Prevalence of violence towards men living with HIV/AIDS in rural communities of SouthWestern Uganda

Javilla Kamya Kakooza1, Ritah Nampijja 1, Faith Kwagala 1, Flavia Nuwabasa1, Owen Mpuuga 1, Gomer Isiagi 1, Godfrey Zari Rukundo2

1. Mbarara University of Science and Technology, Faculty of Medicine, P.O.Box1410, Mbarara city Uganda
2. Department of Psychiatry, Mbarara University of Science and Technology, Faculty of Medicine, P.O.Box 1410, Mbarara city Uganda.

Abstract

Background: Violence towards HIV positive men is one of the silent barriers to utilization of HIV care services. HIV positive men are potential victims of violence from other people including women, and violence may interfere with treatment outcomes. This study determined the prevalence of violence towards HIV positive men in rural communities of southwestern Uganda.

Methods: A cross-sectional study was conducted among 307 HIV positive men at selected health centers using an interviewer administered questionnaire. Data were analyzed in SPSS version 23 using chi-square and multivariate regression at 95% level of significance and a precision of 0.05.

Results: Of the 307 participants, 45.3% had experienced violence. Of these, 23.8% (n=73) had experienced kicking or slapping while 12.7% (39) reported sexual violence. Factors associated with violence were; using alcohol and drugs (aOR 0.26, 95% CI 0.09-0.76, p=0.014), knowledge of support structures (OR 2.25, 95% CI 1.33-3.78, p=0.002) and owning land for farming (aOR 0.26, 95% CI 0.10-0.70, p=0.011).

Conclusion: The prevalence of violence at 45.3% is quite high especially since violence against men is rarely talked about. This should not be ignored there should be strategies to support this vulnerable group.

Keywords: HIV positive men, violence, prevalence, rural communities, Uganda.

DOI: https://dx.doi.org/10.4314/ahs.v22i3.51

Cite as: Kakooza JK, Nampijja R, Kwagala F, Nuwabasa F, Mpuuga O, Isiagi G, et al. Prevalence of violence towards men living with HIV/AIDS in rural communities of SouthWestern Uganda. Afri Health Sci. 2022;22(3): 477-485. https://dx.doi.org/10.4314/ahs.v22i3.51

Introduction

Violence has been defined by the World Health Organization as “the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation”. It is a phenomenon commonly studied among women. While a woman’s violence is often seen as self-defense or as an expression of frustration and stress, men are often perceived as perpetrators. Violence towards men is rarely talked about although some previous research in high-income countries shows that men equally suffer from violence and its consequences. Men often fear to disclose violence in their homes and communities because of ‘masculinity,’ tendency to be strong, resilient and being in control. In sub-Saharan Africa, violence towards men is highest in war-torn countries with a prevalence of up to 64.5%. Violence is more pronounced among HIV positive men and the HIV positive status is one of the risk factors. While the intersection of HIV/AIDS and violence has gained momentum over the years, much focus is on women and children with little attention to HIV positive men. According to previous studies, HIV can also be a risk factor for violence since disclosure of a positive status can put the individual at risk of violence by their partners, family or community members. However, most previous studies have focused on violence towards women. Violence towards the HIV positive men can...
be perpetrated from the family and the community at large because of different reasons including their HIV positive status 14, 18, 19.

People living with HIV and experiencing violence in rural communities may be at increased risk for adverse clinical outcomes associated with HIV diagnosis and inadequate management resources 14, 20. Violence perpetrated in rural communities may be more chronic and may have worse physical, psychological and social health outcomes due to the disparities in access and availability of services 21-24. When violence towards HIV positive men if not attended to it may be associated with depression, non-adherence to ARVs, lost follow-up, family neglect and suicide 13, 25.

