QUALITY OF LIFE AND ITS DETERMINANTS AMONG PEOPLE LIVING WITH HIV/AIDS AT KANGUNDO SUBCOUNTY HOSPITAL COMPREHENSIVE CARE CLINIC

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ABSTRACT

HIV/AIDs (Human Immune Deficiency Virus/Acquired Immunodeficiency Syndrome) possess a great burden to mankind. 37 million people are HIV infected worldwide. 19 million people in Sub-Saharan Africa are infected. In Kenya, 1.6 million people are HIV infected and just over one million are on antiretroviral treatment. The epidemic has negatively affected the country's economy by lowering per capital output by 4.1%. (Avert global statistics, 2017). This study sought to find out the trends of basic clinical indicators as an outcome of management of patients living with HIV/AIDS. It also investigated the quality of life as an outcome of personal socio-economic factors of the patients. Data was collected cross-sectionaly using a questionnaire among 215 people living with HIV/AIDS and on antiretroviral therapy treatment at Machakos in Kangundo Sub-county Hospital Comprehensive care clinic in 2017. Data analysis was done with SPSS, 20 using multiple correlation (R) statistic, t - test and chi –square, at $P \leq 0.05$ and 95% confidence Interval. Results indicated that having viral suppression below detectable levels, moderate body mass index, absence of drugs side effects and having no other diseases contributed to improved quality of life (R= 0.715, P<0.001). There was also significant relationship between client's socio-economic factors and the quality of life (R= 0.82, p=000). This study concluded that, both good clinical indicators and socio economic factors improve the quality of life for HIV/AIDs patients. The recommendation was that, emphasis should be put to improve both clinical indicators and socio economic status in order to enhance improvement on the quality of life among these patients**.**

STUDY INTRODUCTION

Quality of life is an individual's perception of their position life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. It's abroad ranging concept affected in a complex way by the person's physical health, psychological state, personal beliefs, social relationships and their relationship to silent features of their environment. Health has traditionally been measured narrowly and in negative way. What is measured is ill health in its severe manifestations those which are verifiable through physical examination and other objective procedures or tests .Such traditional measures of morbidity and mortality provide information about the lowest levels of health, but they reveal little about other important aspects of an individuals or a community's level of health, including dysfunction and disability associated with diseases, injuries and other health problems (WHO,2004).

Globally; it is estimated that 36.7 million people were living with HIV/AIDS by the year 2015. Most of them live in low and middle income countries, which may be attributed to poor quality of

life. In the same year 1.1 million people died of AIDS related illness (premature mortality). Out of this 25.5 million people live in Sub-Saharan Africa. The vast majority estimated as 19 million live in East and Southern Africa which saw 46% of new HIV infection globally in 2015. It's also estimated that 40% of all people living with HIV do not know that they have the virus (WHO, 2016). HIV prevalence in East Africa is 4.7% but varies greatly between region within sub Saharan Africa as well as individual countries (Avert Global HIV and Statistics, 2015).

In Kenya approximately 1.5 million people are infected with HIV and out of this 897,644 adults were on treatment by the year 2015.There has been a rapid scale up of treatment as is evidenced by increase of over 1000 treatment sites. The national average prevalence is 5.9%.The epidemic is geographically diverse, ranging from a high prevalence of 26% in Homa-Bay County in Nyanza region to a low of approximately of 0.4% in Wajir County in North Eastern region (NASCOP, July 2016 print). The high burden of HIV/AIDS in Kenya accounts for an estimated 29% annual adult deaths 20% of maternal mortality, and 15% deaths of children under the age of five years. The epidemic has also negatively affected the country's economy by lowering per capital output by 4.1%. HIV prevalence in Machakos is lower than the national prevalence at 4.5% (Kenya HIV Estimates, 2015).The HIV prevalence among women in the County is higher [6.1%] than that of men [2.7%] indicating that women are more vulnerable to HIV infection than men in the County. Machakos County is ranked 12th nationally with a total of 32,611 people living with HIV by year 2015 with ART coverage about 94% of total infected population (NASCOP, 2016).

Generally, some variables should be considered in the domain of health include premature mortality and life expectancy, various symptoms and physiologic states, physical functions, emotional and cognitive functions, and perception about present and future health (Patrick, 1993). This research aimed at helping medical and public health advances for better treatments of existing disease and delayed mortality. According to (Smith, et al 2009), professionals and authority may have different notion of good quality health care. Whereby he further eludes that, by ignoring the patient's views on preferred care we may neglect aspects of care provision which are important from the perspective of consumer health care (Smith, et al 2009).

