

Religiosity and health-related quality of life in hiv positive young adults seeking health care in alebtong district, northern uganda

Amir Kabung*

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The World Health Organization emphasizes that religiosity be an integral part of the treatment and management of HIV. However, information on its influence on health-related quality of life HRQOL among HIV young adults is limited, especially in rural settings. This study estimated religiosity and health-related quality of life in HIV-positive young adults aged 18-36 years seeking care in Alebtong district northern uganda. A descriptive, cross-sectional study was conducted among HIV-positive young adults. A total of 302 HIV-positive young adults participated in the study. Standardized tools were used to measure religiosity and HRQL. Descriptive Statistics was used to analyze categorical and continuous variables. One-way ANOVA and Chi-

square test were used to assess the relationships between variables. The results indicate that 62.91% were female, 32.12% n=97 were aged between 30-34 years of age, 85.10% were peasants, 60.60% were married and 66.56% had no formal education. The majority, 89.7% 271/302 of the participants had poor physical HRQOL while most, 95.7% 289/302 of the respondents had poor mental HRQOL. The majority of the study participants with poor physical and mental HRQOL were female. Religiosity was a predictor of physical HRQOL OR=1.159, 95% CI, P≤ 0.001 and mental HRQOL OR=1.138, 95% CI, P≤ 0.005. The study results show that HIV-positive patients in Alebtong have poor HRQOL affecting both physical and mental well-being. It is, therefore, crucial for health care providers to consider addressing the religious aspects of HIV-positive patients.

Keywords: HIV; Health facilities; Health quality of life; Religiosity; Young adults

INTRODUCTION

Global trends in HIV infection show that HIV remains a major global public health concern and has claimed 33 million lives by 2019 [1]. Sub-Saharan Africa has a disproportionate liability of HIV, accounting for 71% of the global burden of infection [2]. Out of an estimated daily 6000 new infections occurring globally, two out of three are in Sub-Saharan Africa with young adults bearing a disproportionate burden [3]. HIV prevalence is nearly three times higher in young adults compared to those aged 15-19 [4]. In Uganda, close to 1.5 million lived with HIV in 2019 [5]. While between 2000 and 2019, new HIV infections declined by 39% and HIV-related deaths reduced by 51%, it continues to be a major cause of morbidity affecting the health-related quality of life HRQOL of persons living HIV [1,6]. To improve the HRQOL, the World Health Organization WHO emphasizes that religiosity be an integral part of the treatment and management of HIV [7]. However, although several studies have examined the HRQOL in patients with HIV, only a few have examined the influence of religiosity on HRQOL among HIV-positive young adults especially in developing countries [8].

Religiosity is a person's belief, spirituality, and relevance toward a divinity [9]. In this study, religiosity was operationally defined as meaning, peace, and faith [10] among HIV-positive young adults. Available literature especially in developed countries indicates that individuals who have higher levels of religiosity tend to report lower CD⁴ counts, low sex risk behaviors, decreased viral loads, and, greater odds of HIV testing [11-13]. HIV patients use religiosity as a source of hope and comfort to cope with the disease and the weaknesses it causes [14]. On the contrary, low levels of religiosity can affect the development of the disease, and HRQOL [15]. The study by Szaflarsk and colleagues showed that one-third of the HIV patients in the sample reported that their HRQOL improved due to religiosity among other factors [16]. Mrus . 2006 suggested that religiosity could be a potentially fruitful target for intervention to improve HRQOL. However, some studies indicate that religiosity could have negative aspects on HRQOL [18]. Some HIV patients appeared to rely more on religiosity than biomedical treatment

[18]. But, how widely spread this issue could be among HIV-positive patients remains unknown but could impact HRQOL especially in low-income countries. Therefore, there is a need to understand the influence of religiosity on HRQOL among HIV young adults, especially in developing countries.

HRQOL refers to how an individual functions in their life, and their perceived wellbeing in mental, physical, and social aspects of health [19]. According to the World Health Organization WHO, HRQOL is a collection of different elements concerning an individual and their environment including how they perceive their goal, expectations, and concerns [7]. A new "beyond viral suppression" model to add a "fourth 90" to the UNAID; 90-90-90 target is to ensure that 90% of people living with HIV with viral load suppression have a good HRQOL [20]. Earlier studies have indicated factors influencing HRQOL including socio-demographics, stigma, CD⁴ T lymphocytes count, poor ART adherence, mental health, social support, adherence to ART, psychological status, and religiosity [20-24]. However, these factors may vary from one setting to another and from one culture to another [20].

