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Prevalence and correlates of intimate partner violence following partner notification among index HIV clients attending primary healthcare facilities in Uganda

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ABSTRACT

Assisted partner notification (APN) program was adopted by Uganda to increase individuals testing for HIV through their partners who test HIV positive. Thus, early enrollment in treatment and ensuring prevention services for the affected couple. However, APN is associated with high levels of Intimate partner violence (IPV). We aimed at determining the prevalence of IPV following APN in a cross-sectional study of newly diagnosed HIV clients in southwestern Uganda. We used the modified version of the Conflict Tactics Scale to assess IPV. We also collected information on sociodemographics of the index clients and their sexual partners, and outcome of linkage to care of partner. Logistic regression was used to determine the factors associated with IPV. We enrolled 327 index clients, mean age was 39.1, 63.6% were female and 35.5 experienced IPV following APN. The likelihood of experiencing IPV was more than twice if a health worker/provider disclosed the status to the partner. However, if the partners turned out to be HIV positive, it was protective against experiencing IPV, adjusted odds ratio 0.39, 95% confidence interval 0.23–0.69, $p = 0.001$. We conclude that IPV is common following partner notification in rural Uganda and should be screened and addressed.

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KEYWORDS

Intimate partner violence;
assisted partner notification;
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1. Introduction

The prevalence of HIV among people aged 15–64 years in Uganda is 6.2%, corresponding to 1.2 million people (MOH, 2019). In the same age group, only 72.5% Ugandans are aware of their HIV status, falling short of the recommended 95% recommended by UNAIDS (2014). To address this gap, Uganda adopted assisted partner notification (APN) program into routine clinical services (MOH, 2018). APN in HIV involves contacting sexual partners of index clients who test HIV positive and referring them to HIV testing and treatment. APN services have a high potential to identify people living with HIV but are unaware of their status. Though acceptability of APN in HIV care in Uganda is high at 81% (Namimbi et al., 2020), it has been found to trigger intimate partner violence (IPV) especially among women (Klabbers et al., 2020; Klabbers et al., 2021; Sileo et al., 2018).

IPV is the behavior by an intimate partner or ex-partner that causes physical, sexual, or psychological harm

(WHO, 2013). Violence by intimate partners is the most common form of violence against women. In Uganda, 60% of ever-married women and 40% of men aged 15–49 reported ever having experienced emotional, physical, or sexual violence from a spouse (UDHS, 2011). HIV-positive women in Uganda experience high rates of physical and sexual forms of IPV (Kabwama et al., 2019; Young et al., 2018).

IPV and HIV are significantly associated with higher incidence of HIV infection, poor adherence to treatment, and less uptake of APN programs. Primary healthcare facilities in southwestern Uganda, where the HIV prevalence of 7.9% in the 15–64 age group, is higher than the national average of 6.2% (MOH, 2019). We aimed to better understand the burden, prevalence, and correlations of IPV among index clients enrolled in the HIV APN programs in PHC settings in rural southwestern Uganda. Better knowledge of the burden of IPV among index clients taking up APN program has a potential to provide solutions to help those affected and improve acceptance.

2. Materials and methods

2.1. Study design and setting

We used a cross-sectional quantitative design and data were collected in April 2021. The study setting was Antiretroviral Therapy (ART) clinics in two Health Centre IVs and one district hospital in Rukungiri District located in southwestern Uganda about 380 kilometers from the capital Kampala. APN HIV services in Uganda are offered within the ART clinics and target index clients. The APN services are run by nurses and midwives skilled to identify eligible clients, interview and provide counseling and perform investigations to locate and link partners of the clients to testing and treatment services. The two HC IVs and a district hospital were selected to run high-volume ART clinics and provide APN.

2.2. Study participants

We included index clients aged 18 years and above who utilized HIV testing services within the last six months of the study and were enrolled at the APN clinics at the three facilities. At the time of the study, 690 clients were enrolled into APN services at the facilities.