PROBLEM STATEMENT

Kangundo level 4 hospital comprehensive care clinic has had a steady increase in patient enrollment. These come from within the hospital testing and referrals from surrounding environs, outreach, dispensaries and health centers. This is facilitated by other factors like patient convenience, preference, stigma from home environment, unavailability of CCC services in nearby facilities, etc. A total of 1967 PLHIV/AIDS are currently active on ART care. (DHIS, 2017). Approximately, 30% of this patient population actively attending clinic shows a very insignificant change in their basic laboratory measurement for immunological parameters known as CD4 cell count or percentage regardless of Anti-retroviral therapy of more than 6 months and high viral load count visa vii the expected response to treatment as per standard national guidelines (NASCOP

2016)

It has been observed that most of patients with poor prognosis after diagnosis and initiation of care and treatment have a kind of disadvantage in the community that's cuts across general population of patients with poor treatment outcome. This includes physical, mental, illiteracy, demographic factors, socio-economic and personality factors that in one way or another contribute to poor treatment outcome (Sounza S. 2007).

Despite the aggressive programs available in our setting in management of patient with HIV/AIDS, focus on disease rather than the patient and the community are much addressed. Since HIV/AIDS is a chronic disease affecting families and communities, a gap of focus to society and its behavior patterns impact to the individuals and families in addressing quality life threaten the much gained milestone in elimination of this pandemic. Hence patient's day to day life is equally important indicator of health outcome and quality of life (WHO, 2004).

Care for the patient is the fundamental aim of health services and the assessment of client's quality of life is an important component in continuous evaluation of service delivery in health facility. Furthermore a satisfied patient is more likely to develop a deeper and longer lasting relationship with their medical provider, leading to improved compliance, continuity of care and ultimately better health outcomes. This provides a direct indicator of quality care.

JUSTIFICATIONOF THE STUDY

Evaluation is a systematic determination subject merit, worth and significance using criteria governed by a set of standards. It can assist an organization, program, project or any other intervention or initiative to assess any aim realizable concept to help in decision making or to ascertain the degree of achievement or value in regard to the aim and objectives and results of results of any such action that has been completed. Health outcomes in Kangundo Sub-county hospital are varied despite funding, and are often linked to the ability of health care workers to innovatively overcome common and sometimes severe health system challenges matching services delivery to patient or service provider barriers and constrains without necessarily requiring additional resources to deliver high quality care.

The construct of health related quality of life broadens the traditional notion of health to meet the expressed physical and mental health needs of the population. It also enables health agencies to legitimately address broader areas of health policy around a common theme in collaboration with a wider circle of health partners, including social service agencies, community planners, and commercial groups. Health related Quality of life analysis will help to monitor progress in achieving the nation's health objectives e.g. identify sub- groups with relatively poor perceived health and help to guide interventions to improve their situations and avert more serious consequences. Allocation of resources based on unmet needs, development of strategic plans, and monitors the effectiveness of broad community interventions.

Study objectives for this study were to determine the trends of basic laboratory indicators that routinely measure quality of care given to people living with HIV/AIDS accessing services in Kangundo Level 4 Hospital comprehensive care clinicand to determine patient's personal and
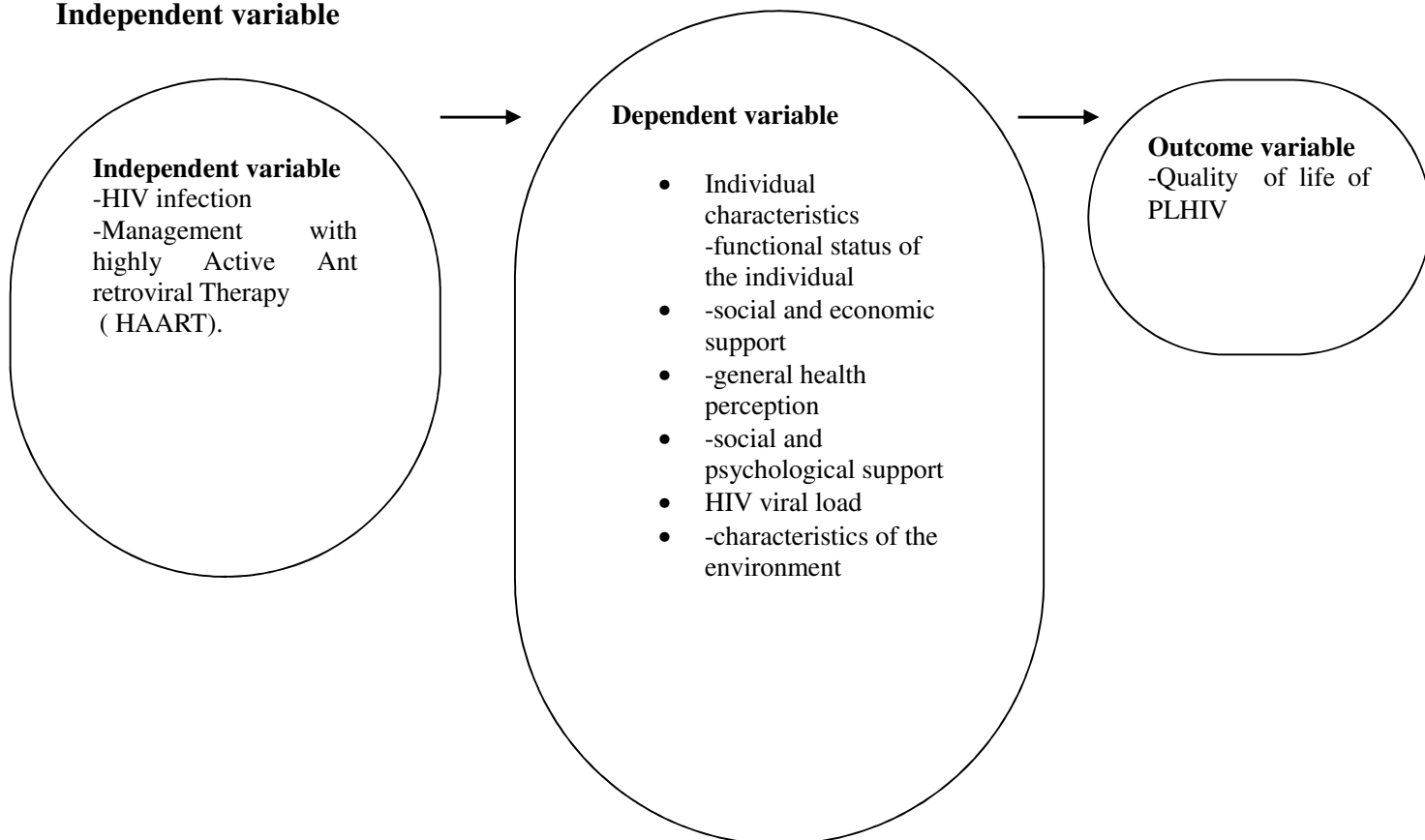
social- economic factors that influence outcome and quality of life in management of people living with HIV/AIDS.