With the high HIV prevalence in western Uganda, the aim of the present study was to investigate the prevalence, forms and factors associated with violence towards HIV positive men attending HIV care in health facilities in Bushenyi district in southwestern Uganda. In this study we adapted the World Health Organisation definition of violence. We defined violence against men as "the intentional use of physical force or power, threatened or actual, against men, which either resulted in or had a high likelihood of resulting in injury, death, psychological harm or deprivation". We chose to conduct the study in HIV clinics because we needed to be sure that the HIV diagnosis was confirmed. Given the stigma of HIV, it would have been difficult to identify the men living with HIV.

Methods

Study design

This was an analytical cross sectional study conducted in April 2021.

Study setting

The structure of the Ugandan health care system includes the community level services by the village health teams; health centers (HC II, at parish level; HC III, at sub-county level; and HC IV, at county level), district level (general) hospitals, regional referral hospitals, and national referral hospitals 26. The HC II provides only ambulatory services except in strategic locations such as poor access to HCIII or HC IV where as interim strategy maternity services are being provided. The HC III offers continuous basic preventive, promotive and curative care and provides support supervision of the community and HCII facilities. In addition to services provided by HC II, there are provisions for laboratory services for diagnosis maternity care and HIV care. The HC IV offers services similar to those at HC III. However, in addition, they have an operating theatre and they supervise the HC III. The HC IV has medical doctors and other high cadre health professionals 26. All HIV services at the various levels of care are offered at no cost in public health facilities.

The study was conducted in Igara county, Bushenyi district, southwestern Uganda at four health centers: Kyabugimbi HC IV, Ruhumuro HC III, Bitooma HC III and Kakanju HC III. We recruited participants from various health facilities so as to raise a study. There was no intention to compare the samples from the different facilities. Igara County is 463 kilometers from Kampala city along Mbarara-Kasese highway in southwestern Uganda. The main economic activity is mainly small scale agriculture and retail to commercial businesses. The area is occupied mainly by the Banyakore-Bakiga tribe whose native language is Runyakole-Rukiga. Kyabugimbi HC IV is located 6.1km off the main road and is found between Kyabugimbi and Bugalama trading centers. Kakanju HC III is 16 km away while Ruhumuro is 26 km North West away from Kyabugimbi trading center and Bitooma HC III is 22 km North East of Kyabugimbi.

Study population

The study was conducted among 307 adult HIV positive men attending HIV care at the four health centers (Kyabugimbi, Ruhumoro, Bitooma and Kakanju). The sample was calculated basing on the prevalence of 22.4% in a previous 27. According to the Kish and Leslie formula, the minimum required sample was 303 HIV positive men.

Data collection procedure

The participants were recruited from the four facilities in Igara County, Bushenyi district. The participants were consecutively recruited until the required number was obtained. The clinics were on different days at the different health facilities. We used an interviewer administered questionnaire to collect data on sociodemographic characteristics (age, marital status, Ownership of land and other items, occupation and the level of education), violence and substance use. The questions on violence were adapted from the Abuse Assessment Screen. The questionnaire was administered by the research assistants. The research assistants (Nurse and social scientist) were trained by the senior author on how to administer the questionnaire and have previously participated in community research projects. The questionnaire has not been formally validated for Uganda but it was translated into the
local language (Runyankore-Rukiga) and pretested among 20 HIV positive men receiving HIV care from Mbarara Regional Referral Hospital and found to be appropriate. Research assistants were supervised by the senior author. With the help of the HIV clinic in-charges, HIV positive men who had come for care were identified. Using consecutive sampling method, the participants who fulfilled the inclusion criteria were requested by the research assistants to participate in the study. The research assistants introduced the study to potential participants and asked them for consent. The participants were informed that participation was voluntary and that they were free to stop their participation at any point without any negative consequences. Those who accepted to participate signed consent forms and thereafter completed the questionnaire which took between 20-30 minutes. The participants who were not able to read and write used their thumb prints to confirm their consent to participate.

