



Determinants of Self Reported Health Related Quality of Life among People Living with HIV/AIDS Attending Clinic in a Tertiary Hospital in Sagamu, South-Western Nigeria

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Authors' contributions

This work was carried out in collaboration between all authors. Authors AOS and SAA participated in its design, author OEA conceived the study, participated in the analysis and design and also helped to draft the manuscript, author OMF participated in the coordination. All authors read and approved the final manuscript.

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ABSTRACT

Background: Disability and health-related quality of life are becoming increasingly important issues associated with chronic illnesses including HIV disease.

Aims: This study was designed to assess the health related quality of life [HRQoL] among a sample of HIV patients and to identify the clinical and psychological variables that affect quality of life among HIV patients using the functioning and the impact of illness approach in a tertiary health care centre in Western Nigeria.

Place and Period of Study: The study was conducted in Olabisi Onabanjo University Teaching Hospital, Sagamu, South-west Nigeria. Data were collected over 4 weeks period between 12th January 2012 to 6th February 2012.

Methods: This was an analytical cross-sectional study. All consenting PLWHAs who attended the ART clinic during the study period were recruited into the study. A structured interviewer-administered questionnaire was used to collect relevant information.

Result: A total of 205 PLWHAs were interviewed, the mean age of the PLWHAs studied

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was 31.26±5.38. The overall point prevalence of poor HRQoL among the PLWHAs in this study was 8.3%. A quarter 25.9% of the respondents reported reduction in work performance since diagnosis of HIV, 51.2% did not have any associated illness, 2.5% were too ill to work and participate in the daily activities while 82.9% of the respondents claimed that their HIV status did not affect their interaction with people. Malaria accounted for 43.9% of opportunistic illnesses, diarrhoea 5.4% and tuberculosis 2.9%. Poor HRQoL was statistically significantly associated with poor mental health status [$X^2=5.88$, $p=0.015$], non utilization of psychosocial services [$X^2=5.67$, $p=0.017$] and education [$X^2=0.65$, $p=0.022$]. There was no statistically significant difference in the HRQoL among the respondents due to sex [$X^2=1.94$, $p=0.16$], religion [$X^2=2.05$, $p=0.36$] tribe [$X^2=0.66$, $p=0.72$] disclosure of HIV/AIDS status [$X^2=1.15$, $p=0.28$], adherence to antiretroviral drugs [$X^2=3.31$, $p=0.69$] length of use of ART [$X^2=0.31$, $p=0.58$] and occupation [$X^2=7.13$, $p=0.21$]. The only predictor of poor HRQoL was poor mental health status among the PLWHAs in Sagamu, Nigeria [OR=3.41, CI=1.02-11.48].

Conclusion: The study concludes that understanding the complex relationship between education, psychosocial support, mental health and quality of life might help to identify effective approaches to intervention to promote HIV care giving and its potential positive effects on the well-being of PLWHs thus eliminating the feelings of discrimination and inequalities among PLWHs.

Keywords: Determinants; HRQoL; PLWHAs; HIV/AIDS; Nigeria.

1. INTRODUCTION

Quality of life is an existential concept with multiple definitions. In general, health-related QoL can be defined as the value assigned to the duration of life as modified by the impairment, functional status, perceptions, and social opportunities that are influenced by disease, treatment, and health care delivery [1]. As AIDS becomes a more chronic and manageable illness and health behaviour plays such an important role in the process of illness in people living with HIV/AIDS (PLWHAs), factors that might influence their health motivation are important variables. The value people place on their own lives (an essential component of QoL) has to play an important role in health motivation and it is therefore important to explore the factors that affect QoL. HRQoL questions about perceived physical and mental health and its function have become an important component of health surveillance and are generally considered valid indicators of service needs and intervention outcomes. Self-assessed health status has also proved to be more powerful predictor of mortality and morbidity than many objective measures of health [2-4].

Studies consistently show two major dimensions of HRQoL: physical and mental [5-6]. HIV infection and substance use disorders are chronic diseases with overlapping morbidity and complex contributions to decreased HRQoL. Highly active antiretroviral therapy (HAART) has transformed HIV/AIDS from a progressive, fatal illness to a treatable chronic disease. However, improved HIV control with antiretroviral therapy may come at the expense of substantial adverse drug effects [7-9]. Even with improved treatment and survival, HIV/AIDS can still compromise health-related quality of life (HRQoL), especially for those with side-effects from treatment and/or with more advanced disease [10-12].

