

Original Research Article

A multi-institutional, cross-sectional study on disclosure of HIV status to sexual partner(s) and associated factors among people living with HIV/AIDS attending selected hospitals in Kigali, Rwanda

Moreblessing Chipo Mashora*, Tafadzwa Dzinamarira, Nicholas Njau Ngomi

Department of Public Health, Mount Kenya University, Rwanda

Received: 22 November 2019

Revised: 30 December 2019

Accepted: 31 December 2019

*Correspondence:

Ms. Moreblessing Chipo Mashora,
E-mail: mcmashora@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: In Sub-Saharan Africa, human immunodeficiency virus (HIV) remains a public health problem. There is need for evidence-based interventions to curb new infections. HIV status disclosure, especially to sexual partner(s) remains a critical step towards reducing viral transmission across sexual partners.

Methods: A hospital-based cross-sectional study, conducted at HIV clinics of three selected hospitals. Systematic random sampling was employed to sample 384 people living with HIV/AIDS (PLWH). A pre-tested self-administered questionnaire was used to collect data.

Results: Of the participants, 66% of the participants reported HIV positive status disclosure, with only 46% of these having disclosed to their sexual partner. Logistic regression analysis identified age (p value 0.035; AOR 0.94), being satisfied with counselling (p value 0.017; AOR 0.24), gender (p value 0.030; AOR 5.51) and education (p value 0.041; AOR 2.14) as factors associated with having disclosed HIV status. Being younger, satisfaction with counselling, being female and having attained at least secondary education were all associated with higher odds of HIV status disclosure.

Conclusions: Based on the findings of the current study, it can be concluded that there is need to improve rates of HIV status disclosure among PLWH in Kigali, Rwanda. The current study findings have provided baseline information for the local health authorities, health care providers, policy makers and other scholars working in HIV epidemic control. The local health authorities can use this as a guide to develop a programme aimed to address the issue of non-disclosure of HIV status in Kigali City and hence help control the incessant spread of HIV infection.

Keywords: HIV status disclosure, Sexual partner, Rwanda

INTRODUCTION

Human Immunodeficiency Virus (HIV) is still a serious public health concern globally.¹ Southern and Eastern Africa combined account for 45% of new HIV infections.^{1,2} HIV status disclosure remains an important aspect of epidemic control. Multiple benefits have been reported to HIV status disclosure. Chief among which, it has been reported that participants who reported disclosure to their partner had higher rates of condom use with their partner.² This leads to the much-needed decline in new

infections. However, worrying disclosure rates have been revealed in recent studies in sub-Saharan Africa (SSA). The disclosure rates identified in studies conducted in Southern Africa have ranged from 11 to 34% only.³ Non-disclosure has serious implications including lack of antiretroviral therapy (ART) medication initiation and adherence.³

In South Africa, nurse-facilitated disclosure was reported to help them with both initial disclosure and even follow up disclosure to new people.⁴ For sexual partners, level of

social support has been cited to be unrelated to disclosure. Where higher level of support was reported, higher odds of disclosure were also reported. The same study found that women in violence-prone relationships had higher proportion of disclosure compared to those not in such relationships; an unexpected finding.⁵ In the Rwandan context, poor HIV status disclosure was associated with higher odds of poor quality of life.⁶ Targeted research adapted to suit the various sociocultural contexts to support HIV disclosure among people living with HIV/AIDS (PLWH) is critical in attaining the 90–90–90 UNAIDS targets.⁷

Worldwide, multi-organizational efforts have resulted in the successful HIV prevention programs being implemented.⁸ These multi-organizational efforts are also true for Rwanda, however, with all these interventions, HIV transmission is not decreasing in a way that relates to the effort and resources devoted and spent. This has raised scrutiny among researchers to understand the factors that contribute to new HIV infections. HIV status disclosure to sexual partners remains a key area of interest to better understand the HIV epidemic in Rwanda. Major success has been reported in Rwanda, in ensuring access to antiretroviral therapy for PLWH.^{9,10} However, for prevention interventions, HIV status disclosure particularly to sexual partner(s) plays a pivotal role. The present study aimed to investigate the proportion of and factors affecting divulging HIV positive status to among PLWH to their sexual partner(s) in Kigali, Rwanda.