Variables
The dependent variable was violence due the HIV positive status among HIV positive men attending care in health facilities in Bushenyi district southwestern Uganda. We assessed the forms, associated factors and perceptions about violence due to HIV positive status. The independent variables were: Age, marital status, education level, level of income, occupation, duration of HIV diagnosis, substance use, perceptions of HIV positive men towards violence, availability of support structures (Family divisions in police), and access to the support structures.

Ethical considerations
The study protocol was reviewed and approved by the Mbarara University Research Ethics Committee No.06/12-20. Administrative clearance to conduct the study was obtained from the Bushenyi District Health Officer. Details of the power of choice to participate were explained to the participants. The respondents were informed that they were free to refuse to respond to questions that they did not feel comfortable answering. Informed written consent was obtained from all the participants before enrolling for the study. For purposes of confidentiality, the respondent’s names were not recorded on the questionnaires, but codes were allocated to each participant.

Data management and analysis
While in the field, we ensured completeness of the questionnaires before the respondents left the interview rooms. The data were later entered into SPSS version 23 and cleaned before analysis. Categorical variables were analyzed using chi-square and multivariate regression at 95% confidence interval. At multivariate regression to determine variables that were independently associated with the outcome variable, the potential confounders were included (age, marital status, level of education, employment, knowledge about available support services and access to the support services). The model fitness was tested using Hosmer-Lemeshow test at p>0.05.

Results
Participant characteristics
Of the 307 participants in the study, 35.5% (109/307) were in the age group 36-45 years, 59.6% (183/307) had completed only primary education and 32.9% (101/307) were unemployed (Table 1).
Prevalence of violence towards HIV positive men attending selected health centers in Bushenyi district
The prevalence of violence towards HIV positive men was 45.3% (n=139/307, 95% CI 39.4-51.1) and 43.9% (61/139) were in monogamous relationships (Table 1). In our study sample, 23.8% (n=73) experienced physical violence (kicking or slapping) and 39 (12.7%) men reported sexual violence. Of these HIV positive men, 51 (69.9%) reported being afraid of their perpetrators. The perpetrators of the slapping or kicking were: fellow men (41.1%, n=30), strangers (30.1%, n=22), current wives (13.7%, n=10), former wives (8.2%, n=6) and girlfriends (6.9%, n=5). Thirteen individuals (17.8%) reported being hit on the head while 29 (39.7%) reported being hit on the abdomen or chest.

Predictors of violence towards HIV positive men attending selected health centers in Bushenyi district
From the multivariate analysis, use of alcohol and smoking as well as ownership of land for farming were independently associated with increased risk for violence among HIV positive men (Table 2).

