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Death anxiety as a factor in health-related quality of life among people living with HIV/AIDS

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ABSTRACT

We investigated the influence of death anxiety (DA) on multi-dimensional health-related quality of life (HRQoL) in a Nigerian sample of people living with HIV/AIDS (PLWHA). Using cross-sectional design and availability sampling method, we selected 201 out patients (men = 63, 31.3%, women = 138, 68.7%, mean age = 40.1, *SD* = 10.5) managed for HIV/AIDS in a Nigerian tertiary healthcare institution. Death Anxiety Inventory – Revised and Patient Reported Outcome Quality of life-HIV were used to access DA and HRQoL, respectively. The dimensions of HRQoL were treatment impact, physical health, relationship and cognitive domains. Result of simple regression analysis indicated that death anxiety predicted treatment impact domain of HRQoL. However, DA did not predict physical health, relationship and cognitive domains of HRQoL. Anxiety about death may influence PLWHA into more adherence with the treatment regimens and more satisfaction with the use of highly active anti-retroviral therapy.

Introduction

HIV/AIDS is a major global health threat that is taking a heavy toll on the physical, economic, social and psychological life of its victims (Raniga & Motloung, 2013; UNAIDS 2016). According to UNAIDS (2016), over 78 million people have been infected with this global epidemic resulting in the death of over 35 million people. The burden of HIV/AIDS seems to rest more on Africa where 18 million (over 78%) of the total death cases have been recorded (UNAIDS, 2016). Sub-Saharan Africa stands top as the most hit region, accounting for two-third of the global records of people living with HIV/AIDS (PLWHA) and also two-thirds of the global total of new HIV infections (UNAIDS, 2016). The National Agency for the Control of Aids (NACA) reported that Nigeria had 3.5 million of her citizens infected with HIV by the end of 2015; a report estimated by UNAIDS (2016), as the global second largest HIV epidemics cases per country (after South Africa) accounting for 60% of the total HIV infection cases across West and Central Africa. UNAIDS report also showed that AIDS-related diseases accounted for about 180,000 recorded deaths in Nigeria in 2015.

Evaluation of health-related quality of life *(HRQoL) has become a concern for researchers, policy makers and health practitioners given its relevance in understanding the health needs of people with various health conditions for improved health outcome planning (*Hughes, Seemann, George & Willls, 2018; Martins et al., 2018; Osoba,*2011).* HRQoL is the effect of disease and its treatment on the patient (Nilsson, 2012), and it is considered an important clinical metric of perceived wellbeing among PLWHA (Nilsson, 2012). In other words, identifying the risk and mitigating factors for HRQoL has implications for improvement in well-being outcomes of PLWHA (Cobbing, Hanass-Hancock, & Myezwa, 2016; Millar, Starks, Gurung, & Parsons, 2017; Nguyen, Mcneil, Han, & Rhodes, 2017; Peltzer & Phaswana-Mafuya, 2008; van Luenen et al., 2018). There are four dimensions of HRQoL in HIV, namely, treatment impact, physical health, relationship and cognitive domains (see Duracinsky et al., 2012). Poor HRQoL in relation to any of the dimensions of life could constitute existential crises.

Existential crises brought about by death anxiety (DA) have been identified as the major threats facing victims of life-threatening illnesses (Niemeyer, Stewart, & Anderson, 2005; Sherman, Norman, & McSherry, 2010). Death anxiety (DA) is an abnormal or persistent fear of one's death which may be substantial among PLWHA (Miller, Lee, & Henderson, 2012). Apart from being an underlying factor in the development and maintenance of several mental health problems (Iverach, Menzies, & Menzies, 2014; Miller, Lee, & Henderson, 2012), death anxiety has been associated with poor quality of life in some patient samples such as HIV/AIDS, cancer, hemodialysis, and traumatic brain injury (e.g., Bentacur et al., 2017; Bahrami et al., 2013; Sherman, Norman, & McSherry, 2010; Soleimani et al., 2016). However, there is paucity of research on DA and HRQoL in non-western samples. Hence our study becomes imperative given this compelling need to enrich the existing dearth of literature linking death anxiety and HRQoL of PLWHA especially among Nigerian sample where the second highest global HIV/AIDS cases per country and high AIDS-related death cases have been recorded. We therefore set out to investigate, in the present study, if death anxiety is implicated in the poor health-related quality of life of people living with HIV/AIDS in Nigeria. We therefore, hypothesized that:

1. Death anxiety will significantly predict physical health symptoms dimension of HRQoL among people living with HIV/AIDS

2. Death anxiety will significantly predict cognitive symptoms dimension of HRQoL among people living with HIV/AIDS.

3.Death anxiety will significantly predict relationship symptoms

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dimension of HRQoL among people living with HIV/AIDS

4. Death anxiety will significantly predict treatment impact symptoms dimension of HRQoL among people living with HIV/AIDS

Method

Study setting and participants

Participants were 201 outpatients (31.3% male and 68.7% female) managed for HIV/AIDS in University of Nigeria Teaching Hosptial, Ituku-Ozalla, Enugu. Participants had minimum of Senior School Certificate education level and were diagnosed of HIV+/AIDS status for at least one year. They were also receiving Antiretroviral treatment (ART) for a minimum period of 6 months. Ethical approval for the study was granted by the ethical research committee of UNTH.

Materials

HRQoL was measured using Patients Reported Outcome Quality of Life-HIV (PROQOL-HIV) (Duracinsky et al., 2012). PROQOL-HIV is a 4-factor measure comprising physical symptoms (11 items), mental distress/cognitive symptoms (10 items), social relationship (7 items), and HIV treatment impact (10 items). Participants indicated the extent to which they had experienced each of the items in the past two weeks on a 5-point scale ranging from 0 (never) to 4 (always). Sum of scores by dimension are expressed on a scale ranging from 0 to 100 points, where 100 means the best quality of life for the given dimension. According to the scoring pattern derived by the developers, the score for physical symptoms is the product of the quotient of 100/44 and the difference between 100 and the sum of the 11 items on that dimension {PHS = 100 - (PHS01 + PHSO2 + ... + PHS11) x 100/44}. Hence, there could be decimals in the scores of participants. The reliability in the present study was α = .97 Previous studies on HRQoL in sub-Saharan Africa have assessed the construct using generic measures of HRQOL which were not specific to HIV/AIDS (e.g., Abera, Gedif, Engidawork, & Gebre-Mariam, 2010; Olisah, Baiyewu, & Sheikh, 2011).

Death anxiety was assessed using Death Anxiety Inventory- Revised (DAI-R) (Thomas-Sabado, Gomez-Benito, & Limonero, 2005). Participants responded on a 5-point likert scale format (totally agree=5, - strongly disagree=1). Higher scores on the DAI-R suggest more anxiety about death. The reliability in the present study was α = .92.

Data analysis

This is a survey research and cross-sectional design was adopted in the study. Pearson's correlation (*r*) analysis was conducted among the study's demographic variables, predictors and dependent variables while simple regression was applied for hypotheses testing.

Results

Table 1. Correlations between demographic variables, death anxiety (DA) and HRQoL (physical health symptoms domain, health concerns and mental distress domain, intimate and social relationship domain and treatment impact dimensions)

	Variables	1	2	3	4	5	6	7	8	9	10
1	**Age**		-.29**	.84	.19**	.32**	.04	-.09	-.01	-.05	.02
2	**Gender**			-.10	-.21**	-.10	-.15*	.04	-.04	-.06	.09
3	**Education**				-.08	.14*	.02	-.04	.06	-.01	.09
4	**Occupation**					.12	.01	.10	.01	.11	.08
5	**Comorbidity**						.03	.01	.07	.01	.09
6	**DA**							-.19	-.08	-.01	.25*
7	**Phy-Health**								.13	-.12	.10
8	**Rel-Health**									.07	.38**
9	**Cog-Health**										.04
10	**TRT-Impact**										

Note: * = *p*<.05; ** = *p*< .01; *** = *p*< .001. DA = Death anxiety, Phy-health = Physical Health Symptoms, Rel-Health = Relationship Health Symptom, Cog-Health = Cognitive Health Symptoms, TRI-Impact = Treatment Impact Symptoms

Table 2: Simple regression table demonstrating relationship between DA and Physical, relationship, cognitive and treatment impact symptoms domains of HRQoL

Variables	Physical symptoms			Relationship symptoms			Cognitive symptoms			Treatment impact		
	β	***t***	**95%*CI***	***β***	***t***	**95%*CI***	***β***	***t***	**95%*CI***	***β***	***t***	**95%*CI***
DA	.19	1.24	-.19, .35	-.08	-1.14	-.04, .01	-.01	-.13	-.03, .03	.25*	3.64	.12, .39

