

Comparative study on quality of life among married and non-married women living with HIV/AIDS

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Abstract

Human immunodeficiency virus (HIV) infection is a serious health problem among married and non-married women. It has become a health problem for women of all ages. Antiretroviral therapies introduced in the mid 1990s have allowed many women with HIV infection to live longer before progressing to AIDS, and to have longer survival time following an AIDS diagnosis. Then the issue of quality of life becomes important for these women. The progression of HIV disease most often results in a decreasing quality of life.

While examining quality of life among women living with HIV/AIDS, limited attention has been paid to study addressing the issue of whether there is a difference in the levels of quality of life between married and non-married women living with HIV/AIDS. This study will assess and compare the levels of quality of life in married and non married women living with HIV/AIDS. Random systematic sampling of 114 women living with HIV/AIDS who participated in the study were administered well structured questionnaires by the palliative care nurses. Quality of life was evaluated using World Health Organization's Quality of Life HIV short form (WHOQOL HIV BREF) instrument.

The data reported in this study suggest that there is no significance difference with regard to quality of life between married and non married women. The independent *t* test revealed that the levels of quality of life differed significantly in the married and the non-married respondents, $t(112) = -2.64$; p value = .01. But controlling the effect of the covariates in both groups, the result revealed that there was no significant difference in the levels of quality of life in non married and married women, $t(112) = -1.4$, p value = .17. The apparent difference ($t(112) = -2.64$; p value = .01) in the levels of quality of life was found to be due to covariates variables.

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Introduction

The Human Immunodeficiency Virus infection and Acquired Human immunodeficiency syndrome (HIV/AIDS) epidemic has changed our world. In 2008 an estimated 1.9 million people became infected with HIV in Sub-Saharan Africa. Women comprise the majority (59%) of those living with HIV/AIDS in the region (Kaiser Foundation, 2008).

In Kenya, HIV prevalence in women in the age range 15 - 49 is 8.7%; HIV prevalence for

men in the same age range is 4.6 %, almost 2 to 1 (Kenya Demographic and Health Survey, 2003). HIV prevalence in Kenya has since declined to 5.9% from 6.1%. But HIV prevalence among women in the country is at 7.7%, compared with 4% among men, (Kenya AIDS Indicator Survey, 2008). Since the advent of antiretroviral the life expectancy of people living with HIV/AIDS (PLWHA) has changed significantly. Most of them are living longer than expected. This increase in life expectancy for PLWHA makes quality of

life issues critically important for clients, health care providers and social services. The aim of this study is to assess and compare the quality of life between married and non married women living with HIV/AIDS.

The research question is: "Is there a difference between levels of quality of life among married and non married women"? Focusing on quality of life (QOL) as an outcome allows researchers to consider a wider range of psychosocial interventions to help women living with HIV/AIDS. Clinical trials can use quality of life assessments in measuring the effectiveness of drug treatments with their female patients, while program planners can use QOL information to assist them in developing social and medical service delivery for women in the community.

The World Health Organization Quality of Life Group (1995) defined quality of life (QOL) as "individuals' 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." This definition of quality of life focuses upon respondents' perceived quality of life, it is not expected to provide a way of measuring in any detailed manner, symptoms, disease or conditions but rather the effects of disease and health interventions on quality of life (WHO, 1995).

Related Literature

The physical, psychological, emotional and environmental effects of Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS) on patients' quality of life (QOL) have been constantly fluctuating (Liu et al., 2006). With the advent of highly active antiretroviral therapy (HAART), people affected with HIV/AIDS can now live a longer thriving life. Over the past decade the status of HIV/AIDS among women living in Kenya has risen from an anomaly to that of a major public health problem. While some segments of population such as men have

seen some decreasing in HIV/AIDS prevalence rate, the number of women living with HIV/AIDS has been increasing. Prevalence is highest among women at 7.7% compared with 4% among men. Among people aged 15—24 years, prevalence rate is highest among girls at 4.5%, compared with 0.8% for boys (NACC, 2007). Women continue to be disproportionately infected with HIV/AIDS. Furthermore, women living with HIV/AIDS often are poor, wary of healthcare facilities, and tend to be crisis oriented in their health-promoting behaviors (those activities or actions used to maintain health and well-being) (Leenerets, 1998). Most often the women present themselves in health centers with multiple comorbidities and deteriorated quality of life (Miles et al., 2003).

