

Psychological correlates of suicidality in HIV/AIDS in semi-urban south-western Uganda

Godfrey Zari Rukundo¹, Brian Mishara² and Eugene Kinyanda³

Abstract

There is a paucity of data on the prevalence of suicidality in HIV/AIDS, and associated psychological factors in sub-Saharan Africa, shown to be high in Uganda. Yet, the region accounts for over 70% of the world HIV burden. Our study used a cross-sectional survey of 226 HIV-positive (HIV+) adults and adolescents (aged 15–17 years) in Mbarara, Uganda. The relationship between suicidality and depressed mood, anxiety symptoms, state anger, self-esteem, trait anger and hopelessness was examined; anger was the predominant factor in suicidality, suggesting that anger management could potentially lower the prevalence of suicidality.

Keywords

Suicidality, suicidal ideation, suicidal attempt, HIV/AIDS, psychological correlates, Uganda

Introduction

Although we have behind us three decades of research into the relationship between HIV/AIDS and suicidality, there is still much to be learned about the prevalence of suicidal ideation and attempts and factors associated with greater risk of suicidal behaviours.¹ Whereas some studies have reported a higher prevalence of suicidality among HIV+ people,^{2–4} others have not reported this increased risk.⁵ Although the clinical outcome associated with HIV/AIDS has improved considerably globally, it still causes considerable morbidity especially in countries such as Uganda where services are still not well developed.⁶

Sub-Saharan Africa accounts for more than two-thirds of the HIV global disease burden of HIV/AIDS and there are indications that HIV/AIDS in Africa may be associated with a high risk of suicidality.^{7–9} However, little has been done on the continent in the way of incorporating suicide prevention and management in HIV/AIDS clinical care. Increased risk for suicidality has been associated with the manner in which HIV testing is done, inadequate psychosocial support, female gender, anxiety before the results are known, physical and mental deterioration associated with the disease, and a decrease in quality of life.⁷ The fact that suicidality is deeply imbedded within people's social

and cultural life means that findings based on research conducted in the West cannot just be transposed onto the sub-Saharan African situation.¹⁰ There is therefore a need for a local body of research to inform policy development on the problem of suicidality in HIV/AIDS in sub-Saharan Africa.^{11,12} This study investigated the burden and psychological risk factors associated with suicidality among individuals living with HIV/AIDS in semi-urban south-western Uganda.

Materials and Methods

Ours was a cross-sectional study conducted at the Immune Suppression Syndrome (ISS) clinic of Mbarara Regional Referral Hospital and The AIDS

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Support Organization (TASO) Mbarara branch clinic using quantitative methods. Both HIV clinics are located in Mbarara municipality, south-western Uganda.

The participants were consenting individuals aged >15 years living with HIV, attending either clinic. Participants were recruited on the clinic days when the clients came for initial treatments and routine reviews. Of the 238 individuals contacted, 5% ($n = 12$) refused to participate due to various reasons, the most common being excess travel distance ($n = 3$), inadequate time for the clinic visit ($n = 6$) or associating the study with stigma of mental illness ($n = 2$). The questionnaires were interviewer administered for consistency since some of the participants could neither read nor write. All questionnaires were translated into the locally spoken language (Runyankore-Rukiga). A total of 226 HIV+ individuals participated in the study, 31% ($n = 71$) attended the TASO clinic and the remainder the ISS clinic. Among the participants, 21% ($n = 48$) were men (age range, 15–70 years; median age, 36.0 years; mean age, 36.7 years [SD = 9.7]). Many of the participants ($n = 113$; 50%) had attained only primary level education and 20% ($n = 45$) had no formal education at all. A total of 48% ($n = 108$) of the participants were widowed, separated or divorced, 42.5% ($n = 96$) were married or co-habiting, whereas 9.7% ($n = 22$) were single. Peasant farmers made up 49% ($n = 110$) and formal employment or regular business accounted for 31% ($n = 70$).

Study instruments

Suicidality was assessed using five questions, four of which were derived from the study on suicide attempts in the Epidemiologic Catchment Area Study.¹³ The fifth question was previously used by Kinyanda et al.¹⁴ in studying the HIV/AIDS situation in Uganda. The five questions were: (1) Have you thought a lot about death in the past?; (2) Have you felt like you wanted to die in the past?; (3) Have you felt so low, and thought about committing suicide in the past year?; (4) Did you attempt suicide in the past year?; and (5) Have you ever attempted suicide at some other time in life? A respondent was considered positive on suicidality if he or she had at least one positive item from items 3–5 above.

The Beck Hopelessness Scale (BHS), a 20-item questionnaire,¹⁵ was used to assess negative expectations and pessimism about one's future. The higher the total score on the BHS, the more hopeless the person is. The highest total score is 20 while the lowest is zero. In addition, participants were assessed for depressed mood using the Beck Depression Inventory (BDI) with the highest score of 63 and the lowest being 0.¹⁶ The score increases with the severity of depressed mood. Relatedly, participants were also assessed for anxiety symptoms using the Beck Anxiety Inventory

(BAI). This is a 21-item self-report scale with the highest score of 63 and the lowest as 0.