METHOD

Design, setting, study population

This study was a cross sectional study, with data collection at three health facilities in Kigali, Rwanda. One hospital was selected in each of the three districts in city of Kigali during the period June and August 2019. The target population was adults aged 18 and older as this age group is considered sexually active. The respondents were PLWH attending antiretroviral (ARV) clinics at these health facilities. For this study, the target population was PLWH attending selected hospitals in Kigali, Rwanda. One hospital was purposively selected with representation from each of the 3 districts. The selection is based on high number of clinic attendees. Study locations were Kibagabaga Hospital (Gasabo District), The University Teaching Hospital of Kigali (CHUK) (Nyarugenge District) and Rwanda Military Hospital (Kicukiro District). Participants were enrolled in the study using simple random sampling.

Data collection and analysis

Individual close-ended, self-administered questionnaires focusing on demographic characteristics, general health status, HIV-related risk behavior, HIV status disclosure and exploratory factors were used. The instrument tool has

been adopted from a similar study conducted in Ghana.¹¹ Participants used either English or Kinyarwanda version. Quantitative data was summarized using mean and standard deviation) or median and range where appropriate. Qualitative data was summarized using frequency and percentages. All statistical analysis was conducted in SPSS version 25.0 statistical package. All statistical decisions were concluded at 5% level of significance.

Ethics approval and consent to participate

This study was approved by the University Teaching Hospital of Kigali Institutional Review Board (approval number: EC/CHUK/0130/2019). Permission was obtained from the Director General at Kibagabaga Hospital prior to conducting of this study. All study participants also signed an informed consent.

RESULTS

Demographic characteristics

A total of 384 participants were enrolled in the study. Of these 46% were male while 54% were female. The participants mean age was 36.5 with a standard deviation of 10.4. Only 7% had never attended school. Majority (69%) were of the Christian religion. More details on participants demographic characteristics are presented on Table 1.

HIV status disclosure

Of the participants, 66% reported having disclosed their HIV status with only 46% of these having disclosed to their sexual partners. The findings also reveal that 96% of the participants who disclosed their HIV positive status cited the need to get their partner's support as the main reason for disclosure (Figure 1). Three reasons most cited as main reasons for non-disclosure were not wanting to worry sexual partner (93%), abandonment (81%) and rejection/discrimination/ stigmatization (81%). Based on the findings of the study, fear of being killed and fear of legal implications were the least cited reasons. Fear of being killed and fear of legal implications for non-disclosure of HIV status were the least cited reasons with only 14% and 19% citing them respectively (Figure 2).

Bivariate analysis revealed that there was an association between knowledge of sexual partner's HIV status and HIV status disclosure ($p < 0.001$). There was an association between satisfaction with counselling given after HIV status was made known to an individual and HIV status disclosure ($p = 0.008$). There was an association between gender ($p = 0.009$), sexual partner on ART ($p = 0.005$), place get to know about HIV status ($p < 0.001$) and HIV status disclosure (Figure 3).

