

**SCHOOL OF PUBLIC HEALTH
COLLEGE OF HEALTH SCIENCE
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**FACTORS ASSOCIATED WITH SERO-STATUS DISCLOSURE AMONG PLWHA IN
LA-NKWANTANANG-MADINA MUNICIPALITY, GREATER ACCRA REGION OF
GHANA**

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**A THESIS SUBMITTED TO THE UNIVERSITY OF GHANA, LEGON IN PARTIAL
FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF AN MPhil IN
APPLIED EPIDEMIOLOGY AND DISEASE CONTROL DEGREE**

INTEGRI PROCEDAMUS

NOVEMBER, 2024

DECLARATION

I declare that with the exception of references to other people's work, which have been duly acknowledged, this research work is my own work done under supervision. I also declare that this research work, partly or in whole, has not been submitted to any University for the award of any degree.

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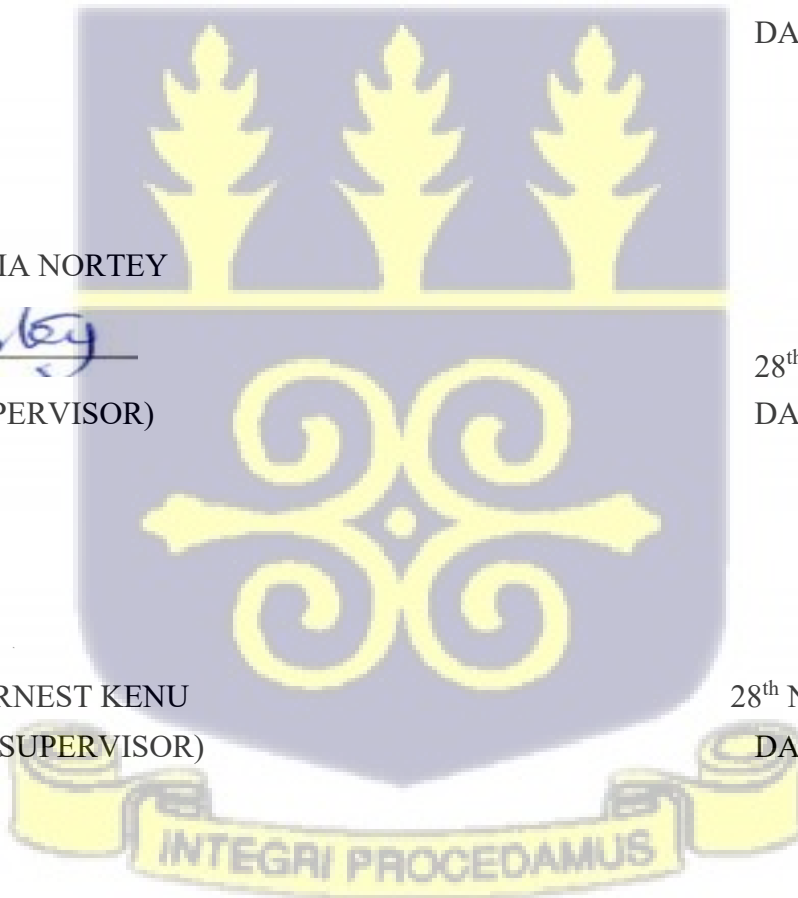
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DEDICATION

I dedicate this work to my family, my supervisors for all their support and cooperation I received throughout the academic year. I love you all.



ACKNOWLEDGEMENT

I acknowledge the invaluable contributions of my Supervisor, Dr. Priscillia Nortey to this piece of work. I thank Professor Anto, the Head of Department, Epidemiology and Disease Control and Professor Ernest Kenu of School of Public Health, University of Ghana, and all teaching and administrative staff of the Ghana Field Epidemiology and Laboratory Training Programme (GFELTP) for their diverse contributions during my study. I am eternally grateful to my family for their support and inspiration whilst I was in school.



ABSTRACT

Background: One of the biggest psychological obstacles PLWHA (People Living with HIV and AIDS) are confronted with is disclosing their HIV status. At the Pentecost Hospital, data analysis in 2023, revealed that out of the 494 HIV Clients currently receiving ART at the facility, only 4% have disclosed their status (Pentecost Hospital, Annual Report, 2023). This study seeks to determine factors associated with sero-status disclosure among PLWHA at the Pentecost Hospital in La-Nkwantanang-Madina Municipality (LANMMA), Greater Accra Region of Ghana.

Methods: The study included all PLWHA, above 18 years who attend ART clinic at Pentecost Hospital. The sample frame was 494 PLWHA attending ART clinic at the Pentecost Hospital. The study used proportionate sampling technique to select 176 females and 56 males from a sampling frame of 494 PLWHA with 375 (76%) females and 119 (24%) males respectively. The required number of people from each stratum was selected using the simple random sampling technique. A pretested questionnaire made up of six (6) sections, was administered to each participant. Analysis of the data was done using STATA version 17. Binary logistic regression model and multivariate analysis was used to identify the factors that are associated with sero-status disclosure.

Results: Two-hundred and thirty-two (232) PLWHA participated in this study. The proportion of sero-status disclosure was 121/232 (52.2%), (95% CI: 45.79%, 58.61%). For socio-demographic characteristics, marriage and income were associated with sero-status disclosure. The results showed that married participants had 2.64 increased odds of disclosing their sero-status compared to single participants, (OR=2.64, 95% CI: 1.45, 4.93, $p=0.002$). In terms of income, individuals with a monthly income of GH¢500- GH¢1000 had a 23% chance of disclosing their HIV status (OR=0.23, 95% CI: 0.05-0.85, $p\text{-value}=0.039$). The study also revealed that the odds of disclosing sero-status was 77% lower among those who disagreed discussing HIV in the community (OR=0.26, 95% CI: 0.11, 0.57, $p\text{-value}=0.001$). Health facility factors were not associated with sero-status disclosure.

Conclusion: This study found 52.2% self reported disclosure rates among PLWHA in the La-Nkwantanang Madina Municipality. The study revealed that being married is associated with sero-status disclosure as well as receiving a monthly income of GH¢500- GH¢1000. For community factors, participants who disagreed discussing HIV within the community were associated with

sero-status disclosure. However, no significant association was found with health facility factors to sero-status disclosure.



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LIST OF ABBREVIATIONS

AIDS	-	Acquired Immunodeficiency Syndrome
ART	-	Antiretroviral Therapy
CDC	-	Center for Disease Control
CHAG	-	Christian Health Association of Ghana
CHPS	-	Community-Based Health Planning and Services
CHW	-	Community Health Worker
CITC	-	Client Initiated Counselling and Testing
DSD	-	Differentiated Service Delivery
GFELTP	-	Ghana Field Epidemiology and Laboratory Training Programme
HIV	-	Human Immunodeficiency Virus
HTS	-	HIV Testing and Counselling
LANMMA	-	La- Nkwantanang Madina Municipality
MSM	-	Men who have Sex with Men
OR	-	Odds Ratio
PITC	-	Provider Initiated Counselling and Testing
PLWHA	-	People Living with HIV and AIDS
PMTCT	-	Prevention of Mother to Child Transmission
PrEP	-	Pre-Exposure Prophylaxis
SNO	-	Senior Nursing Officer
SSA	-	Sub-Saharan Africa
STATA	-	Statistics and Data Software Package for Data Analysis

UNAIDS- Joint United Nations Programme on HIV/AIDS

VCT - Voluntary Counselling and Testing

WHO - World Health Organization



CHAPTER ONE

INTRODUCTION

1.1 Background

According to the World Health Organization (WHO), HIV and AIDS have killed 40.4 million people in 2018 (WHO, 2023). Sub-Saharan Africa (SSA) remains the worst affected region with close to 68% of all HIV cases globally in 2021. There were 650,000 and 120,000 AIDS-related deaths in 2021 and 2022 in SSA (UNAIDS & UNAIDS Global AIDS update, 2023). In 2019, 13,616 people died from AIDS-related deaths in (Ghana's HIV Fact Sheet 2019).

Antiretroviral therapy (ART) has improved the prognosis and quality of life of PLWHA (WHO, 2022). Strategies beyond medical interventions are needed for the effective management of the HIV and AIDS epidemic. The primary focus of HIV prevention strategies, include information sharing about HIV status and raising awareness. These techniques foster relationships that improve patients' psychological well-being by reducing stress and providing a channel for support. They also enable patients to manage physical and psychological morbidities like anxiety and stress more effectively. One of the biggest psychological obstacles PLWHA confront is disclosing their HIV status (Katie Huynh et al., 2024). The quality of HIV Testing Services, WHO stage, viral load, partner's HIV status, number of lifetime sexual partners, membership in an HIV support group, marital status, age, gender, known stigma and discrimination, and intimate partner violence are all factors that have been linked to HIV sero-status disclosure (Shifraew et al., 2021). Globally, HIV sero-status disclosure prevalence in 2023 varies from 16.7% to 86% in developing countries to 16.7% to 100% in developed (Tessema et al., 2023).

Studies involving sero-status disclosure in 2017, among men from 13 European cities reveals that 35% disclosure was reported, Disclosure rates were lowest in three south-eastern European cities due to accurate sero-status knowledge within steady partnerships and testing at the onset of the partnership (Marcus et al., 2017).

In Ethiopia and Togo, studies revealed that only 37% and 60% of the population disclosed their HIV status, respectively. Studies conducted in Uganda found a 95% HIV status disclosure, (Yaya et al., 2019). Sero-status disclosure among PLWHA in the Ho Municipality, in Ghana reveals that disclosure was high (88.7%). Increasing duration on ART increased the odds of disclosure (Agbeko et al., 2022). A study on HIV sero-status disclosure among PLWHA within the Tema Metropolitan Area of the Greater Accra in 2019 revealed that 75% of the sampled respondents had revealed their HIV status and 25% failed to do so (Tawiah et al., 2019).

Despite increased awareness about HIV and AIDS, stigma, violence, and discrimination continue to hinder sero-status disclosure, posing a major obstacle to effective prevention and treatment. (Ismail et al., 2021). Individuals living PLWHA, typically experience social exclusion, rejection anxiety, and the potential loss of relationships upon disclosing their sero-status (Wanjala et al., 2023). Stigmatization is a known factor which contributes to delayed and selective disclosure (Madiba et al., 2021). This hinders optimal preventive strategies for HIV and foster an environment where new infections continue to increase.

Sociocultural norms and societal attitudes towards HIV and AIDS also play an important role in the dynamics of disclosure. While current literature provides insights into the factors influencing sero-status disclosure, the complexities of decision making by PLWHA, the health system factors on disclosure behaviour, interpersonal factors and cultural dynamics require additional assessment.

This study therefore aims to determine the factors associated with sero-status disclosure among PLWHA in La-Nkwantanang-Madina Municipality.

1.2 Problem Statement

Analysis of data at the Pentecost Hospital in the La-Nkwantanang Madina Municipality of the Greater Accra Region of Ghana revealed that out of the 494 HIV clients on ART in 2023, only 20(4%) have disclosed their sero-status (Pentecost Hospital, Annual Report, 2023). Evidence from a study on HIV disclosure among PLWHA within the Tema Metropolitan Area of the Greater Accra in 2019 shows that 75% of the sampled respondents had revealed their HIV status and 25% failed to do so, (Tawiah et al., 2019). Factors found to influence disclosure were fear of victimization, rejection, physical abuse and breach of confidentiality.

In HTS (HIV Testing and Counselling Services), disclosure of sero-status is one of the actions used to prevent and control the spread of HIV (CDC, 2021). The WHO recommends that all HIV positive individuals should disclose their status to their partners, families and friends (World Health Organization, 2015). Disclosure of HIV positive status improves access to care and support, promotes positive health outcomes for people living with HIV and prevents the spread of HIV.

The failure to disclose sero-status can have an impact on both individual and public health initiatives and outcomes. Individuals who conceal HIV positive status experience stigma, drug use, social marginalisation, and self-blame. Non-disclosure of HIV sero-status increases the risk of HIV infection for intimate partners, children and members of the same family. The risk of mother-to-child transmission of HIV is also increased when an HIV-positive spouse's sero-status is not disclosed (Tessema et al., 2023).

To improve health and reduce the risk of transmission sero-status disclosure should be encouraged in HIV prevention and treatment. In Ghana, specifically in the La-Nkwantanang-Madina Municipality inadequate studies have been done to determine the factors associated with sero-status disclosure. Also, only few studies have examined how the health system factors affect sero-status disclosure in the Municipality. To bridge the gap in existing literature, this study seeks to determine factors associated with sero-status disclosure among PLWHA at the Pentecost Hospital in La-Nkwantanang-Madina Municipality, Greater Accra Region of Ghana.



1.3 Conceptual Framework

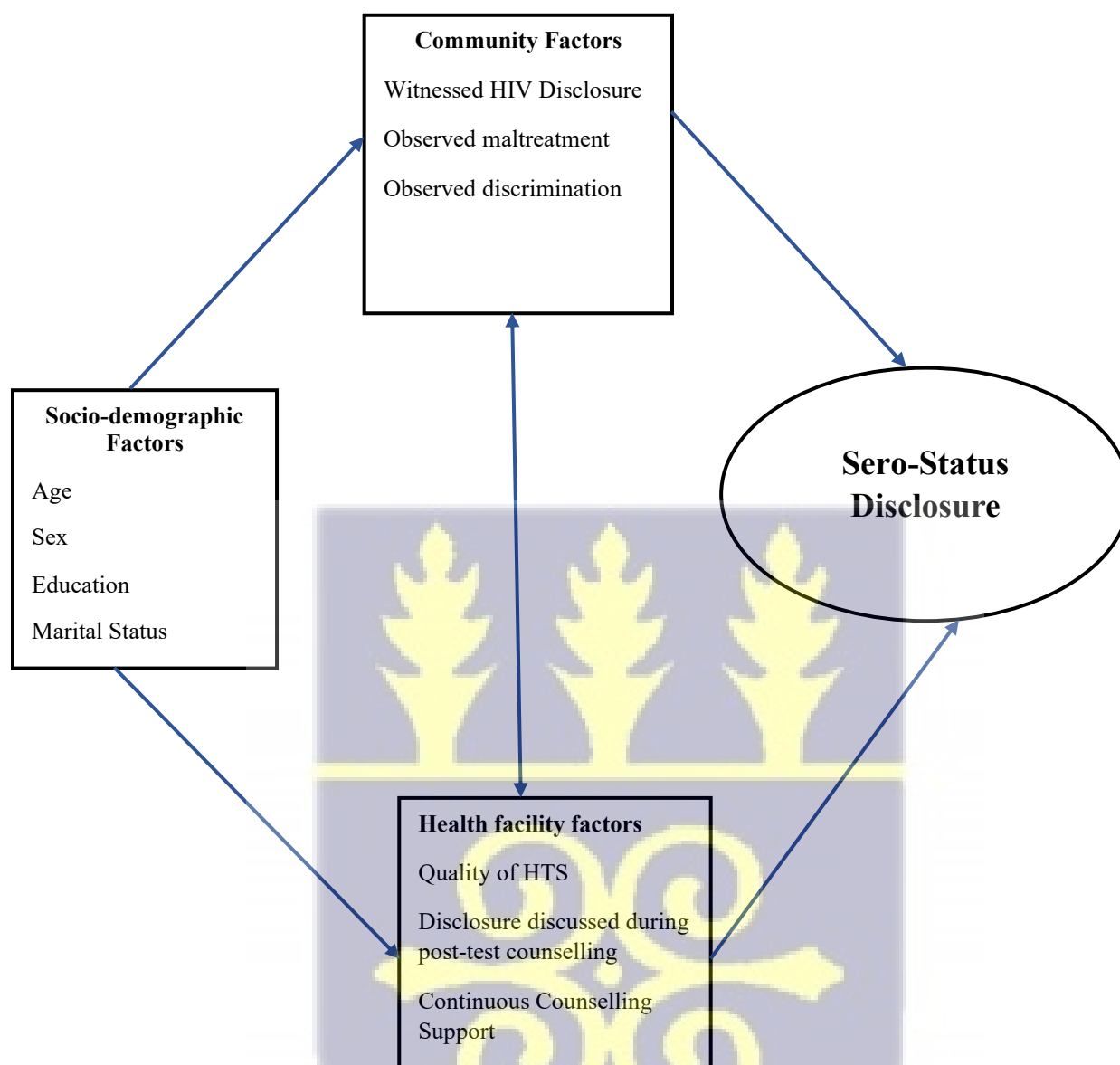


Figure 1: Conceptual Framework showing factors affecting sero-status disclosure among PLWHA in LANMMA

Conceptual framework narrative

The conceptual framework seeks to explain the factors that influence sero-status disclosure among PLWHA. The is framework categorized broadly into three main concepts; socio-demographic, community, and health facility factors.

At the foundation of the concept is socio-demographic factors such as age, sex, education, and marital status. These factors directly influence individual decision-making around disclosure. Younger individuals may have limited autonomy and heightened fear of stigma, while older individuals may perceive disclosure as a means of accessing support. Educational attainment shapes awareness of the benefits of disclosure and coping strategies, whereas marital status determines the immediacy and perceived obligation of disclosure to partners.

Community factors provide the broader social context within which disclosure decisions are made. Observing others disclose their HIV status may normalize the practice and reduce perceived barriers. On the contrary, witnessing maltreatment or discrimination toward persons living with HIV reinforces fear and non-disclosure. These factors reflect the collective attitudes and stigma embedded within communities, which play a crucial role in either facilitating or hindering disclosure.

Health facility factors represent institutional influences on disclosure. The quality of HIV testing services (HTS) determines whether individuals receive adequate information, confidentiality, and trust in the health system. Post-test counselling that specifically addresses disclosure helps individuals with strategies to disclose safely. Continuous counselling and psychosocial support strengthen disclosure by building confidence and providing sustained encouragement.

