SUICIDAL IDEATION AMONG DEPRESSED PEOPLE LIVING WITH HIV/AIDS IN NIGERIA, WEST AFRICA

RASAQ O. SHITTU¹, MORADEYO K. ALABI², LOUIS O. ODEIGAH², MUSA A. SANNI³, BABA A. ISSA⁴, ABDULGANIYU T. OLANREWAJU⁴, ABDULLATEEF GBENGA SULE⁵, SUNDAY A. ADERIBIGBE⁶

DEPARTMENT OF FAMILY MEDICINE, KWARA STATE SPECIALIST HOSPITAL, ILORIN, NIGERIA ²DEPARTMENT OF FAMILY MEDICINE, UNIVERSITY OF ILORIN TEACHING HOSPITAL, ILORIN, NIGERIA ³DEPARTMENT OF HAEMATOLOGY, KWARA STATE SPECIALIST HOSPITAL, ILORIN, NIGERIA ⁴DEPARTMENT OF BEHAVIOURAL SCIENCES, UNIVERSITY OF ILORIN TEACHING HOSPITAL, ILORIN, NIGERIA ⁵DEPARTMENT OF FAMILY MEDICINE, AHMADU BELLO UNIVERSITY, TEACHING HOSPITAL, ZARIA, NIGERIA ⁶DEPARTMENT OF EPIDEMIOLOGY AND COMMUNITY HEALTH, UNIVERSITY OF ILORIN TEACHING HOSPITAL, ILORIN, NIGERIA EMAIL: OORELOPEHOSPITAL@GMAIL.COM, MORADALABI@YAHOO.COM, LODEIGAH@YAHOO.COM, MASKAREEM2009@YAHOO.COM, ISSABABA2002@YAHOO.COM, LAROMOYE554@YAHOO.COM, GBENSULE@YAHOO.COM, TAYONOV23@YAHOO.COM
INTRODUCTION

Suicidal ideation is thought about or an unusual preoccupation with suicide. The range of suicidal ideation varies greatly from fleeting to detailed planning, self-harm and unsuccessful attempts, which may be deliberately constructed to fail or be discovered, or may be fully intended to result in death. Although, most people who undergo suicidal ideation do not go on to make suicide attempts, a significant proportion do\(^1\). Suicidal ideation is more common that suicide attempts or completed suicide\(^2\). To assess patients for suicide risk, warning signs and assess for risk and protective factors are pertinent. The warning signs are, threatening to hurt or kill self, or looking for ways to kill self, hopelessness, increasing alcohol or drug abuse, withdrawal from friends, family or society.

PROBLEM STATEMENT

Globally, approximately one million people kill themselves every year\(^3\). The WHO estimates that, by the year 2020, the worldwide incidence of suicide will reach approximately 1.53 million people, and 10 and 20 times as many individuals will attempt suicide. This global projection indicates that, suicidal behaviours constitute a significant public health problem\(^4\). Besides, it has been established that depressive disorders, a major cause of suicides, hitherto thought to be rare in Africa, are now recognized to be fairly common. Studies in Africa have reported high rates of depressive symptoms and suicidal behaviour in HIV-infected patients. In Ife, Nigeria, rates were found to be 0.4 per 100,000 populations\(^3\).
PURPOSE OF THE STUDY

While suicidal ideation had been extensively studied in the general population\(^3\)\(^5\) its relationship with HIV infection was less well documented. This is of concern, since the psychological responses to an HIV-positive result can be wide ranging and include feeling hopelessness, anxiety, worthlessness and depression and suicidal behaviour\(^6\)\(^7\). Recognizing this, in a bio-psychosocial context, is paramount to understanding the relationship between the HIV/AIDS pandemic and increased prevalence of suicidal behavior\(^7\). Research\(^8\),\(^9\) suggests that people who are HIV positive may be at greater risk for suicide than their uninfected counterparts. HIV/AIDS had been recognized as a predictor of suicidality\(^10\). Previous studies had identified social isolation, lack of social support and stressful live events as prominent risk factors and indications for suicidal behaviour in PLWAs. However, results from previous studies comparing the rates of suicidal thought and behavior among PLWAs had been conflicting and inconsistent. These studies were performed before the advent of free HAART, when the prognosis of People with HIV was much poorer. Furthermore, there is a paucity of data on the suicidal ideation among PLWHAs in Nigeria in general, and North central in particular. It is against this backdrop, that the present study aimed to explore the relationship between hopelessness, depression and suicidal ideation among PLWHAs.
METHODOLOGY

