(0.101-3.223)
Present Partner has other partners.	0.317(0.079-1.192)	0.149(0.007-3.342)
Knowledge of Partner's Status		
No	Ref	
Yes	25.714(13.531-48.867)**	33.066(11.480-95.241)**
Regular Partner's Status		
Negative	Ref	
Positive	1.812(0.630-5.214)	
Discussion With Partner Before Testing		
Did not Discuss	Ref	
Discussed	14.008(5.786-33.914)*	10.927(2.364-50.512)*
No Opportunity to discuss	5.731(3.325-9.875)**	2.690 (0.998-7.247)

Table 8:- Predictors of Partner Disclosure

Characteristics	Unadjusted Odds ratio, OR (95% CI)	Adjusted Odds ratio ,AOR (95% CI)
Condom Use at Last Sexual Intercourse		
No	Ref	
Yes	1.404(0.918-2.148)	1.827(0.828-4.032)
Fertility Intention		
No	Ref	
Yes	0.716(0.470-1.090)	0.981(0.427-2.252)
Family Planning Use		
No	Ref	
Yes	1.860(1.053-3.286)*	
Duration of Diagnosis		
36 months or less	Ref	
More than 36 months	1.583(1.013-2.473)*	0.453(0.116-1.769)
Stage of Disease		
I	Ref	
II	0.675(0.390-1.167)	
III	0.919(0.263-3.210)	
CD4 Count(500)		
500 or less	Ref	
More than 500	1.835(1.111-3.029)*	3.835(1.391-10.576)*
Frequency of Hospitalizations		
None	Ref	
Once	0.949(0.461-1.952)	
Twice or More	0.981(0.282-3.420)	
Presence of Morbidity within past 6 months		
No	Ref	
Yes	1.156(0.208-6.408)	
ART Use		
No	Ref	
Yes	0.749(0.281-1.997)	
Length of ART Use		
36 months or less	Ref	
More than 36 months	1.610(1.001-2.590)	1.771(0.415-7.552)

OR (95% CI), unadjusted odds ratio from simple logistic regression with accompanying 95% confidence interval; AOR adjusted odds ratio determined using multiple regression. Variables from this section included in the model were occupational status, marital, socioeconomic status, type of relationship, knowledge of partner's status, discussion with partner before testing, condom use at last sexual intercourse, fertility intention, and duration of diagnosis, CD4⁺ count and length of ART use. -2 Log likelihood=161.423; Cox&Snell R²=0.516; Nagelkerke R²=0.705 *p value significant at 0.05 level; ** p value significant at 0.001 level

This model was able to explain about 5.16 % variability in the outcome or dependent variable (Partner Disclosure). It could also predict with 70% certainty that a PLHIV given these characteristics would disclose his status to his partner.

CHAPTER FIVE

5.0 DISCUSSION

5.1 Introduction

The main objective of this study was to determine the prevalence of Partner Disclosure in the Accra Metropolitan Area and to expose the factors which influence a PLHIV's decision to disclose his status to his partner. This section describes findings from this study relating them to others documented in literature.

5.2 Discussion

The prevalence of Partner Disclosure reported for this study was 63.9%; this was higher than that reported in previous studies conducted in the country (Tema and the Ashanti region) and also in Nigeria. The disclosure rates for these area and the studies reporting them are as follows: - Tema Metropolitan Area (34.9%) by Sakitey (2010); Ashanti Region (49.5%) by Frimpong (2006) and Ogun State, Nigeria (50.9%) by Amoran (2012). Across all six (6) facilities more than half of the respondents reported disclosure. Ridge Regional Hospital reported a disclosure rate of 66.4%, a remarkable increase compared to the disclosure rate of 39.5% reported by Ofori (2012). Compared to the disclosure rate of 80% reported in eastern African countries (Tanzania, Kenya) by Bachanas et al., 2013, this rate was relatively low.

Over the years in Ghana the practice of partner disclosure has improved significantly. This is because with the passage of time HIV has been demystified and it is gradually being regarded as one of the chronic diseases; Hypertension or Diabetes. However there still remains a lot more to be done in order to make this practice almost routine as it pertains in eastern Africa countries.

Partner disclosure as most service providers agree still remains a challenge among their clients.

which our female clients visibly show. They quickly want you to change the subject of discussion. Our culture setting have given some form of supremacy to men, from the cradle to the grave we

(Service Provider)

-they are not

(Service

Provider)

With regards to timing, of the respondents who had disclosed their status more than half (61.7%) admit to doing so within the first week of testing. This helps the couple to immediately take steps towards adopting transmission risk reduction practices such as condom use. The rest (39.3%) who deferred disclosure to one(1), three(3), six(6) months or even up to after a year after testing represents respondents who with this lapse of time invariably expose their partners to repeated risk of infection.

A great majority (80.2%) stated acceptance and support as the outcome for disclosure; only a few (19.2%) reported negative outcome such as divorce or abandonment, stigma or neglect from partner. Couples are increasingly becoming understanding of each other and of the disease. Increasingly, the apprehension of being automatically infected when your spouse is positive is also waning.

Of those reporting disclosure more than half (61.7%) disclosed to their partners alone (self-disclosure) only a little over a third (37.9%) disclosed in the presence of a service provider (assisted by service provider). Disaggregating disclosure by type revealed that a significantly higher proportion of those who were assisted by a service provider to disclose reported more positive outcomes as compared to those who did so on their own (89.9% as compared to 75.0%). Additionally, the former group reported fewer negative outcomes (divorce 4.5% as compared to 16.7%). PLHIV who disclose their status in the presence of a service provider have the benefit of leveraging on the knowledge and counselling skills of the service provider. Any questions, concerns or misconceptions their respective partners have can be duly addressed by the service providers and in the unfortunate incidence of any outburst the provider is able to use the requisite counselling skills to calm tempers. This practice of provider assisted disclosure has gained a lot of ground in many Eastern Africa countries.

Given such an avenue for disclosure, some inherent characteristics of PLHIV would have to prompt or predict their tendency to disclose their status to their partners. These could be peculiar to their socio-demographic, partnership or disease progression characteristics. The study found that the significant predictors on disclosure were knowledge of partner's status, discussion with partner before testing, CD4 cell count of more than 500 and the marital status of being widowed.

This study one carried out by Bachanas et al., 2013 in Tanzania, Kenya and Namibia among PLHIV assessing care in eighteen (18) HIV care and treatment clinics found that knowledge of the partner's status was a significant predictor of disclosure. Indeed it was by far the strongest predictor of disclosure in this study. (AOR=33.066, CI 11.480-95.241, $p<0.001$) comparable to that reported by Bachanas et al, (2013) (AOR 23.4, CI 17.6-33.7, $p<0.0001$).

PLHIV who know their partner's status are assured of the fact that their partners have more than a fair knowledge of the intricacies of treatment and the possibility of maintaining a good quality of life post diagnosis. Based on this premise disclosure becomes relatively easier and is thus practiced.