Table 1: Demographic characteristics of the participants.

| Variable | Response (%) |
|---|--------------------|
| Age in years, mean (\pmSD) | 36.5 (\pm 10.4) |
| Sex | |
| Male | 112 (46) |
| Female | 272 (54) |
| Education | |
| None | 16 (7) |
| Primary | 73 (30) |
| Secondary | 107 (44) |
| Tertiary | 45 (19) |
| Religion | |
| Christian | 166 (69) |
| Muslim | 40 (17) |
| Traditional | 34 (14) |
| Employment | |
| Farming | 19 (8) |
| Government employee | 25 (10) |
| Unemployed | 95 (39) |
| Self-employed | 93 (38) |
| Private employed | 9 (4) |
| Income in RWF | |
| <500 | 38 (16) |
| 5000-10000 | 64 (27) |
| 10000-50000 | 36 (15) |
| 50000-100000 | 70 (29) |
| 100000-250000 | 12 (5) |
| >250000 | 21 (9) |
| Marriage | |
| Married | 79 (33) |
| Single | 64 (27) |
| Widow | 58 (24) |
| Divorced | 28 (12) |
| In a relationship | 12 (5) |
| Do you have more than one sexual partner? | |
| Yes | 69 (29) |
| How many sexual partners do you have? median (IQR) | 3 (2-3) |
| How many years now have you been living with HIV/AIDS, median (IQR) | 8 (4-13) |

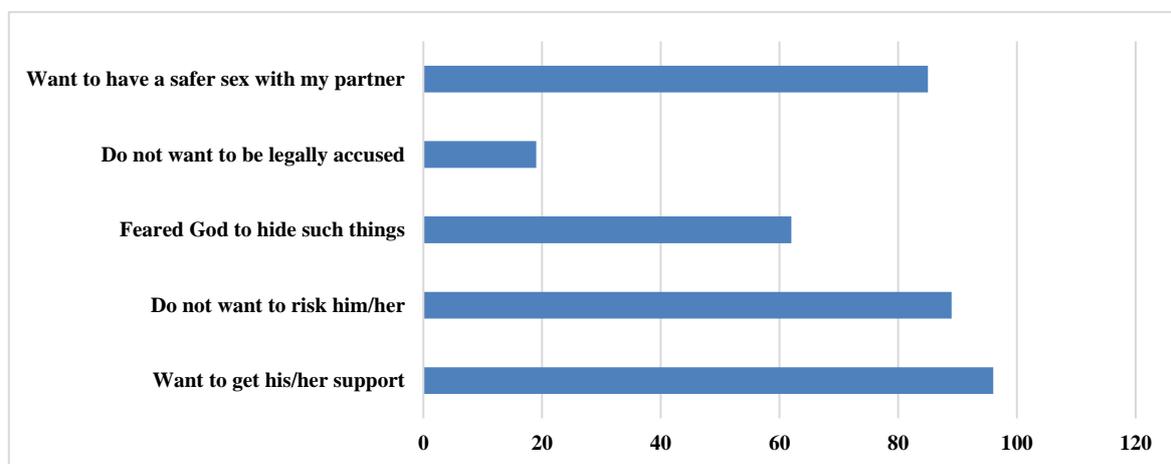


Figure 1: Reasons for disclosure of positive HIV status among PLWH in Kigali, Rwanda.