This study was conducted at a designated HIV/AIDS treatment centre located in Ilorin, North Central Nigeria. This study was a descriptive, cross-sectional study carried out from 1st of April to 15th July, 2013.

The sample size was estimated using the Fisher formula11 using 21.3% from a previous study12 as the best estimate of depressive disorders among PLWAs. A minimum size of 218 was calculated using Fisher’s formula but 300 was used to increase the power and reliability of the study.

Ethical approval was obtained from the Ethical Review Committee of the Kwara State Ministry of Health before commencement of the study. An interviewer administered questionnaire was used.

The prevalence of depressive disorders and suicidal assessment among HIV/AIDS patients were assessed using the PHQ-9 scale. The Patients Health Questionnaire (PHQ-9)13 is a brief, 9-item, patients self-report depression assessment tool that was derived from the interview-based PRIME-MD14. It was specifically developed for use in primary care general medical settings. It is the only short self-report tool that can reasonably be used both for diagnosis of DSM-4 major depression as well as for tracking of severity of major depression over time15. Psychometric evaluation of the PHQ-9 revealed a sensitivity ranging from 62% - 92% and a specificity between 74% - 88%.
METHODOLOGY CONT

Respondent also completed the social determinant of depression questionnaire to access the social cohesion\textsuperscript{16,17}. Based on existing research\textsuperscript{16,17}, we used three key SDH: socioeconomic status, social cohesion and negative life events. Socioeconomic status included two indicators: years of schooling and self-reported economic status of the family, in general, in the previous year. Categories for years of schooling were as follows: above average (7 years and above), average (1 - 6 years) and below average (0 years). Economic status of the family was self-reported as good, average or poor.

Social cohesion was assessed from responses to two questions: (1) in the previous year, how often did you ask someone for help when you had problems? (Never = 1; Seldom = 2; Sometimes = 3; Often = 4), and when you had problems? (spouse or lover; parents, brothers, sisters or children; other relatives; people outside the family; organization or schools with whom you are affiliated; government, party or trade unions; religious or non-governmental organizations; other organizations) (no = 0; yes = 1).

Negative life events were gauge using a 12-item scale (serious illness in oneself, serious illness in the family, financial difficulties, conflict with spouse, conflict with other family members, conflict with people in the village, conflict between family members, infertility issues, problems at work or school, problems in an intimate relationship, abuse and other events). Completed questionnaire and measurements were entered into a computer data base.

The data were analyzed using the epidemiological information (Epi-info) 2005 software package. The 2 by 2 contingency tables were used to carry out Chi-square test and to find out the level of significance and values less than 0.05 were regarded as statistically significant.
# RESULTS