| Characteristic variable | Description | Frequency, N=307, n(%) | Experienced violence n(%) | Didn’t experience violence n (%) |
|------------------------|-------------|------------------------|---------------------------|---------------------------------|
| Age                    | 18-24       | 28(9.1)                | 17(12.2)                  | 11(6.5)                         |
|                        | 25-35       | 80(26.1)               | 34(24.5)                  | 46(27.4)                        |
|                        | 36-45       | 109(35.5)              | 48(34.5)                  | 61(36.3)                        |
|                        | 46-60       | 70(22.8)               | 35(25.2)                  | 35(20.8)                        |
|                        | >60         | 20(6.5)                | 5(3.6)                    | 15(8.9)                         |
| Education level        | No formal education | 44(14.3)          | 18(12.9)                  | 26(15.5)                        |
|                        | Primary education | 183(59.6)         | 84(60.4)                  | 99(58.9)                        |
|                        | Secondary   | 67(21.8)               | 32(23.0)                  | 35(20.8)                        |
|                        | Tertiary/University | 13(4.2)           | 5(3.6)                    | 8(4.8)                          |
| Marital status         | Never married | 43(14.0)           | 23(16.5)                  | 20(11.9)                        |
|                        | Married monogamous | 140(45.6)        | 61(43.9)                  | 79(47.0)                        |
|                        | Married polygamous | 48(15.6)          | 27(19.4)                  | 21(12.5)                        |
|                        | Widowed or divorced | 76(24.8)         | 28(20.1)                  | 48(28.6)                        |
| Ownership of land and other items | Doesn’t own land | 56(18.2)         | 35(25.2)                  | 21(12.5)                        |
|                        | Owns land for farming | 195(63.5)        | 82(59.0)                  | 113(67.3)                       |
|                        | Owns land and motorcycles or cars | 56(18.2)        | 22(15.8)                  | 34(20.2)                        |
| Occupation             | Unemployed   | 101(32.9)              | 44(31.7)                  | 57(33.9)                        |
|                        | Business     | 55(17.9)               | 24(17.3)                  | 31(18.5)                        |
|                        | Formal employment | 17(5.5)         | 8(5.8)                    | 9(5.4)                          |
|                        | Informal employment | 134(43.6)        | 63(45.3)                  | 71(42.3)                        |
| Variable characteristic | Description | Unadjusted Prevalence ratio | 95 % CI | p-value | Adjusted Prevalence ratio | 95 % CI | p-value |
|-------------------------|-------------|----------------------------|---------|---------|---------------------------|---------|---------|
| **Age (years)**         |             |                            |         |         |                           |         |         |
| 18-24                   | 1           |                            |         |         |                           |         |         |
| 25-35                   | 2.43        | 1.07-5.49                  | 0.03    | 2.01    | 0.83-4.86                 | 0.121   |         |
| 36-45                   | 1.70        | 0.76-3.77                  | 0.19    | 1.57    | 0.74-3.32                 | 0.237   |         |
| 46-60                   | 1.76        | 0.80-3.87                  | 0.16    | 1.59    | 0.76-3.32                 | 0.217   |         |
| > 60                    | 2.00        | 0.90-4.43                  | 0.09    | 1.91    | 0.93-3.91                 | 0.076   |         |
| **Level of education**  |             |                            |         |         |                           |         |         |
| No formal education     | 1           |                            |         |         |                           |         |         |
| Primary                 | 1.064       | 0.49-2.31                  | 0.88    | 1.49    | 0.47-4.71                 | 0.495   |         |
| Secondary               | 1.19        | 0.59-2.42                  | 0.62    | 1.37    | 0.45-4.16                 | 0.578   |         |
| Tertiary/ university    | 1.24        | 0.60-2.58                  | 0.56    | 1.27    | 0.44-3.69                 | 0.662   |         |
| **Occupation**          |             |                            |         |         |                           |         |         |
| Unemployed              | 1           |                            |         |         |                           |         |         |
| Business                | 0.93        | 0.70-1.23                  | 0.60    | 0.93    | 0.67-1.29                 | 0.662   |         |
| Formal employment       | 0.93        | 0.65-1.32                  | 0.68    | 1.01    | 0.73-1.42                 | 0.938   |         |
| Informal employment     | 1.00        | 0.59-1.71                  | 0.10    | 1.12    | 0.49-2.57                 | 0.788   |         |
| **Marital status**      |             |                            |         |         |                           |         |         |
| Never married           | 1           |                            |         |         |                           |         |         |
| Married-Monogamous      | 1.45        | 0.97-2.18                  | 0.07    | 1.13    | 0.61-2.10                 | 0.703   |         |
| Married-polygamous      | 1.18        | 0.83-1.68                  | 0.35    | 0.99    | 0.67-1.45                 | 0.937   |         |
| Separated/divorced      | 1.53        | 1.04-2.25                  | 0.03    | 1.40    | 0.93-2.13                 | 0.111   |         |
| **Level of income**     |             |                            |         |         |                           |         |         |
| Owns land for farming   | 1.59        | 1.08-2.34                  | 0.02    | 1.79    | 1.20-2.66                 | 0.004   |         |
| Owns land and motorcycles or cars | 1.07 | 0.74-1.54 | 0.72 | 1.31 | 0.94-1.83 | 0.111 |
| **Use of substance**    |             |                            |         |         |                           |         |         |
| (alcohol and smoking)   |             |                            |         |         |                           |         |         |
| Doesn’t use any         | 1           |                            |         |         |                           |         |         |
| Use one (either alcohol or smoking) | 1.09 | 0.58-2.03 | 0.79 | 1.32 | 0.71-2.47 | 0.380 |
| **Use of both alcohol and smoking** | 1.78 | 0.96-3.31 | 0.07 | 1.95 | 1.04-3.66 | 0.039 |
| **Knowledge of the**    |             |                            |         |         |                           |         |         |
| support structures      |             |                            |         |         |                           |         |         |
| No                      | 1           |                            |         |         |                           |         |         |
| Yes                     | 0.69        | 0.53-0.91                  | 0.01    | 2.45    | 0.35-17.05                | 0.364   |         |
| **Access to support**   |             |                            |         |         |                           |         |         |
| structures              |             |                            |         |         |                           |         |         |
| No                      | 1           |                            |         |         |                           |         |         |
| Yes                     | 0.64        | 0.49-0.85                  | 0.00    | 0.26    | 0.04-1.82                 | 0.174   |         |
Discussion