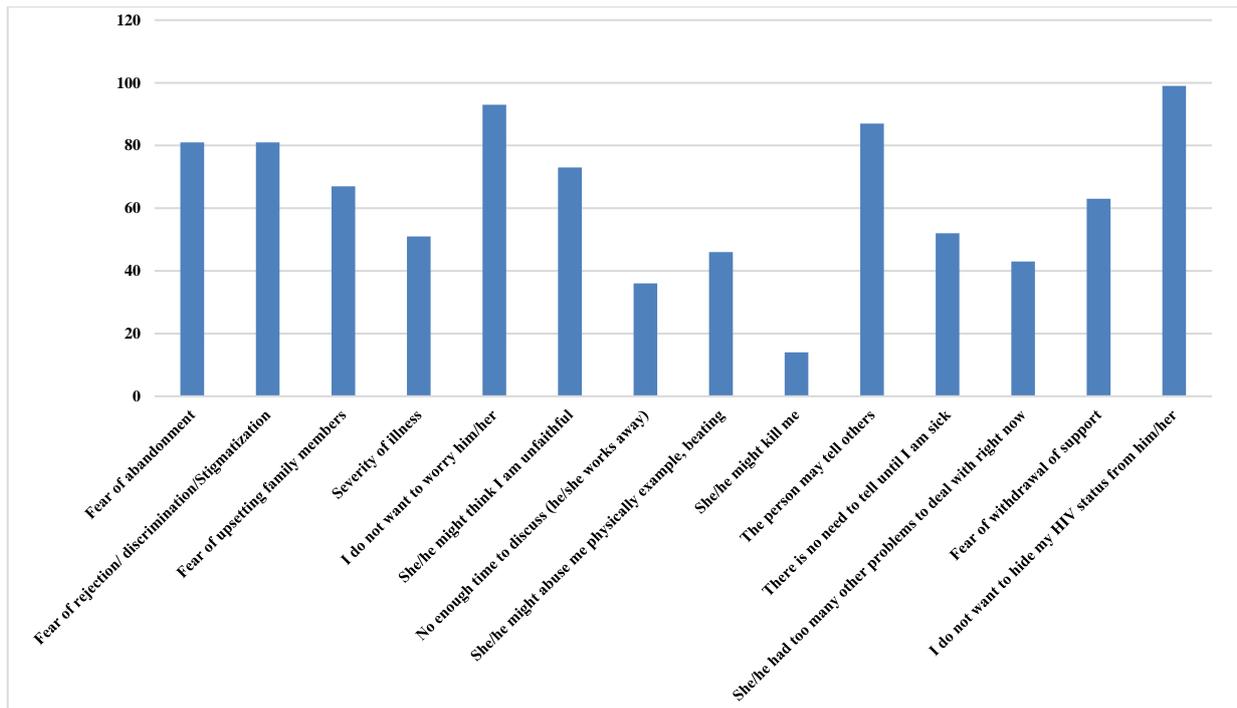


Figure 2: Reasons for non-disclosure of positive HIV status among PLWH in Kigali, Rwanda.