2.3. Sample size: was determined using Cochran formula $n = Z^2PQ/E^2$ (Cochran, 2007): Where n = sample size, $Z = 1.96$, $P = 0.29$ based on a similar study by Young et al. (Young et al., 2018), $Q = 0.71$, $E = 0.05$. Thus a total of 316 participants. We added 10% to cater for attrition and our final sample size was 348 participants.

2.4. Data collection

We collected data using interviewer administered questionnaires that had information on sociodemographics of both the index client and their sexual partner, outcome of linkage to care of partner and IPV. The APN nurse identified newly diagnosed index HIV clients over the last six months who had come for a scheduled clinic visit. The nurse then sought permission from eligible clients to allow the research team to talk to them. The clinic nurse obtaining permission from the clients before they talked to the research team is a mandatory procedure in APN clinics in Uganda. For those who were granted permission, informed consent to participate in the study and access to their medical records were obtained. The tool was translated into the local language and an English version was availed as an alternative. The questionnaire was pretested among 12 participants; each interview took 30–40 min.

After data collection, the questionnaires were labeled with the clinic ID and kept in a file for privacy and confidentiality. Participants who require additional counseling were handled by the HIV clinic nurses.

2.5. Measurements

2.5.1. Intimate partner violence

Questions on IPV were adapted from the shortened and modified version of the Conflict Tactics Scale (Straus, 2017) which has been used by the UDHS 2011 and 2016 to collect data on domestic and gender-based Violence in Uganda (Ubos, 2017; UDHS, 2011). A history of physical, sexual or emotional violence within one month following partner notification was assessed using the following questions: (a) *Physical violence*: Did your partner do any of the following within one month after HIV result notification by you, health worker or both health worker and you: push you, shake you, throw something at you, slap you, twist your arm or pull your hair, punch you with his/her fist or something that could hurt you, kick you/drag you/beat you up, try to choke or burn you intentionally, threaten or attack you with a knife, machete, stick, gun or any other weapon? (b) *Sexual Violence*: Did your partner do any of the following within one month after HIV result notification by you, health worker, or both health worker and you: physically force to have sexual intercourse with him or her even when you did not want to, physically force you to perform any other sexual acts you did not want to, or force you with threats or in any other way to perform sexual acts you did not want to? (c) *Emotional Violence*: Did your partner do any of the following within one month after HIV result notification by you, health worker, or both health worker and you: say or do something to humiliate you in front of others, threaten to hurt you or someone close to you, insult you or make you feel bad about yourself. Each question has a Yes/No response and scored 1 if a response was yes, otherwise a score of 0 was given. A total score of 1 and above signified IPV. The translated version had good reliability in our study with a Cronbach alpha of 0.84, 0.82, and 0.70, for IPV, physical violence, and emotional violence, respectively.

Methods of partner notification: we asked and corroborated from the client records the following three methods of partner notification which are followed by the Uganda MOH guidelines:

Self-notification: the HIV-positive client agreed to disclose their status and the potential HIV exposure to their partners by themselves, and referred them to HIV testing services. Self-disclosure was verified when the clients came together with the notified partner for

HIV testing and possible linkage to HIV services if positive or during the next visit to the clinic by client.

Assisted notification: the trained APN nurse accompanied and provided support to HIV-positive clients when they disclosed their status and referred them to HIV testing services.

Provider notification: the HIV-positive client agreed that the APN nurse disclose their HIV status to the partner, and referred them to HIV testing services.

Linkage to care outcomes: For the index clients who agreed to notify their partners about their HIV-positive test results, we asked them, and corroborated with records, if the partners accepted or declined to go for testing, and if they agreed, what the HIV test results were (Positive or Negative), and for those who tested positive, if they were linked or not linked to ART. We also recorded how long the patient took to get tested for HIV.

History of alcohol and other substance use: We asked the index clients about their use of alcohol and other substances in the past year. The same information on alcohol and other substance used by their partners over the past one year was asked.