In order to assess the participants' risk for alcohol dependence, the CAGE questionnaire^{17,18} was administered. It has four as its highest and zero as the lowest score. The current study used a cutoff of 2. According to the CAGE questionnaire, participants who scored 2 or more were considered to have an alcohol dependence problem and were referred to the psychiatry unit for more assessment and management. Participants' self-esteem was assessed using the 10-item Rosenberg's self-esteem scale.¹⁹ Its self-esteem score is calculated after reversing the positively worded items. According to the scale, the higher the score the higher the person's self-esteem is. The lowest score is 10 while the highest score is 40.

The State-Trait Anger Scale (STAS), a 20-item questionnaire,²⁰ was utilised to assess the predisposition to experience angry feelings as a personality trait (Trait Anger) and the intensity of anger as an emotional state (State Anger) at the time of assessment. For each of the 10 items, the score ranges from 10 to 40.

Data collected were recorded on questionnaires and thereafter entered into SPSS version 16. To determine the independent effect of each of the investigated psychological factors, logistic regression analysis was undertaken. Data analysis was guided by the modified stress diathesis model in Figure 1.²¹

Ethical considerations

The study was reviewed and approved by the Research and Ethics Committee (MUST-REC) of Mbarara University of Science and Technology and the leadership at the two study centres. Written informed consent was obtained from each adult participant. Participants aged less than 18 years were contacted to give assent and then their primary caregivers provided written informed consent. The consent form was in both English and the local language. Participants signed the consent form after accepting that they themselves or their children could participate in the study. Participants who were too sick to consent were not interviewed. Participant identifiers were removed from the questionnaires and datasets. All participants found to have moderate-severe psychiatric illness or increased risk of suicidality were referred to the psychiatry ward of Mbarara hospital for treatment.

Results

Prevalence of suicide ideation and suicide attempt in HIV/AIDS

Suicidal ideation in the preceding year was reported by 9.3% ($n = 21$; 95% CI, 6.80–11.80) while 4.4% ($n = 10$;

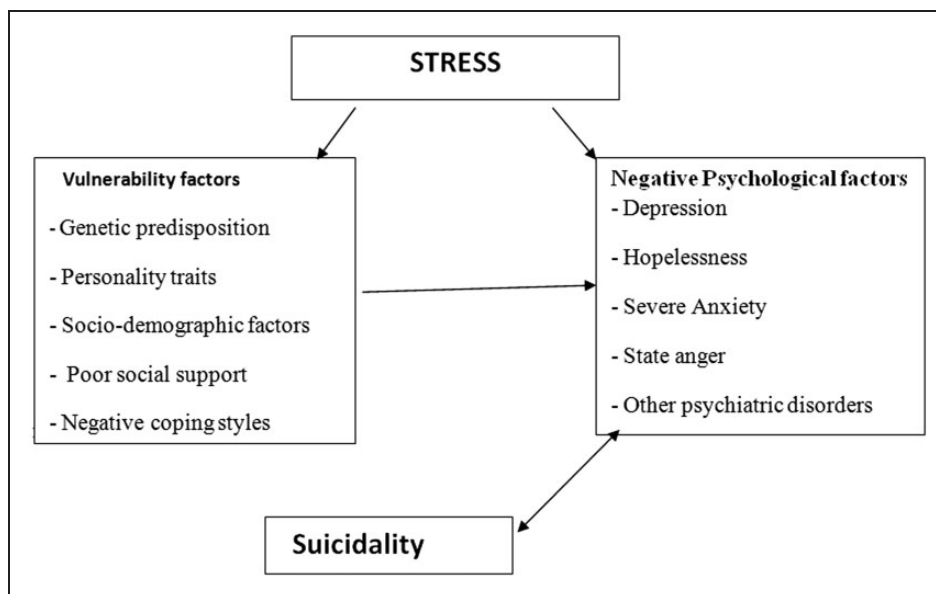


Figure 1. Modified Stress-Diathesis model showing risk factors for suicidality.²¹ Suicidality is an outcome of a variety of factors, the broad one being stress. Stress has different impact on different individuals and its outcome is influenced by several vulnerability factors. Negative psychological factors like depression, state anger and hopelessness are key precipitating factors for suicidality. However, a person who has developed suicidality following state anger can end up with self-blame, depression and hopelessness hence perpetuating suicidality.

Table 1. Psychological correlates of suicidality at bi-variable analysis as seen in HIV infected patients in HIV Clinics in Mbarara July–October 2009 ($n = 226$).