**TABLE 1. SOCIO-DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS.**

| Variable                  | N = 170 | (%)  |
|---------------------------|---------|------|
| **Age group (years)**     |         |      |
| <26                       | 19      | 11.2 |
| 26 - 30                   | 27      | 15.9 |
| 31 - 35                   | 20      | 11.8 |
| 36 - 40                   | 50      | 29.4 |
| 41 - 45                   | 11      | 6.5  |
| 46 - 50                   | 19      | 11.1 |
| 51 - 55                   | 6       | 3.5  |
| 56 - 60                   | 11      | 6.5  |
| >60                       | 7       | 4.1  |
| **Gender**                |         |      |
| Male                      | 31      | 18.2 |
| Female                    | 139     | 81.8 |
| **Ethnicity**             |         |      |
| Hausa                     | 39      | 22.9 |
| Yoruba                    | 92      | 54.1 |
| Igbo                      | 28      | 16.5 |
| Others                    | 11      | 6.5  |
| **Religion**              |         |      |
| Christianity              | 30      | 17.6 |
| Islam                     | 139     | 81.8 |
| Traditional               | 1       | 0.6  |
| **Marital Status**        |         |      |
| Single                    | 14      | 8.2  |
| Married                   | 14      | 8.2  |
| Separated/Divorced        | 116     | 68.3 |
| Widowed/Widower           | 26      | 15.3 |
| **Educational level**     |         |      |
| Non-Formal                | 56      | 32.9 |
| Primary                   | 55      | 32.4 |
| Secondary                 | 42      | 24.7 |
| Tertiary                  | 17      | 10.0 |
| **Occupation**            |         |      |
| Trader                    | 91      | 53.5 |
| Civil servant             | 16      | 9.4  |
| Self employed             | 43      | 25.4 |
| Unemployed                | 14      | 8.2  |
| Students                  | 6       | 3.5  |
| **Monthly Income**        |         |      |
| No Income                 | 20      | 11.8 |
| ≤20000                    | 129     | 75.9 |
| 20001-30000               | 10      | 5.8  |
| 30001-40000               | 6       | 3.5  |
| 40001-50000               | 3       | 1.8  |
| >50000                    | 2       | 1.2  |
Table 1 shows the socio-demographic characteristics of the respondents. A total of one hundred and seventy sero-positive respondents with depression were recruited to the study. The age range 36 - 40 years, had the highest number of respondents 50 (29.4%). Females 139 (81.8%), outnumbered males 31 (18.2%) giving a male: female ratio of 1:4.5. Predominantly, 139 (81.8%) were Muslims, why Christian constituted 30 (17.6%). One hundred and sixteen (68.3%) were separated/divorce while 26 (15.3), were widow/widower. The majority of them 56 (32.9%), had no formal education, Majority, 91 (53.5%), were traders, while 14 (8.2%), were unemployed. Six (3.5%) were students.
**TABLE 2. ASSOCIATION BETWEEN FEELING OF HOPELESS AND DEPRESSION**

| feeling hopeless | depressed | total | p-value |
|------------------|-----------|-------|---------|
| yes (%)          |           |       |         |
| yes              | 29 (17.1) | 0 (0.0) | 29 (9.7) | 0.000 |
| no               | 141 (82.9) | 130 (100.0) | 271 (90.3) |       |
| total            | 170 (100.0) | 130 (100.0) | 300 (100.0) |       |

Table 2 displays the association between hopelessness and depression. Twenty nine (17.1%) were hopeless, while 141 (82.9%) were not. The association between feeling hopeless and depressed was statistically significant (p-value = 0.000).
### Table 3. Association between thought of taking life and depression

| thought of taking life | depressed | total | p-value |
|-----------------------|-----------|-------|---------|
|                       | yes (%)   | no (%)|         |
| yes                   | 28 (16.5%)| 0 (0.0)| 28 (9.3)| 0.000  |
| no                    | 142 (83.5)| 130 (100.0)| 272 (90.7) |
| total                 | 170 (100.0)| 130 (100.0)| 300 (100.0) |

Table 3 shows the association between thought of taking one’s life and depression. Twenty eight (16.5%) had at one time or the other thought of taking their life, while 142 (83.5%) did not. The association between thought of taking life and depression was statistically significant (p-value = 0.000).
Table 4 shows the association between plan to take life and depression. Six (3.5%) had plan to take their lives, while 164 (96.5%) were still optimistic. This is of statistical importance (p-value = 0.03).
Table 5 shows the association between social cohesion and depression among the respondents. The Social Cohesion was very low in both males and females, 21 (67.7%) and 112 (80.6%) respectively among the depressed HIV patients. Only 2 (6.5%) males had high social cohesion. This was statistically significant (p-value = 0.005).
**TABLE 6. ASSOCIATION BETWEEN NEGATIVE LIFE EVENTS AND DEPRESSION AMONG HIV PATIENTS AT KWARA STATE SPECIALIST HOSPITAL, SOBI, ILORIN.**