Disability and health-related quality of life are becoming increasingly important issues associated with chronic illnesses including HIV disease. New developments in the treatment of HIV have produced dramatic improvements in the clinical and immunologic health for

many patients, with a resulting reduction in deaths due to AIDS. Besides clinical outcomes, health-related quality of life (HRQoL) and disability are important issues for persons treated for chronic diseases such as diabetes mellitus, hypertension, carcinomas [13-17] including HIV infection [18-19].

There are 2 standard approaches to assessing HRQoL: the health status approach, which describes functioning and the impact of illness on 1 or more domains of health, and the health value/utility/preference approach, which assesses the desirability of states of health against an external metric. The literature contains many published studies addressing health status in HIV/AIDS but only a few address symptoms and health values in HIV/AIDS [7-9, 18-21]. This study was therefore designed to assess the health related quality of life among a sample of HIV patients and to identify the clinical and psychological variables that affect quality of life among HIV patients using the functioning and the impact of illness approach in a tertiary health care centre in Western Nigeria.

2. MATERIALS AND METHODS

2.1 Background of the Study Area

The study was conducted in Olabisi Onabanjo University Teaching Hospital, Sagamu, Southwest Nigeria. This hospital is funded by the government of Ogun State, in Southwest Nigeria and it serves as the referral centre for other health facilities in all the Local Government Areas in Remo and Ijebu regions of the State. These regions have a projected population of 1,186,282 people. In addition to providing emergency medical services to women referred from other centres, the hospital also provides outpatient services for Sagamu community and neighbouring towns. Patients are expected to pay for their services though in emergency situations, they are managed within the means of existing resources before funds are made available. The ART clinic is run with free drug provision from support from Federal Ministry of Health in collaboration with implementing partners. The hospital provides blood transfusion services from limited stock and relatives of patients are requested to donate or pay for blood when blood transfusion is indicated, at times in cases of emergency.

2.2 Study Design

This was an analytical cross-sectional study that quantitatively assessed the health related quality of life and identified the clinical and psychological variables that affect quality of life among HIV patients using the functioning and the impact of illness approach in a tertiary health care centre in Western Nigeria.

All consenting PLWHAs who attended the ART clinic during the study period were recruited into the study.

2.3 Sampling Size

The minimum sample size required for the study was estimated to be 138 using the formula cross sectional study in a single population

$$n = Z_{\alpha}^2 pq/d^2,$$

where n is the sample size,

Z_{α} is the standard normal deviate, set at 1.96 (for 95% confidence interval),

d is the desired degree of accuracy (taken as 0.050 and

p is the estimate of our target population having that particular characteristics. Good HRQoL constitute about 10% of the national HIV (i.e. 0.1) burden [22].

Adjustment for a 10% rate of non-responses and invalid responses yielded a final sample size of 152.

2.4 Sampling Technique

Total sample of all PLWHAs attending Antiretroviral [ART] clinic at the Olabisi Onabanjo University Teaching Hospital were recruited into the study.

2.5 Data Collection

PLWHAs who consented to take part in the study were interviewed using a structured questionnaire, which was administered by two trained interviewer. The interviewers were resident doctors at the Community Medicine and primary health care department of the Olabisi Onabanjo University Teaching Hospital. The data were collected on clinic days by the interviewers at the hospital. Completed questionnaires were scrutinized on the spot and at the end of the daily field sessions for immediate correction of erroneous entry. Trained interviewers conducted a standardized interview in either English or Yoruba that includes questions on demographic characteristics, drug and alcohol use, sexual behaviours, and medical and social service information. Data were self-reported and were not verified through medical record review or clinical tests. On average interviews take approximately 25 minutes to complete. Data were collected over 4 weeks period between 12th January 2012 to 6th February 2012 with the interviewers visiting the weekly clinic over the study period. (Most of them speak 'pigin' English or Yoruba)

2.6 Study Instrument

The instrument was a structured Interviewer administered questionnaire consisting of 3 parts, namely:

Section A: include information on socio-demographic data such as age, marital status, religion, employment status, ethnic group and educational status.

Section B: consist of HIV related knowledge, risk behaviour and safe sexual practices.

Section C: collect information on self-reported HRQoL in the following dimensions: Overall Health, Pain, Physical Functioning, Role Functioning, Social Functioning, Mental Health, Energy/Fatigue, and Cognitive Functioning. These eight HRQoL dimensions were measured using 24 questions adapted from WHO quality of life questionnaire and SF-36 Health survey. Each item was endorsed on a 2-point Likert scale. After reversing negative items, the responses were summed to provide a total score. The PLWHAs were then categorized into poor [score 12 and below] and good [score above 12] HRQoL.