Theoretical model.

In the clinical paradigm the bio medical model, the focus is on the etiological agents, pathological process, anti-biological, physiological process and clinical outcomes. The principal goal is to understand causation in order to guide diagnosis and treatment. Controlled experiments are its principle methodology and current biomedical research is directed at fundamental molecular, genetic and cellular mechanisms of disease. Its intellectual roots are in biology, bio chemistry and physiology.

In contrast, the socio-science paradigm, or the quality of life model focuses on dimensions of functioning and overall being, current research examines ways to accurately measure complex behaviors and feelings. The models of health have their foundation in sociology, psychology and economics. Use of such concepts and methodologies are often foreign to physicians and clinical researchers. However in recent research developments, if we want to have holistic care, then we should make use of such.

The Conceptual framework
Independent variable

Independent variable
-HIV infection
-Management with highly Active Ant retroviral Therapy (HAART).

Dependent variable

- Individual characteristics
  -functional status of the individual
- -social and economic support
- -general health perception
- -social and psychological support
- HIV viral load
- -characteristics of the environment

Outcome variable
-Quality of life of PLHIV

Study Methodology.

The researcher used systematic random sampling technique to select 215 participants who meet the inclusioncriteria giving each patient an equal opportunity of participating in the study. Data was collected using the cross sectional design in mid-2017.

A self-administered questionnaire with both closed ended and open-ended questions was used. The questionnaire included questions on socio-demographic, clinical indicators, functioning domain, symptom scale, psychological domain, and general well-being and work preference.

Two research assistants who are fluent in English, Kiswahili and the local language (Kamba) where selected and trained on the objectives of the study, the methodology and benefits of the study. They were explained on ethical issues to be adhered to during the data collection process and later where involved in the tool pretesting before being allowed to help the principal investigator with data collection.

A pre-test for the questionnaire was done at Mitaboni sub-county hospital CCC, prior to actual data collection date, to check the reliability and validity of the instrument. 10% of the sample size was selected randomly and they were given the questionnaire to fill. Their views were put into consideration to improve the study tool.

Participants who met the eligibility criteria were sampled and with the help of the research assistants they were explained to on the aim of the study. Matters of confidentiality, anonymity and voluntary participation consent were addressed and those who were willing to participate in the study signed a consent form after reading and understanding the study explanation form. No name or personal identification details were to appear in the consent form. Prior to filling the questionnaires, the instructions was emphasized to ensure that they have a clear understanding of what is to be filled in the questions and how to fill them. Before receiving the questionnaires, each was scrutinized for completeness to ensure quality data was obtained. The data was then coded and then keyed into a computer secured with a password to limit access of the data to only the principal investigator. Statistical Package for Social Sciences (SPSS) version 20 software was used to analyze the data. Data was finally presented in form of frequency table, pie charts, and bar graphs.

RESULTS AND DISCUSSIONS

All the 215 participants gave their responses on the study questionnaires finding and discussionsfrom theirresponses to the research questions are presented based on the specific objectives of this research.

SOCIODEMOGRAPHIC INFORMATION OF THE RESPONDENTS

There were more females 62.3%(n = 134) than the males 37.7%(n=81) as indicated in Figure 1.this

finding was contraly to astudy done in India in 2016 on patients using HAART in which 73.1% were men and 26.9% were women.(Arunansu Talukdar, 2016) this variation could occur due to the fact that more women generally seek health care than men in the Kenyan set up.