| Depression | Negative Life Events | 0 (0.0) | 1 (54.8) | 2 (16.1) | 3 - 9 (29.1) | Total (100.0) | p-value |
|------------|----------------------|---------|----------|----------|--------------|--------------|---------|
| Male       | Depressed            | 31       | 17       | 5        | 9            | 31           | 0.004   |
|           | Other                | 0        | 17       | 5        | 9            | 31           |         |
| Female     | Depressed            | 139      | 33       | 29       | 45           | 139          |         |
|           | Other                | 32       | 33       | 29       | 45           | 139          |         |

*Table 6* shows that negative life events was strongly associated with depression. Twenty-two (70.9%) males and 62 (44.6%) females had one or two negative life events whereas 9 (29.1%) males and 45 (32.3%) female’s respondents had more than three negative life events. This was of statistical importance (p-value = 0.004).
DISCUSSION

One hundred and seventy (56.7%) satisfied the criteria for a depressive disorder using the PH-9 score. The findings in this study confirmed those of earlier studies\(^{18,19}\) that many HIV-positive patients have high levels of depressive symptomatology, as well as the fact that those with suicidal ideation reported increased levels of such symptoms. PHQ-9 questionnaire of depression was used to contextualize this relationship, because the cognitive symptoms of depression tend to precede the affective and mood components of the disorder, which in turn are triggered by negative automatic thoughts in suicidal behaviour.

The association between feeling hopeless and depressed was statistically significant. Hopelessness is a primary mediator that links depression and suicidal ideation, and the more hopeless the individual feels about the future, the more depressed they are likely to become, unless appropriate interventions are implemented.
DISCUSSION CONT...

Some of the HIV-positive patients in this study felt that the future was blink, irrespective of whether or not they had suicidal ideation, hence this can be yardsticks that can be used by less highly trained health professionals for screening purposes at VCT clinics, and thus be used in treatment strategies to help prevent suicidal behaviour in these patients. The value obtained for patients with suicidal thought, hopelessness and plan to take life is comparable to the study of Haller and colleagues\textsuperscript{20,21} while studying suicidal ideation among psychiatric morbidity. The association between thought of taking life and depression was statistically significant. April and colleagues\textsuperscript{22} reported that 79\% of participants reported no thoughts of suicide. 20\% reported suicidal thoughts but no intent to commit suicide, and less that 2\% reported a current suicide attempt\textsuperscript{22}. Similarly, in the study conducted at the specialty HIV clinic at a tertiary care center of South India, 20\% expressed suicidal ideation, and 6\% reported persistent suicidal ideations, whereas 8\% had made attempts to commit suicide\textsuperscript{23}. In Spain, Carvajal and colleagues\textsuperscript{24} assessed 442 HIV-infected patients for suicidality, 5 patients had suicidal thought, 5 had suicidal equivalents, and 17 suicidal attempts of a total of 27 cases. 2 died as a result of suicide\textsuperscript{24}. 
DISCUSSION CONT...

Gregory and co-workers\textsuperscript{25} found out that 53\% thought about killing themselves and almost one-quarter either often (15\%), or very often (7\%) thought about killing themselves. A substantial proportion reported to have actually attempted to kill themselves (36\%). These values were much higher than our study. Six (3.5\%), had plan to take their lives, while 164 (96.5\%), were still optimistic. This is of statistical importance (p-value = 0.03). In Nigeria, Chikezie and colleagues\textsuperscript{10} while studying suicidality among PLWAs in Benin City found out that (34.7\%) expressed suicidal ideation, while 9.3\% attempted suicide. Similar to this study, the commonest type of attempt was the use of pesticides and anti-malaria overdose.