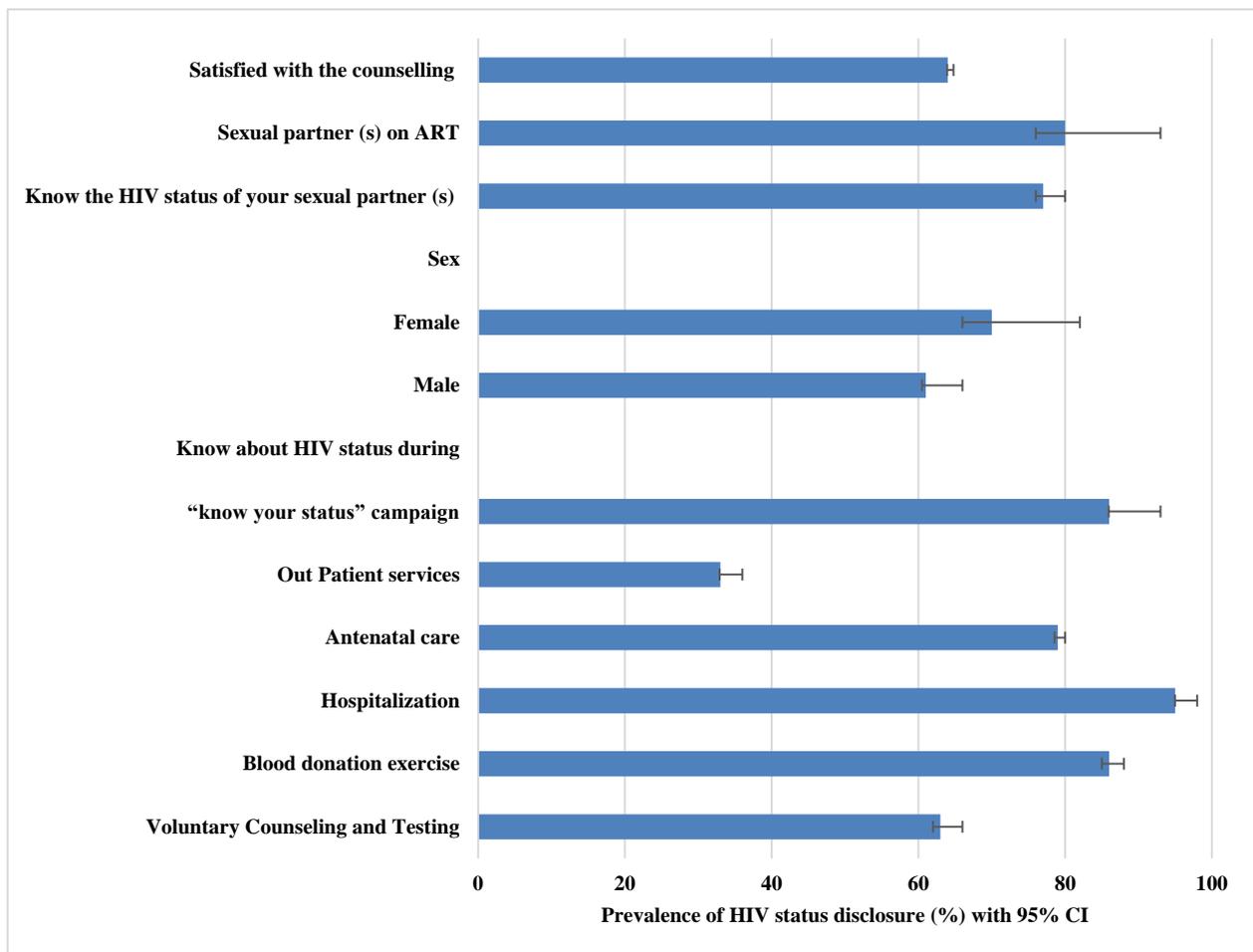


Figure 3: Prevalence of HIV status disclosure at 95% CI reported by PLWH in Kigali, Rwanda.

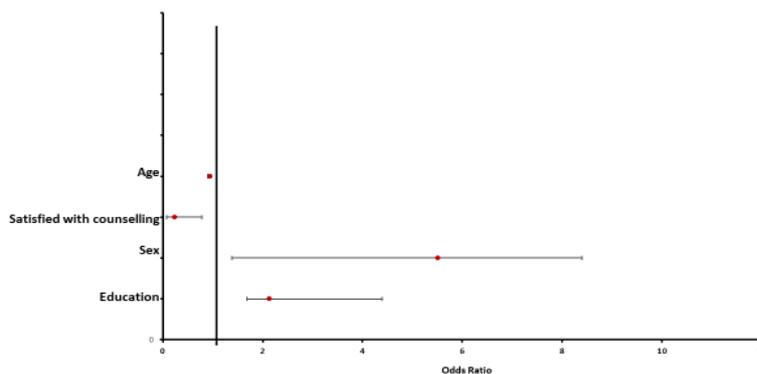


Figure 4: Multivariate analysis for factors associated with HIV status disclosure among PLWH in Kigali, Rwanda.

There was an association between age and disclosure status after adjusting for other study variables ($p=0.035$), the odds of disclosure reduce by 6% for a unit increase in age. There was an association between being satisfied with counselling and disclosure status after adjusting for other study variables ($p=0.017$), the odds of disclosure among those not satisfied were 76% less that of individuals who were satisfied. There was an association between gender and disclosure status after adjusting for other study variables ($p=0.030$), the odds of disclosure among females were 5.5 times that of males. There was an association between education and disclosure status after adjusting for other study variables ($p=0.041$), the odds of disclosure among those with at least secondary education were 2.1 times that of individuals educated up to primary education (Figure 4).

