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Research Article

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Nondisclosure of HIV-Positive Status: A Cross-Sectional Survey in the Greater Accra Region of Ghana

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Abstract

In Ghana's Greater Accra Region, the number of people who disclose their HIV-positive status is alarmingly low. This could be due to various socioeconomic factors. However, ignoring this issue could pose a significant risk to public health. Therefore, a study was conducted to determine the factors that contribute to the failure to disclose HIV-positive status among HIV patients living in the La Nkwantanan Madina Metropolis of the Greater Accra Region.

A quantitative cross-sectional study was carried out, using a convenient sampling technique to select 376 clients who tested positive for HIV and sought healthcare services within the La Nkwantanang Madina Municipality. The data was gathered through a closed-ended questionnaire and analyzed using frequency and percentage, correlation coefficient, and multinomial regression.

Marriage strongly predicted (OR=9.923 [95% CI: 1.289-76.411]; p=0.028) HIV-positive nondisclosure to partners; female gender (OR=8.178 [95% CI: 1.048-63.830]; p=0.045) and public sector of employment (OR=8.786 [1.631-47.338]; p=0.011) predicted HIV-positive nondisclosure to family; and marriage (OR=6.458 [95% CI: 0.564-20.716]; p=0.042), public sector of employment (OR=8.000 [95% CI: 1.140-50.132]; p=0.036) and private sector work (OR=7.943 [1.304-48.392]; p=0.025) strongly predicted HIV-positive nondisclosure to friends.

Marriage, female gender, and sector of work were strong predictors of HIV non-disclosure by people living with HIV in the La Nkwantanan Madina Metropolis.

Keywords: HIV, HIV-Positive Status, HIV-Positive Status Nondisclosure

1. Introduction

It is widely known that disclosing an HIV-positive status can help prevent the spread of HIV. However, receiving such a diagnosis can be a stressful experience and make it difficult to communicate the news to others. Counseling is crucial for individuals even before an HIV test is performed due to the psychological stress that comes with learning one is HIV-positive [1]. Research studies by Sanga et al. and Kabriku et al. highlight the importance of educating HIV-positive individuals on the benefits of disclosing their status [2, 3]. Despite counseling and education efforts, not all HIV-positive individuals choose to disclose their status. Alhassan et al. found that disclosure rates are lower in underdeveloped nations, with only 50% of HIV-positive individuals disclosing in industrialized nations compared to 76% in underdeveloped nations [4]. In Uganda, 56.3% of individuals disclosed their HIV-positive status [5]. while in Southeast Ethiopia, the disclosure rate was 37.6% [6]. A study conducted in Cape Town, South Africa found that 95% of HIV-positive individuals disclosed their status [7]. while a similar study in Kenya found that 83.7% of HIV-positive individuals disclosed their status [8].

The rate of HIV-positive status disclosure in Ghana varies across different regions. Some areas have a high rate of disclosure, while others have a low rate. Research shows that in Cape Coast, 78.6% of people disclosed their HIV status, while in the Ashanti, Greater Accra, and Eastern regions, only 16.2% of people did so [9,10]. It is concerning that the two most populous regions, Greater Accra and Ashanti, have such low rates of disclosure, as keeping one's HIV-positive status a secret could endanger public health by contributing to the spread of HIV infections. It is important to identify the factors that influence HIV-positive individuals' decision to disclose their status, as this information will enable counselors to provide relevant information to their clients, empowering them to make informed choices about sharing their HIV-positive status with others. This will ultimately improve public health by reducing the spread of HIV infections through increased awareness of those who are HIV-positive. It is

important to note that HIV-positive status disclosure should not be done out of stigma, but rather to ensure proper protection for everyone.

2. Research Design

Objective, accurate, and generalized findings for the target population were obtained through a quantitative cross-sectional study design, which gathered data at only one point.

3. Study Area

The capital city of La Nkwantanang Madina Municipality is Madina, situated in the western aspect of Greater Accra. The municipality is bordered to the north by Akuapim South District (in the Eastern Region), to the east by Kpone Katamanso and Adenta municipalities, and to the west by Ga East municipality [11]. La Nkwantanang Madina Municipality spans a total land area of 70.887 square kilometers [12].

4. Population

A study was carried out on individuals of all age ranges who had contracted HIV and received healthcare in the La Nkwantanang Madina Municipality. The study included individuals who were at least 18 years old and had accessed healthcare within the municipality. Individuals who were HIV-negative were not considered, and those who were below 18 years old or did not receive healthcare in the municipality were excluded.