Further strengthening the case for the role of spousal communication in determining disclosure, was the finding that pre-testing discussion with partner significantly increased the likelihood of disclosure by up to ten times even after adjusting for other variables (AOR=10.927, CI 2.364-50.512, $p<0.05$). This supports a study on disclosure conducted by Alemayehu, Aregay, Kalayu, & Yebyo, 2014 among women attending ART clinic at Mekelle hospital in Northern Ethiopia who reports similar findings. (AOR = 4.87, 95% CI: 2.45, 9.71)

Similar to views expressed by Amoran (2012) from a study conducted in four General hospitals offering VCT, PMTCT and ART services in Ogun State, Nigeria which report that PLHIV who had positive partners were at a higher odds of disclosure as compared to those who had negative partners (AOR=4.08, CI 2.62-6.35), this study found that PLHIV with positive partners were almost twice as likely to disclose their status as those with negative partners. (OR=1.812, CI 0.630-5.214). With a seropositive partner the index case will be encouraged to disclose because they would share similar concerns and fears.

The Disease progression theory which projects the idea that worsening health status of a PLHIV increases the likelihood of disclosure have since undergone some modification in the light of the discovery of the role of the consequence theory. This study sought to find the current relevance of the disease progression theory. This study found only one characteristics of disease progression to be a significant predictor of disclosure; this was the CD4 cell count of 500. High

CD4 cell counts however are normally as a result of the treated history of the disease and not its natural history.

Similar to findings from South African HIV Prevention Trial Network by Wong et al 2009, this study revealed that PLHIV with higher CD4 cell count(using 500 as the reference point) were significantly at an increased odds of disclosure(even after controlling for other variables) than those with lower CD4 cell counts. (AOR=3.835, CI 1.391-10.576, $p<0.05$). Improved immunity and health status measured by high CD4 Cell counts creates a positive perspective on life and fosters disclosure. Service providers however held a different opinions on how CD4 cell counts predict disclosure:-

disclosure they turn a deaf ear. They are not sick and do not need any extraordinary support. Those with low CD4 Counts are different; they may be having opportunistic infections and they need money to buy their medication. You talk to such people and then they would understand and

(Service Provider)

From this study the marital status of being widowed was the only significant negative predictor of disclosure, having a lower odds of disclosure as compared to the presently married. (AOR=0.014, CI 0.001-0.185, $p<0.001$).For the widowed whose spouses might have died as a result of the disease, disclosure to their present partners will not be priority.

Apart from the hypotheses of high CD4 cell count being linked to disclosure which was tested and accepted by this study, the two (2) other hypothesis tested were rejected. These hypothesis were related to socioeconomic status and duration of diagnosis.

The first hypotheses of PLHIV with high socioeconomic status being more likely to disclose their status as compared to those with a lower socioeconomic status was rejected. This is because after adjusting for other variables the statistical significance of the high odds of disclosure among those in the highest wealth quintile was lost, (AOR=1.901, CI 0.507-7.124, $p>0.05$). Though not statistically significant this finding correlates with similar views expressed by Wong et al, (2009) who studied disclosure practices among PLHIV in rural and urban communities of South Africa. A higher earning power confers some kind of security and self-sufficiency on the PLHIV; they are able to singlehandedly afford the basic necessities of life and even health care. This considerably increases his confidence making him more assertive and thus increasing the chances of disclosure.

This study like that carried out by Dankoli et al, (2011) among PLHIV accessing care at the State Specialist Hospital, Gombe in Nigeria found no statistically significant relationship between a longer duration of diagnosis and Partner Disclosure. Indeed in this study PLHIV who had been diagnosed for more than 36 months(3 years) were at a lower odds of disclosure as compared to those diagnosed earlier than that.(AOR=0.453, CI 0.116-1.769, $p>0.05$). The second hypotheses of PLHIV with longer duration being more likely to disclose was rejected. With the passage of time, PLHIV fully come to terms with their diagnosis and its implications. Having dealt with the phases of denial, grieving and acceptance they order their lives to suit the dictates of their condition, disclosure therefore seem not to offer any additional benefits to them.

Fertility intention in this study was not significant predictor of disclosure, its association with disclosure were however similar to that is found in literature. PLHIV desiring children in this study were at a lower odds of disclosure (AOR=0.981, CI 0.427-2.252, $p>0.05$). This mirrors findings from Matthew et al, 2014 who studied disclosure among pregnant women in South

Africa and reported a decreased likelihood of disclosure and also Oladapo et al., 2005 who reported a lower odds of disclosure (AOR=0.01, CI 0.00-0.17, p=0.001) among those desiring pregnancy as compared to those who do not, after studying disclosure among PLHIV accessing care at HIV clinic of the Centre for Special Studies, Sagamu, Nigeria. It stands to reason that PLHIV desiring children will not disclose their status because this they perceive might jeopardize their agenda, as their respective partners might lose interest.

Stage of disease was not a significant predictor of disclosure in this study. PLHIV who were in stage II or III were associated with a lower odds of disclosure as compared to those in stage I. This association though not statistically significant contrast the view expressed by Debrie et al ,(2008) who studied the disclosure experience among PLHIV in South west Ethiopia. He reports that disclosure was less likely in those in clinical sage I and II as compared to those in stage III or IV. Service providers unanimously agree that:-

tests are carried out. During these testing, maybe your partner would even be around you on your sick bed and definitely you have to disclose for your partner so he or she can also be tested.

(Service Provider).

The association between stage and disclosure was not significantly statistically significant in this study because a disproportionately higher number of respondents sampled were in stage I as compared to all the other stages. Data collection was done at the outpatient department (ART Clinics) where predominately stable stage I patients walk in for chronic care and drug refill. Stage III and IV clients hardly report to these clinics.

For this study sex was not a significant predictor of disclosure. Bivariate analysis however revealed that females were at a lower odds of disclosure as compared to their male counterparts. (OR= 0.856, CI 0.517-1.419, $p>0.05$). This view resonates with that expressed by Bachanas et al, (2013) who after studying disclosure practices among PLHIV in three (3) eastern Africa countries Tanzania, Kenya and Namibia reported a decreased odds of disclosure among females as compared to males. (AOR= 0.38, CI 0.30-0.48, $p < 0.0001$). Some service providers think the converse is true:-

after learning their status would tell you they are not surprised. They go on to confess their inability to stay for a period of time without having sex with a particular number of ladies. feel guilty and they are more even protective of their husbands.” (Service Provider)

The association between sex and disclosure was not statistically significant for this study possibly because a disproportionately higher number of females (293) were sampled as compared to males (87). It is worth noting however that this female to male ratio was reflective of the sex distribution of clinic attendance.

The mean age for disclosure was 36.08 years, similar to 36.02 years reported by Klopper et al 2014 after a study carried out in the Cape Metropolitan area in South Africa. The mean age for non-disclosure however varied; this study found the mean age for non-disclosure to be 37.51 years, Klopper et al (2014) reported 19.0 years. This study found that increasing age increases the likelihood of disclosure except beyond 45 years where the odds of disclosure was reported to

be the same as that of the 18-24 year olds. In spite of the fact that this association was not statistically significant ($p>0.05$), it mirrors findings from Klopper et al,2014 which state that increasing age is associated with disclosure. Increasing age comes with its maturity and ability to handle and share delicate information, this might possibly explain the reason why older PLHIV tend to disclose more.