The 2016-2017 Uganda AIDS Indicator Survey reported HIV prevalence in the northern region, Alebtong district inclusive to be at 7.2% which is higher than the national rate of 6.2% [5].

This may be attributed to the two decades of war 1986-2006 in the region involving widespread atrocities including abduction, forced marriages, mass rapes, and displacement [25]. Thus, although the war ended in 2006, it continues to impact the health and wellbeing of the post-war conflict-affected people [26]. Research has been done to assess the HRQOL in HIV patients and other people with chronic diseases concerning psychological health [27,28]. However, research on HRQOL of young adults living with HIV remains limited especially in developing countries. Besides, a review of Ugandan literature shows that very limited research has been conducted to assess the relationship between religiosity and HRQOL in HIV-positive young adults. To address this gap, this study investigated religiosity and HRQOL in HIV-positive young adults seeking care in Alebtong district health facilities in northern Uganda.

Department of Health science, Lira University, Uganda

Correspondence to: Amir Kabung, Department of Health science, Lira University, Uganda; Tel: 25677929576 Email: amirkabs2017@gmail.com

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METHODS

A cross-sectional study was conducted among HIV-positive young adults in five health centers in Alebtong district, northern Uganda in April 2021. Alebtong district is located in the Lango sub-region in northern Uganda. The district is bordered by Dokolo district to the south, Amuria district to the east, Otuke district to the north, and Lira district to the west. This is approximately 387 kms by road, north of Kampala, the capital city of Uganda. The HIV prevalence remains concentrated in northern, Alebtong inclusive may due to the impact of the two decades of war 1986-2006 in the region involving widespread atrocities including abduction, forced marriages, mass rapes, and displacement although the war ended in 2006, it continues to impact the health and wellbeing of the post-war conflict-affected people [26].

Participants

The study population involved 1278 HIV-positive people 60% of whom are HIV-positive young adults [29]. Thus the accessible population is 767 young adults aged 18-36 years attending Alebtong health centers. The sample size of the participants was calculated using the formula for finite population Reid and Boore [30] where $n = a$ sample size, $N =$ the population size, and $e =$ significance level, taking alpha as 0.05. Thus, the sample size was 288 with a 10% addition for possible non-response rates. We used a consecutive sampling technique to select the representative sample. Given the nature and availability of the respondents, every participant meeting the inclusion criteria was selected until the required sample size was achieved.

Measurements

We used a researchers' generated questionnaire to collect data on socio-demographics of the participants including age, gender, occupation, marital status, and level of education. The Therapy-spiritual well-being 12 Item Scale FACIT-Sp-12 and modified 36-Item short form survey SF-36 were administered to collect data on religiosity and HRQOL respectively. FACIT-Sp-12 measures spiritual well-being with content not limited to any religious tradition. It has 12 items and three sub-domains of spiritual well-being meaning, peace, and faith. FACIT-Sp-12 uses a five-point Likert-type scale ranging from 0=not at all to 4=very much. The tool had good internal reliability of $\alpha = .088$ [31]. We assessed HRQOL using modified SF-36. SF-36 comprises 36 items covering eight domains of health; physical functioning; 2 role limitations to physical health problems; 3 bodily pain; 4 social functioning; 5 mental health; 6 emotional functioning; 7 vitality; and 8 general health perceptions. The eight domains are grouped into the mental component scale and physical component scale. Once the items were scored HRQOL was categorized as poor or good. Higher scores indicate better health on each subscale. We modified the tool to fit the context of the study setting. For example, phrases like playing golf, walking several blocks, and climbing a flight of stairs were replaced with appropriate to suit the local context. The tool has been used in East Africa and Uganda in particular and was found to be valid and reliable [32].

Ethical considerations

Ethical approval was obtained from the Institutional Review Board IRB of Gulu University GURE-2021-38 and the Uganda National Council for Science and Technology. All participants provided written informed consent and received no facilitation for participation in this study. Participation was voluntary and no form of coercion was used. The data collected was confidential and anonymous with no information like names linking the study participants to the data. The COVID-19 protocols were strictly maintained throughout data collection. The respondents without masks were provided with masks. Sanitizers were available and social distancing was maintained.

Procedure

The study participants were young adults of age 18-36 years attending Alebtong health centers. Five research assistants with data collection

experience were recruited to collect data and they were under the supervision of the principal investigator. One-day training was given to data collectors to help them know the purpose of the study and the rights of the respondents either to decline or participate. Data collection was carried out for 10 days in April 2021. Each participant with HIV attending health centers and meeting the criteria was invited to participate in the study. Those who agreed to participate were informed about the purpose of the study. The informed consent document was read to the potential participant and signed after agreeing to participate.