New advances in HIV/AIDS treatment have slowed the rate of the disease progression and reduced many of its life-threatening complications. Thus, HIV/AIDS has been reconceptualized from an acute, fatal illness to serious chronic disease that involves complex medical regimens and necessitates preventive efforts to reduce complications and prolong life (Mutimura, Stewart, and Crowther, 2007). However, even in the era of highly active antiretroviral therapy (HAART), HIV/AIDS remains an important cause of morbidity and mortality among women in developing countries. Women often delay their pursuit of medical care before or after diagnosis with HIV because of stigma and of fear to be chased from conjugal home.

In the past few years, the number of studies focusing on HIV-infected women has increased. Despite these efforts, much needs still to be learnt about the impact of HIV infection on women. The question of how HIV/AIDS infection affects quality of life in married against non married women has yet to be investigated. The quality of life is commonly considered as relevant outcome measure in assessing the impact of chronic disease.

Sowell et al. (1997) conducted a longitudinal study with a sample of 263 HIV-infected

women from eight public-health HIV/AIDS clinics serving both rural and urban areas in the state of Georgia in the United States. Social factors (disclosure and material resources) and psychological factors (fatalism, stigma, emotional distress, and intrusion) were found to be important determinants of quality of life. Limited daily functioning was correlated with stigma, fatalism, employment status, and stage of disease.

Sarna et al. (1999) studied quality of life in women with symptomatic HIV/AIDS over a 4-month period. They used the HIV-Overview of Problem Situations-Evaluation System (HOPES) to measure quality of life, with data at baseline, 2 months, and 4 months. Age was related to changes in physical summary scale, with older age associated with greater declines in physical quality of life. The most prevalent disruptions were psychosocial: financial problems, worry about the family, distress about losing others to HIV, and worry about disease progression. The study results were limited by the small sample size for each of the three time periods ($n=44$, 37, and 35, respectively). Other studies in developed countries have indicated that certain demographic factors (e.g., age, sex, ethnicity, education, and marital status) as well as physiological and psychological factors might be related to quality of life (Crystal et al., 2003).

Pennington Grimsley (2006) studied quality of life and spirituality in a sample of 101 participants composed both men and women. The research setting was a rural clinic in southwest Georgia serving HIV-positive persons. In her study questions, she sought to find the difference in quality of life based on marital status. The analysis of study questions found that there was no difference in levels of quality of life based on marital status among the participants.

were receiving palliative care. The number of women population targeted in the study was 850 women who joined the palliative program between 2004 and 2008. The study used systematic sampling method to get a sample of 114 participants selected at random. The selected sample ($N=114$) consisted of community-based women living with HIV/AIDS and attending Maua Methodist Hospital Palliative Care Program. Participants were chosen as they come to Maua Methodist Hospital on their scheduled appointment. Maua Methodist Hospital is a private church institution, located in greater Meru North District in Kenya. The research setting is therefore in a rural hospital serving HIV positive and AIDS individuals.

To minimize biases both criteria for inclusion and exclusion were fixed. For inclusion the following criteria were chosen: (a) HIV positive status or AIDS diagnosed women enrolled in Maua Methodist Hospital Community Palliative Care Program, (b) between 15 and 50 years of age, (c) taking first line antiretroviral medications, (d) able to participate in the research with sober mind, and (e) the ability to provide informed consent orally. Also participants were given primary interview to judge their suitability to participate in the study.