These factors interact to influence the likelihood of HIV sero-status disclosure. Socio-demographic characteristics shape individual readiness, community experiences define the level of social risk or acceptance, and health facility practices provide the enabling environment and technical support. This framework highlights disclosure as an outcome of a complex interplay between sociodemographic, community and health facility factors.

1.4 Justification of the Study

Disclosure of HIV serostatus is crucial for preventing transmission, maintaining health, and supporting individuals, families, and communities affected by the virus. While disclosing one's HIV status can have far-reaching social implications, it plays a vital role in reducing transmission rates. This study aims to ascertain the factors associated with sero-status disclosure among PLWHA in La-Nkwantanang-Madina Municipality, Greater Accra Region of Ghana, to generate insights to strengthen public health actions. The findings from this study would provide understanding of the factors that are associated with disclosure, that can inform public health actions, which can help promote healthcare delivery, mental health support, counselling and improve the overall well-being of PLWHA.

1.5 Research Questions

1. What is the proportion of sero-status disclosure among PLWHA in La-Nkwantanang-Madina Municipality of Greater Accra Region of Ghana?
2. What are the sociodemographic factors associated with sero-status disclosure among PLWHA in La-Nkwantanang-Madina Municipality of Greater Accra Region of Ghana?
3. What are the community factors associated with sero-status disclosure among PLWHA in La-Nkwantanang-Madina Municipality of Greater Accra Region of Ghana?
4. What are the health facility Factors associated with sero-status disclosure among PLWHA in La-Nkwantanang-Madina Municipality of Greater Accra Region of Ghana?

1.6 Study Objectives

1.6.1 General Objective

To determine the factors associated with sero-status disclosure among PLWHA in La-Nkwantanang-Madina Municipality of the Greater Accra Region, Ghana.

1.6.2 Specific Objectives

1. To determine the proportion of PLWHA who have disclosed their HIV sero-status in the La-Nkwantanang-Madina Municipality, Greater Accra Region, Ghana.
2. To assess the sociodemographic factors associated with sero-status disclosure among PLWHA in La-Nkwantanang-Madina Municipality of Greater Accra Region of Ghana.
3. To ascertain the community factors associated with sero-status disclosure among PLWHA in La-Nkwantanang-Madina Municipality of Greater Accra Region of Ghana.
4. To assess health facility Factors associated with sero-status disclosure among PLWHA in La-Nkwantanang-Madina Municipality of Greater Accra Region of Ghana?



CHAPTER TWO

LITERATURE REVIEW

2.1 Sero-status disclosure

Sero-status disclosure plays an important role in HIV prevention, treatment, and care (Rakesh et al, 2020). HIV positive self-sero-status disclosure is the process and autonomous decision by which an HIV-positive person voluntarily informs another person (be it a sexual partner, family member(s), or friend) of his or her HIV status (Kavuma et al., 2023). Sero-status disclosure promotes open communication about HIV status, informed decision-making and promoting mutual understanding (Eboreime et al., 2021). A study by Davtyan et al., (2023) on the role of internalised HIV stigma in disclosure of maternal HIV sero-status to children perinatally in the United States in 2023 among 915 mothers revealed that, among the 410 children who were not aware of their mother's HIV sero-status, 16% had mothers who planned to never disclose their diagnosis, 27% planned to disclose in the near future, and 42% planned to disclose in the future but "no time soon (Davtyan et al., 2023)."" For children whose mothers intended to disclose in the future, the most common reasons approved as "very much a factor" for intending to disclose were wanting the child to hear it from them and wanting to educate the child about HIV. Sero-status disclosure can be improved by offering support to women in their decision-making over sharing their status with their children and by addressing internalised HIV stigma. Another study conducted in 13 European cities by Marcus et al., (2017) in 2013 and 2014 revealed that 35% of the study participants reported mutual sero-status disclosure (Marcus et al., 2017).

An institution-based cross-sectional study among 380 pregnant women enrolled in antiretroviral therapy in Ethiopia by Tolossa et al., (2021) revealed that, 73.4% had disclosed their HIV status to at least one person (Tolossa et al., 2021). The study discovered domicile, marital status,

husband's HIV status, parity, and educational status as independent determinants of HIV status disclosure. Educating rural women about the significance of disclosing their HIV status in order to secure the assistance of their families and the medical community. It is also important to pay attention to the empowerment of women via education and the active participation of males in HIV treatment and control initiatives.

A descriptive cross-sectional study conducted in Ghana by Adam et al., (2021) revealed a high (79%) rate of sero-status disclosure among PLWHA in the three towns of Hohoe, Kpando, and Dodi Papase (Adam et al., 2021). Among the most important factors for disclosure were social support, ethnicity, religious affiliation, and engagement of healthcare professionals. The results indicate that stigma varies in its effects on people living with HIV and AIDS, and that stigma in the community poses a barrier to HIV status disclosure. Improving PLWHA's social support networks and creating forums in the community that are culturally relevant to inform people about the risks of discrimination and stigma against PLWHA could help lower HIV stigma and encourage HIV status disclosure. Further research is recommended in the effectiveness and ethics of the involvement of healthcare professionals in HIV status disclosure. Another study at the Tema Municipality of the Greater Accra by Tawiah et al., (2019), revealed reveals that 75% of the sampled respondents had revealed their HIV status and 25% failed to do so (Tawiah et al., 2019). A lot of factors were found out to be the reasons for non-disclosure. Key among them is fear of victimization, rejection, physical abuse and breach of confidentiality. The study recommends that the hospital attendants ensure, they listen to and document reactions of PLHIV victims and also organize counselling session for the victims on how to disclose their status immediately to, especially, partners and families. The Government should encourage the existing health institutions to provide friendly sexual and reproductive counselling and testing services.

A study by Ngugi et al., (2019), on data quality challenges facing the HIV surveillance system in the United States revealed that, the data was incomplete and inaccurate (Ngugi et al., 2019) . The study revealed that regular and effective monitoring is key to track, report, and respond to the new HIV epidemiological trends. Similarly, a study by Rice et al., (2018) on strengthening routine data systems in Sub-Saharan Africa revealed that patient monitoring data come from various sources, with varying quality (Rice et al., 2018). Furthermore, District Health Information Systems rely on aggregate data which makes it difficult to access completeness of the data collected. The study emphasizes the need for surveillance systems frequently monitor a person's care pathway from commencement of treatment.

2.2 Prevalence of Sero-Status Disclosure among PLWHA

Several studies have estimated the prevalence of sero-status disclosure among PLWHA. In Europe a study conducted by Marcus et al., (2017) in 13 European Cities in 2017 among European MSM reported a prevalence of 74%, with most of the disclosures occurring among study partners (Marcus et al., 2017). In addition to the type of partner and HIV diagnosis status, no condom use and sexual orientation were positively associated with sero-status disclosure. Based on the findings continuing and increasing test promotion for MSM will increase the prevalence of sero-status disclosure for HIV risk management, particularly within steady partnerships. Another study conducted in Tanzania, among 672 HIV women in Moshi Municipal by Damian et al., (2019) reported a prevalence 66% (Damian et al., 2019). Communication between partners, ever used condoms and awareness of HIV status of the partner were the factors influencing HIV disclosure to partners. Fear of negative events like partners abandoning them or divorce has been reported by 10% of the women who have not disclosed. Regional and district health teams working in HIV prevention and care would need to improvise other means in addition to current methods of

informing partners about HIV testing without exposing women to harm. Another study in Kenya and Uganda among PLHWA in rural communities, using survey data from 1081 PLHIV from 2015 to 2016 in 12 communities by Okorie et al., (2023) in 2023 reported a prevalence of 84% sero-status disclosure (Okorie et al., 2023). Despite the high rates of disclosure in this study, there were psychological, relational, and emotional drawbacks to reporting. Many wished to disclose to others, but feared judgment or guilt for extramarital affairs. The findings demonstrate a need for attention to the differing disclosure experiences and support needs for both women and men in East Africa.

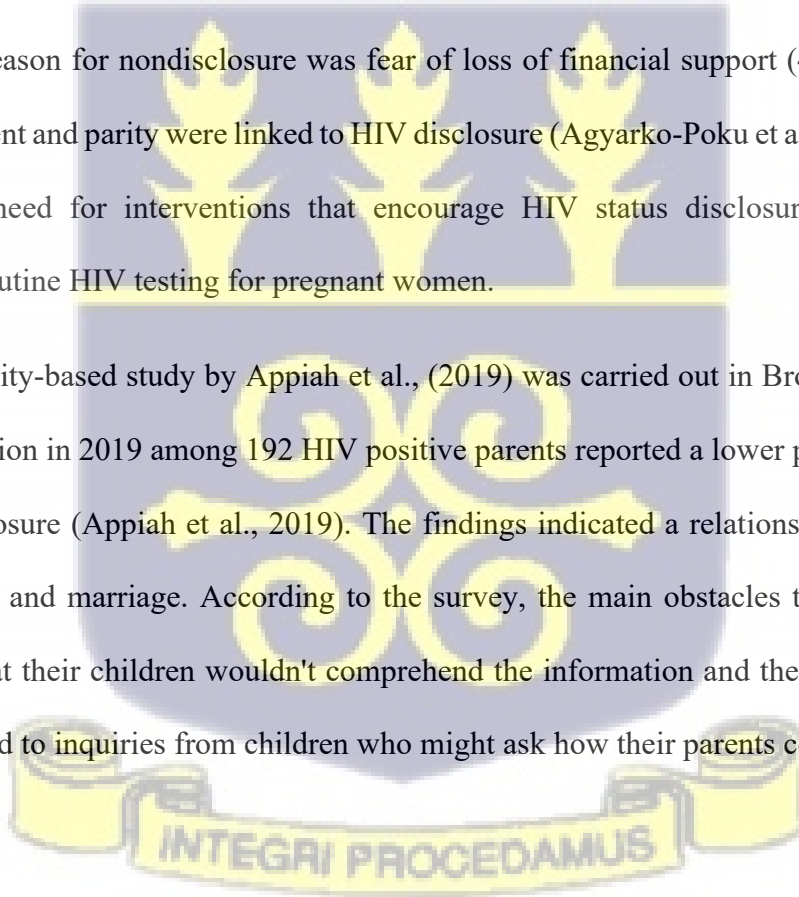
Similarly, facility-based cross-sectional study was conducted among 406 adult HIV-positive clients in Ethiopia, Debre Markos town in 2019 reported a prevalence of 92.6% (Shifraew et al., 2021). Membership in anti-HIV organisations was strongly correlated with disclosing one's HIV status. This experience demonstrates that encouraging mutual partner HIV testing, antiretroviral medication adherence counselling, and health education with a focus on women and rural populations in particular will encourage disclosure. On the contrary another study carried out in Ethiopia revealed that only 37.6% of PLWHA had disclosed their sero-status. Presence of comorbidity, having any clinical symptoms, low quality of life and high social domain related quality of life were associated with their HIV sero-status disclosure. Findings from this study revealed that discloser is more likely when the patient is older, male, and has a higher level of education (Tesfaye et al., 2018). This study revealed the importance of education in encouraging sero-status disclosure.

In Ghana, a cross-sectional study from 301 PLWHA Adam et al., (2021) in three Municipalities reported a prevalence of 79% of the participants had their status disclosed to a family member. However, 21% reported not disclosing their status to anybody to the best of their knowledge. For

those participants whose HIV status was disclosed, 50.5% personally informed the family member about his/her HIV positive status. Social support, ethnicity, and religious affiliation were found to be associated with a high likelihood of HIV status disclosure (Adam et al., 2021). HIV status disclosure is impacted by stigma from the community, although internalised HIV stigma is more common among PLWHA. Reducing HIV stigma in the community may be aided by advancing culturally relevant educational initiatives and fortifying social support networks.

On the contrary, in a cross-sectional hospital-based survey using quantitative methods involving 118 pregnant women with HIV enrolled in the prevention of mother-to-child transmission (PMTCT) in 2019 revealed a disclosure rate of 37% and nondisclosure rate was 62.7%, and the most common reason for nondisclosure was fear of loss of financial support (41.9%). Increased sexual engagement and parity were linked to HIV disclosure (Agyarko-Poku et al., 2021). Findings emphasize the need for interventions that encourage HIV status disclosure and affirm the importance of routine HIV testing for pregnant women.

Similarly, a facility-based study by Appiah et al., (2019) was carried out in Brong Ahafo Region and Ashanti Region in 2019 among 192 HIV positive parents reported a lower prevalence of 11% sero-status disclosure (Appiah et al., 2019). The findings indicated a relationship between sero-status disclosure and marriage. According to the survey, the main obstacles to disclosure were parents' fears that their children wouldn't comprehend the information and their uneasiness with having to respond to inquiries from children who might ask how their parents contracted HIV.



2.3 Factors associated with sero-status disclosure

2.3.1 Socio-demographic Factors

Several factors have been linked to HIV disclosure rates and patterns. HIV disclosure has been found to be correlated with sociodemographic factors such as age, gender, race, ethnicity, education, marital status and education.

Age

A cross-sectional study by Daskalopoulou et al., (2017) in the United Kingdom revealed that there was no significant trend with age in sero-status disclosure (Daskalopoulou et al., 2017). Prevalence of non-disclosure tended to be higher among those aged ≥ 60 years, compared to all other age groups, however older age group were independently associated with non-disclosure with a $p \leq 0.05$. The findings revealed that older people may feel able to better manage HIV without disclosing their status. Furthermore, the earlier years of the HIV epidemic was faced with lots of stigma by the society.

On the contrary, another study to understand HIV disclosure in Manicaland, Zimbabwe, 2009–2013, reported that there were no associations with age for women, but younger men within the age group of 15–29 years were more likely to disclose to family than older men ≥ 30 years. This could be due the fact that younger men within that age bracket are still dependent on parents for their basic needs and are responsible to their parents (Goodwin et al., 2021).

A study by Kumar et al., (2020) on sero-status disclosure in Eastern India revealed a higher rate of 79% disclosure rate in respondents between the age of 30–49 years. The study observed that higher proportion of the respondents aged 30 years and above had disclosed their sero-status compared to those aged below 30 years (Kumar et al., 2020). The findings of this study could be attributed to maturity, sense of responsibility, and commitment of the older people aged 30 years

and above. A study by Gyamfi et al., (2017) carried out a study in Lower Manya Krobo, Ghana to assess disclosure of HIV-status to children and the findings revealed that the age of a child, is associated with disclosure (Gyamfi et al., 2017). This could be due to the fact that they are not psychologically ready to understand and their condition and keep to self.

Education

A study by Ahn et al., (2016), on sero-status disclosure among a cohort of childbearing women in Ukraine reported having full time education as one of the factors affecting sero-status disclosure (Ahn et al., 2016). Psychological factors in in some settings can prevent affect sero-status disclosure. More effort is needed to support disclosure in some groups. On the contrary a study in a community-based HIV programme by Charles et al., (2020) in Tanzania reported HIV status non-disclosure was less likely with higher education (Charles et al., 2020). Evidence from this study shows that improved education will strengthen, support and expanding health insurance coverage appear to improve HIV status disclosure.

In Ghana, a matched case-control study was carried out in Upper East Region among 200 ART patients. The results showed that patients with informal education were more likely to disclose their status, while those who do not have children were less likely to disclose (Atugba et al., 2022). A similar study carried out by Paintsil et al., (2020) in Kumasi and Accra, Ghana among children aged 7 years to 18 years showed that one of the factors associated with sero-status disclosure was level of education (Paintsil et al., 2020).



Marital Status

A cross-sectional study carried out in Ethiopia by Dessalegn et al., (2019), among 742 participants, showed that cohabiting with partner, knowing partner's HIV status, a good relationship with partner, condom use and social support were associated with sero-status disclosure among PLWHA (Dessalegn et al., 2019). The study revealed that contracting HIV from a sexual partner was associated with HIV-positive status disclosure. Also, the results showed that those who stayed with their sexual partners were more likely to disclosure their status compared to those who stayed with their parents (Kavuma et al., 2023). In a cross-sectional study by Damian et al., (2019) in Northern Tanzania among 672 women who are HIV-positive selected from 19 clinics found that marriage and cohabiting were associated with HIV-positive status disclosure (Damian et al., 2019). In Lagos, Nigeria, a cross-sectional study was carried out among women living with HIV and the results showed that failing health and sense of responsibility to spouse were predictors of HIV-status disclosure (Oseni et al., 2017).

Sex

A study among PLWHIV by Lukyamuzi et al., (2022) in Uganda reported that men were 24% more likely to disclose compared to women (Lukyamuzi et al., 2022). This could be due to their financial independence and gender power and less likely to fear financial support implications, gender-based violence.

Similarly, a cross-sectional study was conducted among people living with HIV by John & Chipwaza, (2022) in Tanzania revealed more males disclosed their HIV status than females (John & Chipwaza, 2022). This could be due to financial stability. These findings indicate that more effort is needed to increase and promote the rate of disclosure of HIV sero-status. This can be achieved through health education and awareness creation for both HIV infected individuals and

the community. Medical personnels at voluntary counselling and testing centers should encourage counselling to reduce fear of disclosure. On the contrary, a facility based cross-sectional study by Tawiah et al., (2019) among 300 HIV infected adults reported that males have higher non-disclosure rate compared to females (Tawiah et al., 2019). This could be due to their poor health seeking behaviour or fear of losing loved ones. The government should encourage current health-care institutions to offer friendly sexual and reproductive health services, such as volunteer HIV counselling and testing to encourage sero-status disclosure.