DISCUSSION

From this current study, 66% of the participants reported disclosure, with only 46% of these to their sexual partner(s). In Ethiopia, a study reported a proportion of 57.4% with 58.0% of them informing their partner within four weeks of initial positive test result.¹² The findings of Genet et al study was lower on the overall disclosure rate but higher on disclosure to sexual partners. An Ethiopian cross sectional survey demonstrated that 85.7% of the participants (women) reported disclosure to their sexual partners.¹³ Another study also done in Addis Ababa revealed that the disclosure proportion to the sex partners stood at 93.1%.¹⁴ It further noted that among the people who disclosed, 74.5% were accepted, while 10.8% faced minor challenges or suspicion of the results and the last 7.8% reported physical abuse, as well as blame 14. These findings were higher than those obtained in the current study. The findings of the study, which was carried out in Nigeria indicated that 97.5% overall disclosure rate with 36.8% of these disclosing to their spouses.¹⁵ A rate of 60.9% to sexual partners was reported in Togo.¹⁶ In Tanzania, Yonah et al indicated that the overall prevalence of the serostatus disclosure stood at 93.3%.¹⁷ Another cross-sectional study done in Nigeria concluded a disclosure rate of 95.0%.¹⁸ Out of this 50.4% had revealed to sex partners. A separate study conducted in Northern Ethiopia indicated a slightly lower rate of disclosure of

63.8%.¹⁹ A study done in South West Nigeria established that 75.6% disclosed to their sex partner.²⁰ Elsewhere in Addis Ababa, results indicated a higher proportion of 82.5%.² The current study findings contribute to the body of knowledge on the prevalence of HIV status disclosure to sexual partner(s) and associated factors among PLWH in Kigali, Rwanda. Less than half of the participants who reported HIV status disclosure had disclosed to their sexual partner in the present study. This finding is a public health concern as vast literature has shown poor health outcomes for couples engaging in sex with an infected partner. Moreover, PLWH who do not disclose to their sexual partner will not obtain the much-needed support from their partners affecting components of HIV care and treatment such as adherence to treatment.

Several studies have also explored factors associated with divulging a positive HIV status to sexual partner(s). In the study, which was carried out in Ethiopia, the findings revealed that some of the main factors which hinder HIV status disclosure to sexual partner(s) include fear of both abandonment and ending a relationship as well as the fear of stigma.¹³ In another study also done in Ethiopia some of the notable factors, which affected disclosure to sexual partners include the fear of divorce (32%), fear of stigma as well as discrimination (32%) and the general fear of physical abuse (16%).¹⁴

Level of education, gender, satisfaction with counselling and age were reported as factors associated in this current study. The findings of the study carried out in Nigeria demonstrated that there was a significant link between education level and status disclosure.¹⁸ A study in Togo noted the same findings.¹⁶ According to a Nigerian study, knowledge of the partner's HIV status is associated with disclosure.¹⁹ This conforms with work by Ethiopian scholars.¹³ This finding underscores the need to have proper counselling messages that facilitate disclosure.

In this current study it was determined that age was associated with HIV status disclosure. The odds of disclosure reduce by 6% for a unit increase in age. In line with these findings, published literature shows that younger persons are more prone to disclose their HIV status to their sexual partner/family members than their

older counterparts. According to Medley, women younger than 24 were more prone to disclose to their sexual partners than their older counterparts.²¹ However, different findings were reported in Uganda.²² Results presented by O'Brien et al. in Nigeria, showed individuals older than 22 disclosed more often to sexual partners.²³ This pattern of mixed results warrants further research into how age influences HIV status disclosure and age group targeted health education to improve disclosure rates.

There was an association between being satisfied with counselling and disclosure status. This is consistent with findings from Nigeria.¹⁹ The importance of proper HIV status disclosure counselling cannot be overemphasized. The current study found an association between sex and disclosure status. This is aligning with results from Fifield et al.⁵ Other studies have also highlighted similar findings.^{4,16,25} There is need for male-targeted health education messages to improve disclosure. There was an association between education and disclosure status after adjusting for other study variables. This conforms to earlier work.^{4,16,25} It has been established that learning can bring about a change in behavior. Health education is also a vital tool to bring about behavioral change in addition to formal education.

