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Suicidal Behavior and associations with quality of Life among HIV/AIDS Patients in Ibadan, Nigeria

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Abstract

Background—Suicidality has rarely been studied in HIV-infected patients in Sub-Saharan Africa. This study explored suicidal behavior in a clinic sample of People Living with HIV in Nigeria.

Methods—Consecutive patients were interviewed using the Composite International Diagnostic Interview (CIDI-10.0) and the WHO Quality of Life (WHOQOL-HIV-BREF). Associations of suicidal behaviors were explored in logistic regression models.

Results—In this sample of 828 patients (71% female, mean age 41.3±10 years), prevalence of suicidal behaviors were- 15.1%, 5.8% and 3.9% for suicidal ideation, plans and attempts, respectively. Women were more likely to report suicidal ideation (OR 1.7;95%CI 1.05–2.64) compared to men. The presence of depression and/or anxiety disorder was associated with increased odds of all suicidal behaviors. Suicidal behavior was associated with significantly lower overall and domain scores on the WHOQOL.

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Conflicts of interest

We declare no conflicts of interest with respect to the authorship and publication of this article.

Conclusion—Suicidal behaviors were common and were significantly associated with the presence of mental disorders and lower quality of life.

Keywords

suicidal behavior; quality of life; HIV/AIDS; depression

Introduction

Suicide and suicidal behavior constitute a huge public health problem worldwide, and are projected to become an even greater contributor to disease burden and mortality over the coming decades[1]. HIV, like many other chronic diseases, is associated with an increased risk for suicide and suicidal behaviors including suicidal ideation, plans and attempts[2–4]. In a recent systematic review of suicidal behaviors in HIV infected individuals, Catalan et al. calculated the crude mean prevalence rates for different suicidal behaviors across 66 studies conducted in America or Europe (52 studies), Asia (8 studies), Latin America (2 studies), Australia (1 study), and Africa (3 studies)[5]. The crude mean rates for suicidal ideation, plan and attempts defined as deliberate self-harm were 26.9%, 22.2% and 19.9%, respectively[5]. This is much higher than the pooled cross-national prevalence rates of 9.2% for ideation, 3.1% for plans and 2.7% for attempts in the World Mental Health Surveys conducted on the general population in 17 countries from Africa, Asia and the Pacific, Middle East, Europe and the Americas[6]. In the era before the introduction of highly active antiretroviral therapy (HAART), the risk for completed suicide in the United States was estimated to be seven-fold higher in HIV seropositive men compared to demographically similar men in the general population[7]. Suicide remains a major cause of death for people with HIV even in this era of HAART. A recent study in the Swiss National HIV cohort revealed that even though the suicide rates declined substantially following the introduction of HAART, the rates in the HIV cohort remained well above the national average[8].

Many factors have been associated with the increased risk for suicidal behaviors in people with HIV/AIDS. Some researchers have noted a heightened risk among men who have sex with men (MSM), which is also the most at-risk population for HIV infection[9,10]. However, this is not enough to account for the excess risk in HIV infected populations. In addition to commonly reported risk factors for suicidal behaviors in the general population such as gender, younger age, social deprivation, mental disorders especially depression, and substance use[11], there are other factors more specific to HIV status. These include poor social support, fear of disclosure or stigmatization, severity of HIV symptoms, medication side effects and socio-economic problems[9,12].

Quality of life (QOL) has become an important measure of medical outcome globally. The WHO defines QOL as an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns[13]. In a longitudinal study based on the Finnish twin cohort, self-reported dissatisfaction with life was associated with a higher risk of suicide throughout a 20-year follow-up period. Previous studies have rarely addressed the impact of individuals' perception of their QOL on suicidality amongst people living with HIV. Haller et al in a

study of patients attending an HIV mental health clinic noted that six of the seven quality-of-life variables studied were associated with suicidal ideation[14].

Recent studies suggest that both current and past history of depression and suicidality have a negative impact on QOL. Poorer health related QOL is associated with the presence of severe depressive symptoms as well as a history of depression in HIV positive populations[1516,17]. In a study of patients with bipolar affective disorder, de Abreu et al found that those with a history of suicide attempt regardless of their current mood state had lower scores on all the domains of the WHO quality of life instrument compared to non-attempters[18]. Similar findings have been reported in patients with schizophrenia[19,20]. In a review of the literature on depression, quality of life and HIV, Serafini et al noted a consistent association between major depressive disorder, suicide ideation/thoughts and poor quality of life in persons living with HIV[21].