The aim of the present study was to investigate the prevalence and factors associated with violence towards HIV positive men attending in health facilities of Bushenyi district in southwestern Uganda. We found that almost half of the HIV positive men had experienced violence within the previous 3 months. The factors associated with violence towards HIV positive men included ownership of land for farming and substance use.

The prevalence of 45.3% is quite high yet in practice it is usually undetected. This is higher than the prevalence of 39% reported by Bryan and colleagues among HIV positive men in a rural setting in Appalachia USA. The difference could be due to the disparity in study tools and settings. In addition, the study by Bryan and colleagues focused on intimate partner violence but ours also considered violence from different individuals including the spouses of the victims. The prevalence of violence in our study was also higher than that of Wang and colleagues who also focused on only intimate violence among men who have sex with men. Apart from intimate partner violence, HIV positive men experience other forms of violence that need to be studied. As expected, the prevalence in our study is lower than that among women in which men are the most common perpetrators.

Several factors are associated with violence in HIV positive individuals. The factors associated with violence are common in the community and seem to be the very factors associated with violence in the general population. Generally, men are considered to be perpetrators of violence and some of the associated factors are socio-economic. According to our findings, having a good ownership of land and other items was protective against violence. This could be to the fact that individuals with a higher socioeconomic status are respected by the members of the community and therefore not violated even when they are HIV positive.

At multivariate analysis, consumption of alcohol and other drugs was associated with increased risk of violence. This is similar to previous studies that have associated substance use with perpetration of violence. It is possible when they are under the influence of substances they become victims of violence. It is also possible that the individuals who have suffered violence may resort to substance use as a coping mechanism. There is need for further exploration of this relationship.

Owning land for farming was found to be to be associated with violence among HIV positive men. These being rural communities, the desire to own land may lead to land wrangles between family and community members since it is a treasured and prestigious possession. Farming is also associated with having many things to do and with less time for redundancy. Having land for farming protects against food insecurity and poverty which are risk factors for violence in homes.

At bivariate analysis, it was surprising to find that having knowledge of the available support structures predicted violence among HIV positive. We did not ask how many times they have accessed the support structures. It is possible that these victims of violence have already accessed the support structures and therefore knowledge about them. Victims of violence often have vulnerability factors that put them at risk of experiencing violence several times. In a previous Ugandan study, men were reported as having less enthusiasm for seeking care. However, the association did not remain significant after controlling for the confounding factors.

Implications of the findings

Although men have been reported as perpetrators of violence among women, they are also victims. Unfortunately, their vulnerability is usually not assessed in routine care. There is a need to regularly assess men for the risk violence. For example, some questions on violence may be incorporated in the routine assessment form so that clinicians are reminded to ask about violence among men seeking care. The regular screening for violence against men may help identify those at risk for poor health outcomes so as to mitigate the negative effects. If violence against men is not assessed and managed it can lead to many complications such as poor treatment adherence and further spread of HIV. In addition, there is need for more research on violence among HIV positive men in sub-Saharan Africa which carries the biggest burden of HIV and violence.