Social Cohesion was very low in both males and females, 21 (67.7\%) and 112 (80.6\%) respectively among the depressed HIV patients. Only 2 (6.5\%) males had high social cohesion. This was statistically significant. This was similar to the findings of Starace\textsuperscript{26} in his study, suicidal behaviours, euthanasia and AIDS where he concluded that PLWAs who attempted suicide were more likely to experience social isolation and lack social support. Twenty-two (70.9\%) males and 62 (44.6\%) females had one or two negative live events whereas 9 (29.1\%) males and 45 (32.3\%) females respondents had more than three negative life events. This is of statistical importance. A positive HIV diagnosis may be viewed by some as a negative life event resulting in, among others, marital problems, financial problems, stigmatization by family, friends and community, fear of disclosure of a positive HIV test result, problems in accessing health care, and other difficulties\textsuperscript{1} The majority of the HIV-positive patients in this study felt that the future seemed dark to them, irrespective of whether or not they had suicidal ideation.
LIMITATION

There are few limitations of the study that may reduce the generalization of our findings. The relatively small sample may be a potential limitation, but its calculation, estimated this number as sufficient to detect depression rates difference between asymptomatic and symptomatic HIV/AIDS patients. Furthermore like all cross-sectional studies, it is difficult to establish causal association between dependent and independent variables.

RECOMMENDATION

During the initial evaluation of the new patients, the physician should ask about a history of psychiatric disorders. The patient should be asked about history of suicidal ideation and suicide attempts. Similarly, all new patients should be screened for alcohol abuse using the CAGE questionnaire\textsuperscript{27}. Any patient who shows evidence of depressed mood, anxiety of substance abuse should be asked about recent stressors and suicidal ideation and undergo a full evaluation for the
REFERENCES

1. Gelder, M., Gath, D. and Mayou, R. (1984) Oxford Text-Book of Psychiatry. 2nd Edition, American Psychiatry Association, 478-506.

2. Marzuk, P.M. (1991) Suicidal Behaviour and HIV Illnesses. International Review of Psychiatry, 3, 365-371. http://dx.doi.org/10.3109/09540269109072143

3. Murad, M.K. (2005) Suicide Prevention and Developing Countries. Journal of the Royal Society of Medicine, 98, 459-463. http://dx.doi.org/10.1258/jrsm.98.10.459

4. Carolina, M.S., Jose, M.B. and Yuan, P.W. (2005) Epidemiology of Suicide in Brazil. Characterization of Age and Gender Rates of Suicide. Revista Brasileira de Psiquiatria, 27, 1-8.

5. Cooper-Patrick, L., Crum, R.M. and Ford, D.E. (1994) Identifying Suicidal Ideation in General Medical Patients. JAMA, 272, 1757-1762. http://dx.doi.org/10.1001/jama.1994.03520220051030

6. Perry, S.W. (1994) HIV-Related Depression. Res Publ Assoc Res Nerv Ment Dis, 72, 223-228

7. Schlebusch, L. (2005) Suicidal Behaviour in South Africa. University of Kwazulu-Natal Press, Pietermaritzburg.

8. Marzuk, P.M., Tardiff, K. and Leon, A. (1997) HIV Sero-Prevalence among Suicide Victims in New York City. 1991-1993. American Journal of Psychiatry, 154, 1720-1725.

9. McKgney, F.P. and O'Dowd, M.A. (1992) Suicidality and HIV Status. American Journal of Psychiatry, 149, 396-398.

10. Chikezie, U.E., Otakpor, A.N., Kuteyi, O.B. and James, B.O. (2012) Suicidality among Individuals with HIV/AIDS in Benin City, Nigeria: A Case-Control Study. AIDS Care, 24, 843-845. http://dx.doi.org/10.1080/09540121.2011.645008

11. Araoye, M.O. (2003) Data Collection. In: Research Methodology with Statistics for Health and Social Sciences, Nathadex Publishers, Ilorin, 130-159.