Even though Sub-Saharan Africa has the largest population of PLWHIV, very little of what is known about the intersection of HIV and mental health has emanated from the region.[5] Considering the differences in the demographic, social and other determinants of the disease in Sub-Saharan Africa compared to other regions of the world, it cannot be assumed that findings related to mental health issues can be generalized across regions. Accordingly, there is a need to generate empirical data on mental health aspects of PLWHIV in Sub-Saharan Africa to guide local policies and interventions that will reduce individual suffering and enhance public health. Furthermore, most studies that have examined the suicidal behavior in HIV patients have focused on a particular suicidal behavior (either suicide ideas/thoughts or attempts) few studies have examined the broad spectrum of suicidal behaviors in the same population. In the current study, we determined the rates and the correlates of different suicidal behaviors (ideation, plans and attempts) and examined the associations between a past history of suicidal behaviors and QOL scores in a sample of PLWHIV attending a HIV prevention, treatment and care facility in Nigeria.

Methods

Study Location

This is a cross-sectional study of adult patients enrolled in the AIDS Prevention Initiative in Nigeria (APIN) HIV prevention, treatment and care facility at the University College Hospital, Ibadan, Nigeria. The APIN HIV clinic is funded by the US President's Emergency Plan for AIDS Relief (PEPFAR). The clinic has more than 14,000 registered HIV patients, with over 10,000 on antiretroviral therapy.

Sampling and Data Collection

Between March and August, 2011, a total of 850 consecutive clinic patients (about 20 per day) who were 18 years or older with confirmed HIV diagnosis, fluent in either Yoruba (the local language) or English and were not too ill to complete the interview were approached. Of these, 830 consented to take part in the study. Data were collected in face-to-face interviews conducted by 5 trained interviewers, each of whom had a minimum of 3 years post-secondary school education. The interviews were conducted in consulting rooms in the

clinic, ensuring patient privacy. Following the interviews, baseline and current CD4 count and viral load were abstracted from the clinic's electronic database. Ethical approval was obtained from the joint University of Ibadan/University College Hospital Ethical Review Committee. Participants identified as suicidal, or having depression or other mental health problems were counseled and referred to the psychiatry clinic for specialist consultation and appropriate treatment.

Instruments

The World Health Organization Composite Diagnostic Interview (CIDI-10.0)— The CIDI is a fully structured lay-administered diagnostic interview designed to generate psychiatric diagnosis according to both the ICD-10 and Diagnostic and Statistical Manual of Mental Disorders (DSM)-IV diagnostic criteria[22]. The CIDI has been used in previous studies in Nigeria in both the English and Yoruba language translations[23,24]. The Department of Psychiatry, University of Ibadan is a training and referencing center for the CIDI. The suicidality module of the CIDI was used to obtain information on three suicidal behaviors: suicidal ideation, plans and attempts. The depression, generalized anxiety disorder and alcohol use disorder modules of the CIDI were used to generate diagnosis of these disorders according to the DSM-IV criteria. In the current study, we examined the rates of suicidal behavior in those with any mental disorder-defined here as meeting the DSM-IV diagnostic criteria for either depression or anxiety disorders or both.

The WHO QOL-HIV Instrument (WHOQOL, 31-BREF)—This is a cross culturally applicable tool designed to assess individuals' perception of their well-being. It is a 31-item instrument that examines QOL across six domains: physical, psychological, level of independence, social relationships, environment and spirituality/religion/personal beliefs. Each domain comprises items that are scored on a 5-point Likert scale to generate domain scores, which can be summarized to give an overall QOL score. Higher scores denote higher QOL[25,26].

Data Analysis

All data were entered into SPSS, and analyzed using version 20.0. Logistic regression models were used to examine the relationship between suicidal behaviors (suicidal ideation, plans and attempts) and patient characteristics (demographic and clinical variables) and QOL. We compared the mean scores for each WHOQOL domain as well as the composite score for all domains (overall score) between participants with and without a history of suicidal behavior. Analysis of variance was used to investigate the differences in mean scores between those with and without suicidal behaviors. Using multivariate logistic models we assessed associations between a history of suicidal behaviors QOL (overall and domain) after adjustments were made for the occurrence of depression and/or generalized anxiety disorder. The results are presented as odds ratios with their 95% confidence intervals; we used alpha=0.05 to determine significance.