According to a report by the Ghana AIDS Commission (GAC), 99% of people living with HIV in the La Nkwantanang Madina Municipality had access to and adhered to Anti-Retroviral Therapy (ART). The total population of HIV-positive clients in the area was estimated to be 6,211 in 2019, which accounted for 6.6% of people living with HIV in the said setting [13]. It is probable that the population of people living with HIV was higher than the estimated 6,211 in 2019. Nevertheless, for this study, the researcher estimated the population of HIV-positive clients in the setting to be 6,211.

5. Sampling Procedure

The researchers utilized a convenient sampling method to select the Greater Accra region and La Nkwantanang Madina Municipality due to their proximity. They selected HIV-positive clients who were at least 18 years old through purposive sampling. The estimated population of HIV-positive clients in La Nkwantanang Madina Municipality was 6,211, and the sample size of 376 was determined using the consecutive sampling technique.

6. Data Collection Instruments

Data was collected for three months through an anonymous self-administered questionnaire consisting of close-ended questions. The questionnaire was developed based on information gathered from a literature review and research objectives. It was divided into three sections (A-C), with Section A focusing on the socioeconomic characteristics of the respondents, Section B determining the disclosure of HIV-positive status, and Section C comprising items that assess the respondents' knowledge of HIV infection transmission.

7. Validity and Reliability of the Study Instrument

The validity of the questionnaire was evaluated by consulting fellow students to ensure that it accurately measured what it was intended to measure. To ensure content validity, an experienced Public Health lecturer and my research supervisor were approached to review the document and provide feedback, which was then incorporated.

The questionnaire was then tested among HIV-positive clients aged 18 and over who sought healthcare outside of the La Nkwantanang Madina Municipality. The pretested questionnaire was analyzed, and a Cronbach's alpha score of 0.87 was obtained.

8. Data Collection Procedures

Before the questionnaire was administered, the study's purpose was clearly explained to all participants. Consent was then obtained through a signature or thumbprint on the provided form. Once participants completed the questionnaires, they were collected immediately.

9. Data Processing and Analysis

The completed surveys were carefully reviewed for accuracy and completeness. Subsequently, numerical codes were assigned to responses to facilitate easier categorization, and the data was stored on a computer along with other storage devices like hard drives. The collected data was encrypted with a password to ensure privacy. Additionally, the hard copies of the surveys were kept in a file, which was stored in a rarely used bag for future reference if necessary. The data was analyzed and evaluated with the help of JASP software using various statistical techniques such as frequency and percentage, correlation coefficient, and multinomial logistic regression.

10. Ethical Considerations

The Department of Nursing at All Nations University was requested to create an introductory letter for healthcare facilities that operate ART clinics in the La Nkwantanang Madina Municipality. This letter was sent to the administrators of the health facilities to obtain clearance for a study to be conducted. Copies of these letters were submitted to the Review Board (RB) of All Nations University to obtain ethical clearance. Before selecting respondents for the study, a detailed explanation of the study's purpose was given verbally. Verbal and written consent was obtained from the respondents by allowing them to sign a consent form for the study. Respondents were not asked to disclose their identities to maintain confidentiality and were informed that they had the right to withdraw from the study at any time, even after giving their consent, with no repercussions. The respondent data was treated as confidential by protecting the software with a password. The paper copies of the data were stored under lock and key in a rarely used bag.

11. Results

Table 1 represents data on respondents' demographic characteristics. The results from the table depict that males formed the minority (39.9%) of people living with HIV. In terms of the highest educational level, a majority (51.7%) of the respondents completed their educational journey at SHS and a minority (9.8%) at the tertiary level. Also, 55.1% were married whiles 5.4% were widowed.

Demographics	N=296	Frequency	Percentage
Gender	294		
Male		118	39.9%
Female		176	59.5%
Highest education level	296		
Primary		32	10.8%
Junior High School (JHS)		82	27.7%
Senior High School (SHS)		153	51.7%
Tertiary		29	9.8%
Marital status	295		
Never married but in a relationship		89	30.1%
Married		163	55.1%
Divorced		27	9.1%
Widowed		16	5.4%
Employment status	296		
Employed		226	77.1%
Unemployed		67	22.9%
Sector of employment	248		
Public sector		87	35.1%
Private sector		150	60.5%
Both public and private sector		11	4.4%

Table 1: Data on Respondents' Demographic Characteristics

Table 2 shows data on respondents' knowledge of HIV transmission. The data indicate that 0.7% strongly agreed that coughing and sneezing can spread HIV but 51.2% of the respondents were neutral. In terms of whether or not an individual can contract HIV by sharing a glass of water, a minority (1%) strongly agreed, and a majority (51.2%) were neutral to the statement. Moreover, most (48.5%) of the respondents were neutral to whether or not pulling out the penis before a man climaxes/cum keeps a woman from getting HIV during sex, but only 10% agreed.