A sizable proportion of study participants (36.1%) report non-disclosure to sexual partners. Before deciding to disclose his/her status, a PLHIV would assess and evaluate the effects of such disclosure. Once he perceives that the risks of disclosure far outweigh any possible benefits, the agenda of disclosure would be abandoned. This is what has been described as the consequence theory. This study described the influence of this theory on partner disclosure.

This study, like others performed in resource-constrained settings (such as that carried out among PLHIV in Nigeria by Akani et al, 2006 and in rural Kenya among female PLHIV by Turan et al. (2012), recounts various fears of PLHIV which inform non-disclosure. These were fear of loss of economic support from partner, fear of accusation of infidelity, fear of abandonment or divorce, fear of violence and fear of stigma and discrimination. In this study, fear of abandonment or divorce was the most frequently reported reason for non-disclosure. This gives an indication of the fact that the thought of being left alone was considered more dreadful by the PLHIV than some dire consequences of non-disclosures such as the risk of infecting their partners or getting re-infected (in the possible event of their partners being HIV positive).

Service providers also affirm the existence of these fears:-

Disclosure is difficult for females because they think that it will lead them to being sacked from the house or their men will charge (Service Provider)

-economic status. They are not in any meaningful work; selling pure water and other petty trading. They depends entirely on their husbands. Disclosure will mean losing the support and a
(Service Provider)

These fears are so ingrained that just over two thirds (67%) of those who had not disclosed expressed an intention to do so. When probed about the timing of their prospective disclosure, 86.7% declined answering and of the ten (10) participants who answered 5 (50%) wanted to do so after a year. This clearly shows that disclosure is not a priority of PLHIV in this study and this posturing has negative impacts on the PLHIV, the partner and prospective children. Non-disclosure clearly presents a lot of challenges and these were expressed by service providers:

In the absence of disclosure the status of the partner is not known; in the event of he or she being positive the PLHIV is at an increased likelihood of getting infected with a different sub type of the virus. This weakens his immunity and predisposes the PLHIV to contracting other STIs and eventually there is the develo (Service Provider)

client who is about 19 yrs. She was supposed to bring an adherence monitor during her

pregnancy but because she did not want anybody (not even the one responsible for the pregnancy to know her status) she did not. After delivery she had to hide in order to serve the

(Service Provider).

The consequences of non-disclosure are dire and far reaching, and in the light of the findings projected by this study the obvious question is whether or not to make the practice of Partner Disclosure mandatory. Opinions of service providers are divided on there should be an act to enforce Partner Disclosure.

I do. Must I necessarily tell my partner I have hypertension? I regard HIV as any other illness

(Service Provider)

spreading the disease they think the society has not been fair to them and they have failed to reconcile with life so they knowingly spread it by having unprotected sex. But if there is a law with the limitation of warranting only health workers to assist in disclosure, many more PLHIV

(Service Provider)

need a law to tell you to disclose to your partner so you can prevent infecting him or her or even to prevent re infection. Your conscience must guide you to do the right thing. Besides if the law

Service Provider)

Even among service providers attitude towards the idea of mandatory disclosure is not entirely welcoming talk less of among PLHIV. The question however remains of how this practice can

become almost routine among PLHIV. Service providers themselves believe that they had a role in motivating PLHIVs to disclose their status:-

Through Continuous counseling, we tell them the benefits of disclosure and the dangers of non-disclosure plainly. Having this conversation at every clinic visit; gentle persuasion but not

(Service Provider)

be financial; helping the female PLHIV to set up a small scale

(Service

Provider)

5.3 Study limitations

This study lacked qualitative information from PLHIV which would have provided more insights about the associations observed in this study. It also lacked information (sub analysis of results) relevant only to a priority group of people (pregnant women) among whom Partner Disclosure was of prime importance. Data collection was done within a period of one month and within this period attendance to the respective clinics was subject to a lot of changes.



CHAPTER SIX

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

The study sought to determine the prevalence of partner disclosure among PLHIV in selected clinics across the Accra Metropolitan area and to describe how some characteristics of the PLHIV (socio-demographic, partnership and disease progression characteristics) predict the practice of disclosure. Based on results of this study the following conclusions have been made and recommendations suggested in order to improve the practice of Partner Disclosure.

6.2 Conclusions

The study determined that Partner Disclosure is practiced by two-thirds of the HIV-positive clients who receive care at the selected ART clinics. The practice differed by study site – ranging from 57.4% at Ridge OPD (Adabrasah Polyclinic) to 75.5% at Mamprobi Polyclinic. Of those who disclosed, 10% did that six months post diagnosis and 4% did so a year post diagnosis. Partner Disclosure in this study was often done by the PLHIV and this was associated with more negative outcomes (divorce or separation, partner neglect and partner telling others about respondents' status) as compared to those whose disclosure was assisted by a service-provider.

In spite of the fact that this option of disclosure exists and is being successfully practiced one (1) out of three (3) PLHIV assessing care at the ART clinics had not disclosed their status. Motivators for non-disclosure included fear of abandonment and divorce, fear of loss of economic support, fear of stigma and discrimination and fear of physical abuse. The highest reported reason for non-disclosure was the fear of abandonment or divorce.

While three (occupational status, marital status and socioeconomic status) of seven socio-demographic attributes assessed were associated with partner disclosure at the bivariate level,

only marital status significantly predicted the practice after controlling for potential confounders. The socioeconomic status of a PLHIV as indicated by his wealth quintile by this study did not significantly predict his or her practice of Partner Disclosure. Among service providers however the general consensus was that women with low socioeconomic status were unlikely to disclose their status to their partners.

The study further revealed that knowledge partner's HIV status and prior discussion with partner on testing predict Partner Disclosure. Contrary to previous studies, fertility intention was not associated with Partner Disclosure of HIV status nor did it predict it.

One of eight markers of disease progression – CD4 count significantly predicted the practice of partner disclosure. PLHIV with CD4 counts of 500 or more were more likely to disclose their HIV-status to their partners. In this study a longer duration of diagnosis (more than 36 months) was associated with a decreased likelihood of disclosure and was not a significant determinant of Partner Disclosure. Service providers perceive stage of disease to determine disclosure (stage of disease being linked to Disclosure), among PLHIV however stage of disease was not a significant predictor partner disclosure.



6.3 Recommendation

Based on these conclusions the following are some of the recommendations proffered to promote the practice of Partner Disclosure at the individual ART clinics and also nationally.

Practice

➤ Capacity Building among Service Providers

Given the fact that fewer negative outcomes were associated with service provider assisted disclosure, service providers must be made aware of the pivotal role they play in promoting the agenda of Partner Disclosure. In this regard there is a need to build capacity among them so that they will be able to deliver this service with a high level of tact and professionalism. Periodic refresher courses on the practice of Partner Disclosure or Notification is therefore recommended for all service providers. During these meetings peer learning can be pursued where ideas or suggestions of what works at the various clinics can be shared. Detailed exposition should also be given to the service providers on Service Provider Initiated Disclosure as discussed in the National STI/HIV Policy (February, 2103) so as to encourage its practice at ART clinics whose clients constantly refuse disclosure.