Results

Demographic and Clinical Characteristics

Two records were discarded due to incomplete data; hence the final sample for this report is 828. The mean age of the study sample was 41.3 (SD-10.0) years, 71% were female, 57.4% were married and 58.7% completed at least elementary school. Ninety percent of the sample was on ART,. Table 1 shows the demographic and clinical characteristics of the sample.

Suicidal Behavior

The rates for the suicidal behaviors since HIV diagnosis were 15.1%, 5.8% and 3.9% for suicidal ideation, plans and attempts respectively.

As shown in Table 2, the rates for all suicidal behaviors examined were higher in the females; however this increased rate was significant only for suicidal ideation and was marginal for suicidal plans. Females were twice more likely to report suicidal ideation (OR 1.7; 95% CI 1.05– 2.64) and plans (OR 2.1; 95%CI 0.98–4.59) compared to males. There was a trend for the rates of suicidal ideation to reduce with increasing age. Other demographic and HIV clinical variables explored did not show any significant association with suicidal behavior.

Suicidal behaviors were significantly related to the presence of mental disorder. Compared to individuals without a mental disorder, those who met diagnostic criteria for any mental disorder (major depressive disorder and/or generalized anxiety disorder) were 3 times more likely to express suicidal ideas (OR 3.5; 95%CI 2.00–5.98) and 5 times more likely to have suicidal plans (OR 5.1; 95%CI 2.54–10.21) or attempt suicide (OR 5.1; 95%CI 2.42–11.48). When gender and the presence of mental disorders were entered into multiple logistic regression models, only the presence of mental disorders remained as an independent predictor of suicidal behaviors: ideation (OR 3.6; 95%CI 2.07–6.24), plans (OR 5.4; 95%CI 2.65–10.81) and attempt (OR 5.3; 95%CI 2.31–11.94) (not shown in the table).

Of the 32 who reported having attempted suicide since they were diagnosed with HIV, 29 (90.6%) reported that they actually made a serious attempt to kill themselves, with 21 (65.6%) stating that they required medical attention following the suicide attempt. Considering the methods used, 9 used violent methods: hanging (4), stabbing (1), jumping from a height (2) and crashing their vehicle (2), while 21 used non-violent methods: poisoning (20), and drug overdose (1); the data for 2 participants were not available.

Suicidal Behavior and QOL Variables

The mean values for QOL were significantly lower in those with suicidal behaviors compared to those without suicidal behaviors (Table 3). This was consistent across all the six domains of QOL assessed in the WHOQOL-HIV: physical, psychological, level of dependence, social relationships, environmental and spirituality/religion/personal beliefs and the total QOL. However, the weakest associations were for the physical domain of WHOQOL. The mean for overall QOL was 87.9 in those reporting suicidal ideas compared to 94.0 in those without suicide ideation ($p<0.001$), 84.3 in those with suicide plan versus

93.6 ($p<0.001$) in those without and 84.5 in suicide attempters versus 93.4 ($p<0.001$) in non-attempters.

Considering that QOL scores were most significantly affected by the occurrence of mental disorders in our study, we controlled for this when examining the impact of having had any suicidal behavior on quality of life. The results show that suicidal plans and attempts were a significant predictor of lower scores all domain and overall scores of WHOQOL (Table 4). Suicide ideation was not significantly related to the level of independence and social relationship domains.

Discussion

In this study, we determined the rates of different suicidal behaviors (ideas, plans and attempts) in a sample of HIV patients attending an outpatient HIV clinic in Nigeria, a Sub-Saharan African country with the second highest burden of HIV globally. We also addressed the impact of QOL and patient characteristics in predicting suicidal behavior. Our main findings were the relatively high rates of different suicidal behaviors in this population. Suicidal ideas and plans were significantly more common in women, and the presence of mental disorders was significantly related to higher rates of all suicidal behaviors. In addition, patients with suicidal behaviors had lower scores on all domains of the WHOQOL compared to individuals without suicidal behaviors. Lower scores on all QOL domains acted as a significant predictor for all suicidal behaviors.