Statement		Frequency (Percentage)				
	N=296	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Coughing and sneezing can spread HIV	291	2 (0.7%)	23 (7.9%)	149 (51.2%)	100 (34.4%)	17 (5.8%)
A person can get HIV by sharing a glass of water	291	3 (1%)	22 (7.6%)	149 (51.2%)	103 (35.4%)	14 (4.8%)
Pulling out the penis before a man climaxes/cum keeps a woman from getting HIV during sex	291	9 (3%)	29 (10%)	141 (48.5%)	87 (29.9%)	25 (8.6%)
A woman CAN NOT get HIV if she has anal sex with a man	291	4 (1.4%)	29 (10%)	151 (51.9%)	88 (30.2%)	19 (6.5%)
Showering or washing one's genital or private parts after sex keeps a person from getting HIV	291	2 (0.7%)	14 (4.8%)	169 (58.1%)	90 (30.9%)	16 (5.5%)
All pregnant women infected with HIV will have babies born with AIDS	288	3 (1%)	16 (5.6%)	149 (51.7%)	91 (31.6%)	29 (10.1%)
A woman CAN NOT get HIV if she has sex during her period	289	-	18 (6.3%)	156 (54%)	93 (32.1%)	22 (7.6%)
Condom CANNOT help prevent HIV	291	1 (0.3%)	17 (5.8%)	103 (35.4%)	118 (40.6%)	52 (17.9%)
A person will get HIV if he or she is taking antibiotics	289	2 (0.7%)	14 (4.8%)	168 (58.1%)	77 (26.4%)	28 (10%)

Having sex with more than one partner CAN NOT increase a person's chance of being infected with HIV	291	-	20 (6.9%)	121 (41.6%)	103 (35.4%)	47 (16.1%)
A person can get HIV by bathing or swimming in a pool or river with a person who has HIV	290	1 (0.7%)	13 (4.5%)	191 (65.6%)	70 (24.1%)	15 (5.1%)
A person CAN NOT get HIV from oral sex	290	3 (1%)	13 (4.5%)	187 (64.5%)	66 (22.8%)	21 (7.2%)

Table 2: Data on Respondents' Knowledge of HIV Transmission

Figure 1 is about the cumulative response of respondents' responses on knowledge concerning HIV transmission. The figure reveals that 52.7% of the responses demonstrated neutrality to whether or not the statements affirmed HIV transmission and 0.9% strongly agreed that the statement was affirmative of HIV transmission.

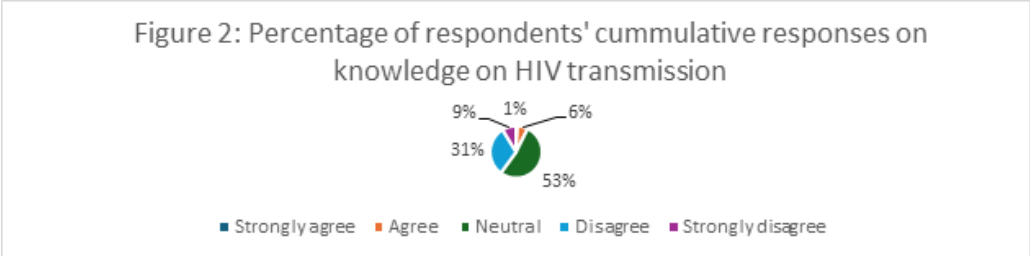

Table 3 contains data on respondents' responses to their disclosure of their HIV-positive status. The data show that 243 (83%) of the respondents said they have one partner and 46 (15.8%) indicated that they have more than one partner. Also, the data indicate that 252 (86.3%) of the respondents did not discuss their decision to get tested for HIV with their partner(s). Similarly, 277 (94.9%) and 267 (92.7%) also did not inform their family and friends, respectively, of their decision to test for HIV.