Limitations of the study

We did not assess the extent to which violence among the HIV+ men differs from that in HIV-negative men since all our study participants were HIV positive. The direction of the association between substance use and violence was not specified to confirm if the substance use is a risk factor or a consequence of violence. Being a cross-sectional study, we are unable to confirm this. In addition, we did not assess for sexual orientation in this study. It is possible that some of the men could be having
sex with other men, a group that has more risk of sexual abuse by other men. Since data were collected from multiple health centers, at analysis, there could be design effect although all the health facilities are in the same locality. The design effect could have reduced the precision of our sample estimate.

Conclusion
There is a high prevalence of violence towards the HIV positive men southwestern Uganda. Policy makers and other relevant stakeholders need to put strategies in place to support this vulnerable group.

Authors’ contribution
JKK conceived the idea. All the authors participated in proposal development. GZR supervised the RAs during data collection. JKK and GZR did data analysis and wrote the first draft of the manuscript. All authors reviewed and approved the final manuscript for submission to the journal publication.

Acknowledgements
We acknowledge the Bushenyi District Health Officer and health facility in-charges for the administrative clearance to collect data from the district health facilities. We also appreciate the RAs for the data collection. We also thank the study participants who willingly entrusted us with their valued information. We express gratitude and appreciation to the management of Mbarara University of Science and Technology and the HEPI-TUITAH Program management that made immense contributions and technical support to the success of this study.

Competing interests
The authors declare no competing interests.

Availability of data and materials
All the data needed for this manuscript has been included. In case there is a need for clarifications, the corresponding author can be contacted.

Funding
Research reported in this publication was supported by the Fogarty International Center (U.S. Department of State’s Office of the U.S. Global AIDS Coordinator and Health Diplomacy and the President’s Emergency Plan for AIDS Relief of the National Institutes of Health under Award Number R25TW011210. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

References
1. Krug EG, Mercy JA, Dahlberg LL, Zwi AB. The world report on violence and health. The lancet. 2002;360(9339):1083-8.
2. Organization WH. Violence against women. World Health Organization; 1997.
3. Garcia-Moreno C, Heise L, Jansen HA, Ellsberg M, Watts C. Violence against women. Science. 2005;310(5752):1282-3.
4. Krantz G, Garcia-Moreno C. Violence against women. Journal of Epidemiology & Community Health. 2005;59(10):818-21.
5. Dunkle KL, Jewkes RK, Nduna M, Levin J, Jama N, Khuzwayo N, et al. Perpetration of partner violence and HIV risk behaviour among young men in the rural Eastern Cape, South Africa. AIDS (London, England). 2006;20(16):2107-14.
6. Wei D, Cao W, Hou F, Hao C, Gu J, Peng L, et al. Multi-level factors associated with perpetration of five types of intimate partner violence among men who have sex with men in China: an ecological model-informed study. AIDS care. 2020;32(12):1544-55.
7. Campbell J, Jones AS, Dienemann J, Kub J, Schollenberger J, O'Camp P, et al. Intimate partner violence and physical health consequences. Arch Intern Med. 2002;162(10):1157-63.
8. Bogart LM, Collins RL, Cunningham W, Beckman R, Golinelli D, Eisenman D, et al. The association of partner abuse with risky sexual behaviors among women and men with HIV/AIDS. AIDS Behav. 2005;9(3):325-33.
9. Ellickson PL, Collins RL, Bogart LM, Klein DJ, Taylor SL. Scope of HIV risk and co-occurring psychosocial health problems among young adults: violence, victimization, and substance use. J Adolesc Health. 2005;36(5):401-9.
10. Micheni M, Rogers S, Wahome E, Darwinkel M, van der Elst E, Gichuru E, et al. Risk of sexual, physical and verbal assaults on men who have sex with men and female sex workers in coastal Kenya. AIDS (London, England). 2015;29 Suppl 3(0 3):S231-6.
11. Lynch I, Brouard PW, Visser MJ. Constructions of masculinity among a group of South African men living with HIV/AIDS: reflections on resistance and change. Culture, Health & Sexuality. 2010;12(1):15-27.
12. Dageid W, Govender K, Gordon SF. Masculinity and
HIV disclosure among heterosexual South African men: implications for HIV/AIDS intervention. *Culture, Health & Sexuality*. 2012;14(8):925-40.