Participants who demonstrated signs of confusion and too sick to participate were excluded. Participants less than 15 years old, those older than 50 years old and those not enrolled in any of the Maua Methodist Hospital Outreach Centers for palliative care were excluded. Participants who were not taking the first line ARVs treatment and pregnant women were also excluded. The pregnant women were excluded from the study sample to avoid biases in the outcome of quality of life because they were prescribed different antiretroviral treatment regimen.

Data Collection Method

Demographic measures were part of the questionnaire and included age, education, income, employment status and time since

Methods

Participants and Setting

The target population was women aged 15 to 50 years old living with HIV/AIDS and who

diagnosis. Quality of life was assessed using the World Health Organization's Quality of Life HIV short form instrument (WHOQOL HIV BREF). The WHOQOL-HIV BREF instrument was developed for HIV population and has been shown to be valid in multi-cultural settings of heterogeneous social-economic strata including African countries. The WHOQOL-HIV BREF comprises 31 items whose answers should refer to situations occurring within two weeks prior to the interview and is divided into four domains: physical health, psychological health, social relationships, and environment. The **physical health domain** measures pain and discomfort; energy and fatigue; sleep and rest; mobility; daily life activities; dependence on medications or treatments; and work capacity. The **psychological health domain** measures positive feelings; thinking, learning, memory and concentration; self-esteem; bodily image and appearance; negative feelings; spirituality, religion and personal beliefs. The **social relationships domain** includes personal relationships; social support; and sexual activity. The **environment domain** measures physical safety and security; home environment; financial resources; health and social care: accessibility and quality, opportunities for acquiring new information and skills; participation in and opportunities for recreation and leisure activities; physical environment (pollution). Other items included in the questionnaires were the individual's overall perception of QOL and about the individual's overall perception of her health. Each item in the questionnaire used a five-point Likert-type scale.

Individual's stage of disease was based on current CDC guidelines for classification of HIV disease (CDC, 1996). Categories consisted of a combination of CD4 categories 1, 2 and 3 and clinical categories a, b and c. CD4 categories are as follows: Category 1: greater than or equal to 500 cells/mL, Category 2: 200–499 cells/mL, Category 3: less than 200 cells/mL. CD4 count, which is an actual CD4 T-lymphocyte count (cells per micro liter of blood), was obtained from the individual files.

Any count taken within six months of the time the survey was administered was considered to be adequate.

Details of the study procedures were given on volunteers' information sheet. The benefits, confidentiality and voluntary participation features of the study were explained and verbal informed consent was obtained from all subjects. Ethical approval was obtained through the Maua Methodist Hospital Ethical Committee and The National Council for Science and Technology (NCST). The questionnaires were administered by trained interviewers using local language. The data was collected on socio-demographic information and perceptions of each woman's quality of life.

Data Analysis

Treatment of the data. In addition to computing descriptive statistics, data were analyzed to examine the relationships between the independent and dependent variables. Multiple regression analyses were performed using each of the four dimension scores as dependent variables, and demographic variables as independent variables in the regression equations. Internal consistency reliability of each multi-item dimension was estimated using Cronbach's alpha coefficient. The construct validity of the measure was evaluated by examining correlations among the four health scales. All data analyses were performed using the Statistical Package for the Social Sciences (SPSS) new version 17.0.

All returned questionnaires after the interviews were reviewed for completeness, legibility, and accuracy at the time of data collection. The collected raw data from semi-structured interviews were coded and database developed. Prior to analysis, data were checked for missing values and outliers. The descriptive statistics such as mean, median, standard deviations, cross tabulations, minimum and maximum values were calculated to describe the

respondents' characteristics. After running the frequencies, Microsoft Excel was used to produce pie charts and bar graphs. The study sought to compare the levels of quality of life in married and non married women living with HIV/AIDS. Toward this end other statistical analyses were used as outlined in the following paragraphs:

F-test was used to compare means.