2.6. Ethical considerations

The study was approved by the Mbarara University Research and Ethics Committee (# 01/12-20) and registered by the Uganda National Council for Science and Technology. All participants provided written informed consent and allowed access to their records. Participants who required additional counseling were referred to the APN clinic.

2.6.1. Data management and analysis

During data collection, data were cross checked for completeness by two members of the research team (EM and RN). After, the data were entered into Microsoft Excel 2016 by two members (DM and RA) on a daily basis. Any discrepancies were resolved by the principal investigator (EM) and if need be, the participant was contacted for confirmation. Data were cleaned in Microsoft Excel by MMK and later exported to STATA version 16.0 for analysis. Descriptive statistics were summarized using mean and standard deviations for continuous data and percentages for categorical variables. Inferential statistics (t-tests and chi-square tests) were performed to identify relationships between IPV and independent variables. Logistic regression was used to determine the association between IPV and independent variables significant with inferential statistics. A *p*-value of less than 0.05

for the level of significance was considered at 95% confidence interval.

3. Results

We enrolled 327 participants while 11 declined consent to the study; all participants had previous partner notification encounters.

3.1. Prevalence of IPV

The prevalence of any form of IPV following notification was 35.5% (116/327), with a majority of the participants having experienced emotional abuse, 29.4% (96/327), followed by physical abuse 16.8% (55/327) and least experienced abuse was sexual, 4.9% (16/327) (Figure 1).

3.2. Relationship between IPV and participant's characteristics

The participants' mean age was 39.1 (± 11.2), median of 39, range of 19–76, with the majority belonging to the age group of 18–30 years. The majority of them was female 63.6%, and had completed primary leaving examination (PLE), 44.0%. A total of 143 (43.7%) participants had used substances of addiction in the previous year. The majority of the participants, 98.8%, accepted their partners to be notified about their HIV status and mainly chose the self-disclosure method, 76.4%. There was a statistically significant difference between those who experienced IPV and those who did not with the method of disclosure chosen. About 49.3% of the participants who chose the provider's method of disclosure statistically experienced more IPV than those who used other methods of disclosure, (vs 40.0% for assisted and 31.7% for self; $X^2 = 7.16$, *p*-value = 0.028) (Table 1).

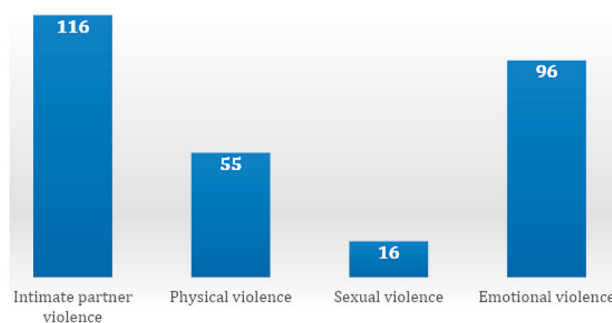


Figure 1. Number of participants experiencing different forms of intimate partner violence.

Table 1. The association between participants' variables and IPV.