The questionnaire was pretested among 20 patients visiting the outpatient department of the hospital. Appropriate adjustments were then made to the questionnaire to improve its internal validity.

2.7 Ethical Consideration

Ethical clearance was obtained from the Olabisi Onabanjo Teaching Hospital Ethics Board. Confidentiality on candidate's information was maintained.

On each of the clinic days, the matron and medical officer in-charge were informed for consent before the commencement of the study. The purpose, general content and nature of the study were explained to each respondent to obtain verbal and written consent before inclusion into the study. Furthermore, the researchers assure participants that their names will not be associated with the findings of the research. The questionnaires were kept safe and confidential after the interview.

2.8 Data Analysis

The data was entered into Statistical package for social sciences [SPSS] statistical software version 16. Percentages or means and standard deviation were computed for baseline characteristics of PLWHAs interviewed. The data analysis focused on univariate frequency table and bivariate cross tabulations that identify important relationships between variables. The relationships between socio-demographic characteristics of the PLWHAs and HRQoL were examined through bivariate analysis, by computing odds ratio at 95% confidence level and chi squared where appropriate. Predictor variables were restricted to outcome measures that were statistically significant. A p-value ≤ 0.05 or confidence limits which did not embrace unity (1) was considered as statistical significance.

3. RESULTS

3.1 Socio-Dermographic Characteristics of the Respondents

A total of 205 PLWHAs were interviewed, 55 [26.8%] were males and 150 [73.2%] were females. Two-third 137 [66.8%] of the participants were aged 20-39yrs and only 15 [7.3%] and 53 [25.9%] were less than 20years and greater 40 years respectively. The mean age of the PLWHAs studied was 31.26 ± 5.38 . One hundred and twenty three [60.0%] were married and 33 [16.1%] were Singles, 21 [10.2%] were separated, 11 [5.4%] were divorcees while 17 [8.3%] were widow/widower. Majority of the respondents 158 [77.1%] were Christians and 45 [22.0%] were muslims and 2 [1.0%] were from other religions. One hundred and sixty-six [81.0%] were Indigenes [Yoruba] while the rest [19.0%] were non indigenes. Half 106 [51.7%] of the respondents had a secondary level of education, 35 [16.6%] had tertiary education, 55 [26.8%] had primary education while 10 [4.9%] were illiterates. About two-third 133 [64.9%] were either unskilled or semi-skilled while 25 [12.2%] and 38 [18.5%] were skilled and professionals respectively with only 9 [4.4%] being unemployed. One hundred and sixty three [79.5%] were from a low income earner while 42 [19.5%] were high income earners. The socio-demographic characteristics of the participants are summarized in Table 1.

3.2 Prevalence of Poor Health Related Quality of Life among PLWHAs

The overall point prevalence of poor HRQoL among the PLWHAs in this study was 8.3%. Regarding their physical health, 25.9% of them reported any reduction in work performance since diagnosis of HIV. Half [51.2%] of respondents did not have any associated illness since they have been placed on retroviral drugs, 46.2% occasionally fall ill with 2.5% falling too ill to work and participate in the daily activities. Malaria accounted for 43.9% of illnesses 5.4% of diarrhoea, TB accounted for 2.9%. About 82.9% of the respondents claimed that their HIV status did not affect their interaction with people and lifestyle 74.1%, while only 16.6% found it hard interacting with people as they felt very conscious of their status and just wanted to withdraw.

Mental health status of participants was assessed using the GHQ-12 instrument. 135 [86.0%] were mentally stable while 22 [14.05] were not. Mental health status was found to be statistically significantly associated with prevalence of poor HRQoL [$X^2=5.88$, $p=0.015$]. 32 [15.6%] of the PLWHAs drink alcohol and 8 [3.9%] smokes cigarette. There was no statistically significant relationship between the prevalence of poor HRQoL and drinking alcohol [$X^2=2.74$, $p=0.25$] and smoking cigarette [$X^2=3.29$, $p=0.19$].

Only 23.4% belong to a psychosocial group and those that do not gave various reasons such as not being interested, not seeing the usefulness, its effect being equivalent to home support etc. All the respondents who reported utilization of the psychosocial services reported Good HRQoL score. This was statistically significant [$X^2=5.67$, $P=0.017$]. Only 14 [6.9%] of respondents reported non disclosure of HIV status. Reasons given for refusal to disclose status include "not to burden their partner's minds with worries", "in order to blend in" etc. 31 [20.0%] of the respondents reported non adherence to anti-retroviral drugs. Disclosure of HIV/AIDS status to sexual partners and adherence to antiretroviral drugs was not statistically significantly associated with prevalence of poor HRQoL [$X^2=1.15$, $p=0.28$ & $X^2=1.13$, $p=0.29$]. Majority of the study participants have been on antiretroviral drugs for more than 5 yrs. There was however no statistically significant difference in the prevalence of poor HRQoL between those who had been on the antiretroviral drugs for more than 5yrs and those on it for less than 5yrs [$X^2=0.31$, $p=0.58$]. This is as shown in Table 2.