Note: DA = Death Anxiety; Relationship symptoms = Intimate/social relationship; Cognitive symptoms = health concern/mental distress; $^{***}p$<.001; $^{**}p$<.01; $^{*}p$<.05

The first and second result presented in this study were the correlation and regression analysis, respectively. Pearson's correlation in Table 1 indicated that, death anxiety was positively related to treatment impact domain of HRQoL (*r* = .25; *p* <.001). Those who reported centralizing HIV/AIDS around their life and identity were also likely to report positive experiences with the treatment impact dimension of HRQoL**.** However, other demographic variables (gender, age, marital status, occupation, level of education and comorbidity of other sicknesses), were not significantly related to HRQoL. Death anxiety was not significantly associated with physical health symptoms, relationship symptoms and cognitive symptoms dimensions of HRQoL respectively. Regression coefficient table (Table 2) showed that DA predicted treatment impact dimension of HRQoL (β = .25, 95% *CI* [.12, 39], *t* = 3.64, *p*< .01). Death anxiety did not predict physical health symptoms, relationship symptoms and cognitive symptoms dimensions of HRQoL.

Discussion

The major goal of this study was to investigate the predictive influence of death anxiety on the dimensions of HRQoL in a sample of PLWHA in Nigeria. The result showed that death anxiety positively predicted treatment impact dimension of HRQoL. This implies that fear of death may tend to make HIV/AIDS patients feel less of the side effects associated with the taking highly active antiretroviral therapy. They are also more likely to be satisfied with highly active antiretroviral therapy. This fear of death also makes them adhere to their treatment regimens and to also take their drugs. Becker (1973) asserted that human beings have death denial instinct and as such can do anything to avoid death. In this instance, part of the efforts of PLWHA to avoid death may include taking their medications as prescribed and focusing on being alive such that the burden of side effects associated with highly active antiretroviral therapy were less felt.

While the availability of active antiretroviral therapy (ART) and highly active antiretroviral therapy (HAART) occasioned by the advancements in the medical practices have changed HIV/AIDS from terminal disease to chronic and manageable disease (Hoy-Ellis & Fredrickson-Goldson, 2007), the treatment packages (ART and HAART) have also brought in certain side effects that have been associated with other health problems and consequent negative health experiences and maladaptive treatment behaviours such as poor compliance to treatment regimens. People living with HIV/AIDS also have special needs occasioned by their disease status. These needs include frequent treatment, laboratory tests to determine their level of viral loads and getting long-term follow-up (Sayed, 2015). Our study therefore found that fear of death may rather be an enhancing factor towards enabling better treatment experiences and adaptive health behavior towards a better health outcome. Since, this was the first study to use HRQoL measure involving treatment impact dimension in the study of death anxiety, future study should validate this result.

Results also showed that death anxiety did not predict other dimensions of HRQoL (physical health, cognitive health and relationship symptoms dimensions). This is in keeping with previous researches (e.g., Shafaii, Payami, Amini & Pahlevan, 2017; Taghipour, Mehravar, Nia, Shahidifar, Hasani, & Alahyari,2016). Thus, the other hypotheses were rejected. Other studies (e.g., Bahrami, Moradi, Soleimani, Kalantari, Hosseini, 2013; Rishi & Shulka, 2014; Sherman, Norman, & McSherry, 2010; Soleimani, Letho, Negarandeh, Bahrami&Nia, 2016) had found negative relationship between death anxiety and quality of life. The reason for the mixed findings may stem from differences in sample (all the studies, except Sherman, Norman & McSherry, 2010, were based on cancer and hemodialysis patients) and measures. Our measure of HRQoL in this study was PROQOL-HIV while previous studies used McGill Quality of Life Scale. Future researches should validate this.

Findings of this study may be limited by the sample size (201 respondents), which may influence the generalizability of our result. Also, the design of this study is cross-sectional, which also involves the use of self-report measures, thus preventing causal inferences. Worthy of note also include the female skewed nature of our sample (68.7%,) which calls for caution in the interpretations and generalisation of our findings across gender. In conclusion our study supports and extend the existing literature on the relationship between death anxiety and HRQoL among PLWHA in Nigerian setting where the second largest HIV/AIDS burden, globally, is recorded (UNAIDS, 2016).

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