Similar results were found by [Pereira & Canavarro, 2012], using [WHOQOL-HIV Brief].The lowest scores for quality of life in this group may be related to cultural, educational and socioeconomic differences between genders.(Pereiraet al, 2012)

Age of respondents
Patients age in the study where grouped in to three categories 18 to 35 yrs,35 to 60 and above 60 years. The results indicated that most of the participants (61.4% (n=132)) were aged between 35 to 60 years and the minority were from 60 years and above 13.5% (n=29) as shown in the table 1.

Table 1 Age of the respondentsin years

	Frequency	Percent	Valid Percent	Cumulative Percent
18 to 35	54	25.1	25.1	25.1
35 to 60	132	61.4	61.4	86.5
60 and above	29	13.5	13.5	100.0
Total	215	100.0	100.0	

Level of education for the respondents

Majority of the respondents had secondary level of education 53% (n=114) then followed by those with primary education 34% (n=73) as indicated in table 2.

Table 2 highest level of education for the respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
None	6	2.8	2.8	2.8
Primary	73	34.0	34.0	36.7
Secondary	114	53.0	53.0	89.8
Tertiary	22	10.2	10.2	100.0
Total	215	100.0	100.0	

Marital status of the respondents

Majority of the respondents were married 58.1% (n=125) and a few being 25% (n=40) both single and widowed (Figure 1) A very small number were cohabiting and separated. The study also showed that the marital status were statistically insignificant on the quality of life. Their p values were 0.50 and 0.412 respectively
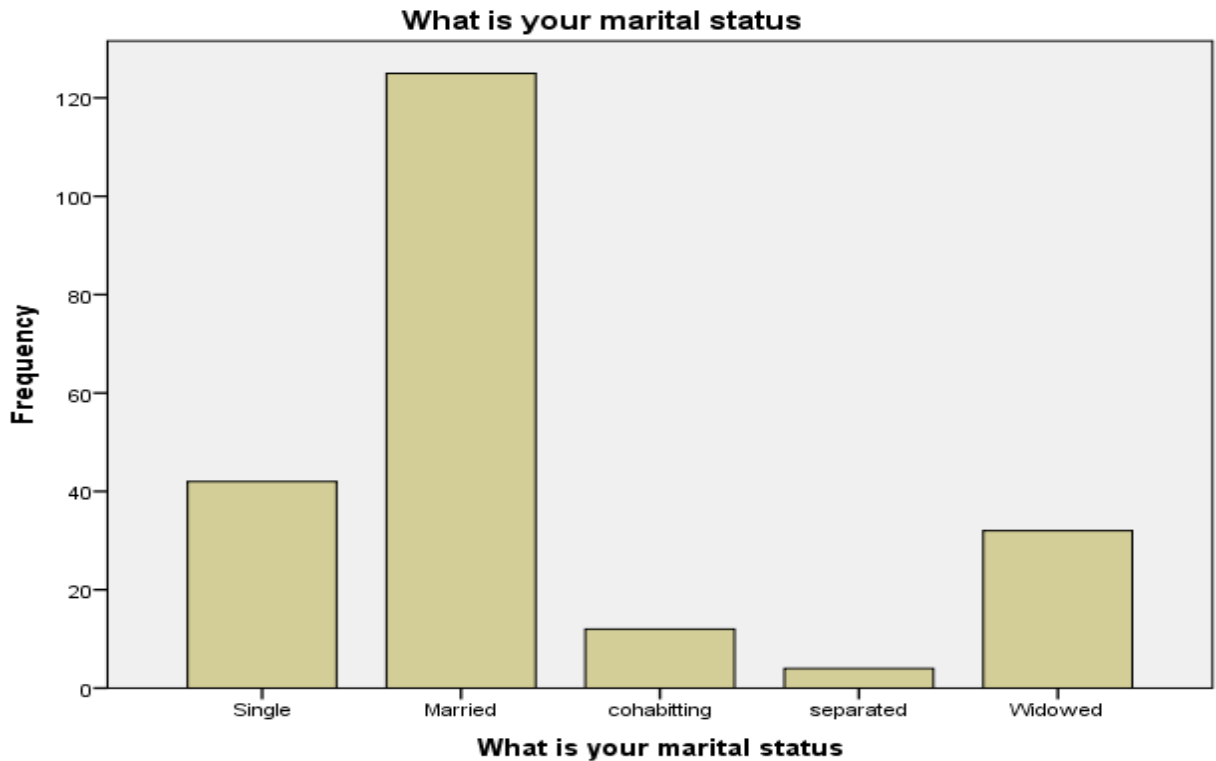

Figure 1: Marital status of the respondents

Respondents perception on quality of life

Table 3 indicates that majority of the respondents are living a good quality life, 73.5% (n=158) very good life 8.8 % (n=19) while those who said their quality of life was very poor were 0.9% (n=2).