Statement	**N=296**	**Frequency (Percentage)**		
		Yes	**No**	**Not sure**
You have more than one partner	291	46 (15.8%)	243 (83.2%)	2 (1%)
You discussed doing an HIV test with your partner (s)	291	32 (11.3%)	252 (86.3%)	7 (2.4%)
You discussed doing an HIV test with your family	291	9 (3.1%)	277 (94.9%)	5 (2%)
You discussed doing HIV tests with your friends	288	8 (2.8%)	267 (92.7%)	13 (4.5%)
Do you think telling your partner(s), family, or family about your HIV-positive status is important?	270	33 (11.7%)	234 (80.7%)	3 (7.6%)
You told your partner(s) when you tested positive for HIV	290	35 (12.7%)	248 (84.9%)	7 (2.4%)
You told your family when you tested positive for HIV	291	13 (4.8%)	264 (90.4%)	14 (4.8%)
You told your friends when you tested positive for HIV	291	5 (1.7%)	275 (94.5%)	11 (3.8%)
Your HIV-positive status was disclosed by yourself	290	41 (14.1%)	243 (83.8%)	6 (2.1%)
You made a counselor disclose your HIV-positive status	290	24 (8.2%)	252 (86.3%)	16 (5.5%)
You made a third party disclose your HIV-positive status	293	3 (1%)	263 (89.8%)	27 (9.2%)
Is/are your partner(s) HIV-positive?	293	25 (8.5%)	103 (35.2%)	165 (56.3%)
Is any of your family members HIV-positive?	293	3 (1%)	94 (32.1%)	196 (66.9%)
Is any of your friends HIV-positive?	288	3 (1.8%)	83 (28.6%)	202 (69.6%)

Table 3: Data on Respondents' Responses to their Disclosure of their HIV-Positive Status.

Figure 3 demonstrates data on the cumulative responses of respondents on HIV-positive status disclosure. The data revealed that 172 (7.5%), 2024 (88.8%), and 3.7%) out of the cumulative 2280 responses indicated yes, no, and not sure, respectively to the statements that sought to assess their HIV-positive status disclosure.

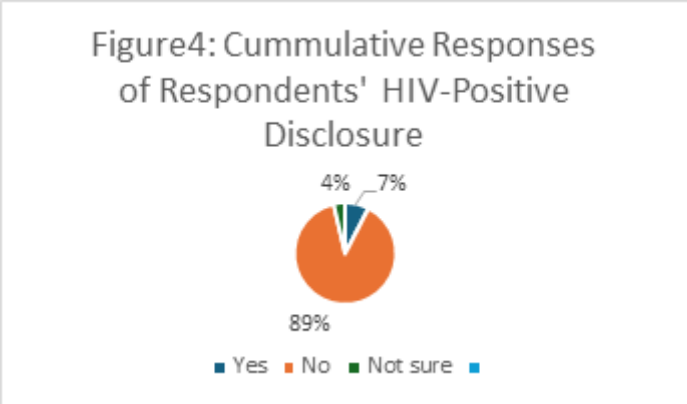

Table 4 represents data on the relationship between respondents' socio-demographic features and disclosure of HIV status to partners. The table revealed that with widowed coded as 1 as the reference, married couples had OR=9.923 (95% CI: 1.289-76.411); p=0.028, pseudo-R2 of 12.4%, never married but in a relationship was OR=4.103 (95% CI: 0.624-26.960); p=0.142, pseudo-R^2 of 12.4%, and divorced was OR=4.00 (95% CI: 0.331-48.297); p=0.275, pseudo R^2 of 12.4%. Also, with respondents working in both the private and public sector coded as 1 as the reference, the public sector was OR=2.050 (95% CI: 0.208-20.194); p=0.539, pseudo R^2=8%, and the private sector was OR=0.411 (95% CI: 0.050-3.342); p-0.406, pseudo R^2=8%.

Socio-demographic characteristics	Disclosure to partner		
	Pseudo R^2	P-value	OR
Gender	0.002		
Female		0.942	0.974 (0.473-2.005)
Male (ref.)			
Education Level	0.043		
Primary		0.552	1.623 (0.329-8.002)
JHS		0.518	0.674 (0.204-2.228)
SHS		0.274	1.971 (0.585-6.642)
Tertiary (ref.)			
Marital Status	0.124		
Never married but in a relationship		0.142	4.103 (0.624-26.960)
Married		0.028	9.923 (1.289-76.411)
Divorced		0.275	4.000 (0.331-48.297)
Widowed (ref.)			
Employment status	0.009		
Employed		0.372	1.945 (0.451-8.385)
Unemployed (ref.)			
Sector of employment	0.080		
Public sector		0.539	2.050 (0.208-20.194)
Private sector		0.406	0.411 (0.050-3.343)
Both public and private sectors (ref.)			