CONCLUSION

There is need to improve rates of HIV status disclosure among PLWH in Kigali, Rwanda. Various efforts should be put in place to ensure that there is increased promotion of disclosure of HIV serostatus in Rwanda through health education as well as through awareness for both HIV infected individuals and the general community. Actors in the HIV prevention programs ought to strengthen counselling efforts aimed at ensuring that there is mutual disclosure of HIV test results through encouraging discussion, minimization of stigma, for better disclosure as well as for continuing care. Besides, HIV status disclosure should be encouraged after diagnosis due to its significance, mainly among couples. Further, gender difference, as well as partner HIV status also ought to be taken into consideration in HIV disclosure intervention in order to effectively address the different needs of HIV-infected individuals.

Limitations

Cross sectional studies by nature are not able to demonstrate causality. Further, the findings may not be generalized for the entire population. Finally, the research relied on self-reported data for HIV status disclosure.

ACKNOWLEDGEMENTS

We thank all the participants who took time to participate in the interviews for this study. Further, the authors are grateful to staff at Department of Public Health, Mount Kenya University Rwanda.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. UNAIDS. Ending AIDS: Progress towards the 90-90-90 targets. Geneva, Switzerland; 2017.
2. Dessalegn NG, Hailemichael RG, Shewa-amare A, Sawleshwarkar S, Lodebo B, Amberbir A, et al. HIV Disclosure: HIV-positive status disclosure to sexual partners among individuals receiving HIV care in Addis Ababa, Ethiopia. *Ethiopian J Health Develop*. 2019;14(2):e0211967.
3. Kalembo FW, Kendall GE, Ali M, Chimwaza AF. Healthcare workers' perspectives and practices regarding the disclosure of HIV status to children in Malawi: a cross-sectional study. *BMC Health Serv Res*. 2018;18(1):540.
4. Geubbels E, Williams A, Ramaiya A, Tancredi D, Young S, Chantry CJA. HIV status disclosure among postpartum women in rural Tanzania: predictors, experiences and uptake of a nurse-facilitated disclosure intervention. *AIDS Care*. 2018;30(4):417-25.
5. Fifield J, O'Sullivan L, Kelvin EA, Mantell JE, Exner T, Ramjee G, et al. Social support and violence-prone relationships as predictors of disclosure of HIV status among newly diagnosed HIV-positive South Africans. *AIDS Behav*. 2018;22(10):3287-95.
6. Biraguma J, Mutimura E, Frantz JM. Health-related quality of life and associated factors in adults living with HIV in Rwanda. *SAHARA J*. 2018;15(1):110-20.
7. Dahourou D, Raynaud J-P, Leroy V. The challenges of timely and safe HIV disclosure among perinatally HIV-infected adolescents in sub-Saharan Africa. *Curr Opin HIV AIDS*. 2018;13(3):220-9.
8. UNAIDS. Report on the global AIDS epidemic. Geneva, Switzerland; 2008.
9. Nsanzimana S, Remera E, Kanters S, Mulindabigwi A, Suthar AB, Uwizihwe JP, et al. Household survey of HIV incidence in Rwanda: a national observational cohort study. *The Lancet HIV*. 2017;4(10):e457-e64.
10. Nsanzimana S. Linkage to and retention in HIV care and treatment in the Rwanda national HIV program: University_of_Basel; 2018.
11. Kuupiel D. HIV Status Disclosure among People Living with HIV/Aids in the Tano North District; 2015.
12. Genet M, Sebsibie G, Gultie TJ. Disclosure of HIV seropositive status to sexual partners and its associated factors among patients attending antiretroviral treatment clinic follow up at Mekelle Hospital, Ethiopia: a cross sectional study. *BMC Res Notes*. 2015;8(1):109.
13. Taye G, Dereje H, Endrias M. HIV positive status disclosure to sexual partner among women attending ART clinic at Hawassa University Referral Hospital,