The high rates of suicidal behaviors in this study are similar to findings from other populations PLWHIV in different parts of the world[2,3,5,27–29]. However, compared to an earlier study in the general adult population of Nigeria (the Nigerian Survey of Mental Health and Wellbeing) which used the same instrument[30], our rates are more than 4 times higher and the demographic pattern is different. Specifically, the rates of suicidal behavior reported in the general Nigerian adult population were 3.2% for suicidal ideas, 1.0% for suicide plans and 0.7% for attempts[30] compared to our rates of 15.1%, 5.7% and 3.9% for suicidal ideas, plans and attempts respectively. While female HIV patients reported higher rates of suicidal thoughts (suicidal ideas and plans) in our sample, no gender difference was found in the general Nigerian adult population.

Our study confirms that suicidal behaviors including suicide attempts remain common problems in the HAART era[4,31]. Attempted suicide is a strong predictor for completed suicide and an indicator of extreme emotional distress[32], underscoring the need to draw attention to this public health problem. Almost all of the participants who attempted suicide in our study stated that the attempt was not just to seek attention but expressed a desire to actually take their own lives with most of them reporting that they required medical attention following the attempts. This troubling finding accentuates the need to integrate comprehensive mental health services into HIV treatment programs in Nigeria.

Even though PLWHIV are living longer since the advent of HAART, they have consistently reported lower scores on measures of QOL[33], an important measure of subjective well-being and satisfaction with life, there is very little data on the association with suicidality. Studies

carried out on the general populations and adults with different mental disorders have shown associations between self-reported QOL and suicidal behaviors. Patients with mood disorders or schizophrenia with a history of suicide attempt have lower scores on all domains of the WHOQOL compared to those without a history of suicide attempts[18–20]. However results have been less consistent in identifying the specific domains of QOL that are more likely to predict suicidality. For example, Berlim et al., in a study of patients with mood disorders, reported that those with a history of suicidal ideation had lower scores on the physical, psychological and social domains on the WHOQOL compared with those without suicide ideation[34]. Goldney et al. in a general population study found that suicidal ideation was associated with poorer health related QOL[35].

Haller and Miles examined the relationship between suicidal ideas and QOL in a sample of HIV seropositive patients with co-morbid psychiatric disorders[14]. They found that those with suicidal ideation had a poorer QOL across six of the seven domains explored; however, the strongest associations were for measures of social/leisure and family/friends QOL. When the effect of psychiatric morbidity was controlled for in stepwise regression analysis, only social QOL was independently related to suicidal ideation[14]. This is quite similar to our findings that measures of health related QOL (corresponds to the physical domain on the WHOQOL) had weaker associations with suicidal behavior as opposed to psychological, spirituality/personal beliefs and social relationships. The domains that were strongly related to suicidal behaviors measured factors such as positive and negative feelings, personal relationships, social support and inclusion, forgiveness and blame, death and dying and concerns about the future. Kalichman et al. found that even after controlling for symptoms of depression in a cohort of middle-aged PLWHIV, those with suicidal thoughts perceived that they were receiving less social support from family and friends than those who did not[36]. In accordance with this, studies of patients with mood disorders have demonstrated associations of suicidality with lower scores on the social and psychological domains of QOL regardless of the presence of depressive symptoms[18,37].

Taken together, these findings suggest that suicidal behaviors irrespective of the presence of mental disorders worsens QOL, and perceived low QOL possibly increases the risk for further suicidal behaviors or even completed suicide. Pompili et al reported that HIV patients with poorer QOL had higher hopelessness levels increasing their risk for suicidality[15]. These associations are worth examining in future longitudinal studies. Furthermore, these findings also highlight the importance of evaluating psychosocial factors in determining the well-being of PLWHIV and in predicting those at risk for suicidal behaviors. In most developing countries, treatment programs for PLWHIV struggle to meet the challenges associated with providing HAART, leaving little or no resources to provide psychological interventions.