Independent t-test was used to carry out test analysis for statistical significance of correlation coefficients. **Principal Components Analysis (PCA)** was used to reduce the number of variables in quality of life without losing much of the original information on the process. Principle component was extracted using varimax rotation. Only first principal component was used in subsequent analysis because it explains the largest amount of variance in the data set. The scores were saved for further analyses purposes. In-depth interviews questions were evaluated and significant statements were extracted from participant's responses.

Findings

General Characteristics of the Respondents

The subjects in this study were all adult females living with HIV who were attending palliative Care at a Faith-Based Rural Hospital. The sample consisted of 114 women between the

ages of 19 and 50. The overall response rate for participating in the survey was 100%. Recruitment of participants consisted of approaching consecutive attendees to the clinic on their appointment day. The demographic data about personal characteristics were collected at the time of the interview and they include, age, marital status, education level, source of income and HIV status. In a sample of 114 respondents, frequency, percentage, distribution of the sample by characteristics, mean and standard deviation, when applicable in each characteristic were calculated as follow:

Age Distribution of Respondents

Ages of the study participants ranged from 17-50 years old with mean of 32.7 years and SD of 8.7. When the participants were split using mean (32.7 rounded to 32) as cut off point, more than half (n = 67 or 58.8%) were aged below the mean and n = 47 or 41.2% of the respondents aged above the mean (Figure 1).

Marital Status

Just a little over a half (n = 58 or 51%) of the women were married or living in a committed relationship. Of the 58 married women 35 were married in monogamous relationship (n = 35 or 30 %). About n=56 or 49 % were not married (Figure 2).

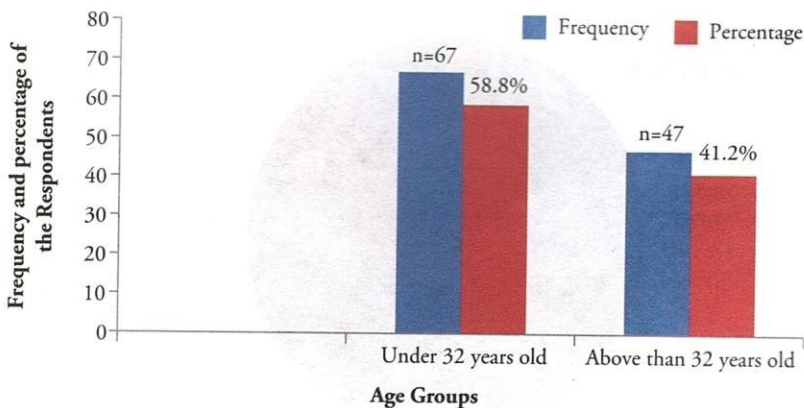


Figure 1: Study subjects (n = 114) by age strata

Note: Numbers in the y-axis represent in column A numbers (n) of the respondents and the same numbers in y-axis represent the percentages (n/114) % in column B



Figure 2: Study subjects (n=114) by marital status.

Note: Numbers in the y-axis represent in column A numbers n of the respondents and the same numbers in y-axis represent the percentages (n/114) % in column B

Formal Education

An assessment of study subjects on level of education indicates that 21.9% (n=25) completed their primary education while n = 46 or 40.4% did not complete their primary education.

Source of Income of Respondents

More than half (n = 58 or 50.9%) of the participants were engaged in miraa farming and n=45 or 39.5% of women were engaged in miraa selling business (Figure 4). (Miraa is a plant whose leaves, when chewed, produce