Occupation

Studies by Daskalopoulou et al., (2017), on non-disclosure of sero-status in the United Kingdom revealed that being employed is associated with higher prevalence of non-disclosure (Daskalopoulou et al., 2017). This could be due to discrimination against people living with HIV in the work places. However, the high prevalence of non-disclosure to may be due to fear of stigma and breach of privacy. There is the need for employers to enact clear policies, to show commitment to confidentiality and non-discrimination of HIV-diagnosed employees. On the contrary, a cross-sectional study was conducted among people living with HIV by John & Chipwaza, (2022), in Tanzania reported that participants with informal employment in this study had higher rate of HIV disclosure than unemployed participants (John & Chipwaza, 2022). A similar study by Agbeko et al., (2022) and Alhassan et al., (2023) in Ghana reported that those who were employed were more likely to disclose their HIV status to others than the unemployed (Agbeko et al., 2022) & (Alhassan et al., 2023). This finding explains the fact that economic freedom and self-dependence influences sero-status disclosure, however financial insecurity and fear of unpleasant consequences perhaps explains why persons unemployed are reluctant to be the first to disclose their sero-status.

2.3.2 Community factors affecting sero-status disclosure

A study in Russia by Amirkhanian et al., (2024) reported discrimination in Health facilities as one of the key factors affecting sero-status disclosure (Amirkhanian et al., 2024). Findings from the study revealed that Health service providers who were supposed to know better discriminated against HIV Clients. The findings from the study reveals that Health Personnels should be sensitized on the role they play in supporting PLWHA to disclose their sero-status.

A cross-sectional study by Adam et al., (2021) in 3 Municipalities in Ghana reported that Community-related HIV stigma in the form of gossip accounted for 56.1%, verbal harassment 30.9%, and physical harassment 8.6% of non-disclosure in the three Municipalities (Adam et al., 2021). Furthermore, the study revealed that the participants experienced more verbal compared to physical discrimination, others reported being gossiped about, verbally and physically harassed by their community members. Similarly, a study by Nice et al., (2024) on disclosure and experiences of adolescents and young adults living with HIV in South Africa revealed that 54% of the respondents experienced various forms of stigma in their Schools (Nice et al., 2024). Another study by Armstrong-Mensah E. et al., (2023), on HIV de-stigmatization in the Kumasi Metropolis of Ghana revealed that 90% of respondents experienced stigma in their communities, which made them depressed and ashamed. Community stigma decreases community engagement and reduces Client-Initiated Testing and Counselling (CITC) (Armstrong-Mensah E. et al., 2023). This increases risk of transmission. These findings reinforce the need for broader community stigma reduction by implementing multilevel Interventions. Increasing PLWHA social support networks and creating forums in the community to inform people about the risks of discrimination and stigma against PLWHA can also help lower HIV stigma and encourage HIV status disclosure.

2.3.4 Individual actors associated with sero-status disclosure

Individual factors such as fear of stigma, financial stability, fear of negative outcome, ART adherence and duration can affect sero-status disclosure.

Fear of Stigma

A study by Daskalopoulou et al., (2017) in the United Kingdom, reported that the prevalence of non-disclosure was due to perceived or enacted stigma (Daskalopoulou et al., 2017). These findings are useful to health care professionals to strengthen public education on HIV to reduce stigma. Similarly, a study by Lukyamuzi et al., (2022), in Uganda reported fear of stigma as a factor influencing sero-status disclosure (Lukyamuzi et al., 2022). This could be as a result of lack of education on how HIV is acquired. This study provides evidence that health workers have a substantial role in supporting PLWHA to disclose. Another study by Adam et al., (2021) in Ghana, reported stigma as one of the factors influencing sero-status disclosure (Adam et al., 2021). Findings from the study revealed that PLWHA are faced with various forms of stigma, internalized HIV stigma is prevalent but community-related stigma impacts HIV status disclosure. Strengthening support systems for PLWHA and developing culturally appropriate community forums to educate community members on the effects of danger and discrimination.

Financial Stability

A study by Loutfy et al., (2016) in Latin America, Central and Western Europe and China, revealed that improved well-being is associated with sero-status disclosure (Loutfy et al., 2016). The study revealed that fear of losing financial support affected disclosure. A similar study by Tesfaye et al., (2018) in Ethiopia reported that high social domain was statistically significant and associated with sero-status disclosure (Tefaye et al., 2018).

The findings indicated that financial independence reduces the fear of losing support and encourage disclosure. A cross-sectional study in Uganda by Ngonzi et al., (2019) reported loss of financial support as one of the reasons for non-disclosure (Ngonzi et al., 2019). The findings revealed that support systems should be put in place to help PLWHA to disclose their sero-status without fear.

Fear of negative outcome

A cross-sectional study by Durteste et al., (2019) in Ukraine reported that anticipated public attitude and stigma is associated with sero-status disclosure (Durteste et al., 2019). A similar study by Damian et al., (2019) in Tanzania reported that non-disclosure was as a result of fear of partners divorcing them or running away (Damian et al., 2019). A cross-sectional study by Adam et al., (2021) in three municipalities in Ghana reported fear of rejection as one of the factors affecting disclosure (Adam et al., 2021). The findings indicated that strengthening support systems and appropriate educational interventions will encourage sero-status disclosure.

Adherence and duration of ART

A cross-sectional study at United States clinics by Modi et al., (2020) reported that the odds of disclosure was doubled among participants on treatment and counselling for 6 months (Modi et al., 2020). The study revealed that coping and acceptance were associated with sero-status disclosure. Similarly, a study by Fei et al., (2025) reported a statistically significant association between sero-status disclosure and art treatment. This could be as a result of continuous counselling and acceptance of sero-status (Fei et al., 2025). Another study by Agbeko et al., (2022) in the Ho Municipality, in Ghana revealed that increasing years on ART increased the odds of disclosure (Agbeko et al., 2022). The studies showed that disclosure rate increases with advancing

years on ART in Ghana. Furthermore, the studies provide evidence that, those who adhere often receive encouragement through counselling, not only to adhere but also provide a friendly environment for disclosure of sero-status. Interventions of early sero-status disclosure may require approaches on how PLWHA can cope with and accept their condition.

2.4 Health Service Factors associated with sero-status disclosure

The quality of HIV counselling has been found to be significantly associated with disclosing HIV positive status. Health Service Providers needs to provide quality HIV test counselling as well as continuing it after treatment starts. The last option falls on health care providers and HIV patients to advocate the role of trust and smooth relationships between partners through informed decision making (Yalew et al., (2021). Review by Armstrong-Mensah et al., (2022)to identify progress made in HIV prevention globally, particularly in the areas of Voluntary Counselling and Testing (VCT) showed an increase of in ART coverage of 70%, 84% and 80% in France, Cambodia and Thailand respectively (Armstrong-Mensah et al., 2022). The review emphasizes the increase is as a result of improved counselling, which has reduced the stigma associated with HIV testing and encouraged people to get tested without the fear of being stigmatized, when disclosed. Providing training, support, and supervision of health care personnel to avoid staff burnout and increased workload and ensuring quality HTS will eliminate all forms of HIV-related stigma and impacts HIV preventive efforts. Another study by Dawson-Rose et al., (2020), examined the impact of a peer educator programme for HIV status disclosure in Mozambique revealed that, after the Peer Education disclosure session, 95.4% of participants agreed to disclose their sero-status, although it was not clear if this would be to their primary sexual partner or others (Dawson-Rose et al., 2020). Findings from this study reveals that quality HTS is also essential to disclosure as well as raising awareness of the benefits to individual and public health.

A quasi-experiment by Lukyamuzi et al, (2022) in Uganda among 247 PLWHIV reported an overall disclosure prevalence of 74.4% after Community Health Worker (CHW) support which was 51% higher than those who did not receive CHW support (Lukyamuzi et al, 2022). The study showed that the support of Health workers is vital in supporting disclosure. Therefore, mechanisms should be put in place to provide quality HTS improve disclosure. A similar study in an Institution-based cross-sectional study conducted at public health facilities in Southern Ethiopia participants, reported sero-status disclosure was 90%. Counselling, and perceiving stigma were the independent factors associated with HIV positive status disclosure (Melis Berhe et al., 2020). Similarly, a cross-sectional qualitative study in Uganda by Bukenya et al., (2020), study demonstrated that home-based follow-up counselling increased linkage to care and increased also the rate of sero-status disclosure (Bukenya et al., 2020). Another study among a group of HIV positive women in Uganda by Ngonzi et al., (2019) reported 80% rate of disclosure in less than two months after testing positive (Ngonzi et al., 2019). The main reason for the disclosure was encouragement and support from health workers. Evidence from this study heightened need for more supportive programmes to emphasize the importance of disclosure to enable increased participation in treatment and support programmes to optimizing the positive outcomes of disclosure. Another study in the Ho Municipality by Agbeko et al., (2022) reported a high prevalence of sero-status disclosure. The findings indicated that health workers at HIV health centers played a crucial role in improving disclosure rates by offering guidance on healthy lifestyle choices and providing quality counselling sessions (Agbeko et al., 2022). The findings show how provision of accurate information about HIV care services and support through counselling helps PLWHIV to disclose and manage stigma.

CHAPTER THREE

METHODS

3.1 Study Design

A facility-based cross-sectional study was conducted at the Pentecost Hospital in the La-Nkwantanang-Madina Municipality from May to July 2024. The study investigated factors influencing HIV sero-status disclosure among PLWHA receiving antiretroviral therapy. Primary data were collected using a structured questionnaire, and participants were selected through simple random sampling from clients attending the hospital's ART clinic.

3.2 Study Area

The study was carried out in Pentecost Hospital in the La Nkwantanang-Madina Municipality. The administrative capital of the Municipality is Madina. The Municipality is one of the twenty-nine (29) Municipalities in the Greater Accra Region of Ghana. It is located at the northern part of the Region. It shares borders with Ga East Municipality on the west, Adentan Municipal on the East, Akwapim South Municipality on the north and Accra Metropolitan Assembly on the South.

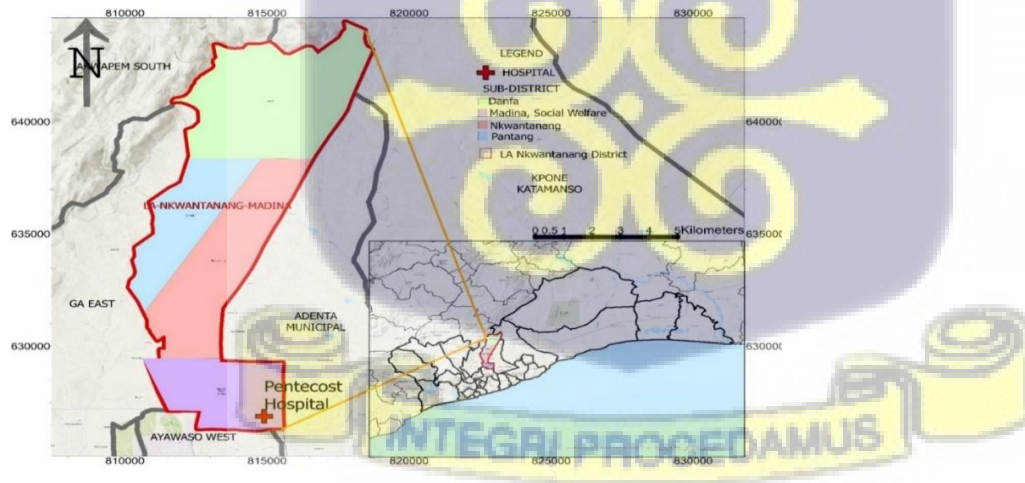


Figure 2: Map of La Nkwantanang-Madina Municipality
Source: La Nkwantanang-Madina Municipal Assembly (2019)

3.2.2 Population Structure

According to the Population and Housing Census (2021), the Municipality has a population size of 244,676 with 120,846 males and 123,830 females with an annual population change of 7.5% between 2010 and 2021 (La Nkwantanang-Madina Municipal Assembly, 2021).

3.2.3 Health Facilities

The Municipality has seventy-one (71) health facilities, including thirty-eight (38) Community Based Health Planning (CHPS), twenty-eight (28) private health facilities. There are four (4) Government facilities, Danfa Health Center, Madina Polyclinic (Rawlings Circle), Madina Polyclinic (Kekele), Pantang hospital and one (1) CHAG facility, the Pentecost hospital that provide ART services in the Municipality. Surveillance data between 2018 to 2023 revealed that the ART clients registered at these facilities are 100,700, 740, 770 and 1030 respectively LANMMA Municipal Health Directorate, (2023).

The Pentecost Hospital is a CHAG facility located in the La Nkwantanang-Madina Municipality. It was formerly called Alpha Medical Centre and it was established in May 1997 by the Church of Pentecost to provide health care to the people in the immediate Madina catchment area and beyond. The hospital was approved by the Government of Ghana and registered with the Christian Health Association of Ghana (CHAG) in 1999. The hospital had been duly accredited by the National Health Insurance Scheme Board. The hospital offers dental services, corporate clinic, paediatric services, laboratory service, out-patient services, radiological services, pharmaceutical services, ophthalmology services, obstetrics and gynaecological services. The hospital also provides Antiretroviral Therapy (ART) services to Forty percent (40%) of clients in the Municipality. The facility implemented Differentiated Service Delivery (DSD) fully in August, 2019 Annual Report, (2019).

The entry points include Provider Initiated Testing and Counselling (PITC) at the Antenatal Care (ANC), wellness clinic, laboratory and ART unit. The facility has a total of 1,695 made of 1,254 females and 441 males on ART. There are ten (10) ART staff, two (2) Senior Nursing Officers (SNO), a Nursing Officer, a Data Analyst and 6 Clinicians. The facility uses two (2) working days in the week as HIV Clinic days but attends to clients that comes daily for their ARV's (Pentecost Hospital Annual Report, 2019).

3.3 Study Population

The study population was all PLWHA who attend ART clinic at Pentecost Hospital.

3.4 Selection Criteria

3.4.1 Inclusion Criteria

1. Males and females HIV positive within the age range of 18 and above.
2. Those who attend ART Clinic at the Pentecost Hospital within the study period.

3.4.2 Exclusion Criteria

1. PLWHA with cognitive impairment.

3.5 Sampling Strategies

The study used proportionate sampling technique to select females and males from a sample frame of 494 PLWHA with 375 (76%) females and 119 (24%) males respectively. The required number of people from each stratum was selected using the Simple Random Sampling technique.

3.6.1 Sample Size Determination

The study used Yamane's Formula (Yamane, 1967) to calculate the minimum required sample size.

$$n = N / 1 + N (e),^2$$

Where; n = sample size

N = population size

e = margin of error.

d = (margin of error) and 5% non-response rate will be used.

$$N = 494$$

$$e = 0.05$$

$$n = 494 / 1 + 494 (0.0025)^2$$

$$n = 494 / 1 + 1.235 = 494 / 2.235$$

$$n = 221.029$$

$$n = 221$$

The minimum sample size (n) was 221

Adjusting for 5% non-response rate; n (final) = $221 + 11 = 232$

Therefore, the final sample size for the study was 232 respondents.

Therefore, sample size for this study is 232.

With a sampling frame of 494 PLWHA, with 375 females (76%) and 119 males (24%) respectively. The study used a total of 232 participants stratified by sex. The proportion of females was calculated as 76% of 232 = 176 and that of males was calculated as 24% of 232 = 56. Simple random sampling was used to select 176 females and 56 males from the sampling frame.

3.6.2 Sampling Method

Simple randomly method was used to select 176 females and 56 males from the 375 females and 119 males respectively. In selecting the females, a unique identification number was assigned to each of the females from 1 to 375. The identification numbers were placed in an excel random number generator to provide 176 unique numbers between 1 and 375. The generated numbers were matched to the corresponding female identification numbers. The females with the matched

identification numbers were selected as part of the sample. For males, a unique identification number was assigned to each of the males from 1 to 119. The identification numbers were placed in an excel random number generator to provide 56 unique numbers between 1 and 119. The generated numbers were matched to the corresponding male identification numbers. The males with the matched identification numbers were selected as part of the sample. This approach enabled all study participants to have an equal chance of being picked for the study. The approach also ensured that a greater degree of representativeness was achieved. Two (2) female participants who had cognitive impairment were replaced by assigning a unique identification number was assigned to each of the females from 1 to 375. The identification numbers were placed in an excel random number generator to provide 2 unique numbers between 1 and 375. The generated numbers were matched to the corresponding female identification numbers.

3.7 Study Variables

3.7.1 Dependent Variable

The study's dependent variable is sero-status disclosure. Details of the dependent variable are presented in Table 3.1.

Table 1: Dependent variables

Variable Name	Definition of Variable	Scale of Measurement	Source of Data
Sero-status disclosure	Disclosing HIV status to another person	Binary 1. Yes 2. No	Questionnaire

3.7.2 Independent Variables

The study's independent variables are socio-demographic factors, intrapersonal factors, interpersonal factors, health related factors and physical violence. Details of the independent variables are presented in tables below.