Data analysis

Data were summarized by descriptive statistics including frequency, means, standard deviation, and percentages. One-way ANOVA was used to determine statistically significant differences between religiosity and demographic factors gender, occupation, marital status, age category, and level of education. Chi-square and Fisher's exact test were used to examine the relationship between HRQOL scores and demographic factors gender, occupation, marital status, and level of education. We conducted a logistic regression analysis test to determine the relationship between religiosity and HRQOL scores. For all statistical tests, a significant level of $P \leq .05$ was used. SPSS for windows version 23 was used to perform statistical analyses.

Results

Overall, 310 participated in the survey after signing the written consent form. However, 8 questionnaires were excluded due to missing information. The final sample for the participants included in the analysis was 302 which were above the prior calculated sample size of 288 for this study. The results indicate that 62.91% $n = 190$ were female, majority, 32.12% $n = 97$ were aged between 30-34 years, 85.10% $n = 257$ were peasants, 60.60% $n = 183$ were married and 66.56% $n = 201$ had no formal education Table 1.

Table 1

Socio-demographic characteristics of 302 HIV positive young adults

Variables	Frequency	Percentages
Gender		
Male	112	37.09
Female	190	62.91
Age		
18-24	66	21.85
25-29	74	24.5
30-34	97	32.12
35-39	65	21.52
Occupation		
Business	17	5.63
Civil servant	8	2.65
Others	20	6.62
Peasant	257	85.1
Marital status		
Divorced	54	17.88
Married	183	60.6
Single	37	12.25
Widowed	28	9.27
Education level		

Completed A-Level	2	0.66
Completed O-Level	22	7.28
Completed primary education	77	25.5
No formal education	201	66.56

A-Level=Advanced secondary level of education, O-Level=ordinary secondary level of education

Religiosity facit-Sp-12 domain scores

Table 2 presents the participants' mean and standard deviation scores for religiosity subscales. The highest scores were found in the domain of meaning 9.858±3.725, followed by peace 8.268± 2.883 while the faith domain obtained the lowest scores 7.291±3.725 .

Table 2

FACIT-Sp-12 domain scores

	Domains	Mean	Std. Dev.
FACIT-Sp-12 domains	Peace	8.268	2.709
	Faith	7.291	2.883
	Meaning	9.858	3.725
Total	FACIT-Sp-12	25.417	7.382

Health-related quality of life of HIV positive young adults 18-36 years

Health-Related Quality Of Life HRQOL was categorized as either good or poor. The majority, 89.7% 271/302 of the participants had poor physical HRQOL. Over half, 62.4%169/302 of the study participants with poor physical HRQOL were female. Most, 95.7% 289/302 of the respondents had poor mental HRQOL. Over half, 61.6%178/302 of the study participants with poor mental HRQOL were female Table 3.

Table 3

Health-related quality of life of HIV positive young adults 18-36 years attending Alebtong health centers

HRQOL scores	Variables	Frequency	Percentage
Physical HRQOL	Poor	271	89.74
	Female	169	62.36
	Male	102	37.67
	Good	31	10.26
	Female	21	67.74
	Male	10	32.26
Mental HRQOL	Poor	289	95.7
	Female	178	61.59
	Male	111	38.41
	Good	13	4.3
	Female	12	92.31
	Male	1	7.69

Relationship between HRQOL and socio-demographics of HIV positive young adults

We examined the association between physical and mental HRQOL with social demographic factors. Results in Table 4 show that socio-demographic

factors were not associated with physical HRQL. The findings indicate that gender was significantly associated with poor mental HRQOL in the bivariate analysis $P \leq 0.036$. However, there was no statistically significant relationship with age, occupation, marital status, and level of education.

Table 4

HRQOL and socio-demographics of HIV positive young adults 18-36 years

HRQOL scores	Variables	P-Value
Physical HRQOL	Gender	0.557
	Age	0.156
	Occupation	0.135
	Marital Status	0.247
	Level of Education	0.825
Mental HRQOL	Gender	0.036*
	Age	1
	Occupation	0.268
	Marital Status	0.398
	Level of Education	0.908

Religiosity and quality of life of HIV positive young adults 18-36 years

Logistic regression was conducted to assess the relationship between religiosity and HRQOL. The results in Table 5 indicate that religiosity was significantly associated with physical HRQOL OR=1.159, 95% CI, $P \leq 0.001$. When sorted by sex, the relationship was equally significant for both males OR=1.162, $P \leq 0.001$ and females OR=1.1162, 95% CI, $P \leq 0.015$. The results further showed that there was a significant relationship between religiosity and mental HRQOL OR=1.138, 95% CI, $P \leq 0.005$ with the effect being significant among the female sex OR=1.110, 95% CI, $P \leq 0.029$ and not in the male OR=1.225, 95% CI, $P \leq 0.187$.