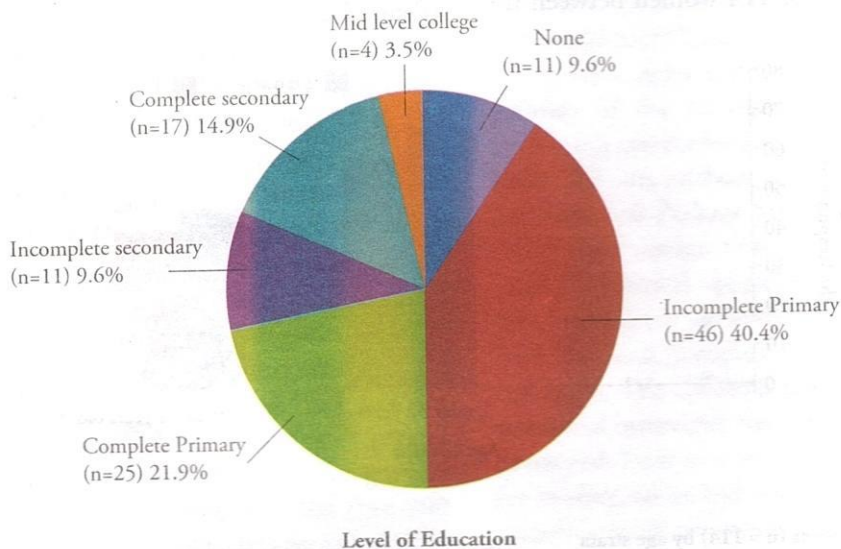


Figure 3: Study subjects (n=114) by level of education

mild stimulant). Yet when asked whether they have enough money from selling miraa to meet their needs (responses ranging from 1 = Not at all to 5 = Completely), most women (n = 77 or 67.5%) responded that they can hardly meet their needs. Miraa is a mild stimulant plant legally grown in Kenya in Nyambene Hills in Meru North District. Miraa plays a vital role in the traditional and cultural roles among Ameru, especially during marriages ceremonies. Women were considered unemployed if they did not earn a monthly salary.

Clinical Stages of HIV/AIDS among Respondents

Out of 114 study subjects 48.2% (n = 55) were in the clinical stage two of HIV disease with CD₄ count 300 – 250 cells/ml while (n = 51 or 44.7%) were in stage one with CD₄ count of 350 cells/ml, or above. Only (n = 8 or 5.3%) were in stage four with less than 250 cells/ml and obvious HIV wasting syndrome according to the Centre for Disease Control (CDC) AIDS Indicator Illness Classification (1993) (Figure 5). Heterosexual transmission was found to be the most common.

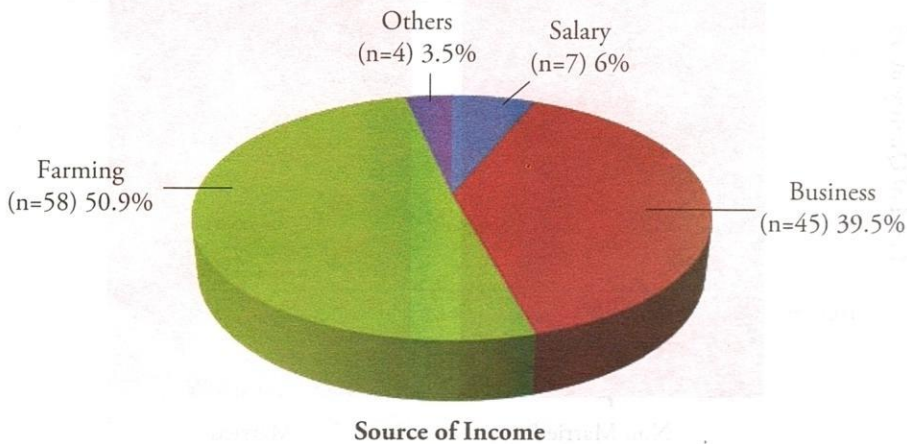


Figure 4: Main source of income among the study participants (n=114)