Table 2:Socio-demographic Factors

Variable Name	Definition	Scale of Measurement	Source of Data
Age	Current age of the respondent in years	Continuous	Questionnaire
Sex	The sex of the respondent	Binary 1. Male 2. Female	Observation
Educational Status	Highest level of educational attainment of the respondent	Categorical 1. No formal education 2. JHS 3. SHS 4. Vocational 5. Tertiary 6. Masters 7. PhD	Questionnaire
Occupation	Current occupation of the respondent	Binary 1. Employed 2. Unemployed	Questionnaire
Marital Status	Current marital status of the respondent	Categorical 1. Single 2. Cohabiting 3. Married 4. Divorced 5. Widow/Widower	Questionnaire



Table 3:Community Factors

Variable Name	Definition	Scale of Measurement	Source of Data
Witnessed HIV Disclosure	Respondent having seen others publicly disclose their HIV status.	Binary 1. Yes 2. No	Questionnaire
Observed maltreatment	Respondent witnessing unfair or harmful treatment of PLWHA.	Binary 1. Yes 2. No	Questionnaire
Observed discrimination	Respondent witnessing stigma or discriminatory behaviours against PLWHA.	Binary 1. Yes 2. No	Questionnaire

Table 4: Health Service Factors

Variable Name	Definition	Scale of Measurement	Source of Data
Access pre-test counselling	Respondent received counselling before deciding to have the HIV test.	Binary 1.Yes 2.No	Questionnaire
Access post-test counselling	Respondent received counselling after HIV testing, including guidance on disclosure	Categorical 1. Poor 2. Fair 3. Good 4. Excellent	Observation
Disclosure discussed during post-test counselling	Respondent counselled on disclosure during post-test counselling	Binary 1.Yes 2.No	Questionnaire
Continuous Counselling Support	Respondent receives continuous counselling after receiving test result.	Binary 1.Yes 2.No	Questionnaire

3.8 Data Collection

A structured questionnaire was used to collect primary data at one point in time from the study participants who agreed to be part of the survey. Each of the study participant was given a questionnaire-based interview using Google forms software. Data collection was been done in person, within the confines of the ART unit. Data collection from each participant lasted be between 15 to 20 minutes daily on Pentecost Hospital premises. All questions were explained thoroughly to avoid misunderstanding and misinterpretations.

3.8.1 Data Collection Tool

A questionnaire made up of five (5) sections was used for data collection. The first section collected data on socio-demographic characteristics, the second on sero-status disclosure, the third on personal factors, the fourth on community factors, the last section on health-related factors. The data collection tool was used to make compilation for statistical analysis easy. The questionnaire was prepared in English but questions were asked in English and Twi.

3.8.2 Pretesting

The questionnaires for this study were pretested among 30 PLWHA at the Madina Polyclinic, Kekele. This facility is also located in the La Nkwantanang-Madina Municipality. This facility also has ART clinic that provide care and services to PLWHA hence they had similar characteristics as the study participants in Pentecost hospital. The questionnaire was pretested among them but they were not part of the final study. Carrying out the pretesting helped to modify income inquiry to ranges to address respondents' concerns about privacy and confidentiality.

3.8.3 Quality Assurance

Each filled questionnaire was assessed by the Research Supervisor to ensure the study objectives can be achieved by the questions. Completeness of data was ensured by the Principal Investigator

(PI). At the close of each day the data collection tool was reviewed for accuracy and completeness. Anomalies were identified and plans made for the next day.

3.8.4 Validity and Reliability

Questionnaires completed for the day were reviewed to ensure that they were fully filled out and free from errors.

3.8.5 Data Processing and Analysis

Data collected was cleaned and entered into Microsoft excel spreadsheet. The processed data was imported into STATA version 18 for analysis. Frequencies and percentages were computed for socio-demographic, community and health facility factors to provide a clear overview of the study population. Measure of central tendency (mean and standard deviation) were generated for continuous variables to describe the distribution and variability within the data. Binary logistic regression was used to examine the relationship between socio-demographic, community, health facility factors and sero-status disclosure. This allowed the identification of potential predictors. Multivariate logistic regression was employed to identify independent factors associated with sero-status disclosure, while controlling for confounding variables. Results were presented in tables and charts to enhance clarity, with percentages, ranges, standard deviations, odds ratios, and 95% confidence intervals reported to facilitate interpretation of both descriptive and inferential findings.

3.9 Ethical Considerations

Ethical approval for the study was granted by the Ghana Health Service Ethical Review Committee with the protocol identification number, GHS-ERC 031/03/24. Academic approval was given by the authorities of School of Public Health. Permission to carry out the study in the Municipality was obtained from the La Nkwantanang-Madina Assembly, La Nkwantanang-Madina Municipal Health Directorate and Pentecost Hospital (Appendix IV).

3.9.1 Consenting Process

The purpose of this study was explained to each study participants and a written informed consent was given to each participant to endorse if they are willing to participate in the study (Appendix II).

3.9.2 Voluntary Consent/Withdrawal

Participants were informed that participation in the study is voluntary. There was no form of coercion to force participants into the study. Participants were made aware that they have the right to withdrawal from the study any point in time.

3.9.3 Risks and Benefits

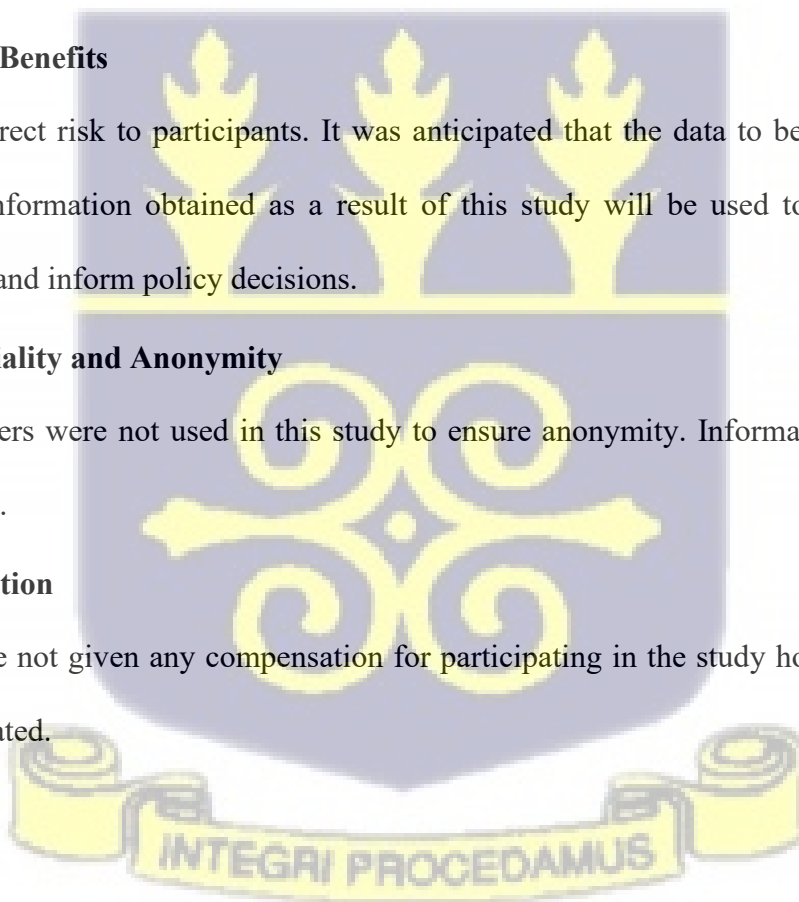
There was no direct risk to participants. It was anticipated that the data to be collected will be sensitive. The information obtained as a result of this study will be used to improve current HIV/AIDS care and inform policy decisions.

3.9.4 Confidentiality and Anonymity

Personal identifiers were not used in this study to ensure anonymity. Information obtained was kept confidential.

3.9.5 Compensation

Participants were not given any compensation for participating in the study however, they were verbally appreciated.



3.9.7 Data Storage and Usage

Data was stored on an encrypted laptop hard drive and a duplicate of the data with password protected on a pen drive. All collected data was stored safely. Access to the data was given to only the PI and research supervisor

3.9.8 Results Dissemination

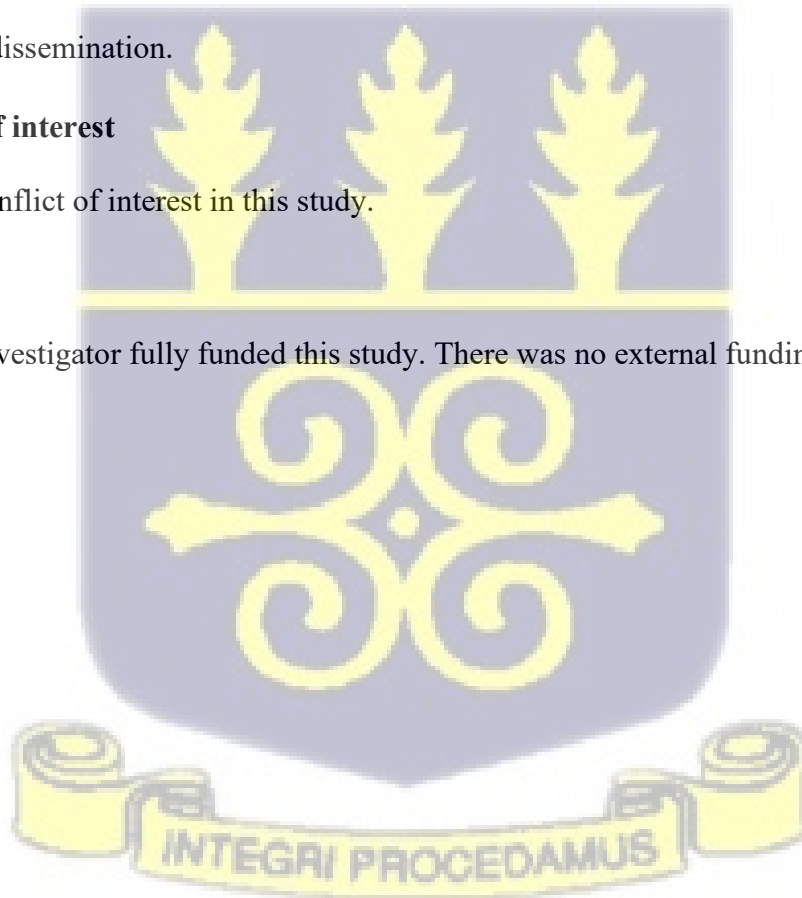
Research findings would be shared with the University of Ghana, School of Public Health, the stakeholders, Ghana AIDS Commission, the La-Nkwantanang-Madina Municipal Health Directorate and the Pentecost Hospital. Furthermore, the research findings would be submitted for publication in a peer-reviewed journal to contribute to the existing body of knowledge and facilitate wider dissemination.

3.9.9 Conflict of interest

There was no conflict of interest in this study.

3.9.10 Funding

The Principal Investigator fully funded this study. There was no external funding.



CHAPTER FOUR

RESULTS

This study was a cross-sectional study conducted from May to July, 2024 at the Pentecost Hospital. The study's population was made up of 232 People Living with HIV and AIDS (PLWHA) aged 18 years and above who are receiving Antiretroviral Therapy (ART) at the Pentecost Hospital. A questionnaire was used to collect data from study participants. Data collection was done from 10th May to 10th July and lasted about 20 minutes per participant.

4.1 Socio-demographic characteristics of PLWHA in La-Nkwantanang Madina Municipality (LANMMA)

Out of 232 participants enrolled into the study, 24.1% (56/232) were males. The ages of the respondents were 18 years and above with a mean age of 37.0 ± 11 years. In terms of educational status, 36.0% (79/232) of respondents had attained secondary educational status with 9.1% (21/232) of the respondents having no formal education as shown in Table 5 below. Approximately, 47% (111/232) of respondents were single with 5.2% (12/232) either divorced or widowed. Ninety percent 90% (85/94) said they were married or cohabiting. Among the 232 respondents, 54.1% (127/232) were self-employed with 24.3% being salary workers as well as 21.6% being unemployed as shown in the Table 5 below.



Table 5: Socio-demographic characteristics of People Living with HIV and AIDS (PLWHA) in La-Nkwantanang Madina Municipality (LANMMA)

Variables	Total Observations (n)	Number, n (%)
Age ($\pm$SD years)		37 ($\pm$ 11)
Age group (years)	232	
18-29		67 (28.9)
30-39		81 (34.9)
40-49		52 (22.4)
50 and above	232	32 (13.8)
Sex of respondent		
Male		56 (24.1)
Female		176 (75.9)
Educational level	232	
No formal education		21 (9.1)
Primary		40 (17.2)
JHS		50 (21.6)
SHS/VT		79 (34.1)
Tertiary	232	42 (18.1)
Marital status		
Single		111 (47.8)
Married		76 (32.8)
Cohabiting		18 (7.8)
Divorced/ separated		12 (5.2)
Widowed		15 (6.5)
If married/cohabiting, are you living together	94	
Living with partner		85 (90.4)
Not living with partner		9 (9.6)
Employment status	232	
Unemployment		44 (19.0)
Government employee		13 (5.6)
Private Company		48 (20.7)
Self-employment		127 (54.7)
Monthly Income (GHC)	190	
< 500		11 (5.8)
500-1000		87 (45.8)
> 1000		92 (48.4)
Source of Upkeep	231	
Self-Support		126 (54.5)
Rely on others		105 (45.5)
Persons who assist you financially	104	
Children		8 (7.7)
Family members		25 (24.0)
Husband/ Spouse		13 (12.5)
Siblings		7 (6.7)
Spouse/partner		51 (49.0)

SD: Standard deviation

4.2 Proportion of sero-status disclosure among PLWHA in the LANMMA

Approximately 52.2% (121/232), of participants disclosed their sero-status, (95% CI: 45.79%, 58.61%). Figure 4 shows the proportion of sero-status disclosure and the reasons for non-disclosure among PLWHA in the LANMMA. Out of the number that disclosed their sero-status 117, mentioned who they disclosed to. Majority of respondents, 58.7% (71/117) disclosed to spouse/partner, 33.1% (40/121) disclosed to a relative and 5.2% (6/117) disclosed to friends and others. Out of 111 respondents who did not disclose their status, 95.5% (106/111) stated reasons which prevented them from disclosing their status. Majority 49.5% (55/106) expressed worry about others finding about their status. Table 6 shows the details of sero-status disclosure among PLWHA in the LANMMA. About 69.8% (162/232) of respondents got to know their status through provider-initiated counselling and testing. Table 6 shows the details of sero-status disclosure among PLWHA of the participants in the study.

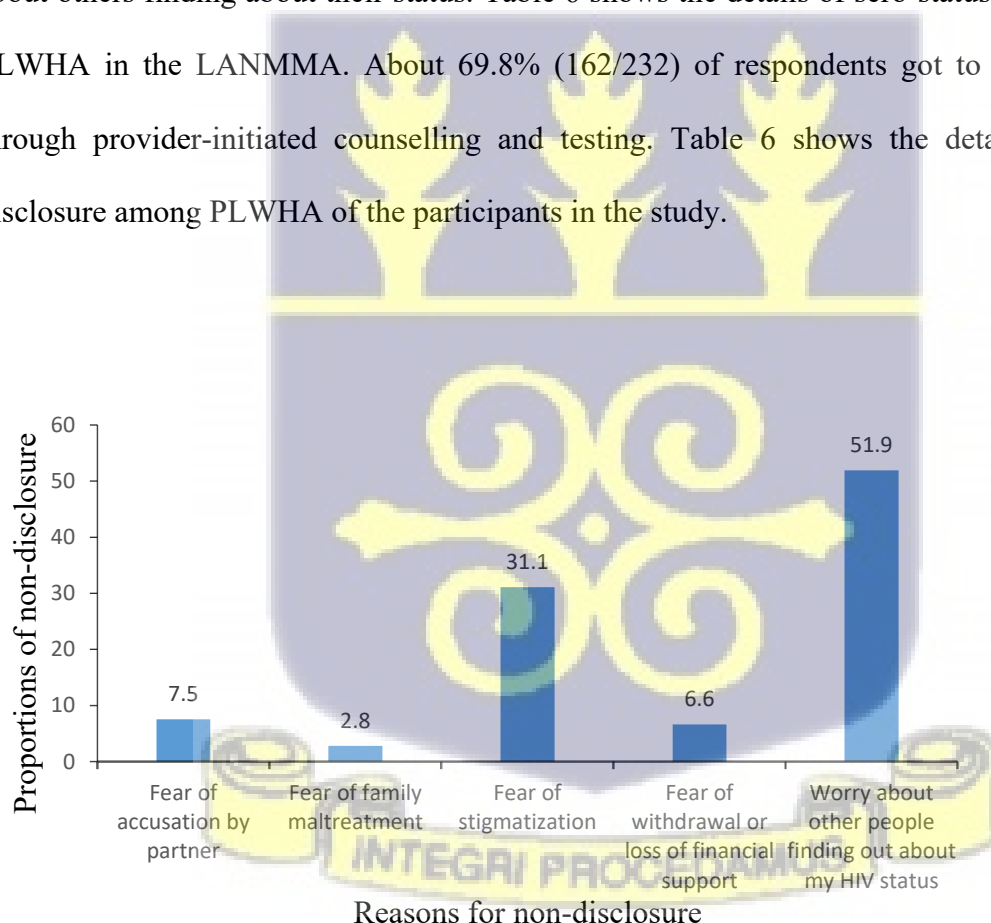


Figure 3: Reasons for non-disclosure among PLWHA in the La-Nkwantanang Madina Municipality

Table 6: Sero-status disclosure of People Living with HIV and AIDS (PLWHA) in La-Nkwantanang Madina Municipality (LANMMA)

Variable	Total Observation (n)	Number, n (%)
Reason for testing for HIV	232	
Screening/Voluntary testing		162 (69.8)
ANC/ PMTCT		65 (28.0)
Infection of close relative		5 (2.2)
Sero-status Disclosure	232	121 (52.2%)
Disclosed		111 (47.8)
Not disclosed		
People Disclosed to	117	
Spouse/ partner		71 (60.7)
Close relative		21 (17.9)
Parent/guardian		12 (10.3)
Siblings		5 (4.3)
Close friend		3 (2.6)
Other		3 (2.6)
Reaction of disclosed persons	117	
She/he was understanding		85 (72.6)
Sadness		19 (16.2)
He/she was shocked		9 (7.7)
He/she cried		2 (1.7)
Anger		2 (1.7)
Reasons for non-disclosure	106	
Worry about other people finding out about my HIV status		55 (51.9)
Fear of stigmatization/discrimination		33 (31.1)
Fear of accusation/condemnation by partner of infidelity		8 (7.5)
Fear of withdrawal or loss of support		7 (6.6)
Fear of family maltreatment		3 (2.8)
Reasons for treatment monitoring persons	58	
He/ She is trustworthy		34 (58.6)
He/ She provides care and support		20 (34.5)
He/she is HIV positive		3 (5.2)
Treatment monitor is a social relation/relative (partner/spouse)		1 (1.7)

4.3 Socio-demographic characteristics associated sero-status disclosure among PLWHA in LANMMA

The table 7 shows a binary logistic regression analysis showing associations between socio-demographic factors and disclosure of HIV status. The results showed that there was no significant association between belonging to any age group and disclosure of HIV status. In terms of educational level, the study found no significant association with disclosure of HIV status. Individuals with tertiary education had an 82% higher likelihood of disclosing their HIV status (OR=1.82, 95% CI: 0.62-5.37, *p-value*=0.273) as compared to individuals with no formal education.