3.3 Factors Associated with Poor Health Related Quality of Life

Prevalence of poor HRQoL was statistically significantly associated with mental health status [$X^2=5.88$, $p=0.015$], non utilization of psychosocial services [$X^2=3.51$, $p=0.06$] and education [$X^2=0.65$, $p=0.022$].

There was no statistically significant difference in the prevalence of poor HRQoL among the respondents due to sex [$X^2=1.94$, $p=0.16$], religion [$X^2=2.05$, $p=0.36$] tribe [$X^2=0.66$, $p=0.72$], adherence [$X^2=32.31$, $p=0.69$] and occupation [$X^2=7.13$, $p=0.21$] as shown in Table 1 below. In the multiple logistic regression models, three variables were found to be independently associated with prevalence of poor HRQoL among the PLWHAs. These were mental health status [OR=3.41, CI=1.02-11.48] and education [OR=1.07, CI=0.52] and utilization of psychosocial services [OR=5.71, CI=0.77-118.1]. The only predictor of poor HRQoL was poor mental health status among the PLWHAs in Sagamu, Nigeria [OR=3.41, CI=1.02-11.48]. This is as shown in Table 3.

Table 1. Socio-demographic Characteristics and Health related Quality of Life

Socio-demographic factors	Total [%] N [%]	Reported poor health-related quality of Life [HQoL] N [%]	X², p-value
Age			
<20 yrs	15 [7.3]	1 [6.7]	0.87, 0.65
20-39 yrs	137 [67.8]	10 [7.3]	
>40 yrs	53 [25.9]	6 [11.3]	
Total	205 [100.0]	17 [8.3]	
Sex			
Male	55 [26.8]	7 [12.7]	1.94, 0.16
Female	150 [73.2]	10 [6.7]	
Marital status			
Single	33 [16.1]	1 [2.3]	33.59, 0.0001
Married	123 [60.0]	4 [3.3]	
Separated	21 [10.2]	7 [33.3]	
Divorced	11 [5.4]	0 [0.0]	
Widow/Widower	17 [8.3]	5 [29.4]	
Ethnicity			
Yoruba	166 [81.0]	15 [9.0]	0.66, 0.72
Igbo	22 [10.7]	1 [4.5]	
Others	17 [8.3]	1 [5.9]	
Religion			
Christainity	158 [77.1]	11 [7.0]	2.05, 0.36
Islam	45 [22.0]	6 [13.3]	
Others	2 [1.0]	0 [0.0]	
Level of education			
Nil	10 [4.9]	3[30.0]	9.65, 0.022
Primary	55 [26.8]	2 [3.6]	
Secondary	106 [51.7]	11 [10.4]	
Post -Secondary	35 [16.6]	1 [2.9]	
Occupation			
Unskilled	76 [37.1]	9 [11.8]	7.13, 0.21
Semi skilled	57 [27.8]	7 [12.3]	
Skilled	25 [12.2]	0 [0.0]	
Professional	38 [18.5]	1 [2.6]	
Unemployed	9 [4.4]	0 [0.0]	
Income			
Low	163 [79.5]	14 [8.6]	0.09, 0.76
High	42 [20.5]	3 [7.1]	

Table 2. Disease related characteristics and health related quality of life

Disease related characteristics	Total [No]	Had poor health -related quality of Life [HQoL] N [%]	X², p-value
HIV/AIDS knowledge			
Good	140 [68.3]	14 [10.0]	1.69, 0.19
Poor	65 [31.7]	3 [4.6]	
Length of disease			
< 5 yrs	34 [16.6]	2 [5.9]	0.31, 0.58
>5 yrs	171 [83.4]	15 [8.8]	
Mental health status			
Normal	135 [86.0]	11 [6.3]	5.88, 0.015
Abnormal	22 [14.0]	6 [19.4]	
Disclosure of status			
Yes	191 [93.2]	17 [7.9]	1.15, 0.28
No	14 [6.9]	0 [0.0]	
Adherence			
Yes	164 [80.0]	17 [9.1]	3.31, 0.69
No	31 [20.0]	0 [0.0]	
Join a psychosocial group			
Yes	140 [89.2]	0 [0.0]	5.67, 0.017
No	17 [10.8]	17 [10.8]	
Drink alcohol			
Yes	32 [15.6]	5 [15.6]	2.74, 0.25
No	173 [84.4]	12 [6.8]	
Smoke Cigarette			
Yes	8 [3.9]	2 [25.0]	3.29, 0.19
No	197 [96.1]	15 [6.7]	