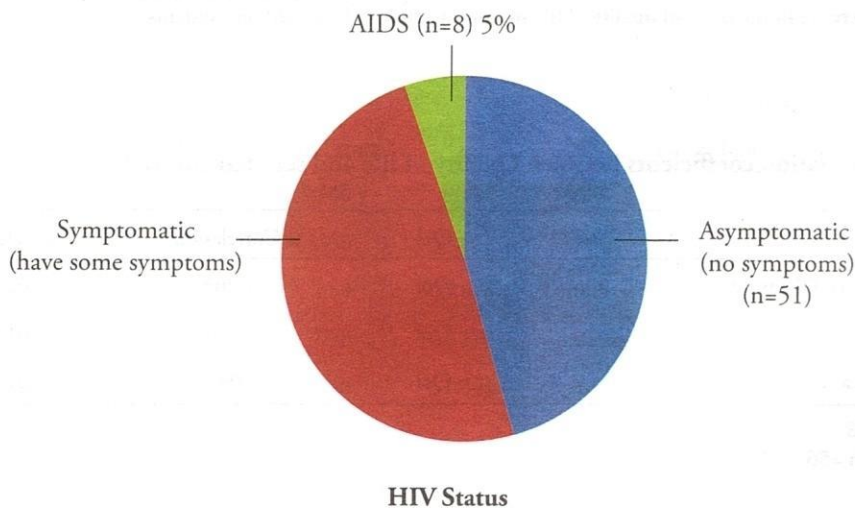


Figure 5: Study subjects (n=114) HIV status

Levels of Quality of Life in Married Women and Non Married Women

On average, the married respondents had higher level of quality of life ($M = 52.4, SE = 1.4$) than the non married ($M = 47.5, SE = 1.2$) (Figure 6). The independent t test revealed that the levels of quality of life differed significantly in the married and the non-married respondents, $t(112) = -2.64; p \text{ value} = .01$.

To uncover whether the difference was not influenced by confounding factors, it was necessary to control the confounding factors (covariates) that may be related to the level of quality of life. Analysis at bivariate level of the possible covariates revealed that duration since diagnosis ($p=0.026$), and age ($p = .015$) of the respondents were significantly correlated to quality of life (Table 1).

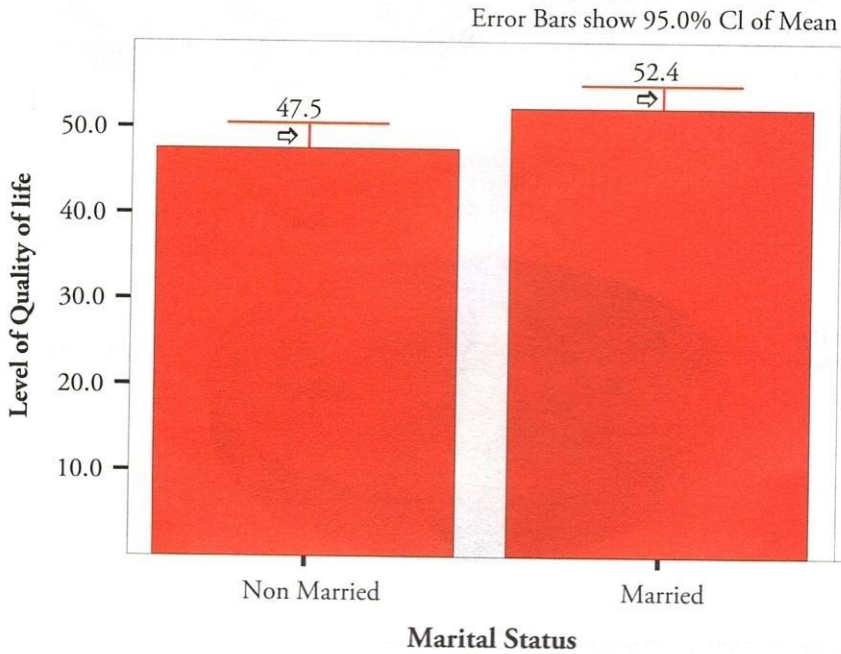


Figure 6: Difference in the levels of quality of life in non-married and married respondents

Table 1: Correlation coefficients between Quality of life and selected covariates

Variables	Qol	Correlation	P values
Duration Since Diagnosis	Qol	-.208	.026
Age	Qol	.226	.015
Level of education	Qol	.048	.612

Married $n = 58$

Non married $n = 56$

Therefore, Analysis of Covariance (ANCOVA) procedure was used to examine whether any significant difference exists in the levels of quality of life in the non married and married while controlling duration since diagnosis, and age of the respondents. The covariates were significantly related to the respondents' quality of life. Duration since diagnosis: $F(1, 112) =$

13.08, $p < 0.05$, $r = .32$; and Age: $F(1, 112) = 3.15$, $p < 0.05$, $r = 0.17$ (Table 2).