Table 5

Religiosity and quality of life of HIV positive young adults 18-36 years

	Variable	Odds ratio	p-Value
Physical HRQOL	Religiosity	OR-1.159	0.000*
	Female	OR-1.162	0.000*
	Male	OR-1.162	0.015*
Mental HRQOL	Religiosity	OR-1.138	0.005*
	Female	OR-1.110	0.029*
	Male	OR-1.225	0.187

DISCUSSION

We estimated religiosity and health-related quality of life in HIV Positive young adults aged 18-36 years seeking care at health facilities in Alebtong District, Northern Uganda. Results of our study indicate that majority of the participants 89.7% had poor physical HRQOL while most of the respondents 95.7% had poor mental HRQOL. The majority of the study participants with poor physical and mental HRQOL were female. Religiosity was significantly associated with physical HRQOL OR=1.159, 95% CI, $P \leq 0.001$ and mental HRQL OR=1.138, 95% CI, $P \leq 0.005$. Gender was significantly associated with mental HRQL $p \leq 0.036$.

The results indicate that majority of the participants had both poor physical and mental HRQOL with females disproportionately affected. This finding is important for HIV treatment programs because impaired HRQOL is believed to predict survival [33]. This result is consistent with other studies

on HRQOL among HIV-positive patients [34–36]. This result is also comparable to studies in China, Brazil, and Norway [37–39]. Most of these studies show that the female gender is associated with poor HRQOL [40]. Our results showed that participants had poor physical and mental health scores than 59.7% observed in Botswana [35]. However, previous studies have revealed results contradicting our findings [39–41]. These studies reveal better overall HRQOL as opposed to the current study. The differences may be attributed to differences in sample, clinical status, better patient care, and cultures. These findings highlight the need to strengthen the counseling and psychosocial education services to improve the mental health among HIV-positive patients.

Our results show that socio-demographic factors were not associated with physical HRQOL. Also, there was no statistically significant relationship between mental HRQOL and age, occupation, marital status, and level of education. However, our findings indicate that gender was significantly associated with a poor mental HRQOL and this is consistent with the finding from a study conducted in Ethiopia [40]. Our results are also consistent with the findings of other studies conducted in China, Bangladesh, and Vietnam [42–44]. However, a study in China showed no differences in HRQOL scores based on gender [45]. Also, this result is inconsistent with studies conducted in Zimbabwe and Ethiopia [46,47]. The differences in results may be attributed to differences in sample size, settings, and cultures. Based on the findings there is a need for further research for conclusive evidence on the contribution of socio-demographic towards the wellbeing of HIV-positive patients.

Our results indicate that religiosity was significantly related to both physical and mental health quality of life. Studies show that religiosity makes a difference in HRQOL [48]. These results are significant because they point to the importance of religiosity in improving HRQOL. Religiosity is related to better mental health in people living with HIV because it contributes to peace, life alterations, self-esteem, and comprehension of the meaning of life [48]. A large body of research studies shows that religiosity is beneficial to a sense of wellbeing, satisfaction with life, happiness, and overall HRQOL [49, 50]. Davison and Jhangri, 2013 postulate that religiosity is a positive resource that may help to cope with health issues. Our results mirror prior studies which report a positive relationship between religiosity and HRQOL [52]. Other studies have also found similar results revealing the correlation between religiosity and HRQOL [53,54]. Consistent with our results, Mrus suggested that numerous correlates including religiosity could be potentially fruitful targets for intervention to improve HRQOL [17].

CONCLUSION

The study results show that HIV-positive patients in Alebtong have poor HRQOL affecting both physical and mental well-being. Religiosity is associated with both mental and physical HRQL while being a female is associated with a poor mental HRQOL. It is, therefore, crucial for health care providers to consider addressing the religious aspects of HIV-positive patients to improve their HRQL.

LIMITATIONS

Our study should be interpreted against the backdrop of some limitations. Being a cross-sectional study design, the study provides correlation and not causation. This study was conducted in health facilities with little chance of including less regular patients in the health centers and may have different features. Additionally, the study is limited geographically because it was conducted in health centers in Alebtong, Northern Uganda.

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