Marital status was found to be significantly associated with disclosure of HIV status, with a *p-value* of 0.011. Married individuals had 2.64 times odds of disclosing their HIV status (OR=2.64, 95% CI: 1.45-4.93, *p-value*=0.002) as compared to those who are single. Among individuals who reported being married or cohabiting, the study examined whether living with their partner was associated with disclosure of their HIV status. The results showed that there was no significant association between living together with a partner and disclosure of HIV status among those who were married or cohabiting (OR=4.83, 95% CI: 0.83-91.7, *p-value*=0.153). In terms of income, the study found a significant association with disclosure of HIV status, with a *p-value* of 0.001. Individuals with a monthly income of GHC500- GHC1000 had a 23% chance of disclosing their HIV status (OR=0.23, 95% CI: 0.05-0.85, *p-value*=0.039). The study found no significant association between current financial situation and disclosure of HIV status, with a *p-value* of 0.290. Individuals relying on others for financial support had a higher likelihood of disclosing their HIV status (OR=1.32, 95% CI: 0.79-2.23, *p-value*=0.290).

Table 7: Association between Social-demographic factors and Sero-status disclosure People Living with HIV and AIDS (PLWHA) in La-Nkwantanang Madina Municipality (LANMMA)

Characteristic	Disclosed (%)	Undisclosed (%)	cOR	95% CI	p-value
Age group (years)					0.902*
18-29	29 (24.0)	38 (34.2)	Ref	—	
30-39	46 (38.0)	35 (31.5)	1.72	0.90, 3.33	0.103
40-49	29 (24.0)	23 (20.7)	1.65	0.80, 3.46	0.178
50 and above	17 (14.0)	15 (13.5)	1.49	0.64, 3.49	0.360
Sex of respondent					0.949*
Male	34 (28.1)	22 (19.8)	Ref	—	
Female	87 (71.9)	89 (80.2)	0.63	0.34, 1.16	0.143
Educational level					0.079*
No formal education	11 (9.1)	10 (9.0)	Ref	—	
Primary	14 (11.6)	26 (23.4)	0.49	0.16, 1.43	0.193
JHS	25 (20.7)	25 (22.5)	0.91	0.32, 2.53	0.855
SHS/VT	43 (35.5)	36 (32.4)	1.09	0.41, 2.86	0.867
Tertiary	28 (23.1)	14 (12.6)	1.82	0.62, 5.37	0.273
Marital status					0.640*
Single	50 (41.3)	61 (55.0)	Ref	—	
Married	52 (43.0)	24 (21.6)	2.64	1.45, 4.93	0.002
Cohabiting	9 (7.4)	9 (8.1)	1.22	0.44, 3.35	0.696
Divorced/ separated	5 (4.1)	7 (6.3)	0.87	0.24, 2.90	0.823
Widowed	5 (4.1)	10 (9.0)	0.61	0.18, 1.84	0.394
Living together with partner					0.266*
Living with partner	53 (86.9)	32 (97.0)	Ref	—	
Not living with partner	8 (13.1)	1 (3.0)	4.83	0.83, 91.7	0.146
Employment status					0.704*
Unemployment	20 (16.5)	24 (21.6)	Ref	—	
Government employee	9 (7.4)	4 (3.6)	2.70	0.76, 11.2	0.140
Private Company	25 (20.7)	23 (20.7)	1.30	0.57, 2.98	0.526
Self-employment	67 (55.4)	60 (54.1)	1.34	0.67, 2.69	0.404
Income (GHC)					0.008*
< 500	8 (7.9)	3 (3.4)	Ref	—	
500-1000	33 (32.7)	54 (60.7)	0.23	0.05, 0.85	0.039
> 1000	60 (59.4)	32 (36.0)	0.70	0.15, 2.62	0.621
Current financial situation					0.403*
Myself	62 (51.2)	64 (58.2)	Ref	—	
Rely on others	59 (48.8)	46 (41.8)	1.32	0.79, 2.23	0.290
Reason for testing for HIV					0.937*
ANC/ PMTCT	38 (31.4)	27 (24.3)	Ref	—	
Screening/Voluntary testing	79 (65.3)	83 (74.8)	0.68	0.38, 1.21	0.187
Infection of close relative	4 (3.3)	1 (0.9)	2.84	0.39, 57.3	0.362

Note: *p< 0.05, OR: Odds Ratio, CI: Confidence Interval

4.4 Community associated with sero-status disclosure among PLWHA in LANMMA

The binary logistic analysis of community related factors and HIV disclosure is shown on the Table 8 below. Individuals who reported being comfortable discussing HIV in their community were more likely to disclose their HIV status. Specifically, those who disagreed with the statement had 26% lower odds of disclosing their HIV status (OR=0.26, 95% CI: 0.11-0.57, *p-value*=0.001) compared to those who agreed. Not experiencing discrimination in the community was not significantly associated with disclosure of HIV status, though with 0.73 times odds as compared to those experiencing discrimination (OR=0.73, 95% CI: 0.29-1.77, *p-value*=0.495). Among those who experienced discrimination, the type of discrimination experienced was not significantly associated with disclosure of HIV status.



Table 8: Community factors associated with sero-status disclosure People Living with HIV and AIDS (PLWHA) in La-Nkwantanang Madina Municipality (LANMMA)

Characteristic	Disclosed (%)	Undisclosed (%)	cOR	95% CI	P-value
Comfortable discussing HIV in the community					0.027*
Agree	27 (22.3)	10 (9.0)	Ref	—	
Neutral	2 (1.7)	3 (2.7)	0.25	0.03, 1.70	0.156
Disagree	64 (52.9)	90 (81.1)	0.26	0.11, 0.57	0.001
Strongly disagree	28 (23.1)	8 (7.2)	1.30	0.45, 3.87	0.634
Experienced discrimination in my community					
Experience discrimination	13 (10.7)	9 (8.1)	Ref	—	
Did not experience discrimination	108 (89.3)	102 (91.9)	0.73	0.29, 1.77	0.495
Type of discrimination experienced in community			Ref		
Derogatory language	11 (84.6)	9 (100.0)	—	—	
Exclusion from community activities	2 (15.4)	0 (0.0)	—	—	
Perceived reactions from community members					0.001*
Friends informed others	1 (3.8)	2 (1.9)	Ref	—	
Fear of losing friends	1 (3.8)	1 (0.9)	2.00	0.04, 12.0	0.711
Friends indifferent towards me	1 (3.8)	10 (9.4)	0.20	0.01, 6.48	0.318
Stigmatization/ Discrimination	15 (57.7)	87 (82.1)	0.34	0.03, 7.69	0.397

Note *p < 0.05, OR: Odds Ratio, CI: Confidence Interval



4.5 Health facility factors associated with sero-status disclosure among PLWHA in LANMMA

The study examined the associations between various healthcare-related factors and the disclosure of HIV status as shown in table 9 below. Participants who perceived their healthcare provider's attitude as accepting had 5% increased odds (OR=1.05, 95% CI: 0.53-2.09, *p-value*=0.882) compared to those who perceived their healthcare provider's attitude as supportive. Experiencing discrimination by healthcare providers was not significantly associated with disclosure of HIV status (OR=0.54, 95% CI: 0.07-2.81, *p-value*=0.478). The availability of HIV counseling services at the facility was also not significantly associated with disclosure of HIV status (OR=0.45, 95% CI: 0.02-4.80, *p-value*=0.522).

Receiving services together with other patients was not significantly associated with disclosure of HIV status (OR=0.54, 95% CI: 0.02-5.72, *p-value*=0.618). Similarly, receiving ART services in a secluded area was not significantly associated with disclosure of HIV status (OR=1.86, 95% CI: 0.18-40.4, *p-value*=0.613). Participants who were comfortable discussing HIV issues had an odds ratio of 2.37 (95% CI: 0.50-16.8, *p-value*=0.309) compared to those who were not comfortable. Awareness of support groups was also not significantly associated with disclosure of HIV status (OR=0.64, 95% CI: 0.37-1.10, *p-value*=0.109). Affiliation with support groups, such as Mentor Mothers or Model of Hope, was not significantly associated with disclosure of HIV status (OR=1.35, 95% CI: 0.40-4.55, *p-value*=0.623).

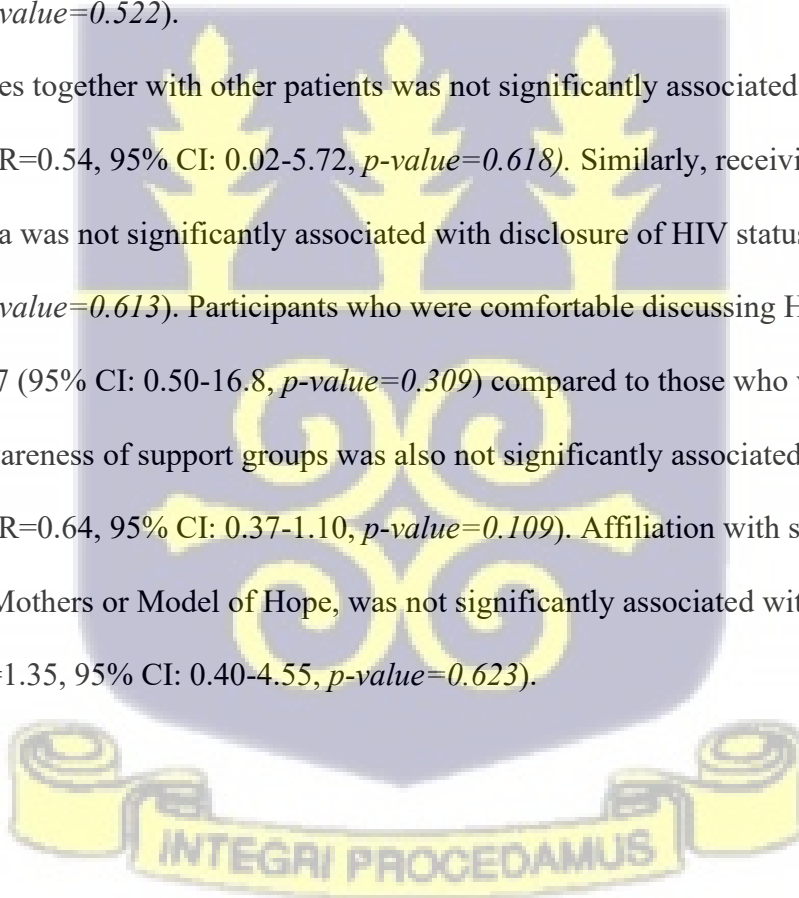
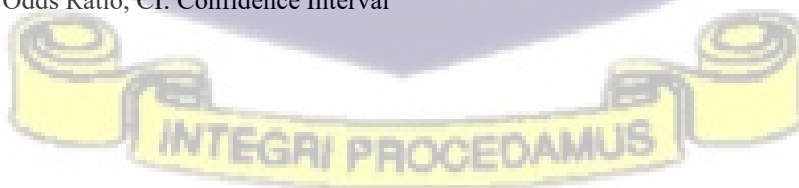


Table 9: Health facility factors associated with sero-status disclosure People Living with HIV and AIDS (PLWHA) in La-Nkwantanang Madina Municipality (LANMMA)

Characteristic	Disclosed (%)	Undisclosed (%)	cOR	95% CI	P-value
Participants assessment of attitudes of healthcare provider					
Supportive	99 (81.8)	90 (81.1)	Ref	—	
Accepting	22 (18.2)	19 (17.1)	1.05	0.53, 2.09	0.882
Stigmatizing	0 (0.0)	2 (1.8)	—	—	—
Discrimination by healthcare providers					
Experience discrimination	4 (3.3)	2 (1.8)	Ref	—	
Did not experience discrimination	117 (96.7)	109 (98.2)	0.54	0.07, 2.81	0.478
Availability of HIV counselling services at facility					
Readily available	120 (99.2)	109 (98.2)	Ref	—	
Not readily available	1 (0.8)	2 (1.8)	0.45	0.02, 4.80	0.522
Provision of services together with other patients					
Receive service together	2 (1.7)	1 (0.9)	Ref	—	
Did not receive service together	119 (98.3)	110 (99.1)	0.54	0.02, 5.72	0.618
Provision of ART services in a secluded area					
Attended to in a secluded area	117 (98.3)	109 (99.1)	Ref	—	
Not attended to in a secluded area	2 (1.7)	1 (0.9)	1.86	0.18, 40.4	0.613
Participants ability to discussing HIV issues with ease					
Comfortable	115 (95.8)	109 (98.2)	Ref	—	
Not comfortable	5 (4.2)	2 (1.8)	2.37	0.50, 16.8	0.309
Participants awareness of support groups					
Aware	47 (38.8)	32 (28.8)	Ref	—	
Not aware	74 (61.2)	79 (71.2)	0.64	0.37, 1.10	0.109
Participants affiliation to support groups					
Mentor Mothers	7 (20.6)	7 (25.9)	Ref	—	
Model of Hope	27 (79.4)	20 (74.1)	1.35	0.40, 4.55	0.623

Note: $p < 0.05$, OR: Odds Ratio, CI: Confidence Interval

4.6 Multivariate analysis of association between sero-status disclosure and independent variables

A multivariable logistic regression analysis was conducted to examine the factors influencing sero-status disclosure as shown in Table 10. The results showed that marital status was significantly associated with disclosure of HIV status. Specifically, married individuals had an odds ratio of 2.22 (95% CI: 1.07-4.68, p -value=0.034) compared to single individuals, indicating a significant increased likelihood of disclosing HIV status.

Income was not significantly associated with disclosure of HIV status. Individuals with a monthly income of GH¢500-1000 had an odds ratio of 0.36 (95% CI: 0.07-1.49, p -value=0.178), while those with an income above 1000 Ghanaian Cedis had an odds ratio of 0.90 (95% CI: 0.18-3.70, p -value=0.888). Participants' comfort level in discussing HIV in their community was also significantly associated with disclosure of HIV status. Those who disagreed with the statement had an odds ratio of 0.23 (95% CI: 0.09-0.54, p -value=0.001), indicating a significant decreased likelihood of disclosing HIV status.