- SNNPR, Ethiopia. *Ethiopian J Health Develop*. 2010;24(1):9-14.
14. Seid M, Wasie B, Admassu MJAJoRH. Disclosure of HIV positive result to a sexual partner among adult clinical service users in Kemissie district, northeast Ethiopia. *Ethiopian J Health Develop*. 2012;16:1.
 15. Dankoli RS, Aliyu AA, Nsubuga P, Nguku P, Ossai OP, Tukur D, et al. HIV disclosure status and factors among adult HIV positive patients in a secondary health facility in North-Eastern Nigeria, 2011. *Pan Afr Med J*. 2014;18(Suppl 1):4.
 16. Yaya I, Saka B, Landoh DE, Patassi AA, Aboubakari A-S, Makawa M-S, et al. HIV status disclosure to sexual partners, among people living with HIV and AIDS on antiretroviral therapy at Sokodé regional hospital, Togo. *PLoS One*. 2015;10(2):e0118157.
 17. Yonah G, Fredrick F, Leyna GJ. HIV serostatus disclosure among people living with HIV/AIDS in Mwanza, Tanzania. *AIDS Res Ther*. 2014;11(1):5.
 18. Martins OF, Ngong HC, Dongs IS, Ngong KC. Education, Science B. Rates, Factors, Timing and Outcomes of HIV Status Disclosure Among Patients Attending the Special Treatment Clinic of the National Hospital Abuja Nigeria. *Int J HIV/AIDS Preven, Edu Behav Sci*. 2016;2(3):13-9.
 19. Alemayehu M, Aregay A, Kalayu A, Yebyo HJ. HIV disclosure to sexual partner and associated factors among women attending ART clinic at Mekelle hospital, Northern Ethiopia. *Ethiopian J Health Develop*. 2014;14(1):746.
 20. Adebayo AM, Ilesanmi OS, Omotoso BA, Ayodeji OO, Kareem AO, Alele FO. Disclosure to sexual partner and condom use among HIV positive clients attending ART clinic at a tertiary health facility in South West Nigeria. *Pan Afr Med J*. 2014;18:245.
 21. Medley A, Garcia-Moreno C, McGill S, Maman SJ. Rates, barriers and outcomes of HIV serostatus disclosure among women in developing countries: implications for prevention of mother-to-child transmission programmes. *Bull World Health Organ*. 2004;82:299-307.
 22. Kadowa I, Nuwaha FJ. Factors influencing disclosure of HIV positive status in Mityana district of Uganda. *Afr Health Sci*. 2009;9(1):26-33.
 23. O'brien ME, Richardson-Alston G, Ayoub M, Magnus M, Peterman TA, Kissinger PJ. Prevalence and correlates of HIV serostatus disclosure. *Sex Transm Dis*. 2003;30(9):731-5.
 24. Tshweneagae GT, Oss VM, Mgutshini TJ. Disclosure of HIV status to sexual partners by people living with HIV. *Disclosure of HIV status to sexual partners by people living with HIV*. *Curationis*. 2015;38(1):1-6.
 25. Erku TA, Megabiaw B, Wubshet MJ. Predictors of HIV status disclosure to sexual partners among people living with HIV/AIDS in Ethiopia. *Pan Afr Med J*. 2012;13:87.

Cite this article as: Mashora MC, Dzinamarira T, Ngomi NN. A multi-institutional, cross-sectional study on disclosure of HIV status to sexual partner(s) and associated factors among people living with HIV/AIDS attending selected hospitals in Kigali, Rwanda. *Int J Community Med Public Health* 2020;7:399-405.