Table 4: Data on the Relationship between Respondents' socio-Demographic Features and Disclosure of HIV Status to Partners.

Table 5 represents data on the relationship between respondents' socio-demographic features and disclosure of HIV status to the family. The table revealed that with male coded as 1 as reference female was OR=8.178 (95% CI: 1.048-63.80); p=0.045, pseudo-R2 of 5.1%. With widowed coded as 1 as the reference, married couples had OR=4.286 (95% CI: 0.761-24.147); p=0.099, pseudo-R2 of 3.8%, never married but in a relationship was OR=2.171 (95% CI: 0.383-12.323); p=0.381, pseudo-R2 of 3.8%, and divorced was OR=3.429 (95% CI: 0.284-41.324); p=0.332, pseudo-R2 of 3.8%. Also, with respondents working in both the private and public sector coded as 1 as the reference, the public sector was OR=8.786 (95% CI: 1.631-47.338); p=0.011, pseudo R^2=8.1%, and the private sector was OR=11.571 (95% CI: 2.289-58.501); p-0.003, pseudo R2=8.1%.

Socio-demographic characteristics	Disclosure to family		
	Pseudo R^2	P-value	OR
Gender	0.051		
Female		0.045	8.178 (1.048-63.830)
Male (ref.)			
Education Level	0.072		
Primary		0.306	0.296 (0.029-3.042)
JHS		0.731	0.676 (0.072-6.320)
SHS		0.783	0.741 (0.088-6.267)
Tertiary (ref.)			
Marital Status	0.038		
Never married but in a relationship		0.381	2.171 (0.383-12.323)
Married		0.099	4.286 (0.761-24.147)
Divorced		0.332	3.429 (0.284-41.324)
Widowed (ref.)			
Employment status	0.023		
Employed		0.662	1.301 (0.399-4.241)
Unemployed (ref.)			
Sector of employment	0.081		
Public sector		0.011	8.786 (1.631-47.338)
Private sector		0.003	11.571 (2.289-58.501)
Both public and private sectors (ref.)			

Table 5: Data on the Relationship between Respondents' Socio-Demographic Features and Disclosure of HIV Status to Family.

Table 6 represents data on the relationship between respondents' socio-demographic features and disclosure of HIV status to friends. The table revealed that with male coded as 1 as reference female was OR=0.469 (95% CI: 0.145-1.515); p=0.206, pseudo-R2 of 5.7%. With widowed coded as 1 as the reference, married couples had OR=6.458 (95% CI: 1.072-38.919); p=0.042, pseudo-R2 of 8.5%, never married but in a relationship was OR=3.417 (95% CI: 0.564-20.716); p=0.181, pseudo-R2 of 8.5%, and divorced was OR=2.083 (95% CI: 0.261-16.631); p=0.489, pseudo-R2 of 8.5%. Also, with respondents working in both the private and public sector coded as 1 as the reference, the public sector was OR=8.000 (95% CI: 1.140-56.132); p=0.036, pseudo R^2=1.33%, and the private sector was OR=7.943 (95% CI: 1.304-48.392); p-0.025, pseudo R^2=1.33%.

Socio-demographic characteristics	Disclosure to friend		
	Pseudo R^2	P-value	OR (95% CI)
Gender	0.057		
Male		0.206	0.469 (0.145-1.515)
Female (ref.)			
Education Level	0.022		
Primary		0.620	0.537 (0.046-6.267)
JHS		0.768	1.444 (0.126-16.573)
SHS		0.788	0.746 (0.088-6.311)
Tertiary (ref.)			
Marital Status	0.085		
Never married but in a relationship		0.181	3.417 (0.564-20.716)
Married		0.042	6.458 (1.072-38.919)
Divorced		0.489	2.083 (0.261-16.631)
Widowed (ref.)			
Employment status	0.027		
Employed		0.835	1.153 (0.303-4.392)
Unemployed (ref.)			
Sector of employment	0.133		

Public sector		0.036	8.000 (1.140-56.132)
Private sector		0.025	7.943 (1.304-48.392)
Both public and private sectors (ref.)			