Our results should be interpreted in the context of some limitations. This study is a cross sectional survey of patients attending an HIV clinic based in a tertiary health care center, which limits the ability to generalize our findings. It is unknown whether similar results would be obtained in other HIV treatment settings or in community samples of PLWHIV. The suicidal behaviors, mental disorder and QOL variables are based on retrospective self-report as assessed by the various ascertainment tools, hence susceptible to recall errors or

bias. Hence we could not determine causality and whether the lower QOL scores were already present before the suicidal behaviors. Another limitation is that we did not examine the effect of individual antiretroviral medications, especially efavirenz, which has been linked to central nervous system adverse effects and may be associated with depression and suicidality[3839]. Finally, the proportion of patients on ART in this study (90%) is higher than the national ART coverage, which is approximately 30%. As such, our results may be more representative of settings with broad ART coverage. Studies in settings with lower ART coverage would be informative

Despite these limitations, our study provides crucial information on suicidal behaviors in a population that is under researched. To our knowledge, no other study has reported on the relationship between QOL and different suicidal behaviors (ideation, plans and attempts) among HIV clinic attendees in Sub-Saharan Africa. Additional strengths of this study include the use of psychometrically standardized ascertainment instruments for making the diagnosis and our large sample size.

In conclusion, suicidal behaviors are common among HIV patients in our setting despite HAART, emphasizing the need to enable their early diagnosis and effective treatment in HIV clinics. The introduction of routine self-reported screening for depression and suicidal ideation in HIV clinics may be an important measure in the early identification of PLWHIV at risk for self-harm. Our results also suggest that psychosocial factors are important in predicting suicidal behaviors in patients receiving care for HIV. Efforts aimed at prevention of suicidal behaviors and consequently completed suicides in PLWHIV will need to pay attention to these psychosocial factors since they could be modified through targeted interventions designed to improve resilience, interpersonal relationships, social support and mental health.

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Table 1

Demographic and clinical variables

Variable	Description				N= 828 n (%)	
Gender	Male				240 (29.0)	
	Female				588 (71.0)	
Marital status	Currently Married				475 (57.4)	
	Single				207 (25.0)	
	Widowed/Separated/Divorced				146 (17.6)	
Education (years)	0–6				342 (41.3)	
	7–12				305 (36.8)	
	>12				181 (21.9)	
HAART	Yes				744 (89.9)	
	No				84 (10.1)	
CD4 Count (cells/mm^3)	< 200				115 (13.9)	
	201–499				450 (54.4)	
	≥500				254 (30.7)	
	Missing				9 (1.1)	
Lifetime mental disorder	Any mental disorder (DSM-IV) depression and/or generalized anxiety disorders)				66 (8.0)	
Age (years)	Mean	SD	Range	25th Percentile	Median	75th Percentile
	41.3	10.0	18–70	34	40	47

Table 2

The relationship between suicidal behaviors and patient characteristics (demographic and clinical variables) using logistic regression

Patient characteristics		Suicidal ideas (N= 125)		Suicidal plans (N=48)		Suicidal attempts (N=32)	
		Frequency n (%)	OR (95%CI)	Frequency n (%)	OR (95%CI)	Frequency n (%)	OR (95%CI)
Gender	Male	26 (10.8)	1	8 (3.3)	1	6 (2.5)	1
	Female	99 (16.8)	**1.7 (1.05–2.64)**	40 (6.8)	2.1 (0.98–4.59)	26 (4.4)	1.8 (0.73–4.44)
Age	#**Age**		**1.0 (0.95–0.99)**		1.0 (0.95–1.01)		1.0 (0.97–1.04)
Marital Status	Currently Married	63 (13.3)	1	24 (5.1)	1	19 (4.0)	1
	Not Married	37 (17.9)	1.4 (0.91–2.22)	14(6.8)	1.4 (0.69–2.69)	6 (2.9)	0.7 (0.28–1.82)
	Widowed	25 (17.1)	1.4 (0.81–2.24)	10 (6.9)	1.4 (0.65–2.96)	7 (4.8)	1.2 (0.50–2.94)
Education	0–6 years	50 (14.6)	1.2 (0.72–2.12)	22 (6.4)	1.3 (0.59–2.92)	16 (4.7)	1.7 (0.62–4.80)
	6–12 years	53 (17.4)	1.5 (0.89–2.60)	17 (5.6)	1.1 (0.49–2.59)	11 (3.6)	1.3 (0.45–3.85)
	>12 years	22 (12.2)	1	9 (5.0)	1	5 (2.8)	1
CD4 cell count	<200	20 (17.4)	1.2 (0.64–2.10)	9 (7.8)	1.5 (0.61–3.47)	3 (2.6)	0.5 (0.15–1.95)
	200–499	64 (14.2)	0.9 (0.60–1.42)	24 (5.3)	1.0 (0.49–1.91)	16 (3.6)	0.7 (0.35–1.61)
	≥500	39 (15.4)	1	14 (5.5)	1	12 (4.7)	1
HAART	Yes	114 (15.3)	1.2 (0.62–2.33)	45 (6.1)	1.7 (0.53–5.72)	30 (4.0)	1.7 (0.40–7.34)
	No	11 (13.1)	1	3 (3.6)	1	2 (2.4)	1
DSM-IV Depression and/or generalized anxiety disorders	Yes	23 (34.9)	**3.5 (2.00–5.98)**	13 (19.7)	**5.1 (2.54–10.21)**	9 (13.6)	**5.1 (2.24–11.47)**
	No	102 (13.4)	1	35 (4.6)	1	23 (3.0)	1