Table 3: Quality of lifeas rated by the respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
	Very poor	2	.9	.9	.9

Poor	10	4.7	4.7	5.6
Neither poor nor good	26	12.1	12.1	17.7
Good	158	73.5	73.5	91.2
Very Good	19	8.8	8.8	100.0
Total	215	100.0	100.0	

Viralload of the respondents

Usually viral load test is done annually for these respondents. The respondents gave their last viral load test results. This was confirmed from their clinical record. The results are as indicated in Table 4.

Table 4 : Last viral load/CD4 count for the respondents

Last CD4 count	Frequency	Percent	Valid Percent	Cumulative Percent
Undetectable	146	67.9	67.9	67.9
1 to 500	37	17.2	17.2	85.1
500 to 1000	22	10.2	10.2	95.3
Above 1000	10	4.7	4.7	100.0
Total	215	100.0	100.0	

From the study majority of the respondents 146 clients representing 67.9% had complete viral suppression while only 4.7% had high viral load. However the p value was more than 0.05 when compared with the respondent's perception of quality life, hence there was no statistical significance i.e. viral load alone cannot be used independently to gauge quality of life. This concurs with a study done by Van and others (2012) that though the CD4+ T-cell count is the most significant predictor of disease progression and survival, its not a measure of quality life (Van Leth et al 2012).The low levels of viral loads were a positive move towards achievement of the 90% viral suppression and reduction in new HIV cases.The results indicated no statistical relationship between the viral load results and the respondents' perception on quality of life because the p value was more than 0.05 (0.449).This means that not the viral load levels alone can be used independently to gauge quality of life; other factors need also to be considered.

Body mass index of the respondents

Results from this study have also shown a relationship between the body mass index and quality of life with a p value of 0.007. Most of the respondents had a normal BMI (18 to 24) 80.5% (n=173). An abnormality in the body mass index value will result to an interference with the quality of life. Those who were underweight (less than normal BMI)were less than those who were

overweight (more BMI)