Table 6: Data on the Relationship between Respondents' Socio-Demographic Features and Disclosure of HIV Status to Friends.

12. Discussion

12.1. Knowledge of HIV Transmission

The study revealed that there is a significant gap in the knowledge of HIV transmission among respondents. Most of the participants had neutral responses to the statement that aimed to assess their knowledge of HIV transmission. Their lack of a clear understanding of HIV transmission puts public health at risk of HIV infection. This is a critical issue that needs urgent attention. On the 19th of July 2023, the Ghana AIDS Commission reported that around 19 people get infected with HIV in Ghana every day; highlighting the importance of increasing awareness and knowledge about HIV transmission.

Similar studies have found that while most respondents have basic knowledge about HIV transmission, their comprehensive knowledge level is generally low [13]. Some respondents also have misconceptions and misinformation about HIV transmission [13]. However, other studies have shown that a significant percentage of participants have a good understanding of how HIV is transmitted [14]. It is important not to ignore the few who may have little or no knowledge about HIV transmission, as even one person who is HIV-positive and uninformed about how the virus spreads can infect several individuals. This is particularly concerning as many people living with HIV may not disclose their status. Another study found that only 42% of the respondents had good knowledge about HIV transmission [15].

A recent study shows that more than half of the respondents lack good knowledge about HIV transmission, which contradicts the findings of a previous study that indicated the opposite [1]. This raises concerns about the potential impact on public health. However, it is possible to improve people's understanding of HIV transmission. Abubakar [16] found that having a good level of education and financial stability were the main factors that determined knowledge about HIV transmission, accounting for about 50% of the population. Educated and affluent individuals are more likely to invest resources in acquiring the appropriate knowledge about public health threats like HIV. Another study by Fu et al. [17] found that 61.6% of the respondents had good knowledge about HIV transmission, although the respondents generally lacked sufficient knowledge about the topic.

12.2. Association between Socio-demographic Features and HIV-Positive Status Disclosure

Human rights, particularly in the healthcare setting, give patients and clients the right to keep their health issues private and confidential [13]. This means that healthcare professionals can only disclose a patient's health information with their consent. However, even in cases where a patient's condition poses a public health threat, such as being HIV-positive, the right to privacy still applies. Studies have shown that many people living with HIV choose not to disclose their status to their partners or family members, which can be dangerous because it increases the risk of transmitting the virus. Couples in particular tend to trust each other and may rely on contraceptives to prevent unplanned pregnancies but may overlook the importance of using condoms to prevent HIV and other sexually transmitted diseases. Healthcare professionals may face a difficult decision when a patient refuses to disclose their HIV status to their partner. However, it is important to recognize that society's negative perceptions of people with HIV as being promiscuous can create fear, anxiety, and stigma [14], making it difficult for people living with HIV to disclose their status to their partners.

This study affirms that many people living with HIV prefer not to reveal their positive status. The reasons for non-disclosure include stigmatization, loss of support, and destabilization of relationships [10-15]. While these factors play a significant role in non-disclosure, certain socio-demographic features may also contribute to the reluctance of individuals to reveal their HIV-positive status. This study shows that women are more likely than men to keep their HIV-positive status a secret from their partners. This may be because women are disproportionately affected by the breakdown of romantic relationships and the stigma attached to being perceived as sexually promiscuous by their family members [14]. As a result, women living with HIV may be less likely to disclose their status to their family members than men. This study found a strong correlation between women and non-disclosure of HIV-positive status to family members. This suggests that there are potentially up to 8 more females than males who are less likely to disclose their HIV-positive status. These findings contradict a previous study, which found that approximately four more females disclosed their HIV status to their families than males did [16]. The influence of perceived sexual promiscuity on married couples when one partner is diagnosed with HIV may also be a major burden.