12. Ndu, A.C., Arinze, S.U., Aguwa, E.N. and Obio, I.E. (2011) Prevalence of Depression and Role of Support Group in Its Management: A Study of Adult HIV/AIDS Patients Attending HIV/AIDS Clinic in a Tertiary Health Facility in South-Eastern Nigeria. Journal of Public Health and Epidemiology, 3, 182-186.

13. Kapla, A. and Saddock, B.J. (2003) Synopsis of Psychiatry. 9th Edition, Lippincott Williams and Willkins, Philadelphia,

14. Sharp, L.K. and Lipsky, M.S. (2002) Screening for Depression across the Life Span: A Review of Measures for Use in Primary Care Settings. American Family Physician, 66, 1001-1008.

15. Liang, Y., Gong, T.H., Gong, Y.H., Wen, X.P., Guan, C.P., Li, M.C., Yin, P. and Wang, Z.Q. (2012) Social Determinants
REFERENCES CONT....

16. World Health Organization (WHO) (2008) A Closing the Gap in a Generation: Health Equity through Action of on the Social Determinants of Health. http://www.searo.who.int/LinkFiles/SDH_SDH_FinalReport.pdf

17. Stewart, D.E. (2007) Social Determinants of Women’s Mental Health. Journal of Psychosomatic Research, 63, 223-
http://dx.doi.org/10.1016/j.jpsychores.2007.07.002

18. Pence, B., Reil, S., Whetten, K., Leserman, J., Stangl, D., Swartz, M., et al. (2007) Minorities, the Poor and Survivors of Abuse. HIV-Infected Patients in the US. Deep South. Southern Medical Journal, 100, 1114-1122.

19. Asch, S.M., Kibourne, A.M., Gifford, A.L., Burnam, M.A., Turner, B., Shapiro, M.F. and Bozzette, S.A. for the HCSUS Consortium (2003) Under Diagnosis of Depression in HIV. Journal of General Internal Medicine, 18, 450-460. http://dx.doi.org/10.1046/j.1525-1497.2003.20938.x

20. Beck, A.T., Steer, R.A., Kovacs, M. and Garrison, B. (1985) Hopelessness and Eventual Suicide: A 10-Years Prospective Study of Patients Hospitalized with Suicidal Ideation. American Journal of Psychiatry, 142, 559-563.

21. Haller, D.L. and Miles, D.R. (2003) Suicidal Ideation among Psychiatric Patient with HIV: Psychiatric Morbidity and Quality of Life. AIDS and Behavior, 7, 101-108. http://dx.doi.org/10.1023/A:1023985906166

22. April, C. and Courtney, M. (2011) Depression Is Common in People with HIV AIDS. The AIDS Beacons, 7, 1-3.

23. Chandre, P.S., Ravi, V., Desai, A. and Subbakkrisna, D.K. (1998) Anxiety and Depression among HIV-Infected Homosexuals. A Report from India. Journal of Psychosomatic Research, 45, 401-409. http://dx.doi.org/10.1016/S0022-3999(98)00028-2

24. Carvajai, N.J., Vicioso, C., Santamaria, J.M. and Bosco, A. (1995) AIDS and Suicide Issues in Spain. AIDS Care, 7, 135-138. http://dx.doi.org/10.1080/095538395126128

25. Gregory, A., Amenla, N., Luke, S., Shalini, S., Anthony, F.J. and Michelle, K. (2013) Quality of Life, Depression, Anxiety and Suicidal Ideation among Men Who Inject Drug in Delhi, India. BMC Psychiatry, 13, 151. http://dx.doi.org/10.1186/1471-244X-13-151

25. Flaving, D.K., Franklin, J.E. and Frances, R.J. (1986) The Acquired Immune Deficiency Syndrome (AIDS) and Suicidal Behaviour in Alcohol-Dependent Homosexual Men. American Journal of Psychiatry, 143, 1440-1442.