How is your BMI in the last three months

Legend:
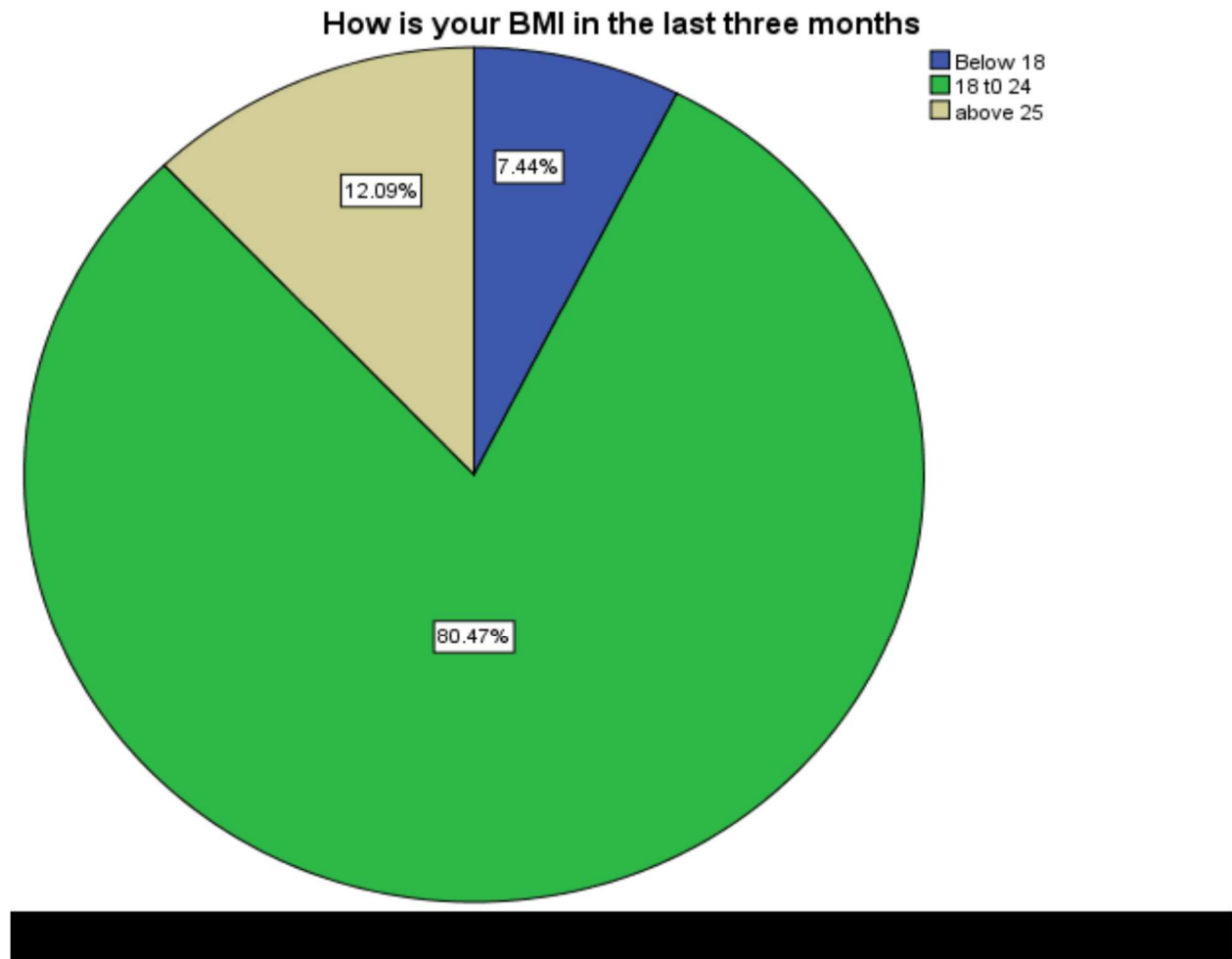- Below 18
- 18 t0 24
- above 25

7.44%

12.09%

80.47%

Figure 2: Body mass index of the respondents

Body mass index is a simple and commonly used measure of nutritional status. Results from this study have shown a relationship between the BMI and quality of life with a p value of 0.007.Meaning an increase in the BMI will result to an increase in quality of life and vice versa. Its relationship to survival in HIV infection is important for two main reasons. Firstly, wasting syndrome (less than 10% involuntary weight loss in conjunction with chronic diarrhea, weakness and fever) is considered an AIDS defining illness according to the CDC classification of disease. (CDC, 2013).

Most of the respondents who had a BMI of between 18 to 24 said that they had a good quality of life 74.0% (n=128) as show on the table above

PERSONAL AND SOCIAL ECONOMIC FACTORS

Energy for everyday life

More than half of the respondents said that they completely had energy for everyday life 54.9% (n=118). On rating the quality of life majority said that their quality of life was good 73.5% (n=158), either good or poor 12.1% (n=26), very good 8.8% (n=19), poor 4.7% (n=10) and very poor 0.9% (n=2). As indicated in table 7.

Table 5: Approximate amount of energy for everyday life

	Frequency	Percent	Valid Percent	Cumulative Percent
A little	2	.9	.9	.9
Moderate amount	34	15.8	15.8	16.7
Mostly	61	28.4	28.4	45.1
Completely	118	54.9	54.9	100.0
Total	215	100.0	100.0	

Respondents Perceived ability to perform daily living activities

More than 67% of the respondents said that they are able to perform daily activities of living as shown on the bar graph below

How satisfied are you with your ability to perform your daily living activities
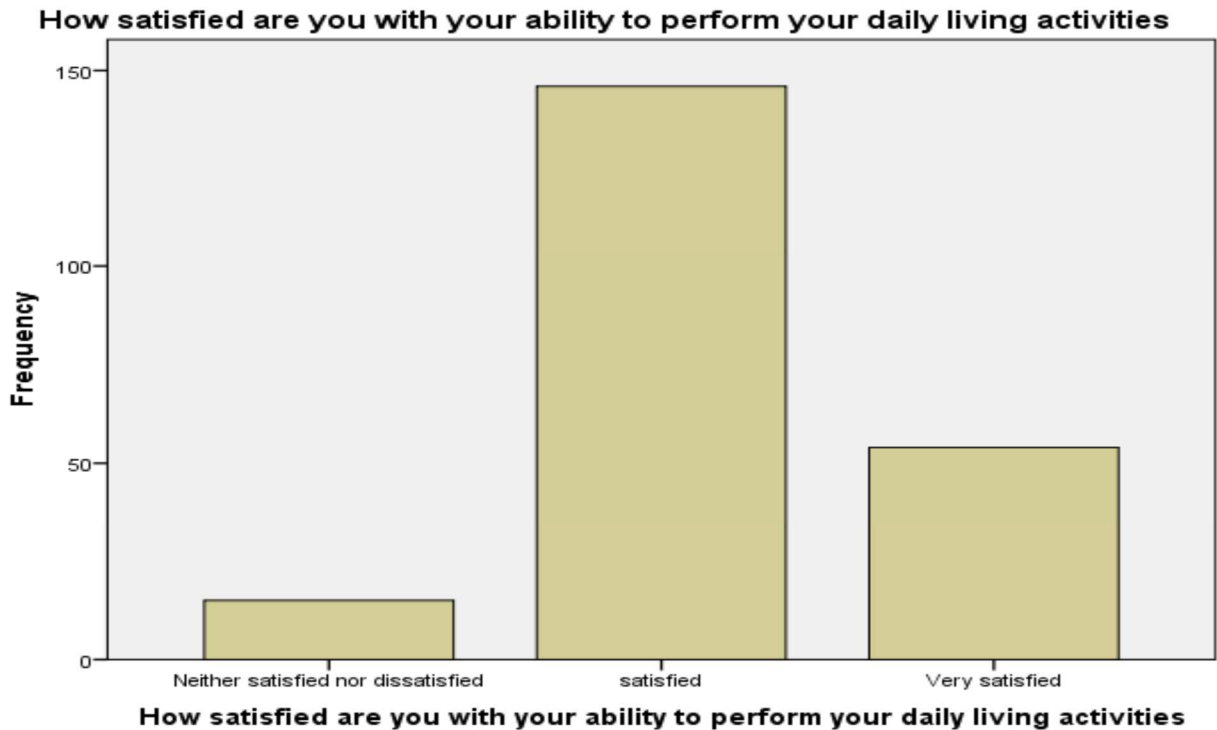
Figure 3: Ability to perform daily living activities