It is important to note that a broken marriage and the resulting single parenting, loss of support, and poverty can be a heavy burden. This may be why fewer married couples disclose their HIV-positive status to their partners compared to widowed couples. According to Seang et al. [16], married couples are less likely to disclose their HIV-positive status to their partners due to fear and anxiety about possible divorce, shame, and loss of support [18]. However, a study by Adam et al. [9] found that married couples were 15 times more likely to disclose their HIV status to their partners than unmarried couples. Divorced couples must disclose their HIV-positive status to their former or current partners to enable them to undergo early treatment in case they test positive. However, divorced couples are four times less likely to disclose their HIV-positive status to their former partners than widowed couples. Many HIV-positive divorced couples choose not to disclose their status to their former partners due to stigma, acrimonious feelings towards their ex-partners, or a nonchalant attitude towards their welfare. In a similar study by García et al. [18], it was found that 96% of married couples did not disclose

their HIV-positive status to their partners due to fear of divorce, and 98% due to fear of losing financial support. Additionally, cultural factors including traditional practices (98%) prevented HIV-positive status disclosure. In some cultures, being seen as sexually promiscuous while married is considered bad behavior and brings disgrace to the family, leading to mockery and disregard by others [19].

In some families, certain nuclear families may be stigmatized by others due to the perceived promiscuous behavior of a married couple, resulting in their HIV-positive status. This may be why married couples are about four times less likely to disclose their HIV-positive status to their family than widowed couples. Fear and anxiety about friends' ability to keep a secret from family may also lead to a strong relationship between married couples and non-disclosure of their HIV-positive status to friends, compared to widowed couples. Similarly, family members may assume that promiscuous behavior led to an HIV-positive status, resulting in a broken marriage. Therefore, most divorced couples may not want to disclose their HIV-positive status. The study shows that about three times divorced couples are less likely to disclose their HIV-positive status to their family than widowed couples. Furthermore, a lack of trust in friends to keep the secret from family could be the reason why about two more divorced couples are less likely to disclose their HIV-positive status to their friends. According to the study conducted by Huyen et al. [19], there is a positive relationship between HIV-positive status disclosure and testing uptake of spouses; however, there is no significant correlation between HIV disclosure and married couples. Therefore, the study affirms that disclosure of HIV-positive status by spouses is not common.

Stigmatization against people living with HIV is present in all areas of society, including the workplace. In the public sector, where collaboration with other employees is necessary for service delivery [8], some employees may discriminate against those who are HIV-positive. This can result in the destruction of valuable friendships and even intimate relationships, as other employees may inform relatives or partners of the HIV-positive status of their colleagues. On the other hand, when family members are aware of a relative's HIV-positive status, they may leak the information to their relative's colleague, leading to negative consequences. Due to this, many people living with HIV and working in the public sector do not disclose their HIV-positive status to their friends or family members. This study found that there is a strong relationship between public sector employees and non-disclosure of HIV-positive status to friends and families when compared to individuals working in both the public and private sectors.

The effects of HIV-related stigma on private businesses can lead to a cascade of events that may result in loss of business capital and eventual poverty. In the private sector, there is a risk of losing an employee's place of work due to low productivity resulting from the burden of stigmatization. This may be why employees in the private sector often do not disclose their HIV-positive status to friends and family members [2]. It has been found that people living with HIV, who work in the private sector, are less likely to disclose their HIV-positive status to their family and friends, as compared to individuals working in both private and public sectors. This finding is not unique to private sector employees, as public sector workers may also not prefer to disclose their HIV status to their friends and family. Similar findings have been observed in previous studies. For instance, a study conducted in the Netherlands revealed that employees living with HIV were unwilling to disclose their HIV status to their friends or colleagues at work because others whose HIV status was known were treated badly by their colleagues and management [19]. Nonetheless, a study conducted in Tanzania identified that about 52% and 48% of employees whose HIV-positive status was known were given health and social support [20]. Moreover, employees in the private sector were more likely to receive support than public sector employees [2]. The support offered included treatment, nutritional, and reduced workload support, which may increase work productivity while enhancing the health of the employees living with HIV. Another study concluded that support provided to employees living with HIV enhances positive correlation with testing, HIV care, retention in HIV care, and HIV medication adherence [21].

13. Conclusion

It has been observed that people living with HIV in the La Nkwantanan Madina Metropolis have a low understanding of how HIV is transmitted. Also, it has been found that marriage, female gender, and sector of work are significant factors that predict HIV non-disclosure by people living with HIV in the same region.

Declarations

Ethical approval to conduct the study was provided by the Review Board of All Nations University

Data Availability Statement

The datasets collected and analyzed during the current work are not publicly available due to ethical considerations but can be obtained from the corresponding author upon reasonable request.

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Authors' Contributions

Conceptualization, Quayson E.; Methodology, Review & Editing, and Manuscript, all the team members were active.

Declaration of Conflicting Interests

The authors declare no potential conflicts of interest concerning this article's study, authorship, and/or publication.

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