➤ Awareness Creation

During clinic days, sensitization talks delivered at the OPD should necessarily project Partner Disclosure laying emphasis on its timeliness. On the individual basis, continuous counselling is key to facilitating disclosure. Most importantly Couple counselling and testing should be vigorously pursued given the fact that the study found knowledge of partner's status and discussion before testing to be significant predictors of Partner Disclosure. With regard to the fact high CD4 cell counts was a significant predictor of disclosure; the practice of adherence

counselling must be done daily. Strict adherence to ART would result results in lower viral load and high CD4 cell count which would facilitate disclosure.

Policy

➤ **Review of National HIV and AIDS, STI Policy (February 2013)**

There is the need to critically review the session on Partner Disclosure in this policy. It clearly spells out the circumstances under which the service provider can initiate partner disclosure without the consent of the PLHIV, however it is silent on after how many times of reviewing a PLHIV a service provider can initiate this disclosure. This should be clearly stated and not left to the discretion of the service provider. The review must also include sanctions or deterrents for PLHIV who consistently refuse to bring along their partners for testing.

➤ **Structures on good record keeping**

Should also be institutionalized to help with the practice of contact tracing; this will help with the practice of service provider initiated disclosure

Research community

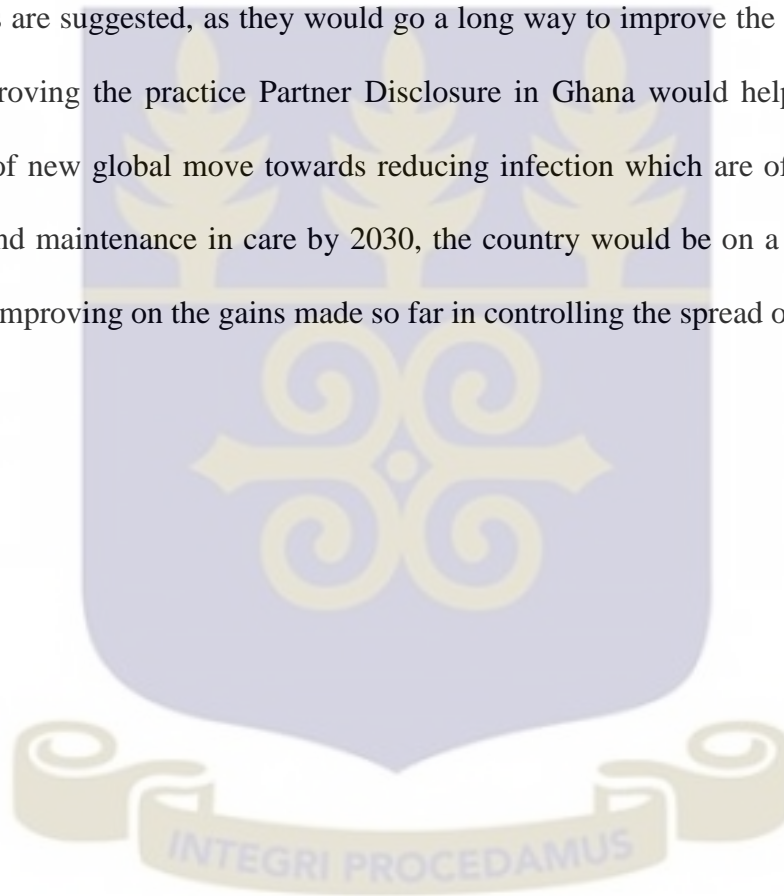
➤ **Qualitative research**

There is the need for the research community to explore other dimensions of this subject which were not covered in this study. This include seeking qualitative information from PLHIV to expose the story behind the figures and trends reported in this study.

➤ **Systematic review**

A review of literature can also be done to bring to light the effects of mandatory disclosure on disclosure practices and transmission rates (over years) in countries which have institutionalized this practice.

Concerted efforts should be made by all these stakeholders to institute these recommendations as suggested, as they would go a long way to improve the practice of Partner Disclosure. Improving the practice of Partner Disclosure in Ghana would help in achieving the ambitious goals of the new global move towards reducing infection which are of universal testing, linkage to care and maintenance in care by 2030, the country would be on a positive course of maintaining and improving on the gains made so far in controlling the spread of the disease.



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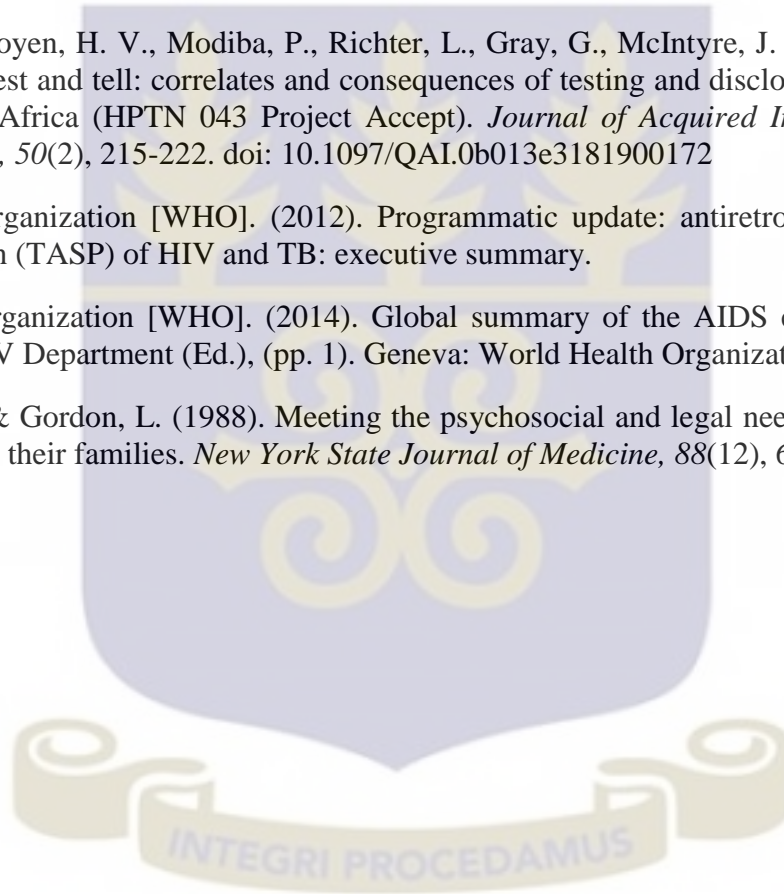
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APPENDICES

APPENDIX 1: INFORMED CONSENT

Title of Study: - **Determinants of Partner Disclosure of HIV Positive Status among Attendants of selected ART Clinics in Accra**

Principal Investigator:

Nana Ama Efurma Andrews, Student, Department of Population, Family and Reproductive Health, School of Public Health, College of Health Sciences, and University of Ghana. Contact: Mobile 0244850140/0206300552; email efurma@yahoo.co.uk

General information about the study

The purpose of this study is to find the factors which inform a PLHIV's decision to disclose his status to his partner. It is a requirement for partial fulfilment for my Masters' degree.