13. Christian M, Safari O, Ramazani P, Burnham G, Glass N. Sexual and gender based violence against men in the Democratic Republic of Congo: effects on survivors, their families and the community. *Med Confl Surviv*. 2011;27(4):227-46.

14. Bryan N, Davidov DM, Dick T, Bassler J, Fisher M. Intimate Partner Violence Experiences Among Men Living with HIV in Rural Appalachia. *AIDS Behav*. 2019;23(11):3002-14.

15. Pantalone DW, Rood BA, Morris BW, Simoni JM. A systematic review of the frequency and correlates of partner abuse in HIV-infected women and men who partner with men. *J Assoc Nurses AIDS Care*. 2014;25(1 Suppl):S15-35.

16. Dunkle KL, Jewkes RK, Brown HC, Gray GE, McIntyre JA, Harlow SD. Gender-based violence, relationship power, and risk of HIV infection in women attending antenatal clinics in South Africa. *Lancet*. 2004;363(9419):1415-21.

17. Martin SL, Curtis S. Gender-based violence and HIV/AIDS: recognising links and acting on evidence. *Lancet*. 2004;363(9419):1410-1.

18. Jewkes R, Sikweyiya Y, Morrell R, Dunkle K. The relationship between intimate partner violence, rape and HIV amongst South African men: a cross-sectional study. *Plos one*. 2011;6(9):e24256.

19. Chakraborty H, Patted S, Gan A, Islam F, Revankar A. Determinants of Intimate Partner Violence Among HIV-Positive and HIV-Negative Women in India. *Journal of interpersonal violence*. 2016;31(3):515-30.

20. Kim H, Tanser F, Tomita A, Vandermael A, Cudros DF. Beyond HIV prevalence: identifying people living with HIV within underserved areas in South Africa. *BMJ global health*. 2021;6(4).

21. Edwards KM. Intimate Partner Violence and the Rural-Urban-Suburban Divide: Myth or Reality? A Critical Review of the Literature. *Trauma Violence Abuse*. 2015;16(3):359-73.

22. Siemieniuk RAC, Krentz HB, Gill MJ. Intimate Partner Violence and HIV: A Review. *Current HIV/AIDS Reports*. 2013;10(4):380-9.

23. Heckman TG, Somlai AM, Kalichman SC, Franzoi SL, Kelly JA. Psychosocial differences between urban and rural people living with HIV/AIDS. *J Rural Health*. 1998;14(2):138-45.

24. Heckman TG, Somlai AM, Peters J, Walker J, Otto-Salaj L, Galdabini CA, et al. Barriers to care among persons living with HIV/AIDS in urban and rural areas. *AIDS Care*. 1998;10(3):365-75.

25. Buller AM, Devries KM, Howard LM, Bacchus LJ. Associations between intimate partner violence and health among men who have sex with men: a systematic review and meta-analysis. *PLoS Med*. 2014;11(3):e1001609.

26. Health Mo. National Health Care Waste Management Plan 2009/10- 2011/12. 2012.

27. Siemieniuk RA, Miller P, Woodman K, Ko K, Krentz H, Gill M. Prevalence, clinical associations, and impact of intimate partner violence among HIV-infected gay and bisexual men: A population-based study. *HIV medicine*. 2013;14(5):293-302.