Table 3. Multivariate analysis- predictors of health related quality of life

	Adjusted OR [95% C.I.]
Level of education	
Nil	0.41 [0.16-1.07]
Primary	0.92 [0.44-1.92]
Secondary	0.48 [0.21-1.09]
Tertiary	1.00
Mental health status	
Normal	3.41 [1.02-11.48]
Abnormal	1.00
Utilize psychosocial services	
Yes	5.71 [0.77-118.1]
No	1.00

4. DISCUSSION

The overall point prevalence of poor HRQoL for the study population was 8.3%. Literature has shown that populations with HIV infection or AIDS have reported different levels of HRQoL, both in clinical trials [23-26] and population-based research [27-29]. This shows that the population studied was a relatively healthy and stable population of PLWHAs. Several studies have shown that both mental and physical HRQoL decrease with more advanced stage of disease [30-31], lower HRQoL scores and poorer perception of health were associated with more advanced disease. Disability and health-related quality of life are becoming increasingly important issues associated with HIV disease. New developments in the treatment of HIV have produced dramatic improvements in the clinical and immunologic health for many patients, with a resulting reduction in deaths due to AIDS. Along with clinical indicators of morbidity and mortality, measures of HRQoL (such as physical functioning, mental health, pain, and energy) can help guide treatment decisions for both patients and providers [32-34].

The study shows that HRQoL was statistically significantly associated with mental health status. This is similar to several studies which reported that when compared with general population norms, physical and mental HRQoL are lower among persons living with HIV infection [30-34]. In a national probability sample of HIV-infected Americans, physical and mental HRQoL were poorer compared to persons with other chronic diseases [31]. The number of HIV-related symptoms and the presence of comorbid mood disorders have been shown to be strongly associated with lower HRQoL [32,35]. HRQoL appears to diminish transiently at the time of initial diagnosis of HIV infection [32] and may improve with treatment of HIV symptoms [39]. Modifiable factors associated with improved HRQoL offer potential targets for intervention. Our study found out that there was no relationship between drinking alcohol, and smoking cigarette and HRQoL. This is however in contrast with several other studies [30-31]. The number of HIV-related symptoms and the presence of comorbid mood disorders have been shown to be strongly associated with lower HRQoL. Major depression and other mental health disorders are common among HIV-infected patients with substance use disorders [35-36], and may mediate measured deficits in mental HRQoL [33]. The contrast in this study may probably be due to the fact that the respondents in the study population might not be addicted to substance use such as alcohol and cigarette smoking. This may however need further investigation in this study population.

The fact that almost all of the respondents who reported utilization of the psychosocial services reported Good HRQoL score shows that these services if properly assessed will help in the improvement of health related quality of life among PLWHAs. Furthermore, there was no statistically significant difference in the HRQoL among the respondents adherence to drug regimen and length of antiretroviral drug usage. Studies have shown that in physical and mental HRQoL becomes poorer in PLWHAs compared to persons with other chronic diseases [31-32]. This may be due to frequency and quantity of drugs consumed daily. Quality of life issues are important for persons with HIV as they relate to medication adherence. Complex medication regimens and side effects can affect both quality of life and adherence [40-43]. Resistant viral strains may emerge when adherence to antiretroviral regimens is suboptimal.

As with all studies, there are some limitations to this study. First, we conducted data analyses based on baseline cross-sectional data; therefore, causal interpretations of the results cannot be established. Second, the reliance on self-report measures might be

susceptible to information bias. Despite the limitations, our study findings have implications for future HIV intervention in Nigeria and other low income countries.

5. CONCLUSION

The study concludes that programmes and intervention such as psychosocial group services that address the challenges that PLWHs and their caregivers face are urgently needed. Longitudinal examination of the impact of the cumulative burden of psychological well-being and quality of life might contribute to a better understanding of service providers' capacities to respond to the needs of these PLWHAs. The programmes should address the mental health needs of PLWHs. Understanding the complex relationship between caregiving, social support, mental health and quality of life might help to identify effective approaches to intervention to promote HIV caregiving and its potential positive effects on the well-being of PLWHs thus eliminating the feelings of discrimination and inequalities among PLWHs.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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