Procedures

PLHIV aged 18 years and above will be consented and recruited for the study. As a participant you will be required to complete an interviewer administered structured questionnaire. Questions will require information about your background, sex life and health status. The interview is expected to last 20 minutes.

Possible Risks and Discomforts

The study may involve some risks. We anticipate some discomfort during the interview process given the sensitive, intimate nature of the topic. Some of the questions focus directly on your personal life, and you may feel uncomfortable answering those questions. You are free to skip any questions you are not comfortable answering.

Possible Benefits

There is no direct benefit to the participants of this study. However, the information you will provide will contribute to overall knowledge on partner disclosure among PLHIV. This will in turn help policy makers and service providers to formulate strategies to facilitate the act of disclosure among clients.

Voluntary Participation and Right to Refuse

Your participation in this study is absolutely voluntary. During the interview, you can choose not to answer any questions that you do not want to answer. Additionally, you are at liberty to withdraw from the study or stop the interview at any time.

Confidentiality and Compensation

We would like to assure you that whatever information you provide will be handled with strict confidentiality, will be used purely for research purposes, and will never be used against you. To ensure anonymity ID numbers will be used for identification instead of names. Data analysis will also be done at the aggregate level to maintain anonymity. Your name or personally identifying

information will not be published in any report. There is no compensation for participating in this study.

Your rights as a Participant

If you have any questions about your rights as a research participant, you can contact the Administrator of the GHS Ethical Review Committee, Hannah Frimpong on 0243235225/0507041223.

VOLUNTARY CONSENT

The interview will take an average of 20 minutes and your participation is completely voluntary and you have the right to refuse participation or withdraw from the study at any time.

No penalties or negative consequences will result from your withdrawal. All responses will be treated as confidential as no names will be placed on the testing instrument; neither will it be shown to ANYONE without YOUR permission. However, I hope that you will participate fully since your views on the subject are important. If you want to ask anything more about the exercise, I would be ready to answer.

Please confirm your participation by ticking in the box below.

By ticking inside this box, I agree to be interviewed. The purpose, terms and conditions of the survey have been explained to me and I willingly agree to participate

Signature/ Thumb Print

Date _____

If participant cannot read the read the form themselves, a witness must sign here.

I, _____ was present while the purpose, procedures as well as risks and benefits were read to the participant. All questions were answered and the participant has voluntarily agreed to participate as a subject in this research study.

Signature of Witness

Date

Interviewer's statement: I, _____, certify that the nature and purpose, the potential benefits and possible risks associated with participating in the study have explained to the above individual in the English/Twi/Ga language. The participant has freely agreed to participate in the study.

Signature of person who obtained consent

_____/_____/_____
Date

B. PARTNERSHIP VARIABLES OF RESPONDENTS AND DISCLOSURE

No	Questions	Responses	Code	Skips
1	Marital Status	Married Divorced Widowed Never Married	1 2 3 4	
2.	What type of relationship are you in presently?	Had a partner(s) but now single Presently living with Partner (Cohabitation) Married and Living with Partner Present partner has other Partners	0 1 2 3	
3	If divorced/ widowed did you have a regular partner(s) in addition to your main partner prior to the divorce?	Yes No	1 0	
4	If Yes, how many?	[] []		
5	If divorced/ widowed did you have casual partners in addition to your main partner?	Yes No	1 0	
6	Do you have a regular partner in addition to your main partner?	Yes No	1 0	If No, skip to 8
7	If Yes, how many	[] []		
8	Do you sometimes have casual sex partners?	Yes No	1 0	
9	Do you know your main/regular partner's status?	Yes No	1 0	If No skip to 13
10	If Yes, what is it?	Negative Positive	0 1	
11.	If Divorced/ Widowed did you know your main partner's status?	Yes No	1 0	
12	If Yes, what was it	Negative Positive	0 1	
13.	Did you have prior discussion with your main /regular about HIV testing before testing?	No Yes PMTCT	0 1 2	
14	Have you disclosed your status to partner(s)?	No Yes	0 1	If No, skip to 19

No	Questions	Responses	Code	Skips
15	How did you disclose your status?	Self-Disclosure Assisted By Family Member Assisted By Service Provider	0 1 2	
16.	Which of your partner(s) have you disclosed your status to? (tick all that apply)	Main/Married Partner Regular Partner Casual partner	2 1 0	
17	How long did it take you to disclose your status to your partner?	Within 1 st week of test Within 1 month of test Within 3 months of test Within 6 months of test After 1 year of test	1 2 3 4 5	
18	What was the outcome of disclosure?	Divorce/Separation Partner neglected me Partner informed others about my status Acceptance and support Other specify	1 2 3 4	Skip to section C
19.	Why have you not disclosed your status to your partner? (tick as many as apply)	Fear of loss of support Fear of stigma/discrimination Fear of abandonment/divorce Fear of accusation of infidelity Fear of violence/physical abuse Other specify.....	1 2 3 4 5	
20	Do you intend to disclose your status?	Yes No	0 1	
21	If yes, when do you intend to do so?	Within 1 week Within 1 month Within 3 months Within 4 months After a year		

C. SEXUAL ACTIVITY OF RESPONDENTS

No	Question	Response	Code	Skip
1.	Have you had sex within the past 3 months?	Yes No	1 0	If no, skip to 3
2.	If yes, how many times?	Once Twice Thrice Four times More than four times	1 2 3 4 5	
3.	Did you use condom at your last sexual intercourse?	Yes No	1 0	
4.	Who do you use condom with? (tick all that apply)	Main/Married Partner Regular Partner Casual Partner	2 1 0	
5.	How often do you use a condom	At every sexual intercourse Occasional use based on a. Availability b. Partner's request	1 0 0-1 0-2	
6.	On the average, how often did you have sexual intercourse within 1 month prior to the diagnosis?	Once Twice Thrice More than thrice	1 2 3 4	
7.	Has there been any change in the frequency of sexual activity after your diagnosis?	No change Reduced activity Increased activity	0 1 2	
8.	Has there been any change in frequency of sexual activity after disclosure	No change Reduced activity Increased activity	0 1 2	
9.	How many children do you have? (Please state)	[] []		
10.	How many children have you had after knowing your status? (Please state)	[] []		
11.	Was your partner aware of your status during this/these pregnancies?	Yes No	1 0	
12.	Are you using any family planning method currently?	Yes No	1 0	

No	Question	Response	Code	Skip
13	If Yes, please state method			
14.	Do you intend to have any more children in the future?	Yes No	1 0	
15.	If no, do you intend using any family method	Yes No	1 0	