Variable	<i>n</i> = 327 (%)	No IPV <i>n</i> = 211 (64.5%)	IPV <i>n</i> = 116 (35.5%)	χ^2 , <i>p</i> -value
Age categories				
18–30	95 (29.0)	54 (56.8)	41 (43.2)	4.02 (0.260)
31–40	88 (26.9)	57 (64.8)	31 (35.2)	
41–50	87 (26.6)	61 (70.1)	26 (29.9)	
Above 50	57 (17.4)	39 (68.4)	18 (31.6)	
Gender				
Female	208 (63.6)	134 (64.4)	74 (35.6)	0 (0.956)
Male	119 (36.4)	77 (64.7)	42 (35.3)	
Occupation				
Not formally employed	87 (26.6)	47 (54.0)	40 (46.0)	7.54 (0.057)
Formally employed	20 (6.1)	14 (70.0)	6 (30.0)	
Informally employed	216 (66.1)	146 (67.6)	70 (32.4)	
Retired	4 (1.2)	4 (100)	0	
Level of education				
No formal education	120 (36.7)	77 (64.2)	43 (35.8)	2.30 (0.682)
Completed PLE	144 (44.0)	97 (67.4)	47 (32.6)	
Completed O'level	44 (13.5)	25 (56.8)	19 (43.2)	
Completed A'level	1 (0.3)	1 (100)	0	
Completed tertiary level	18 (5.5)	11 (61.1)	7 (38.9)	
History of substance of addiction use in the past one year				
No	184 (56.3)	118 (64.1)	66 (35.9)	0.03 (0.865)
Yes	143 (43.7)	93 (65.0)	50 (35.0)	
Acceptance of the partner disclosure				
Declined partner to be notified	4 (1.2)	2 (50.0)	2 (50.0)	0.37 (0.541)
Accepted partner to be notified	323 (98.8)	209 (64.7)	114 (35.3)	
Method of disclosure chosen				
Self-disclosure	249 (76.4)	170 (68.3)	79 (31.7)	7.16 (0.028)
Assisted disclosure	10 (3.1)	6 (60.0)	4 (40.0)	
Health worker/provider disclosure	67 (20.5)	34 (50.7)	33 (49.3)	

3.3. Relationship between IPV and partner's characteristics

The mean age of the partners was 39.6 (± 11.8), median of 38, range of 18–89 years, with majority (39.0%) being in the age group of 31–40 years. Only two participants preferred not to say the gender of their spouse, but the majority were male, 63.0% ($n = 206$). Similar to the participants, the majority of the partners were reported to be informally employed, 63.3% ($n = 207$). There was a statistical difference between the experience of abuse and the following reported partner variables: linkage outcome and HIV test results. Partners who declined HIV testing services abused the participants more than those who accepted (60.0% vs 34.5%, $\chi^2 = 4.05$, p -value = 0.044). Partners that tested negative after linkage had violated the participants more, 51.4%, than those who turned positive, 29.5%. ($\chi^2 = 11.60$, p -value = 0.001) (Table 2).

Table 2. The association between partners' characteristics and IPV as reported by the participants.

Variable	<i>n</i> = 327 (%)	No IPV <i>n</i> = 211 (64.5%)	IPV <i>n</i> = 116 (35.5%)	χ^2 , <i>p</i> -value
Age				
18–30	89 (27.2)	55 (61.8)	34 (38.2)	2.04 (0.564)
31–40	100 (30.6)	61 (61.0)	39 (39.0)	
41–50	86 (26.3)	60 (69.8)	26 (30.2)	
Above 50	52 (15.9)	35 (67.3)	17 (32.7)	
Gender				
Female	119 (36.4)	76 (63.9)	43 (36.1)	1.12 (0.571)
Male	206 (63.0)	133 (64.6)	73 (35.4)	
Preferred not to say	2 (0.6)	2 (100)	0	
Occupation				
Not formally employed	90 (27.5)	56 (62.2)	34 (37.8)	1.18 (0.758)
Formally employed	26 (8.0)	15 (57.7)	11 (42.3)	
Informally employed	207 (63.3)	137 (66.2)	70 (33.8)	
Retired	4 (1.22)	3 (75.0)	1 (25.0)	
Level of education				
No formal education	95 (29.2)	61 (64.2)	34 (35.8)	2.10 (0.717)
Completed PLE	151 (46.5)	102 (67.5)	49 (32.5)	
Completed O'level	45 (13.8)	26 (57.8)	19 (42.2)	
Completed A'level	11 (3.4)	6 (54.5)	5 (45.5)	
Completed tertiary level	23 (7.1)	14 (60.9)	9 (39.1)	
History of substance of addiction use in the past one year				
No	141 (43.1)	96 (68.1)	45 (31.9)	1.37 (0.242)
Yes	186 (56.9)	115 (61.8)	71 (38.2)	
Linkage outcomes				
Accepted HIV testing services	310 (95.4)	203 (65.5)	107 (34.5)	4.05 (0.044)
Declined HIV testing services	15 (4.6)	6 (40.0)	9 (60.0)	
If accepted, duration taken to HIV testing services				
1–3 weeks	69 (21.1)	42 (60.9)	27 (39.1)	4.33 (0.228)
4–6 weeks	73 (22.3)	43 (58.9)	30 (41.1)	
Above 6 weeks	168 (51.8)	117 (69.6)	51 (30.4)	
Never	17 (5.2)	9 (52.9)	8 (47.1)	
If accepted, HIV test results				
Negative	70 (22.5)	34 (48.6)	36 (51.4)	11.60 (0.001)
Positive	241 (77.5)	170 (65.6)	107 (29.5)	
If HIV positive, linkage to ART				
No	7 (2.9)	4 (57.1)	3 (42.9)	0.63 (0.428)
Yes	231 (97.1)	164 (71.0)	67 (29.0)	