Respondents rating of their Capacity to engage in some meaningful work
Most of the respondents said that they were satisfied with their capacity to work 67.4% (n=145), very satisfied 28.8% (n=62) while those who were dissatisfied were 0.9% (n=2) as indicated in table 6

Table **6**: Satisfaction with respondent's capacity to work

	Frequency	Percent	Valid Percent	Cumulative Percent
Dissatisfied	2	.9	.9	.9
Neither satisfied nor dissatisfied	6	2.8	2.8	3.7
Satisfied	145	67.4	67.4	71.2
Very satisfied	62	28.8	28.8	100.0
Total	215	100.0	100.0	

Social life

Respondents view oftheir acceptance by significant others and friends.
Majority of the respondents said that they were accepted well by their people 67% (n=144).The rest gave varying responses on the same as indicated in table 9.

Table 7: Acceptance by significant others and friends

	Frequency	Percent	Valid Percent	Cumulative Percent
Not at all	2	.9	.9	.9
A little	12	5.6	5.6	6.5
Moderate amount	57	26.5	26.5	33.0
Mostly	75	34.9	34.9	67.9
Completely	69	32.1	32.1	100.0
Total	215	100.0	100.0	

Belonging to a support group

Most of the respondents were not in any support group 73% (n=157). Those who were in a support group were 27% (n=58) (Figure 4) Amongst those who were in support group 79.3% (n=46)

indicated that their quality of life was good compared to 83.4% (n=137) who were not in a support group.This finding is related to a previous study which stated that; in social domain, HIV infected individuals had a feeling of social isolation, discrimination and marginalization, suggesting a strong impact from HIV and the social aspect of quality of life and reinforcing the importance of forming social network to support HIV patients. (Coimbra et al, 2015).
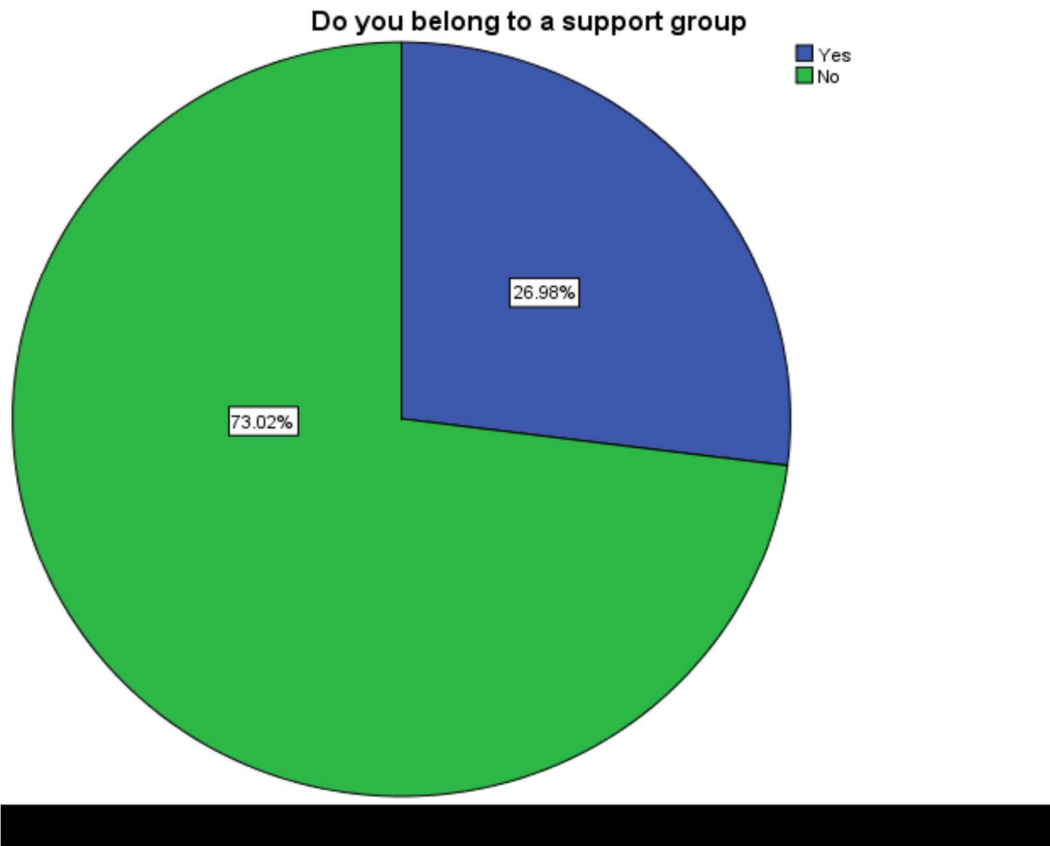

Do you belong to a support group

- Yes
- No

26.98%

73.02%

Figure 4: belonging to a support group

Respondent's satisfaction with Personal relationships
Results from this study have shown that most of the respondents are satisfied with their personal relationship. Those who were satisfied were 67.4% (n=145), very satisfied 22.3% (n=48), neither satisfied nor dissatisfied 4.2% (n=9) and dissatisfied 6% (n=13).