D. DISEASE PROGRESSION AND DISCLOSURE

No.	Questions	Response	Code	Skip
1.	How long have you known your status? please state	[] []		
2.	Quote stage of respondent's disease, trace from folder	[] []		
3.	Quote CD4+ count, trace from folder (attach date)	[] [] [] []		
4.	How many times have you been hospitalized over the past 6 months? (tick as many as apply)	None Once Twice Three times Four times Five times More than five times	0 1 2 3 4 5 6	
5.	In the past 6 months, have you experienced any of the following? (tick as many as apply)	None Chronic Cough Weight Loss Severe Headaches Frequent Diarrhoea Rashes or Skin Disease Oral Thrush Ear Discharge Limb Weakness Frequent Vaginal/ Urethral Discharge Jaundice Abnormal Menses	0 1 2 3 4 5 6 7 8 9 10 11	
6.	Are you on ARTs?	Yes No	1 0	If No, skip to 8

No.	Questions	Response	Code	Skip
7.	How long have you been on ARTs? (state duration in months)	[] []		
8.	In your own estimation, how would you evaluate your health status?	Poor Fair Good Very Good Excellent	0 1 2 3 4	

E. SOCIOECONOMIC STATUS OF RESPONDENTS

1	Does your household have:	YES	NO	
	Electricity?	1	0	
	A radio?	1	0	
	A television?	1	0	
	A video deck or CD/DVD player?	1	0	
	A refrigerator?	1	0	
	A freezer?	1	0	
	A mobile telephone?	1	0	
	A non-mobile telephone?	1	0	
	A Desktop Computer?	1	0	
	A Laptop Computer	1	0	
	A Tablet Computer	1	0	
	A fan?	1	0	
	A bicycle?	1	0	
	A motorbike?	1	0	
	A car?	1	0	
	A tractor?	1	0	
2	Main material of the floor			
		Earth/Sand/Mud	1	
		Wood/Palm/Bamboo	2	
		Cement floor	3	
		Terrazzo	4	
		Ceramic tiles	5	
3	Main source of drinking water for household members			
		River/stream/spring/pond/lake	1	
		Water from open well	2	
		Water from covered well/borehole	3	
		Piped water	4	
		Bottled/sachet water	5	
4	Main method for sewage disposal			
		Dumped around house	1	
		Refuse dump	2	
		Burned/buried	3	
		Car Collection	4	

5	Main toilet facility for household members	No facility/bush	1	
		Pit latrine with slab	3	
		Ventilated Improved Pit latrine (KVIP)	4	
		Flush toilet	5	
6	What type of fuel does your household normally use for cooking?	Firewood	1	
		Saw Dust	2	
		Charcoal	3	
		Kerosene	4	
		LP Gas	5	
		Electricity	6	
		Other _____	7	

Thank You for Your Time.



UNIVERSITY OF GHANA SCHOOL OF PUBLIC HEALTH

INFORMED CONSENT

Title of Study: - **Determinants of Partner Disclosure of HIV Positive Status among Attendants of selected ART Clinics in Accra**

Principal Investigator:

Nana Ama Efurma Andrews, Student, Department of Population, Family and Reproductive Health, School of Public Health, College of Health Sciences, and University of Ghana. Contact: Mobile 0244850140/0206300552; e mail efurma@yahoo.co.uk

General information about the study

The purpose of this study is to find the factors which inform a PLHIV's decision to disclose his status to his partner. It is a requirement for partial fulfilment for my Masters' degree.

Procedures

Service Providers (Nurses, Physician Assistants and Medical Officers) who provide care for PLHIV will be consented and recruited to take part in this study. As a participant (service provider) I will be engaging you in a conversation bordering on partner disclosure (notification) of HIV status as it pertains in your clinic. The interview is expected to last 20 minutes.

Possible Risks and Discomforts

The study may involve some discomfort. You are free to skip any questions you are not comfortable answering.

Possible Benefits

There is no direct benefit to the participants of this study. However, the information you will provide will contribute to overall knowledge on partner disclosure among PLHIV. This will in turn help policy makers and service providers to formulate strategies to facilitate the act of disclosure among clients.

Voluntary Participation and Right to Refuse

Your participation in this study is absolutely voluntary. During the interview, you can choose not to answer any questions that you do not want to answer. Additionally, you are at liberty to withdraw from the study or stop the interview at any time.

Confidentiality and Compensation

We would like to assure you that whatever information you provide will be handled with strict confidentiality, will be used purely for research purposes, and will never be used against you. To ensure anonymity ID numbers will be used for identification instead of names. Data analysis will also be done at the aggregate level to maintain anonymity. Your name or personally identifying information will not be published in any report. There is no compensation for participating in this study.

Your rights as a Participant

If you have any questions about your rights as a research participant, you can contact the Administrator of the GHS Ethical Review Committee, Hannah Frimpong on 0243235225/0507041223.

VOLUNTARY CONSENT

The interview will take an average of 20 minutes and your participation is completely voluntary and you have the right to refuse participation or withdraw from the study at any time.

No penalties or negative consequences will result from your withdrawal. All responses will be treated as confidential as no names will be placed on the testing instrument; neither will it be shown to ANYONE without YOUR permission. However, I hope that you will participate fully since your views on the subject are important. If you want to ask anything more about the exercise, I would be ready to answer.

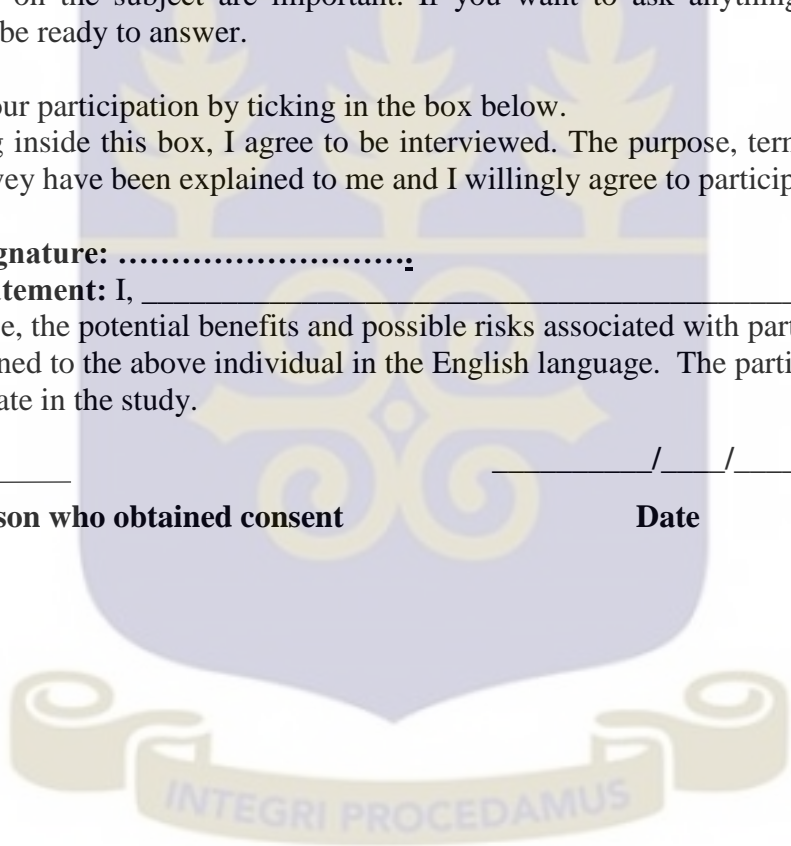
Please confirm your participation by ticking in the box below.