From table 2: Having a partner who declined HIV testing upon notification was significantly associated with intimate partner violence ($p=0.044$), while having a partner who turned out to be HIV negative was significantly associated with intimate partner violence ($p=0.001$).

3.4. Factors associated with IPV experience among the study participants

Factors with statistical significance at the chi-square test were used to perform logistic regression to obtain the factors associated with IPV experience following linkage, included: method of disclosure chosen, linkage outcome, and spouse HIV test results after linkage. The factors that remained significantly associated with IPV experience at bivariate analysis i.e., method of disclosure chosen and spouse HIV test results were tested for

Table 3. Factors associated with IPV experience among the study participants.

Variables associated	IPV experience after linkage					
	Crude odds ratio	95% confidence interval	p-value	Adjusted odds ratio	95% confidence interval	p-value
Method of disclosure chosen						
Self-disclosure	–	–	–	–	–	–
Assisted disclosure	1.43	0.39, 5.23	0.584	2.32	0.55, 9.78	0.254
Health worker/provider disclosure	2.09	1.21, 3.61	0.008	2.19	1.23, 3.87	0.007
Linkage outcomes						
Accepted HIV testing services	–	–	–	–	–	–
Declined HIV testing services	2.85	0.99, 8.21	0.053	NA	NA	NA
If accepted, HIV test results						
Negative	–	–	–	–	–	–
Positive	0.39	0.23, 0.68	0.001	0.39	0.23, 0.69	0.001

collinearity and all had a VIF of 1.00. Using a backward stepwise selection model, the final model had a sensitivity of 14.0% and a specificity of 97.5%. It could correctly predict IPV experience at 68.7%. The likelihood of experiencing IPV was more than twice if a health worker/provider disclosed the status to the partner. However, partners who turned HIV positive were protective against experiencing IPV, adjusted odds ratio 0.39, 95% confidence interval 0.23–0.69, p -value = 0.001 (Table 3).

4. Discussion

APN has been found effective in identifying and linking to care for people living with HIV and is key in HIV prevention and control. Following WHO recommendation, countries with high HIV burden including those in sub-Saharan Africa have implemented APN as a critical strategy to increase HIV testing of partners at risk (Kamanga et al., 2015; Kariuki et al., 2020; Klabbers et al., 2020; Tih et al., 2019; Wamuti et al., 2015). However, IPV among APN index clients may pose a threat to its utilization.

This study is the first in Uganda to describe the prevalence of IPV following APN and the factors related to the prevalence of IPV among the index clients. The prevalence of IPV among the participants was 35.5%, similar to other studies among HIV-positive clients in the same region of the country where the same culture is practiced i.e., Kabale at 36.6% among 317 women and 29% among women involved in the Uganda rural treatment outcome cohort (Osinde et al., 2011; Young et al., 2018). However, the prevalence was lower than 58.9% among 10,198 women nested from the Rakai Health Science Program Cohort between 2000 and 2009, which used a similar scale to determine IPV (Kouyoumdjian et al., 2013). The difference may be due to studies being done at different times since recently more laws have been reinforced to fight IPV in Uganda (Kyegombe et al., 2015). Our study also included men who suffer less IPV than women thus