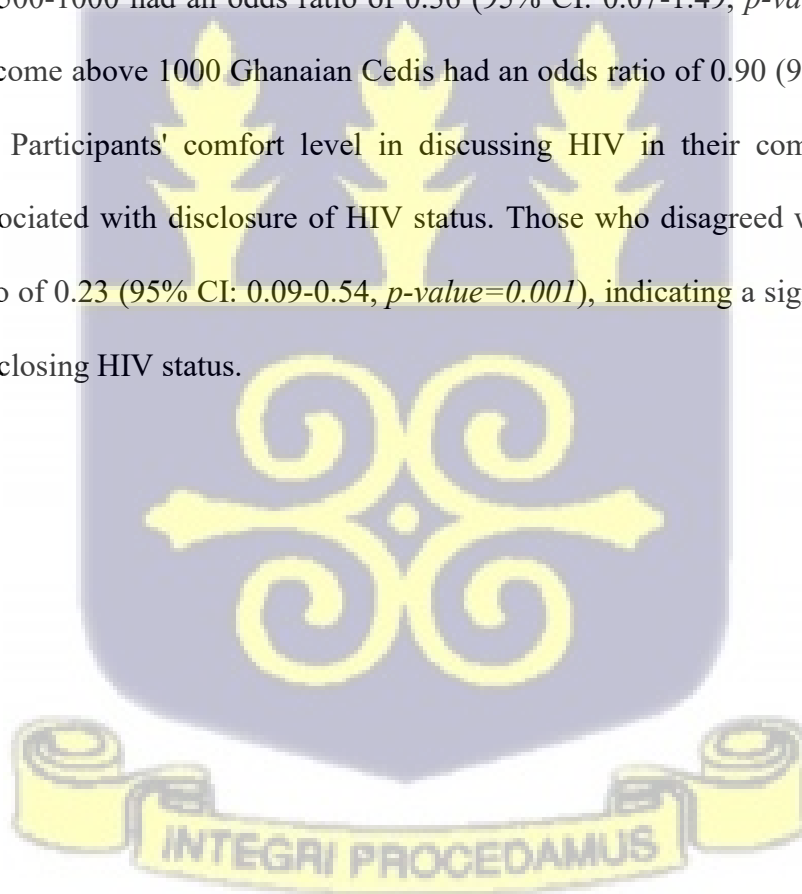
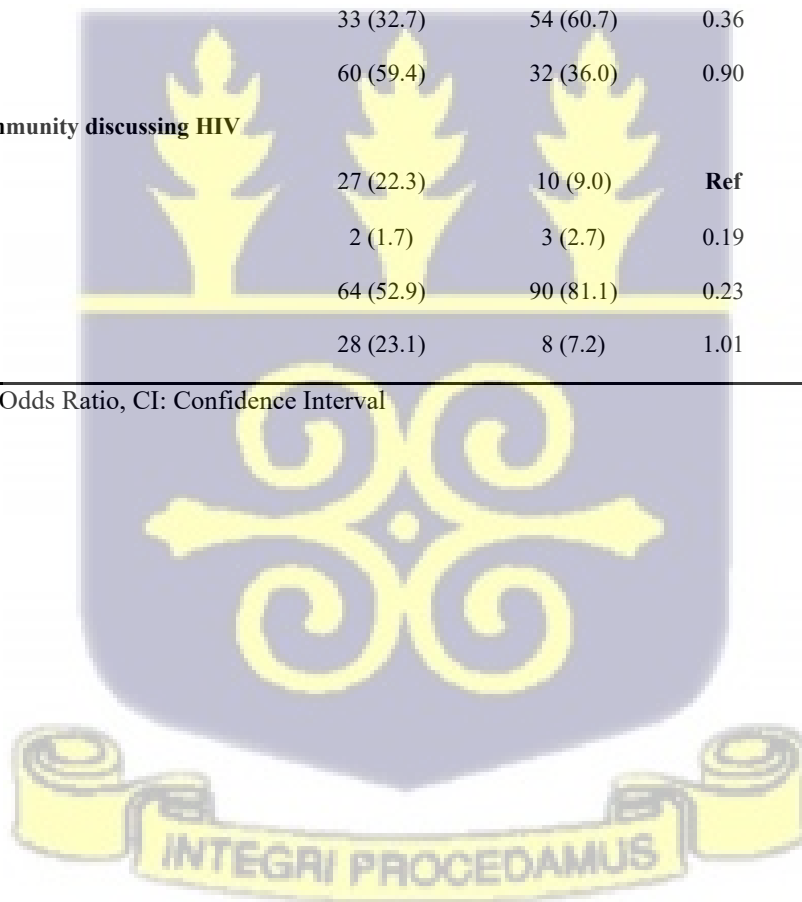


Table 10: Multivariable logistic regression of factors influencing sero-status disclosure People Living with HIV and AIDS (PLWHA) in La-Nkwantanang Madina Municipality (LANMMA)

Characteristic	Disclosed	Undisclosed	aOR	95% CI	P-value
Marital status					0.408*
Single	50 (41.3)	61 (55.0)	Ref	—	
Married	52 (43.0)	24 (21.6)	2.22	1.07, 4.68	0.034
Cohabiting	9 (7.4)	9 (8.1)	1.01	0.26, 3.70	0.982
Divorced/ separated	5 (4.1)	7 (6.3)	0.72	0.17, 2.90	0.643
Widowed	5 (4.1)	10 (9.0)	0.80	0.20, 3.08	0.747
Monthly Income (GHC)					0.158*
< 500	8 (7.9)	3 (3.4)	Ref	—	
500-1000	33 (32.7)	54 (60.7)	0.36	0.07, 1.49	0.178
> 1000	60 (59.4)	32 (36.0)	0.90	0.18, 3.70	0.888
Comfortable in community discussing HIV					0.006*
Agree	27 (22.3)	10 (9.0)	Ref	—	
Neutral	2 (1.7)	3 (2.7)	0.19	0.02, 1.71	0.142
Disagree	64 (52.9)	90 (81.1)	0.23	0.09, 0.54	0.001
Strongly disagree	28 (23.1)	8 (7.2)	1.01	0.29, 3.66	0.988

Note: $p < 0.05$, OR: Odds Ratio, CI: Confidence Interval



CHAPTER FIVE

5.1 Discussion

A review of literature revealed inadequate studies on sero-status disclosure, there is a need for more understanding about sero-status disclosure in the Ghanaian context. This study assessed the factors associated with HIV sero-status disclosure among PLWHA and receiving care at the Pentecost hospital in the LANMMA of Greater Accra Region of Ghana, with a particular focus on socio-demographic factors, community factors, personal factors and health facility factors. The Pentecost hospital, where the study was conducted is a Metropolitan area which has diverse population attributes. This has enabled the study to capture different perspectives and experiences. This section discussed the study's findings. The discussions have been done according to the study objectives.

5.1.1 Proportion of sero-status disclosure among PLWHA

This study found a 52.2% proportion of sero-status disclosure among PLWHA. The proportion of sero-status disclosure found in this study is higher than the rates reported by similar studies in similar contexts. The 52.2% rate of disclosure found in this study is higher than 37% reported by Agyarko-Poku et al., (2021) and 11% by Appiah et al., (2019) among pregnant women in Ghana. On the contrary a study by Adam et al., (2021) among PLWHA reported 79% disclosure rate. A Similar study in Ethiopia by (Tolossa et al., 2021) revealed a 73.4 % disclosure rate.

Variations in disclosure rates might be due to the difference in study period. Community awareness about HIV and related information improve over time which might increase the disclosure by the PLWHA. Also, socio-cultural difference might have role for the difference between these studies.

The high proportion of sero-status disclosure in this study compared to other studies in similar settings could be due improved counselling. Counselling addresses the underlying psychological and emotional issues that may be barriers to disclosure. individuals may experience feelings of shame, guilt, or anxiety about their HIV status, which can make it difficult for them to disclose. Through counselling, individuals can work through the emotions of feelings of shame, guilt, or anxiety emotions and develop a more positive attitude towards their HIV status, which can increase their willingness to disclose.

5.1.2 Sociodemographic factors associated with sero-status disclosure

Results of the multivariable logistic regression performed, showed a statistically significant association between marriage and sero-status disclosure. Similarly, a study in Ethiopia by Dessalegn et al., (2019), among 742 participants, reported that being married, cohabiting with partner, knowing partner's HIV status and having a good relationship with partner were associated with sero-status disclosure to partners among PLWHA (Dessalegn et al., 2019). Another study by Damian et al., (2019) in Northern Tanzania among 672 women revealed that marriage and cohabiting were associated with HIV-positive status disclosure (Damian et al., 2019). Another study in Lagos, Nigeria, reported failing health and sense of responsibility to spouse as predictors of HIV-status disclosure (Oseni et al., 2017). This study found that participants who are married had an increased odds to disclose their sero-status compared to single participants. This is consistent with findings of previous studies in Lagos, Nigeria, reported failing health and sense of responsibility to spouse as predictors of HIV-status disclosure (Oseni et al., 2017).

Income level was associated with sero-status disclosure in this this study. The study revealed that participants who relied on others for financial help were more likely to disclose their sero-status compared to those relying on themselves. Participants with monthly income between GHC500 and

GH¢1000 had a significantly reduced likelihood of disclosing their sero-status compared to those with income < GH¢500. On the contrary, a study by Loutfy et al., (2016) in Latin America, Central and Western Europe and China revealed that improved well-being is associated with sero-status and fear of losing financial support affected disclosure (Loutfy et al., 2016). Similarly study by Tesfaye et al., (2018) in Ethiopia reported that high social domain was statistically significant and associated with sero-status disclosure (Tesfaye et al., 2018). Similarly, a study in Uganda by Ngonzi et al., (2019) reported loss of financial support as one of the reasons for non-disclosure. The findings in this study, suggests that participants who rely on others for financial help may indicate a stronger social support network, which can encourage disclosure. Financial dependence on others may foster a sense of interdependence, leading to increased openness about one's HIV status.

Contrary to expectation, age was not associated with sero-status disclosure, this study found that there was no association between age and sero-status disclosure ($p\text{-value} = 0.27$). However, the odds of disclosing sero-status were 72% higher among participants aged 30-39, compared to those aged 18-29. Similarly, a study by Daskalopoulou et al., (2017) revealed that there was no significant trend with age in sero-status disclosure (Daskalopoulou et al., 2017). The findings of this study revealed that older people may feel able to better manage HIV without disclosing their status. Another study in Manicaland, Zimbabwe, 2009–2013, reported that there were no associations with age for women, but younger men within the age group of 15–29 years were more likely to disclose to family than older men ≥ 30 years (Goodwin et al., 2021). This could be due the fact that younger men within that age bracket are still dependent on parents for their basic needs and are responsible to their parents. The non-association of age to disclosure in this study may be as a result of greater portion of participants been in the age group (30-39). This age group

are adults are within the active working class. Therefore, they are faced with the fear of losing relationships, being rejected by partners and family and therefore may tend to conceal their sero-status. Also being in the active working class, fear of professional stigma or loss of job may prevent them from disclosing their sero-status.

Sex, another important factor that influences disclosure was not statistically significant in this study, ($p\text{-value} = 0.14$). However, the odds of disclosing sero-status were 37% lower among females, compared to males. On the contrary, a study by Lukyamuzi et al., (2022) in Uganda showed a statistically significant association between sex and disclosure. The study also revealed that men were more likely to disclose compared to women (Lukyamuzi et al., 2022). The non-significant association in this study may due to the difference in study design. Cross-sectional study, which was used in this study measure associations at a single point and therefore likely to have a homogeneous sample compared with a quasi-experimental design which measures associations over time. Furthermore, differences in economic factors, could contribute to different disclosure rates in males and females. Men may have stronger social networks, facilitating disclosure while women's economic independence and fear of losing financial support may prevent them from disclosing their sero-status.

Educational level, also showed a non-significant association to sero-status disclosure in this study. A study by Ahn et al., (2016), on sero-status disclosure among a cohort of childbearing women in Ukraine reported, full time education as one of the factors affecting sero-status disclosure (Ahn et al., 2016). On the contrary, community-based HIV study by Charles et al, (2020) in Tanzania reported HIV status non-disclosure was less likely with higher education (Charles et al, 2020). A similar finding was also reported by Atugba et al., (2022) in Upper East Region among 200 ART patients.

The study reported that people with informal education were more likely to disclose their status compared to those with formal education (Atugba et al., 2022). The non-significant association of education and sero-status disclosure in this study, may be as a result of the fact that education may not necessarily equip one with knowledge on HIV. Disclosure decisions may be driven by stigma and fear, not education. Also, education may not impact disclosure if mental health concerns and coping mechanisms dominate.

5.1.3 Community factors and sero-status disclosure

The study also found significant association between community factors and sero-status disclosure. This study shows that those who are not comfortable discussing about HIV in their communities are less likely to disclose their sero-status. The findings are consistent with a study conducted in Ghana by (Adam et al., 2021). Findings of this study suggest that experiences of enacted stigma prevent PLWHA from talking about HIV and disclosing their status. The study by Adam et al., (2021) reported that Community-related HIV stigma accounted for 8.6% of non-disclosure in the three Municipalities (Adam et al., 2021). Another study, by Armstrong-Mensah et al., (2023) reported that 92.8% of the study participants mentioned feeling uncomfortable and ashamed to be seen at the health facility by their families, friends and peers (Armstrong-Mensah et al., 2023). The results of this study show that, the behaviour of people towards PLWHA, makes it difficult to discuss issues of HIV in the community, as well as disclosing one's status. These factors can decrease attendance at community events on HIV sensitization, discourage Client-Initiated Testing and Counselling (CITC) and increases risk of transmission.

5.1.4 Health facility factors associated with sero-status disclosure

The study showed a non-significant association between health facility factors and sero-status disclosure. On the contrary, a study by Yalew et al., (2021), reported that the last option falls on health care provide to advocate the role of trust and smooth relationships between them and PLWHA (Yalew et al., 2021). Similarly, another study by Lukyamuzi et al, (2022) & Ngonzi et al., (2019) indicated that health workers at HIV health centers played a crucial role in improving disclosure rates by offering guidance on healthy lifestyle choices and providing quality counselling sessions (Lukyamuzi et al, 2022) & (Ngonzi et al., 2019).

The findings of this study suggest that healthcare providers reduce the impact of disclosure on clients by providing standardized care. Patients with HIV receive the same quality of care as those without HIV, reducing concerns about stigma and discrimination. Results from this study, also indicated that more than half of HIV clients had readily and available counselling services and were comfortable discussing issues of HIV issues with health care providers. This reduced concerns about disclosure.

5.2 Limitations of Study

This study faced some notable limitations. Firstly, the cross-sectional design of the study restricted our ability to establish temporal relationships and causality between variables. This design limitation is significant, as it hinders a comprehensive understanding of the complex relationships between the variables under investigation.

Secondly, the sensitive nature of the disease led to participants' reluctance to disclose information, resulting in incomplete or missing data.

This, in turn, limited the depth of inferences that can be drawn from the results. The reluctance of participants to disclose information is understandable, given the stigma associated with the disease, however the researcher assured participants of utmost confidentiality of their responses given. Nevertheless, this limitation underscores the need for future studies to employ innovative methods that can effectively address this challenge.



CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

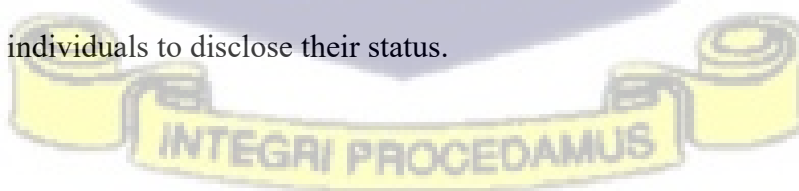
This study found 52.2% self-reported disclosure rates among PLWHA in the La-Nkwantanang Madina Municipality. The study revealed that being married is associated with sero-status disclosure. Also, participants receiving a monthly income of GH¢500- GH¢1000 were less likely to disclose their status. For community factors, participants who disagreed discussing HIV within their community were less likely to disclose their status. However, no significant association was found with health facility factors to sero-status disclosure.



6.2 Recommendations

This section outlines key recommendations aimed at promoting sero-status disclosure and empowering PLWHA. These recommendations are intended to guide policymakers, healthcare providers, and stakeholders in addressing barriers to disclosure, reducing stigma, and improving overall health outcomes.

1. HIV programs should implement joint counselling and disclosure support initiatives for couples. These interventions will promote safe disclosure, enhance ART adherence, and reduce household HIV transmission, thereby improving public health outcomes.
2. The HIV Unit, in collaboration with NGOs and stakeholders, should integrate livelihood and vocational training programs into HIV support services. This will improve the financial stability and self-reliance of PLWHA, reducing economic barriers to treatment adherence and disclosure.
3. The District Health Promotion Officer should organize regular community dialogue sessions to address misconceptions, and combat HIV-related stigma. These discussions, should be held through churches, mosques, community centers, and durbars, to create safe spaces for open conversations and encourage supportive attitudes toward disclosure.
4. Counselling interventions should be designed to address emotional and psychological barriers to disclosure. Personalized guidance and coping strategies must be employed to empower individuals to disclose their status.



REFERENCES

- Adam, A., Fusheini, A., Ayanore, M. A., Amuna, N., Agbozo, F., Kugbey, N., Kubi Appiah, P., Asalu, G. A., Agbemaflle, I., Akpalu, B., Klomegah, S., Nayina, A., Hadzi, D., Afeti, K., Makam, C. E., Mensah, F., & Zotor, F. B. (2021). HIV stigma and status disclosure in three municipalities in Ghana. *Annals of Global Health*, 87(1). <https://doi.org/10.5334/aogh.3120>
- Agbeko, A. N. (n.d.). *HIV STATUS DISCLOSURE AND QUALITY OF LIFE AMONG PERSONS LIVING WITH HIV/AIDS (PLWHA) ACCESSING CARE AT THE VOLTA REGIONAL HOSPITAL*. <http://ugspace.ug.edu.gh>
- Agbeko, A., Owusu, R., Alhassan, Y., Letsa, T., Axame, W. K., & Ogum-Alangea, D. (2022). HIV Status Disclosure and Quality of Life of People Living with HIV/AIDS in the Ho Municipality, Ghana. *Advances in Public Health*, 2022. <https://doi.org/10.1155/2022/6842957>
- Agyarko-Poku, T., Bannor, R., Sorvor, E., & Ankobea-Kokroe, F. (2022). HIV status disclosure and sexual activity among pregnant women in Ghana. *AIDS Care*, 35(3), 385–391. <https://doi.org/10.1080/09540121.2022.2121375>.
- Ahn, J. V, Bailey, H., Malyuta, R., Volokha, A., & Thorne, C. (n.d.). *Factors associated with non-disclosure of HIV status in a cohort of childbearing HIV-positive women in Ukraine*.
- Alhassan, R. K., Nutor, J. J., Gyamerah, A., Boakye-Yiadom, E., Kasu, E., Acquah, E., & Doe, E. (2023). Predictors of HIV status disclosure among people living with HIV (PLHIV) in Ghana: the disclosure conundrum and its policy implications in resource limited settings. *AIDS Research and Therapy*, 20(1). <https://doi.org/10.1186/s12981-023-00569-1>
- Amirkhanian, Y. A., Meylakhs, A. Y., Kuznetsova, A. V., Kelly, J. A., & Quinn, K. G. (2024). AIDSim pact special issue: stigma, sero-status disclosure, coping strategies, and the role of social capital resources among HIV care-nonadherent MSM in Russia: a qualitative analysis. *AIDS Care - Psychological and Socio-Medical Aspects of AIDS/HIV*. <https://doi.org/10.1080/09540121.2024.2305785>
- Appiah, S. C. Y., Adekunle, A. O., Oladokun, A., Dapaah, J. M., & Nicholas, K. M. (2019). Parental Disclosure of Own HIV Status to Children in Two Ghanaian Regions; Examining the

Determinants within a Child Vulnerability Context. *Health*, 11(10), 1347–1366.