By ticking inside this box, I agree to be interviewed. The purpose, terms and conditions of the survey have been explained to me and I willingly agree to participate

Respondent's Signature:

Interviewer's statement: I, _____, certify that the nature and purpose, the potential benefits and possible risks associated with participating in the study have explained to the above individual in the English language. The participant has freely agreed to participate in the study.

_____/_____/_____
Signature of person who obtained consent **Date**



APPENDIX 3: INTERVIEW GUIDE

Name of Facility- Achimota Hospital- 1

Adabraka Polyclinic-2

Mamobi General Hospital- 3

Mamprobi Polyclinic- 4

Ussher Polyclinic-5

Ridge Hospital- 6

ID No-

Sex of Service Provider-

Rank of Service Provider- Community Health Nurse -1

General Nurse (state rank)-2

Nurse Midwife (state rank)-3

Physician Assistant- 4

Medical Officer-5

Post Qualification Training on Partner Disclosure.....

Interview Guide

Questions

1. What are some of the challenges you face in the provision of health care services to your clients?

Probe for the following

Service-related (logistics), Poor Patient Cooperation, Psycho- social

2. How do your clients behave when the issue of Partner Disclosure comes up for discussion?

Probe for the following

- Who are more likely to disclose- Male or Female
- Willingness to Disclose
- Enquire about health provider's (respondent's) ability to help with disclosure

3. (a) Is the practice of Partner Disclosure a challenge among clients?

(b) In your own estimation why is the lack of Partner Disclosure a challenge in the management of People Living with HIV/AIDS?

Probe for Effect on Transmission, Reinfection and PMTCT

Probe for Effect on Adherence to Medication

Probe for Effect of Building Resistance Strains and resulting treatment failure.

4. What do you think motivates Partner Disclosure of HIV status among People Living with AIDS (PLWA)?

Probe for role of socioeconomic status- Low/High Socioeconomic status prompts disclosure.

Probe for role of Disease Progression- Poor disease prognosis would prompt disclosure

5 (a) What are some of the reasons for Non-Disclosure of HIV Status?

Probe for effect of Partnership Related Factors- Type of Partnership, Risk of Intimate Partner Violence

Probe for effect of Consequence Theories on Disclosure-

- Fear of loss of support (economic)
- Fear of stigma/discrimination
- Fear of abandonment/ divorce
- Fear of accusation of infidelity

(b) What do you think can be done to motivate Partner Disclosure among clients who have not disclosed their status?

6 (a) What are the different kinds of Partner Notification?

(b) With regards to partner notification what do you practice at your clinic?

(c) Have there been instances where you have gone ahead as a service provider to notify a client's partner without his or her consent? What happened and what was the outcome?

7. What role can you play as a service provider to facilitate partner disclosure of HIV Status?

8. Can you describe some of the ethical principles a service provider must always keep in mind regarding partner disclosure or notification?

9. Do you think Ghana needs a law which mandates PLWAs to disclose their status? Explain your position.

10. Any other comment or suggestions with regards to the subject of Partner Disclosure?

Thank You.

APPENDIX 4: PRE-TEST APPROVAL


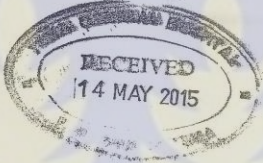
DEPARTMENT OF POPULATION, FAMILY & REPRODUCTIVE HEALTH
SCHOOL OF PUBLIC HEALTH
COLLEGE OF HEALTH SCIENCES
UNIVERSITY OF GHANA

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augankomah@gmail.com
pfrhdepartment@yahoo.com

P O Box LG 13
Legon-Accra
GHANA

11/05/2015

The Medical Director
Tema General Hospital
Tema

Dear Sir/Madam,

LETTER OF INTRODUCTION: NANA AMA EFURMA ANDREWS

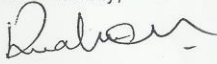
I write to introduce to you **Nana Ama Efurma Andrews**, a Master of Public Health student of School of Public Health, College of Health Sciences, University of Ghana, Legon.

As part of her academic requirement, she is undertaking a Research on the topic: **“Partner Discloser of HIV Status Among ART Attendants of selected ART Clinic in Accra.”** and would therefore need your assistance to pretest her questionnaire in your facility.

Your cooperation with her would be very much appreciated.


Thank you.