making the overall prevalence lower, historically men experience less IPV than women with a prevalence of 8–23% (Reid et al., 2008). The commonest form of IPV experienced by women following APN was emotional violence. This form of abuse is predominant among younger populations and men, a section that experience almost half of the IPV (Karakurt & Silver, 2013). Emotional abuse has been noted to be the main precursor of physical violence and many may resort to emotional abuse rather than physical abuse that is associated with crime and punishments (Karakurt & Silver, 2013).

The prevalence of IPV particularly in women is consistently high in many African countries (Wado et al., 2021). This is consistent with what was found in this study. However, the comparable level of IPV between women and men in this study is surprising considering the fact that women are vulnerable to gender-based violence in Uganda and many other parts of Africa (Young et al., 2017). Higher prevalence of IPV in women compared to men has been reported in other studies (Aris-haba et al., 2022).

In the current study, IPV was associated with notification being made by a healthcare provider. This may be associated with fear of opening up to a partner probably due to previous history of violence and many opt for assistance from health care providers. In Uganda, especially in western Uganda, partners prefer to be direct with each other and few external parties are involved in family decisions (Manyak & Katono, 2010), a change from the norm can therefore lead to violence, such as use of health workers to tell partners about the HIV status of their spouses. Despite use of health providers increasing the likelihood of experiencing IPV, partners who eventually turned out HIV positive were less likely to abuse their spouses. This may be due to the guilt experienced by the partners since extra-marital affairs have been reported to be common among couples in Uganda (Kaggwa et al., 2021). Individuals who eventually turned out positive may already have suspicions of being positive and their nonviolent

reaction is a normal reaction following guilt of bringing the infection into the family. This information is of importance to health workers who are involved in APN and may use this as a strategy to inform of less likelihood of violence to the index clients who have multiple sexual partners.

Literature has it that methods of APN differ by country or group of people. Alam et al. (2010) noted that approximately two-thirds (63.5%) of contacts were successfully notified using centralized Internet APN. This is a method that is not practically feasible in most rural parts of Uganda since most Ugandans cannot access reliable internet either due to poverty or connection problems. However, the telephone APN has also been successful in other parts of the world (Udeagu et al., 2014). This method can be used by counselors to help guide partners of index clients into care and reduce the chances of violence. With partners of our study participants preferring self APN, such methods should be used to compliment APN in Uganda, where applicable. This study had limitations that should be taken into account while interpreting our findings. First, recall bias is a possibility since we recruited clients who tested positive within the last six months. However, violence causes significant physical, emotional, and psychological damage to individuals and such memories cannot easily be repressed. Secondly, we had few individuals who reported sexual violence, which may be a misinterpretation of sexual experience among married couples who culturally may consider such acts violence. In addition, our IPV tool had only one question to assess for sexual violence. However, the tool has been used in many studies in Uganda. We therefore propose validation of the tool with other standardized tools for IPV. Our findings show that IPV is common among index clients upon disclosure of their positive HIV test results to these partners. This calls for the integration of IPV screening into HIV testing services as well as care for those who are affected especially among those who are vulnerable such as women. We envisage that this will increase the uptake of HIV partner notification programs.

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Disclosure statement

No potential conflict of interest was reported by the author(s).

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Author's contribution

All authors were involved in conceptualization of the idea, study design, data collection, writing and drafting the manuscript, and accepted the manuscript to be published.

Ethical approval and consent of participants

The study was conducted in accordance with the Declaration of Helsinki. The study received ethics approval from the research ethics committee of Mbarara University of Science and Technology (approval number: MUSTREC #01/12-20). All participants provided voluntary written informed consent at study enrollment.

Consent for publication

Participants consented to the publication of the information obtained from them.

Availability of data and materials

The datasets used and/or analyzed during the current study are available from the corresponding author SM on reasonable request.

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