<https://doi.org/10.4236/health.2019.1110104>

Armstrong-Mensah, E. A., Tetteh, A. K., Ofori, E., & Ekhsosuehi, O. (2022). Voluntary Counseling and Testing, Antiretroviral Therapy Access, and HIV-Related Stigma: Global Progress and Challenges. In *International Journal of Environmental Research and Public Health* (Vol. 19, Issue 11). MDPI. <https://doi.org/10.3390/ijerph19116597>

Armstrong-Mensah, E., Ofori, E., Alema-Mensah, E., & Agyarko-Poku, T. (2023). HIV destigmatization: perspectives of people living with HIV in the Kumasi Metropolis in Ghana. *Frontiers in Reproductive Health*, 5. <https://doi.org/10.3389/frph.2023.1169216>

Atugba, T.A., Aninagyei, E., Binka, F.N. *et al.* Factors Influencing HIV Status Disclosure to Partners Among Antiretroviral Therapy Clients in the Upper East Region, Ghana. *AIDS Behav* **26**, 2653–2663 (2022). <https://doi.org/10.1007/s10461-022-03612-w>

Brown, M. J., Serovich, J. M., Kimberly, J. A., & Hu, J. (2017). Vengeance, Condomless Sex and HIV Disclosure Among Men Who Have Sex with Men Living with HIV. *AIDS and Behavior*, 21(9), 2650–2658. <https://doi.org/10.1007/s10461-016-1645-x>

Bukenya, D., Seeley, J., Tumwekwase, G., Kabunga, E., & Ruzagira, E. (2020). How Follow-Up Counseling Increases Linkage to Care Among HIV-Positive Persons Identified Through Home-Based HIV Counselling and Testing: A Qualitative Study in Uganda. *SAGE Open*, 10(1). <https://doi.org/10.1177/2158244019900166>

CDC. (2021). Healthy Living with HIV.

Charles et al. (2020). Determinants of undisclosed HIV status to a community-based HIV program: findings from caregivers of orphans and vulnerable children in Tanzania.

Damian, D. J., Ngahatilwa, D., Fadhili, H., Mkiza, J. G., Mahande, M. J., Ngocho, J. S., & Msuya, S. E. (2019). Factors associated with HIV status disclosure to partners and its outcomes among HIV-positive women attending Care and Treatment Clinics at Kilimanjaro region, Tanzania. *PLoS ONE*, 14(3). <https://doi.org/10.1371/journal.pone.0211921>

Daskalopoulou, M., Lampe, F. C., Sherr, L., Phillips, A. N., Johnson, M. A., Gilson, R., Perry, N., Wilkins, E., Lascar, M., Collins, S., Hart, G., Speakman, A., & Rodger, A. J. (2017). Non-

Disclosure of HIV Status and Associations with Psychological Factors, ART Non-Adherence, and Viral Load Non-Suppression Among People Living with HIV in the UK. *AIDS and Behavior*, 21(1), 184–195. <https://doi.org/10.1007/s10461-016-1541-4>

Dawson-Rose, C., Gutin, S. A., Mudender, F., Hunguana, E., & Kevany, S. (2020). Effects of a peer educator program for HIV status disclosure and health system strengthening: Findings from a clinic-based disclosure support program in Mozambique. *PLoS ONE*, 15(5). <https://doi.org/10.1371/journal.pone.0232347>

Dessalegn, N. G., Hailemichael, R. G., Shewa-amare, A., Sawleshwarkar, S., Lodebo, B., Amberbir, A., & Hillman, R. J. (2019). HIV disclosure: HIV-positive status disclosure to sexual partners among individuals receiving HIV care in Addis Ababa, Ethiopia. *PLoS ONE*, 14(2). <https://doi.org/10.1371/journal.pone.0211967>

Durteste, M., Kyselyova, G., Volokha, A., Judd, A., Thorne, C., Cortina-Borja, M., Malyuta, R., Martsynovska, V., Nizova, N., & Bailey, H. (2019). Anxiety symptoms and felt stigma among young people living with perinatally or behaviourally-acquired HIV in Ukraine: A cross-sectional survey. *PLoS ONE*, 14(1). <https://doi.org/10.1371/JOURNAL.PONE.0210412>

Eboreime, E. A., Itanyi, I. U., Ogidi, A. G., Iheanacho, T., Olayiwola, O., Onoka, C. A., & Ezeanolue, E. E. (2021). Awareness of HIV sero-status by sex partners of women living with HIV in North-Central Nigeria: Correlates and predictive analyses. *Journal of Biosocial Science*. <https://doi.org/10.1017/S0021932021000262>

Fei LP, Zhao HH, Yang ZN, Wang S, Tang HL, Chen FF, Lv F. The association between disclosure and antiretroviral therapy among adults living with HIV in China: a systematic review and meta-analysis. *BMC Infect Dis*. 2025 Jun 2;25(1):784. doi: 10.1186/s12879-025-11009-y. PMID: 40457351; PMCID: PMC12128364.

GHANA'S HIV FACT SHEET 2019 National Estimates Estimated Number of People Living with HIV (PLHIV). (n.d.).

Goodwin, T., Gregson, S., Maswera, R., Moorhouse, L., & Nyamukapa, C. (2021). Understanding the determinants and consequences of HIV status disclosure in Manicaland, Zimbabwe: cross-

sectional and prospective analyses. *AIDS Care*, 33(12), 1577–1594.

<https://doi.org/10.1080/09540121.2021.1883507>

Gyamfi, E., Okyere, P., Enoch, A., & Appiah-Brempong, E. (2017). Prevalence of, and barriers to the disclosure of HIV status to infected children and adolescents in a district of Ghana. *BMC International Health and Human Rights*, 17(1). <https://doi.org/10.1186/s12914-017-0114-6>

Ismail, N., Matillya, N., Ratansi, R., & Mbekenga, C. (2021). Barriers to timely disclosure of HIV sero-status: A qualitative study at care and treatment centers in Dar es Salaam, Tanzania. *PLoS ONE*, 16(8 August). <https://doi.org/10.1371/journal.pone.0256537>

John, M. E., & Chipwaza, B. (2022). HIV status disclosure among adults attending care and treatment clinic in Kilombero district, South-Eastern Tanzania. *International Journal of Africa Nursing Sciences*, 17. <https://doi.org/10.1016/j.ijans.2022.100434>

Katie Huynh et al. (2024). *Continuing Education Activity*.

Kavuma, D., Kirwana, V. B., & Taani, M. (2023). Factors Associated with HIV Positive Sero-status Disclosure to Sexual Partners Among Sexually Active Young People on Anti-Retroviral Therapy in Central Uganda. *HIV/AIDS - Research and Palliative Care*, 15, 293–311. <https://doi.org/10.2147/HIV.S407535>

Kumar, R., Sarkar, M., Kumar, A., Chakravarty, J., & Kansal, S. (2020). Factors affecting disclosure of HIV-positive sero-status among people living with HIV/AIDS attending an antiretroviral therapy center of Eastern India. *Indian Journal of Public Health*, 64(1), 4–10. https://doi.org/10.4103/ijph.IJPH_172_19

LA NKWANTANANG-MADINA MUNICIPAL ASSEMBLY. (2019). *La Nkwantanang-Madina Municipal Assembly Composite Budget*.

Loutfy, M., Johnson, M., Walmsley, S., Samarina, A., Vasquez, P., Hao-Lan, H., Madihlaba, T., Martinez-Tristani, M., & Van Wyk, J. (2016). The Association between HIV Disclosure Status and Perceived Barriers to Care Faced by Women Living with HIV in Latin America, China, Central/Eastern Europe, and Western Europe/Canada. *AIDS Patient Care and STDs*, 30(9), 435–444. <https://doi.org/10.1089/apc.2016.0049>

- Lukyamuzi et al. (2022). *Community Health Workers Improve HIV Disclosure Among HIV-Affected Sexual Partners in Rural Uganda: A Quasi-Experimental Study*.
- Madiba, S., Ralebona, E., & Lowane, M. (2021). Perceived stigma as a contextual barrier to early uptake of HIV testing, treatment initiation, and disclosure; the case of patients admitted with AIDS-related illness in a rural hospital in South Africa. *Healthcare (Switzerland)*, 9(8). <https://doi.org/10.3390/healthcare9080962>
- Marcus, U., Schink, S. B., Sherriff, N., Jones, A. M., Gios, L., Folch, C., Berglund, T., Nöstlinger, C., Niedźwiedzka-Stadnik, M., Dias, S. F., Gama, A. F., Naseva, E., Alexiev, I., Staneková, D., Toskin, I., Pitigoi, D., Rafila, A., Klavs, I., Mirandola, M., ... Johnston, L. (2017a). HIV sero-status knowledge and sero-status disclosure with the most recent anal intercourse partner in a European MSM sample recruited in 13 cities: Results from the Sialon-II study. *BMC Infectious Diseases*, 17(1). <https://doi.org/10.1186/s12879-017-2814-x>
- Marcus, U., Schink, S. B., Sherriff, N., Jones, A. M., Gios, L., Folch, C., Berglund, T., Nöstlinger, C., Niedźwiedzka-Stadnik, M., Dias, S. F., Gama, A. F., Naseva, E., Alexiev, I., Staneková, D., Toskin, I., Pitigoi, D., Rafila, A., Klavs, I., Mirandola, M., ... Johnston, L. (2017b). HIV sero-status knowledge and sero-status disclosure with the most recent anal intercourse partner in a European MSM sample recruited in 13 cities: Results from the Sialon-II study. *BMC Infectious Diseases*, 17(1). <https://doi.org/10.1186/s12879-017-2814-x>
- Melis Berhe, T., Lemma, L., Alemayehu, A., Ajema, D., Glagn, M., & Dessu, S. (2020). HIV-Positive Status Disclosure and Associated Factors among HIV-Positive Adult Patients Attending Art Clinics at Public Health Facilities of Butajira Town, Southern Ethiopia. *AIDS Research and Treatment*, 2020. <https://doi.org/10.1155/2020/7165423>
- Modi, R. A., McGwin, G. L., Willig, J. H., Westfall, A. O., Griffin, R. L., Amico, R., Martin, K. D., Raper, J. L., Keruly, J. C., Golin, C. E., Zinski, A., Napravnik, S., Crane, H. M., & Mugavero, M. J. (2020). Factors Associated with HIV Disclosure Status among iENGAGE Cohort of New to HIV Care Patients. *AIDS Patient Care and STDs*, 34(5), 213–227. <https://doi.org/10.1089/apc.2019.0271>
- Ngonzi, J., Mugenyi, G., Kivunike, M., Mugisha, J., Salongo, W., Masembe, S., Mayanja, R., & Bajunirwe, F. (2019a). Frequency of HIV status disclosure, associated factors and outcomes

- among HIV positive pregnant women at Mbarara Regional Referral Hospital, Southwestern Uganda. *Pan African Medical Journal*, 32. <https://doi.org/10.11604/pamj.2019.32.200.12541>
- Ngonzi, J., Mugenyi, G., Kivunike, M., Mugisha, J., Salongo, W., Masembe, S., Mayanja, R., & Bajunirwe, F. (2019b). Frequency of HIV status disclosure, associated factors and outcomes among HIV positive pregnant women at Mbarara Regional Referral Hospital, Southwestern Uganda. *Pan African Medical Journal*, 32. <https://doi.org/10.11604/pamj.2019.32.200.12541>
- Ngugi, B. K., Harrington, B., Porcher, E. N., & Wamai, R. G. (2019). Data quality shortcomings with the US HIV/AIDS surveillance system. *Health Informatics Journal*, 25(2), 304–314. <https://doi.org/10.1177/1460458217706183>
- Nice, J., Thurman, T. R., Luckett, B., & Zani, B. (2024). Disclosure and Experiences of HIV-Related Stigma among Adolescents and Young Adults Living with HIV in South Africa. *AIDS and Behavior*. <https://doi.org/10.1007/s10461-024-04487-9>
- Okorie, C. N., Gutin, S. A., Getahun, M., Lebu, S. A., Okiring, J., Neilands, T. B., Ssali, S., Cohen, C. R., Maeri, I., Eyul, P., Bukusi, E. A., Charlebois, E. D., & Camlin, C. S. (2023). Sex specific differences in HIV status disclosure and care engagement among people living with HIV in rural communities in Kenya and Uganda. *PLOS Global Public Health*, 3(4), e0000556. <https://doi.org/10.1371/journal.pgph.0000556>
- Oseni, O. E., Okafor, I. P., & Sekoni, A. O. (2017). Issues surrounding HIV status disclosure: Experiences of seropositive women in Lagos, Nigeria. *International Journal of Preventive Medicine*, 8. https://doi.org/10.4103/ijpvm.IJPVM_136_15
- Paintsil, E., Kyriakides, T. C., Antwi, S., Renner, L., Nichols, J. S., Amissah, K., Kusah, J. T., Alhassan, A., Ofori, I. P., Catlin, A. C., Gan, G., Lartey, M., & Reynolds, N. R. (2020). Clinic-Based Pediatric Disclosure Intervention Trial Improves Pediatric HIV Status Disclosure in Ghana. *Journal of Acquired Immune Deficiency Syndromes*, 84(1), 122–131. <https://doi.org/10.1097/QAI.0000000000002316>
- Rakesh et al. (2020). *Factors Affecting Disclosure of HIV-Positive Sero-status among People Living with HIV/AIDS Attending an Antiretroviral Therapy Center of Eastern India*.

- Rice, B., Boulle, A., Baral, S., Egger, M., Mee, P., Fearon, E., Reniers, G., Todd, J., Schwarcz, S., Weir, S., Rutherford, G., & Hargreaves, J. (2018). Strengthening routine data systems to track the HIV epidemic and guide the response in Sub-Saharan Africa. *JMIR Public Health and Surveillance*, 4(4). <https://doi.org/10.2196/publichealth.9344>
- Shifraew, M. B., Shiferaew, M. T., Mitiku, H. Z., & Ayalew, A. F. (2021). Hiv-positive status disclosure to sexual partner and associated factors among adult hiv-positive patients in debre markos town, 2019. *HIV/AIDS - Research and Palliative Care*, 13, 571–579. <https://doi.org/10.2147/HIV.S293017>
- Tawiah, S. A., Dzivor, N. D., Mensah, A. C., & Adjei, S. (2019). The Prevalent Causes Of Non-Disclosure Of HIV Status And Their Effect On Tema Municipality. In *Researchjournali's Journal of Public Health* (Vol. 5, Issue 4). www.researchjournali.comwww.researchjournali.com
- Tesfaye, T., Darega, J., Belachew, T., & Abera, A. (2018). HIV positive sero-status disclosure and its determinants among people living with HIV /AIDS following ART clinic in Jimma University Specialized Hospital, Southwest Ethiopia: A facility- based cross-sectional study. *Archives of Public Health*, 76(1). <https://doi.org/10.1186/s13690-017-0251-3>
- Tessema, B. T., Bune, G. T., & Mamo, Z. B. (2023). Non-Disclosure of HIV-Positive Sero-status: Unmatched Case–Control Study in People Living with HIV in Public Health Facilities of Gedeo Zone, Southern Ethiopia. *HIV/AIDS - Research and Palliative Care*, 15, 313–324. <https://doi.org/10.2147/HIV.S405818>
- Tolossa, T., Wakuma, B., Besho, M., Mulisa, D., Fekadu, G., Bayisa, L., & Tsegaye, R. (2021). HIV sero-status disclosure and associated factors among HIV positive pregnant and lactating women at Nekemte public health facilities, western Ethiopia. *PLoS ONE*, 16(3 March). <https://doi.org/10.1371/journal.pone.0248278>
- UNAIDS, & UNAIDS Global AIDS update. (2023). *The path that ends AIDS*. 80–82. <http://www.wipo.int/amc/en/mediation/rules>
- Wanjala, S. W., Nyongesa, M. K., Mapenzi, R., Luchters, S., & Abubakar, A. (2023). A qualitative inquiry of experiences of HIV-related stigma and its effects among people living with HIV on

treatment in rural Kilifi, Kenya. *Frontiers in Public Health*, 11.

<https://doi.org/10.3389/fpubh.2023.1188446>

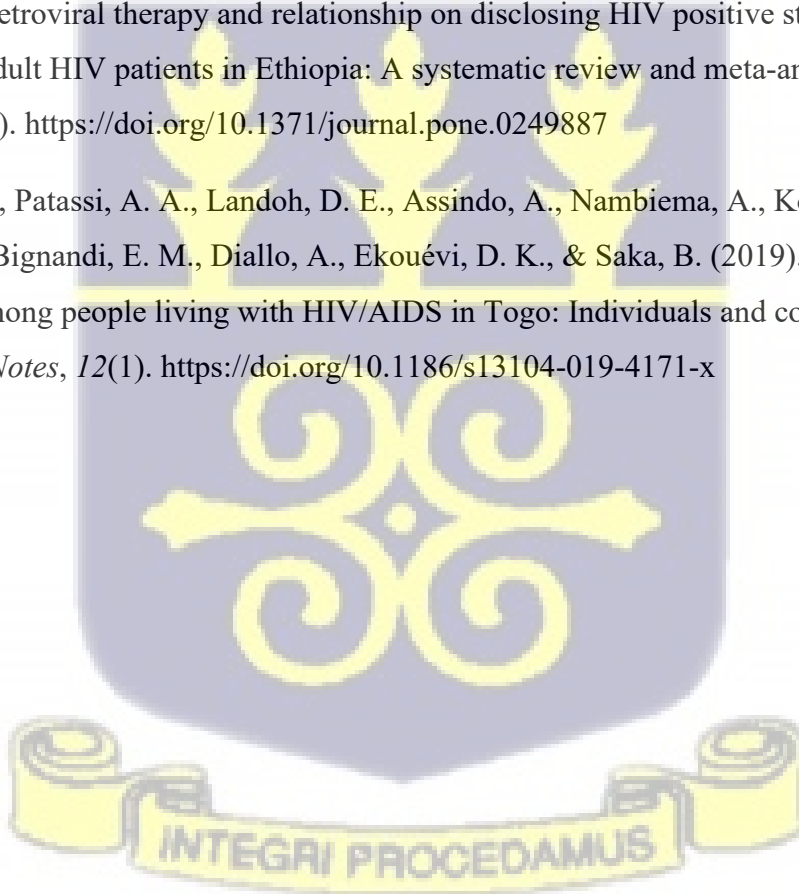
WHO. (2023). *HIV and AIDS Key Facts*.