Yours faithfully,

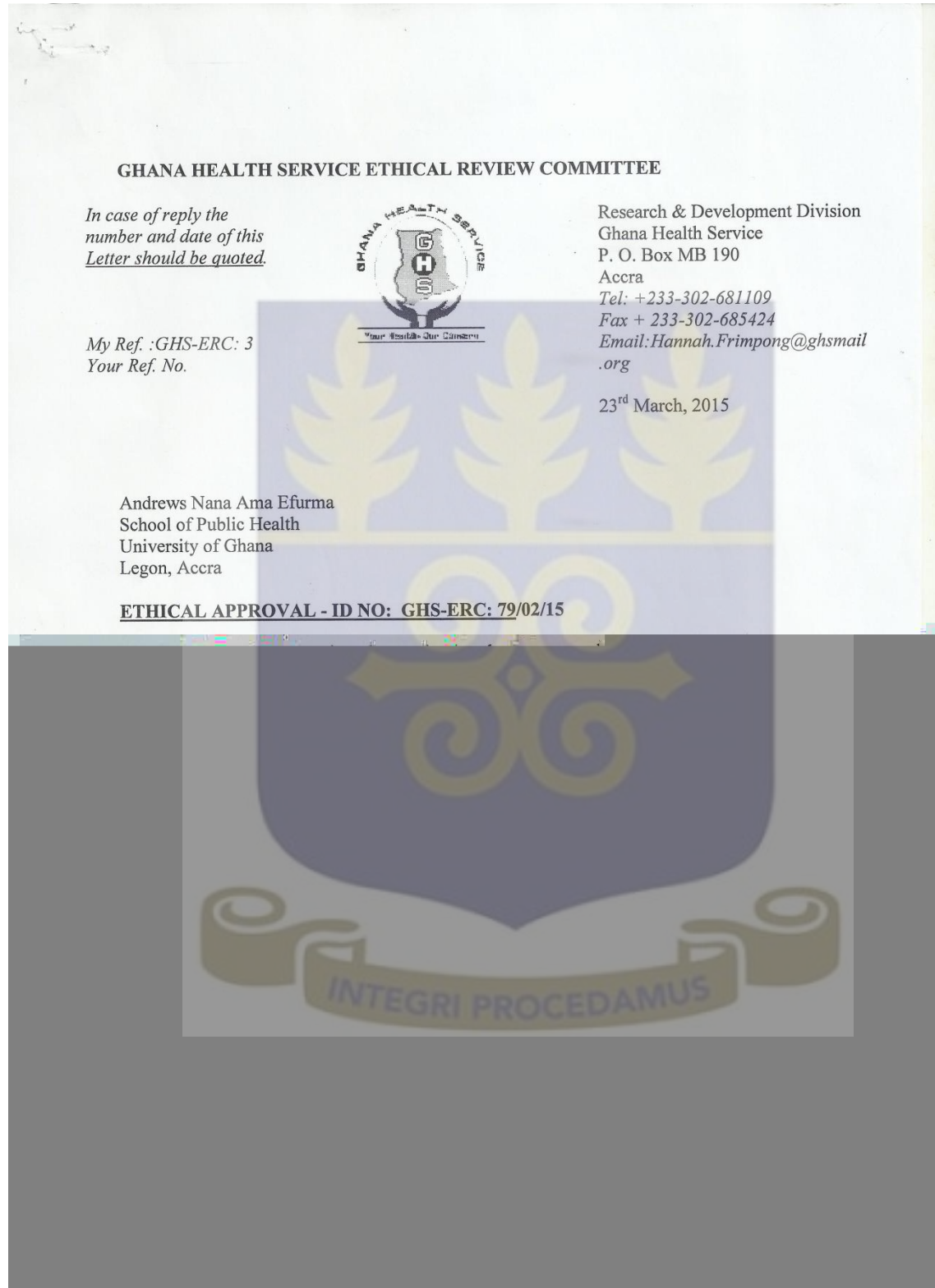

Prof. Augustine Ankomah
(Head of Department)


Dr. Joseph A. Donkor
Public Health Specialist
Tema General Hospital





APPENDIX 5: ETHICAL APPROVAL

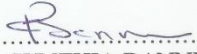


Please note that this approval is given for a period of 12 months, beginning March 23rd 2015 to March 22nd 2016.

However, you are required to request for renewal of your study if it lasts for more than 12 months.

Please always quote the protocol identification number in all future correspondence in relation to this approved protocol

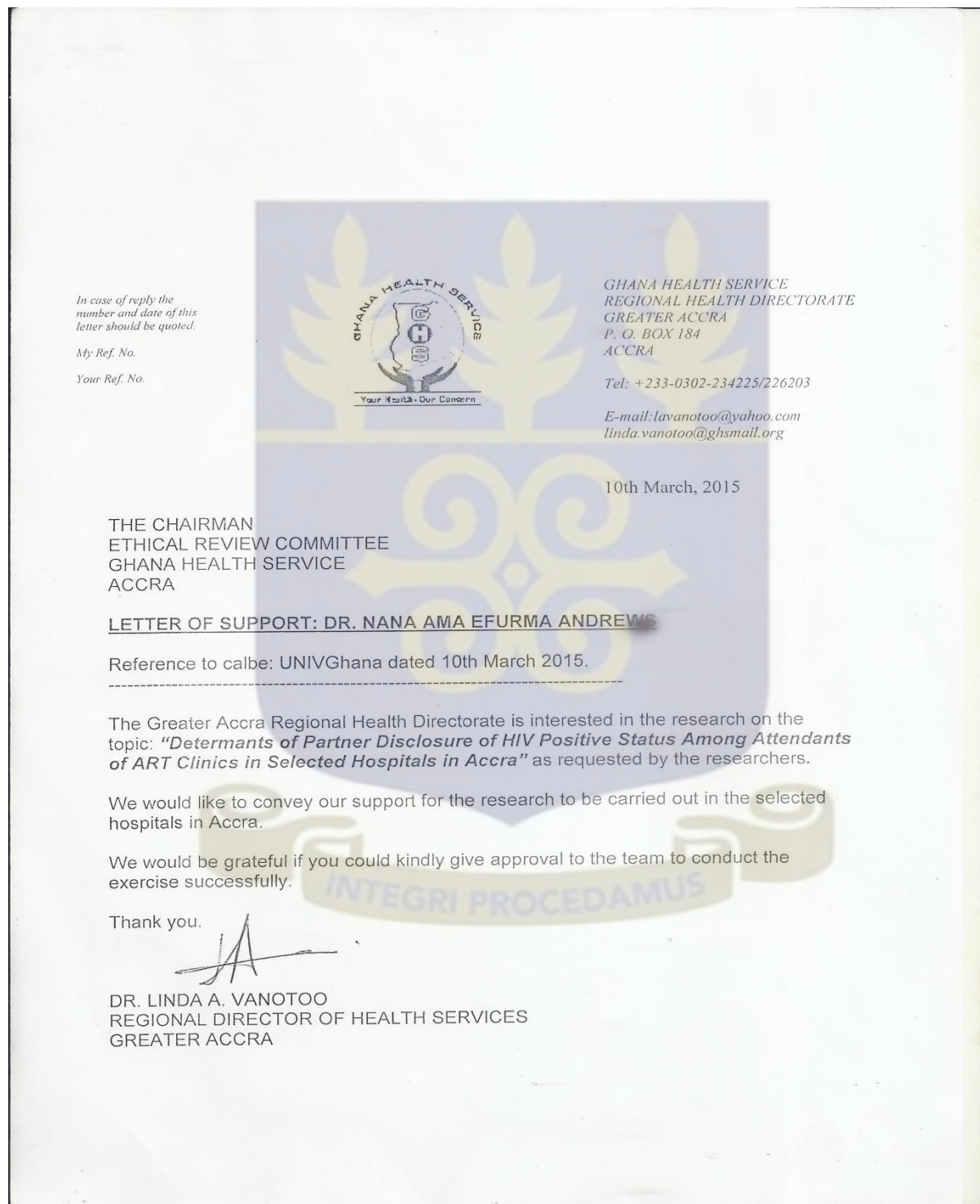
SIGNED.....


DR. CYNTHIA BANNERMAN
(GHS-ERC CHAIRPERSON)

Cc: The Director, Research & Development Division, Ghana Health Service, Accra



APPENDIX 6: REGIONAL APPROVAL LETTER



In case of reply the number and date of this letter should be quoted.

My Ref. No.

Your Ref. No.



GHANA HEALTH SERVICE
REGIONAL HEALTH DIRECTORATE
GREATER ACCRA
P. O. BOX 184
ACCRA

Tel: +233-0302-234225/226203

E-mail: lavanotoo@yahoo.com
linda.vanotoo@ghsmail.org

10th March, 2015

THE CHAIRMAN
ETHICAL REVIEW COMMITTEE
GHANA HEALTH SERVICE
ACCRA

LETTER OF SUPPORT: DR. NANA AMA EFURMA ANDREWS

Reference to calbe: UNIVGhana dated 10th March 2015.

The Greater Accra Regional Health Directorate is interested in the research on the topic: *"Determinants of Partner Disclosure of HIV Positive Status Among Attendants of ART Clinics in Selected Hospitals in Accra"* as requested by the researchers.

We would like to convey our support for the research to be carried out in the selected hospitals in Accra.

We would be grateful if you could kindly give approval to the team to conduct the exercise successfully.

Thank you.

DR. LINDA A. VANOTOO
REGIONAL DIRECTOR OF HEALTH SERVICES
GREATER ACCRA