After controlling the effect of the covariates in both group groups, the results indicated that levels of quality of life in married and non married women participants do not significantly differ $t(112) = -1.4$, p value = .17 (Table 3).

Table 2: Result of Analysis of Covariates (F-test)

Dependent Variable: Quality of life

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2643.051(a)	4	660.763	8.320	.000
Intercept	3050.803	1	3050.803	38.413	.000
Duration since diagnosis	1039.142	1	1039.142	13.084	.005
Age	250.110	1	250.110	3.149	.079
Marital status	153.721	1	153.721	1.936	.167
Error	8656.949	109	79.422		
Total	296300.000	114			
Corrected Total	11300.000	113			

(a) R Squared = .234 (Adjusted R Squared = .206)

Table 3: Planned Contrast for covariates (t-test)

Dependent Variable: Quality of life

Parameter	B	Std. Error	t	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Intercept	33.156	5.396	6.144	.000	22.461	43.852
Duration	-1.194	.330	-3.617	.000	-1.849	-.540
Spirituality	.344	.089	3.878	.005	.168	.519
Age	.175	.098	1.775	.079	-.020	.370
[Marital status=0]	-2.429	1.746	-1.391	.167	-5.889	1.031
[Marital status=1]	0(a)

(a) This parameter is set to zero because it is redundant.

Discussion

The study sought to assess and establish the relative difference in the levels of the quality of life between the two sets of participants grouped according to marital status. This study succeeded to address directly women living with HIV/AIDS about their quality of life in the face of a terminal illness. There have not been many studies in Kenya examining the quality of life of rural women living with HIV/AIDS from their own perspective. The study took time to interview the participants and not just hand them the questionnaires to fill in or complete. The use of this technique helped the researcher to establish rapport with participants and made the experience more meaningful for both the participants and the researcher.

The levels of quality of life in married and non married women were examined. There was no significant difference in the levels of quality of life in these two groups ($t(112) = -1.4, p \text{ value} = .18, r = .13$). This means that their respective levels of quality of life are not very different. The two groups have comparable abilities to deal with physical pains and, stigmatization due to their HIV/AIDS status. Both married and non married respondents enjoy their social interaction with their friends and are satisfied with their living environment. This result leads to confirm the hypothesis stipulating that there is no difference in quality of life between married and non married women.

One of the significant limitations in interviewing the women living with HIV/AIDS was stigma. Most women, although enrolled in palliative program, did not want to be asked about their HIV status and how they are coping with the illness. In fact 67.5 % ($n = 77$) of the women interviewed said that they do not feel accepted by people they know in their community because of their HIV/AIDS status.

The findings in this study leave us with a better awareness of the dimensions (physical, social, psychological and environmental) of quality of life in women living with HIV/AIDS.

The study found positive but non-significant

relationship between **quality of life and marital status**. This means that the respective levels of quality of life in the two groups are not very much different. Hence both married and non-married women are equally satisfied with their ability to perform daily living activities, enjoy their social interaction, and appreciate their living environment. Both groups have comparable abilities to deal with physical pains, stigmatization due to their HIV/AIDS status and fear for the future.

Recommendation

Policy makers will need to include quality of life assessment through standardized instruments in medical follow-up that can help to identify the most crucial domains of quality of life in the women or persons living with HIV/AIDS to allow the provision of more, specific and better care.

Quality of life information can assist program planners in developing social and medical service delivery for women in the community thus facilitating the development of treatments, programs and interventions aimed at increasing quality of life for this population.

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