WHO, G. (2022). 2022 Annual Report., 1999(December), 1–22.

World Health Organization. (2015). Consolidated guidelines on HIV testing services: 5Cs: consent, confidentiality, counselling, correct results and connection 2015. *Who, July*, 192 p.
https://www.ncbi.nlm.nih.gov/books/NBK316021/pdf/Bookshelf_NBK316021.pdf
http://apps.who.int/iris/bitstream/10665/179870/1/9789241508926_eng.pdf?ua=1&ua=1%5Cnhttp://www.ncbi.nlm.nih.gov/pubmed/26378328

Yalew, M., Adane, B., Kefale, B., Damtie, Y., Tadesse, S. E., & Molla, A. (2021). The effect of counseling, antiretroviral therapy and relationship on disclosing HIV positive status to sexual partner among adult HIV patients in Ethiopia: A systematic review and meta-analysis. *PLoS ONE*, 16(4 April). <https://doi.org/10.1371/journal.pone.0249887>

Yaya, I., Djalogue, L., Patassi, A. A., Landoh, D. E., Assindo, A., Nambiema, A., Kolani, K., Patchali, P. M., Bignandi, E. M., Diallo, A., Ekouévi, D. K., & Saka, B. (2019). Health-related quality of life among people living with HIV/AIDS in Togo: Individuals and contextual effects. *BMC Research Notes*, 12(1). <https://doi.org/10.1186/s13104-019-4171-x>



APPENDIX I: PARTICIPANT INFORMATION SHEET

Title: Factors affecting sero-status disclosure among PLWHA in the La Nkwantanang Madina Municipality (LaNMMA)

Principal Investigator: Dapilah Rosaline

Address: School of Public Health, University of Ghana. Email: rosalinedapilah@yahoo.com Tel: 0202674225/0244150821

General Information about Research

Antiretroviral therapy (ART) has improved the prognosis and quality of life of PLWHA (WHO, 2022). Strategies beyond medical interventions are needed for the effective management of the HIV and AIDS epidemic. The primary focus of effective management of HIV, include information sharing about HIV status and raising awareness. These techniques foster relationships that improve patients' psychological well-being by reducing stress and providing a channel for support. In HTS, disclosure of sero-status is one of the actions used to prevent and control the spread of HIV (CDC, 2021). The WHO recommends that all HIV positive individuals should disclose their status to their partners, families and friends (World Health Organization, 2015). Disclosure of HIV positive status improves access to care and support, promotes positive health outcomes for people living with HIV and prevents the spread of HIV. To improve health and reduce the risk of transmission sero-status disclosure should be encouraged in HIV prevention and treatment. This study seeks to determine factors associated with sero-status disclosure among PLWHA at the Pentecost Hospital in La-Nkwantanang-Madina Municipality, Greater Accra Region of Ghana.

This study will provide evidence for policy making to run programs to improve HIV and AIDS care and ultimately reduce the spread of HIV.

Nature of Research

This is a cross-sectional survey, that will involve at least 267 HIV positive clients attending routine ART Clinic in the Pentecost Hospital of the La-Nkwantanang Madina Municipality. Simple random sampling would be used to recruit HIV Clients who fall within the inclusion criteria. We invite you to take part in this research project. If you accept, you will be required to sign or give oral consent to this study. Afterward, you will be assisted by the Research Assistant to fill out the questionnaire. The questionnaire contains questions on the sero-status disclosure, community, individual and health facility factors associated with sero-status disclosure. Your participation in this study is expected to last for a maximum of 30 minutes.

Possible Risks and Discomforts:

There are minimal discomforts potentially associated with partaking in this study. The length of time for data collection may serve as a source of discomfort to respondents. Care would be taken to minimize interruptions during the data collection period to shorten interview times.

Possible Benefits

You may not get any direct benefit but the findings from this study will provide a basis for developing preventive programs needed for elimination of HIV as a Public Health Problem and providing an evidence-based information that can inform interventions needed to reduce new infections and improve health.

Confidentiality

We will protect information about you to the best of our ability. Your name would not be provided on the questionnaires. Information obtained will not be shared with a third party other than my supervisor who may access my records.

Compensation

There are no compensation packages whether in cash or kind available for participation.

Voluntary Participation and Right to Leave the Research

This study is strictly voluntary. Should you, at any point during the study, decide that you do not wish to participate any further, you are free to terminate your participation immediately.

Termination of Participation by the Researcher

No circumstance may cause your termination from this study

Outcome and Feedback

Data obtained at the end of the study would be presented to the Director of the hospital as well as the District director. Data would also be shared with the management of the Ghana Health Service, Greater Accra Regional Health Directorate.

Feedback to participant

Feedback of findings would be communicated to participants at the end of the study on request

Funding Information

The study would be self-funded by the Principal Investigator

Sharing of Participants' Information/Data

Participants' identification would be anonymized during the data collection period. The final data obtained would be shared with the hospital, the district directorate, and the savannah regional directorate, as well as communicated to participants on request.

Data Access and Storage

The completed questionnaires for the quantitative study will be collected each day and stored in a locked locker with only the principal investigator having access. The coded questionnaires will be entered into Microsoft Excel with a password by the principal investigator.

Provision of Information and Consent for Participants

A copy of the Information sheet and Consent form will be given to you after it has been signed or thumb-printed to keep

Contacts for Additional Information

You may contact me, Principal Investigator (Dapilah Rosaline, 0202674225/ 0244150821), or my supervisor (Dr. Priscillia Nortey, 0243303362) if you need further explanation of pertinent questions about this research.

Your rights as a Participant

This research has been reviewed and approved by the Ethical Review Committee of Ghana Health Service (GHS-ERC). If you have any questions about your rights as a research participant you can contact the GHS-ERC Administrator, Nana Abena Apatu, between the hours of 8 am-5 pm through, 0503539896, email addresses: ethics.research@ghs.gov.gh



APPENDIX II: CONSENT FORM FOR RESPONDENTS

STUDY TITLE: Factors affecting sero-status disclosure of PLWHA in the La Nkwantanang Madina Municipality (LaNMMA)

PARTICIPANTS' STATEMENT

I acknowledge that I have read or have had the purpose and contents of the Participants' Information Sheet read and all questions satisfactorily explained to me in a language I understand (English). I fully understand the contents and any potential implications as well as my right to change my mind (i.e. withdraw from the research) even after I have signed this form.

I voluntarily agree to be part of this research.

Name of Participant.....

Participants' SignatureOR Thumb Print.....

Date:.....

INTERPRETERS' STATEMENT

I interpreted the purpose and contents of the Participants' Information Sheet to the afore named participant to the best of my ability in the (English) language to his proper understanding.

All questions, appropriate clarifications sorted by the participant, and answers were also duly interpreted to his/her satisfaction.

Name of Interpreter.....

Signature of InterpreterOR Thumb Print

Date:.....

Contact Details

STATEMENT OF WITNESS

I was present when the purpose and contents of the Participant Information Sheet were read and explained satisfactorily to the participant in the language, he/she understood (English)

I confirm that he/she was given the opportunity to ask questions/seek clarifications and the same were duly answered to his/her satisfaction before voluntarily agreeing to be part of the research.

Name:

Signature..... OR Thumb Print

Date:.....

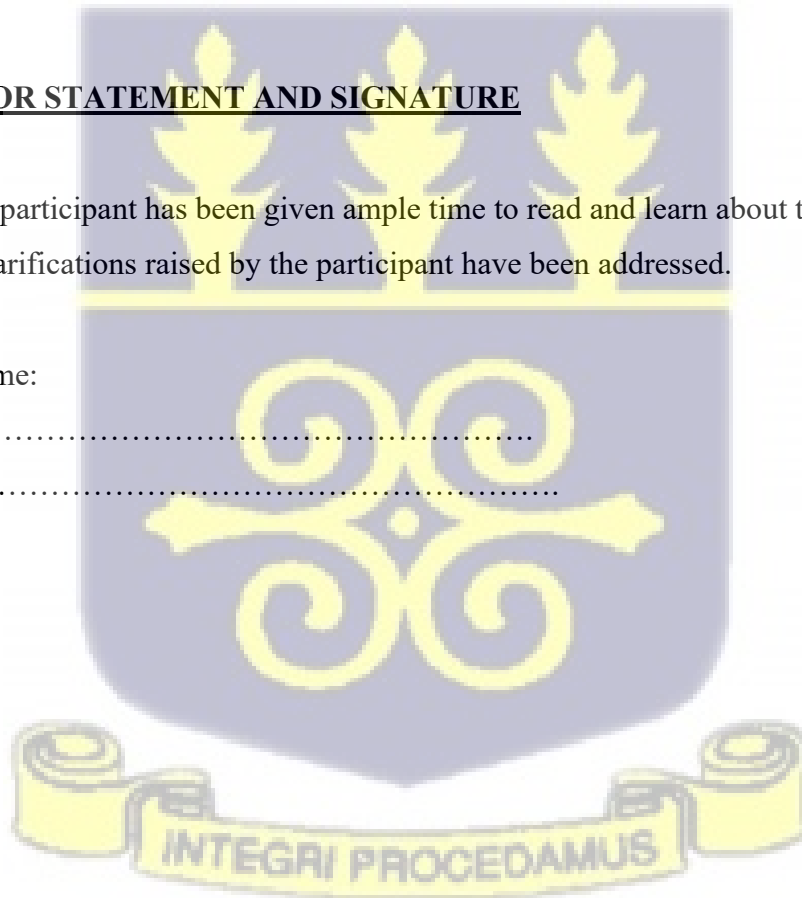
INVESTIGATOR STATEMENT AND SIGNATURE

I certify that the participant has been given ample time to read and learn about the study. All questions and clarifications raised by the participant have been addressed.

Researcher's name:

Signature

Date.....



APPENDIX III: QUESTIONNAIRE

Questionnaire for Persons attending Routine ART Clinic at Selected Treatment Sites on the Topic “Factors associated with sero-status disclosure in the La-Nkwantanang Madina Municipality OF the Greater Accra Region of Ghana.” The purpose of this study is to fulfil an academic requirement for the award of M. PHIL APPLIED EPIDEMIOLOGY AND DISEASE CONTROL. For this reason, sincere and accurate responses are required. Please, you are assured of adequate confidentiality of all your responses. These responses will be used for academic purpose only. Thank you for the maximum cooperation.

SECTION A: SOCIO-DEMOGRAPHIC CHARACTERISTICS

1. Age (in completed years): []
2. Sex: Male [] (b) Female []
3. Highest level of education: None [] Basic [] Secondary [] Tertiary [] Other [] (**Please specify**).....
4. Marital Status: Married [] Single [] Cohabiting [] Divorced [] Widowed []
5. If you are married or cohabiting, do you live with your partner/spouse? Yes [] No [] No response []
6. Do you have children with your regular sexual partner? Yes [] No []
7. If Yes, do you live with them? Yes [] No []
8. What type of family do you have?
Nuclear [] Extended [] Both/Joint []
9. How would you describe your settlement type? Rural [] Sub-urban [] Urban [] Other [], (**Specify**)
10. What is your employment status? Government employee [] Private Company [] Self - employed [] Unemployed [] Other [], (**Specify**)
11. Which of the following best describes your average monthly income? Less than GHC 500 []
GHC 500 – 1000 [] Above GHC 1000 []

12. Kindly describe your financial status. Independent ☐ Partially dependent ☐ Dependent

13. If dependent/partially dependent, on whom? Sexual Partner ☐ Children ☐

Family ☐ Members ☐ Support groups ☐ Church ☐ Other (**Specify**).....

14. Do you belong to any HIV support group? Yes ☐ No ☐

15. If yes, which support group do you belong to?

SECTION B: HIV POSITIVE STATUS DISCLOSURE OR NON-DISCLOSURE

16. How old (in years) were you when you were diagnosed of HIV?

.....

17. Why did you get tested for HIV? I fell sick ☐ Partner's illness/death ☐ Child illness/death ☐
I heard on the radio/TV that I should get tested ☐ Health provider recommended ☐ Family or
friend encouraged me to get tested ☐ I was pregnant and the clinic tested me ☐ Through HTC ☐
Other ☐ (**Please specify**).....

18. Did you receive any counselling with respect to HIV status disclosure? Yes ☐ No ☐

19. Have you disclosed your HIV status to your anyone? Yes ☐ No ☐

20. If No in question 23, have you shared your HIV status with anybody? Yes ☐ No ☐

21. How long (in days, months, years) after testing did you disclose your status?

HIV status?.....

22. Indicate the reaction (s) after your disclosure (Please you may tick more than 1 option) Sadness

(Please you may tick more than 1 option)

Anger ☐ Denial ☐ Frustration ☐ Depression ☐ Other ☐
(Specify).....

23. Which of these reasons influenced or motivated (encouraged) your disclosure of HIV status?
(Please you may tick only 1 option)

a. I used my family as my support ☐

- b. My partner wanted to know the reason for the daily medications ☐ c. My partner is also HIV positive ☐ d. In order not to skip appointment ☐ e. I suffered side effects of the medication ☐
- f. I wanted to be honest with my partner ☐ g. I received counselling with respect to HIV status disclosure ☐ h. Other ☐

(Please Specify)

24. Which of these reasons most prevent you from disclosing your status?

(Please you may tick only 1 option)

a. Worry about other people finding out about my HIV status ☐ Fear of family maltreatment ☐

b. Fear of partner physical violence ☐

c. Fear of accusation/condemnation by partner of infidelity ☐

c. Fear of withdrawal or loss of financial support ☐ d. May get ridiculed by others ☐ d. I received no or inadequate counselling with respect to HIV status disclosure ☐

e. Other ☐ **(Please specify)**

25. Are you on ART? Yes ☐ No ☐

26. When did you start taking ART? a. Less than 1 year ☐ b. 2 years ☐ c. 3 years ☐

d. More than 3 years ☐

27. Do you have a treatment monitor? Yes ☐ No ☐

28. If Yes, who is your treatment monitor? My partner ☐ My pastor/Church member ☐ Friend ☐ Family member ☐ Other ☐ **(Please specify)**

29. Why did you choose him/her as your treatment monitor?

a. Treatment monitor is HIV positive ☐ b. Treatment monitor is trustworthy ☐ c. Treatment monitor provides or offers care & support ☐ d. Treatment monitor is a social relation/relative (partner/spouse, sister) ☐ e. Treatment monitor is a pastor/counsellor ☐ f. Other ☐ (specify)

FACTORS ASSOCIATED WITH SERO-STATUS DISCLOSURE

COMMUNITY FACTORS

30. Do you think it is important to tell others about your status? Yes [] No [] (c) No response

31. If No, why a. Never witness PLWHA disclose status b. Ever witness maltreatment of PLWHA c. Seen PLWHA discriminated in public d. Other []

(Please specify)

32. If Yes, why a. For Encouragement [] b. For Financial Assistance [] c. Others []

Specify

33. What do you think will happen when you disclose your status?

a. Stigmatization/ Discrimination [] b. Encouraged and Supported []

c. Close relations informed others about it [] d. Family indifferent towards me []

e. Children neglected [] f. Fear of losing financial support []

f. Others [] (Please specify)

HEALTH FACILITY FACTORS

34. Which clinic where you tested from?

a. VCT [] b. PMTCT [] c. PITC [] d. Others []

(Please specify)

35. Did you have pretest counselling?

a. Yes [] b. No [] d. Others []

(Please specify)

36. Did you have post-test counselling?

a. Yes [] b. No [] d. Others []

37. Type of post-test counselling

a. Couple [] b. Partner [] c. Alone [] d. Others []

Please Specify

Thank you.



APPENDIX IV: ETHICAL APPROVAL LETTER

GHANA HEALTH SERVICE ETHICS REVIEW COMMITTEE

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



Research & Development Division
Ghana Health Service
P. O. Box MB 190
Accra
Digital Address: GA-050-3303
Mob: +233-50-3539896
Tel: +233-302-960628
Email: ethics.research@ghs.gov.gh
29th April 2024

My Ref. GHS/RDD/ERC/Admin/App/24/171
Your Ref. No.

Rosaline Dapilah
P.O. Box MD 100
Madina

The Ghana Health Service Ethics Review Committee has reviewed and given approval for the implementation of your Study Protocol.

GHS-ERC Number	GHS-ERC: 031/03/24
Study Title	Factors affecting Sero-Status Disclosure among PLWHA in the La Nkwantanang Madina Municipality (LaNMMA)
Approval Date	29 th April, 2024
Expiry Date	28 th April, 2025
GHS-ERC Decision	Approved

This approval requires the following from the Principal Investigator

- Submission of a yearly progress report of the study to the Ethics Review Committee (ERC)
- Renewal of ethical approval if the study lasts for more than 12 months,
- Reporting of all serious adverse events related to this study to the ERC within three days verbally and seven days in writing.
- Submission of a final report after completion of the study
- Informing ERC if study cannot be implemented or is discontinued and reasons why
- Informing the ERC and your sponsor (where applicable) before any publication of the research findings.

You are kindly advised to adhere to the national guidelines or protocols on the prevention of COVID -19

Please note that any modification of the study without ERC approval of the amendment is invalid.

The ERC may observe or cause to be observed procedures and records of the study during and after implementation.

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

SIGNED

Mr. Kofi Wellington
(GHS ERC Chairperson)

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