Psychological factors	Suicidal ($n = 25$) Mean (SD)	Non-suicidal ($n = 201$) Mean (SD)	Crude OR (95% CI)	P value	Adjusted OR (95% CI)	P value
Self-esteem	-0.88 (2.73)	-0.03 (1.93)	0.64 (0.67–1.00)	0.051	0.89 (0.72–1.11)	0.325
Anxiety (BAI) score	18.64 (17.70)	7.98 (9.87)	1.06 (1.03–1.09)	0.001*	1.00 (0.95–1.06)	0.898
Depression (BDI) score	10.24 (7.89)	4.47 (5.60)	1.13 (1.07–1.20)	0.001*	1.06 (0.97–1.17)	0.219
Hopelessness (BHS) score	4.52 (5.38)	2.79 (3.14)	1.12 (1.02–1.23)	0.024*	1.03 (0.90–1.17)	0.682
Trait anger score	20.32 (6.81)	15.96 (5.90)	1.11 (1.04–1.16)	0.002*	1.03 (0.96–1.13)	0.565
State anger score	13.92 (7.46)	10.45 (1.78)	1.24 (1.16–1.38)	0.001*	1.17 (1.01–1.34)	0.032*

*Statistical significance with a p-value of less than 0.05.

95% CI, 1.90–6.90) had attempted suicide in the same year and 4% ($n = 9$; 95% CI, 1.40–5.50) had attempted suicide at some other point in their life. In total, 11% of the study participants ($n = 25$; 95% CI, 8.50–13.50) met our criteria for suicidality. Of those with suicidal ideation in the previous year, 33% had attempted suicide.

Psychological factors associated with suicidality in HIV/AIDS

The following psychological factors were significantly associated with suicidality in bi-variate analyses (Table 1): state anger; trait anger; depressed mood; hopelessness; anxiety symptoms; and low self-esteem.

After including all psychological factors, significant clinical factors and sociodemographic variables in the regression model, only state anger remained significantly associated with suicidality (Table 1). Although previous studies have reported an association between alcohol use and suicidality,^{22–24} in the current study there was no statistically significant relationship.

Discussion

This study aimed to determine the prevalence of suicidality and to explore psychological factors associated with suicidality among HIV+ patients attending care at two HIV clinics in semi-urban Mbarara

municipality. The prevalence of 11% shows it is a significant health concern that needs attention. We also found that although trait/state anger, anxiety symptoms, depressed mood and hopelessness were associated with increased suicidality at bi-variate analysis; state anger alone was significantly related to suicidality at logistic regression analysis. All the above factors such as depressed mood and hopelessness have previously been associated with suicidality but these were not found in our study. It is possible that other factors such as state anger and physical health contribute to the relationship between depressed mood or hopelessness and suicidality in the study population.

The suicidality prevalence of 11% in our study is slightly higher than 7.8% reported in Entebbe, Uganda¹⁴ in similar settings. However, the prevalence of suicidal ideation reported in our study (9.3%) is much lower than in the USA (27%),²⁵ Australia 21%²⁶ and the UK (26%).²⁷ This difference could be attributed to three factors: the first being methodological differences in the assessment of suicidality, the suicide rates in the parent populations, and the criminality of suicide in Uganda. It appears that HIV+ patients studied in the West are predominantly sub-populations that have a high base prevalence of psychopathology²⁴ compared to those in semi-urban Uganda.

In our study, gender and other sociodemographic characteristics of the participants did not significantly affect the association between these psychological factors and suicidality. It appears, however, that state anger plays an important role in the eventual act of a suicide attempt among individuals living with HIV. This could be anger towards self, probably due to self-blame or anger towards surrounding circumstances. Anger seems to be a major mediating factor between the different risk factors and suicidality in HIV. This possible association deserves to be further explored in subsequent studies.

The sociodemographic characteristics of the sample in this study were representative of the general population in south-western Uganda on religion, educational level, employment status, marital status and gender. The distribution of these sociodemographics in this study sample was similar to that in the general population according the Uganda Demographic Health Survey report for the year 2011. There was a slight preponderance of women to men, as in the general population of Uganda (51:49%). Although slightly more women (10.7%) than men (7.6%) were suicidal, the difference was not statistically significant. Many of the psychological symptoms assessed tend to overlap and need to be assessed together since they have a cumulative effect. In addition, it is possible that the psychological correlates associated with suicidality in

a low resource setting may be different. Hence, there is need for more studies in such settings to explore and fully understand the whole picture of suicidality in HIV in sub-Saharan Africa.

Conclusions

HIV/AIDS in south-western Uganda is associated with a high prevalence of suicidality. Psychological factors especially state anger, mediate the relationship between suicidality and HIV/AIDS. Assessment and management of anger in HIV/AIDS care could potentially lower the prevalence of suicidality in such individuals.

Limitations of the study

Although the prevalence of suicidality is comparable¹⁴ among 618 individuals with HIV/AIDS, our sample size was relatively small. Second, ours being a cross-sectional study, the causal relationship between suicidality and the investigated factors could not be determined. Third, individuals aged less than 15 years were excluded from the study to avoid difficulties of using adult tools on children. Hence, their views and experiences could not be captured.

Acknowledgements

The authors acknowledge support received from Faculty of Medicine, Mbarara University of Science and Technology for data collection as well the Centre for Research and Intervention on Suicide and Euthanasia (CRISE) at the Université du Québec à Montréal for data analysis. They also acknowledge the contribution of Dr. Adriana Carvalhal and Dr. Eric Wobudeya during the design of the study.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

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