28. McFarlane J, Parker B, Socken K, Bullock L. Assessing for abuse during pregnancy. Severity and frequency of injuries and associated entry into prenatal care. *JAMA*. 1992;267(23):3176-8.

29. Bryan N, Davidov DM, Dick T, Bassler J, Fisher M. Intimate partner violence experiences among men living with HIV in rural Appalachia. *AIDS and Behavior*. 2019;23(11):3002-14.

30. Wang N, Huang B, Ruan Y, Amico KR, Vermund SH, Zheng S, et al. Association between stigma towards HIV and MSM and intimate partner violence among newly HIV-diagnosed Chinese men who have sex with men. *BMC public health*. 2020;20(1):204.

31. Shamu S, Zarowsky C, Shefer T, Temmerman M, Abrahams N. Intimate partner violence after disclosure of HIV test results among pregnant women in Harare, Zimbabwe. *Plos one*. 2014;9(10):e109447.

32. Siemieniuk RA, Miller P, Woodman K, Ko K, Krentz HB, Gill MJ. Prevalence, clinical associations, and impact of intimate partner violence among HIV-infected gay and bisexual men: a population-based study. *HIV Med*. 2013;14(5):293-302.

33. Siemieniuk RA, Krentz HB, Miller P, Woodman K, Ko K, Gill MJ. The clinical implications of high rates of intimate partner violence against HIV-positive women. *J Acquir Immune Defic Syndr*. 2013;64(1):32-8.

34. Colombini M, James C, Ndewiga C, Mayhew SH. The risks of partner violence following HIV status disclosure, and health service responses: narratives of women attending reproductive health services in Kenya. *Journal of the International AIDS Society*. 2016;19(1):20766.

35. Zablotska IB, Gray RH, Koenig MA, Serwadda D, Naglode F, Kigozi G, et al. Alcohol Use, Intimate Part-
ner Violence, Sexual Coercion and HIV among Women Aged 15–24 in Rakai, Uganda. *AIDS and Behavior*. 2009;13(2):225-33.

36. Russell BS, Eaton LA, Petersen-Williams P. Intersecting epidemics among pregnant women: alcohol use, interpersonal violence, and HIV infection in South Africa. *Current HIV/AIDS Reports*. 2013;10(1):103-10.

37. Kondo MC, Andreyeva E, South EC, MacDonald JM, Branas CC. Neighborhood Interventions to Reduce Violence. Annual review of public health. 2018;39:253-71.

38. Souza PF, Xavier DR, Rican S, de Matos VP, Barcellos C. The expansion of the economic frontier and the diffusion of violence in the Amazon. *International journal of environmental research and public health*. 2015;12(6):5862-85.

39. Burns PA, Zunt JR, Hernandez B, Wagenaar BH, Kumar M, Omolo D, et al. Intimate Partner Violence, Poverty, and Maternal Health Care-Seeking Among Young Women in Kenya: a Cross-Sectional Analysis Informing the New Sustainable Development Goals. Global social welfare: research, policy & practice. 2020;7(1):1-13.

40. Odwe G, Undie CC, Obare F. Attitudes towards help-seeking for sexual and gender-based violence in humanitarian settings: the case of Rwamwanja refugee settlement scheme in Uganda. *BMC international health and human rights*. 2018;18(1):15.

41. Siemieniuk RA, Krentz HB, Gill MJ. Intimate partner violence and HIV: a review. *Curr HIV/AIDS Rep*. 2013;10(4):380-9.

42. Hatcher AM, Smout EM, Turan JM, Christofides N, Stockl H. Intimate partner violence and engagement in HIV care and treatment among women: a systematic review and meta-analysis. *AIDS* (London, England). 2015;29(16):2183-94.

43. Abrahams N, Devries K, Watts C, Pallitto C, Petzold M, Shamu S, et al. Worldwide prevalence of non-partner sexual violence: a systematic review. *Lancet*. 2014;383(9929):1648-54.