#Age as a continuous variable

Table 3

Mean scores on the WHOQOLHIV in patients with or without suicidal behavior

	Suicide Ideation			Suicide Plans			Suicide Attempt		
	Yes	No		Yes	No		Yes	No	
	Mean ±SD	Mean ±SD	p	Mean ±SD	Mean ±SD	p	Mean ±SD	Mean ±SD	p
Domain 1: Physical	16.5 ± 2.9	17.2 ± 2.3	0.002	16.0 ± 3.1	17.2 ± 2.3	0.001	15.9 ± 2.9	17.1 ± 2.4	0.005
Domain 2: Psychological	14.3 ± 2.4	15.5 ± 2.1	<0.001	13.9 ± 2.3	15.4 ± 2.1	<0.001	13.8 ± 2.3	15.4 ± 2.1	0.004
Domain 3: Level of independence	15.0 ± 2.4	15.8 ± 2.3	<0.001	14.5 ± 2.4	15.8 ± 2.3	<0.001	14.5 ± 2.6	15.7 ± 2.3	<0.001
Domain 4: Social relationships	13.4 ± 2.4	14.5 ± 2.0	<0.001	12.9 ± 2.4	14.5 ± 2.1	<0.001	13.0 ± 2.5	14.4 ± 2.1	<0.001
Domain 5: Environment	12.8 ± 1.8	13.5 ± 1.7	<0.001	12.3 ± 2.0	13.5 ± 1.7	<0.001	12.2 ± 2.0	13.4 ± 1.7	<0.001
Domain 6: Religion, personal beliefs and Spirituality	15.8 ± 2.8	17.4 ± 2.3	<0.001	14.7 ± 2.8	17.3 ± 2.4	<0.001	15.0 ± 2.6	17.3 ± 2.4	<0.001
Overall QOL	87.9 ± 11.7	94.0 ± 9.4	<0.001	84.3 ± 12.4	93.6 ± 9.6	<0.001	84.5 ± 12.7	93.4 ± 9.8	<0.001

Table 4

The association between suicidal behaviors and WHOQOL scores using odds ratios from logistic regression

	Suicide Ideation OR (95%CI)	Suicide Plans OR (95%CI)	Suicide Attempt OR (95%CI)
Domain 1: Physical	−0.09 (−1.04, −0.12)	−2.78 (−1.69, −0.29)	−0.80 (−1.84, −0.15)
Domain 2: Psychological	−0.18 (−1.48, −0.67)	−4.36 (−2.02, −0.77)	−0.13 (−2.19, −0.67)
Domain 3: Level of independence	−0.12 (−1.22, 0.33)	−3.49 (−1.89, −0.53)	−0.10 (−1.96, −0.31)
Domain 4: Social relationships	−0.18 (−1.44, 0.64)	0.16 (−2.03, −0.80)	−0.11 (−1.98, −0.48)
Domain 5: Environment	−0.12 (−0.90, −2.30)	0.14 (−1.53, −0.50)	−0.12 (−1.73, −0.48)
Domain 6: Religion, personal beliefs and Spirituality	−0.21 (−1.94, −1.01)	−0.23 (−3.12, −1.69)	−0.16 (−2.91, −1.16)
Overall QOL	−0.20 (−7.38, −3.62)	−0.20 (−11.31, −5.54)	−0.15 (−11.44, −4.42)

All figures adjusted for the presence of any depression and/or anxiety disorder