Table 8: Satisfaction with personal relationship.

	Frequency	Percent	Valid Percent	Cumulative Percent
Dissatisfied	13	6.0	6.0	6.0

Neither satisfied nor dissatisfied	9	4.2	4.2	10.2
Satisfied	145	67.4	67.4	77.7
Very satisfied	48	22.3	22.3	100.0
Total	215	100.0	100.0	

Financial status and quality of life

More than half of the respondents said that they were facing financial difficulties. Financial status was statistically significant on quality of life levels $p < 0.05$. Majority said that they had a little money 50.7% (n=109). Having enough money to meet their needs was statistically significant with a p value of 0.001.

Table 9:Financial status of the respondents / Having enough money to meet the needs

	Frequency	Percent	Valid Percent	Cumulative Percent
Not at all	11	5.1	5.1	5.1
A little	109	50.7	50.7	55.8
Moderate amount	46	21.4	21.4	77.2
Mostly	28	13.0	13.0	90.2
Completely	21	9.8	9.8	100.0
Total	215	100.0	100.0	

Bother by physical problems related to HIV infection

The respondents who said that they were not bothered by physical problems related to HIV infection were the majority 24.7% (n=53) with most of them saying that their quality of life was good 88.7% (n=47).those who said that they were moderately bothered (22.8%, n=49) majority said that their quality of life was good 73.5% (n=36).Being bothered by any physical problems related to HIV infection was statistically significant with a p value of 0.001.

Table10 : Bothered by physical problems related to HIV infection

	Frequency	Percent	Valid Percent	Cumulative Percent
Not at all	53	24.7	24.7	24.7
A little	45	20.9	20.9	45.6
Moderate amount	49	22.8	22.8	68.4
Very much	26	12.1	12.1	80.5
A extreme amount	42	19.5	19.5	100.0

	Total	215	100.0	100.0	

Accepting bodily appearance

A bigger proportion of the respondents said that they mostly accepted their bodily appearance 50.2% (n=108) of which 77.8% (n=84) of them saying that their quality of life was good. This was followed by those who completely accepted their bodily appearance who were 29.8% (n=64) of which among them those who said that their quality of life was good being 76.6% (n=49).Accepting bodily appearance was statistically significant with a p value < 0.05.see table 11

Table11: Acceptance of self-body appearance by the respondents

Level of acceptance	Frequency	Percent	Valid Percent	Cumulative Percent
Not at all	5	2.3	2.3	2.3
A little	7	3.3	3.3	5.6
Moderate amount	31	14.4	14.4	20.0
Mostly	108	50.2	50.2	70.2
Completely	64	29.8	29.8	100.0
Total	215	100.0	100.0	

Psychological status
Satisfaction with sleep pattern

Disturbed sleep can be an indicator of a Psychological problem. Majority of the respondents said that they were very satisfied with sleep 47.4% (n=102) with most of them also saying that they had good quality of life 68.6% (n=70). Respondents who rated their sleep as poor were 9.8% (n=10) and those who were dissatisfied with their sleep were only 0.9% (n=2) all of them saying that their quality of life was poor.

Figure 5: Satisfaction with sleep

Need for medical treatment
Most of the respondents said that they depend on medical treatment 49.8% (n=107). This might be because majority of the respondents said that they were not experiencing any side effects from the medication they were receiving 92.1% (n=198). Respondents who were suffering from other diseases were 0.9% (n=2) from hypertension.

Those who said that they needed medical treatment most were the majority with 49.8% (n=107).of those who said that they needed medical treatment the most 55.3% (n=89) that they had a quality of life while those among them who said that they don't need medical treatment at all were 17.2% (n=37) with 19.6% (n=31) of them saying that their quality of life was good.Need for medical treatment was statistically significant to quality of life with a p value of 0.001

Negative feelings among the study respondents
This research deduced that majority of respondent s 61.4% (n=132) said they have never experienced negative feelings such as blue mood, despair, anxiety and depression. However other respondents ranged from quite often at 11.2%, very often 9.8 % and always at 0.9% respectively, this sums up to 21.9% representing people with psychopathological symptoms that negatively affect quality of life hence raising a need to be met for holistic care. Tostes et al, 2009 had already written that the presence of a mental symptom is one of the factors that limit quality of life in people living with HIV/AIDS. Souza junior et al. found that depression and anxiety were more frequent in seropositive patient than in general population.
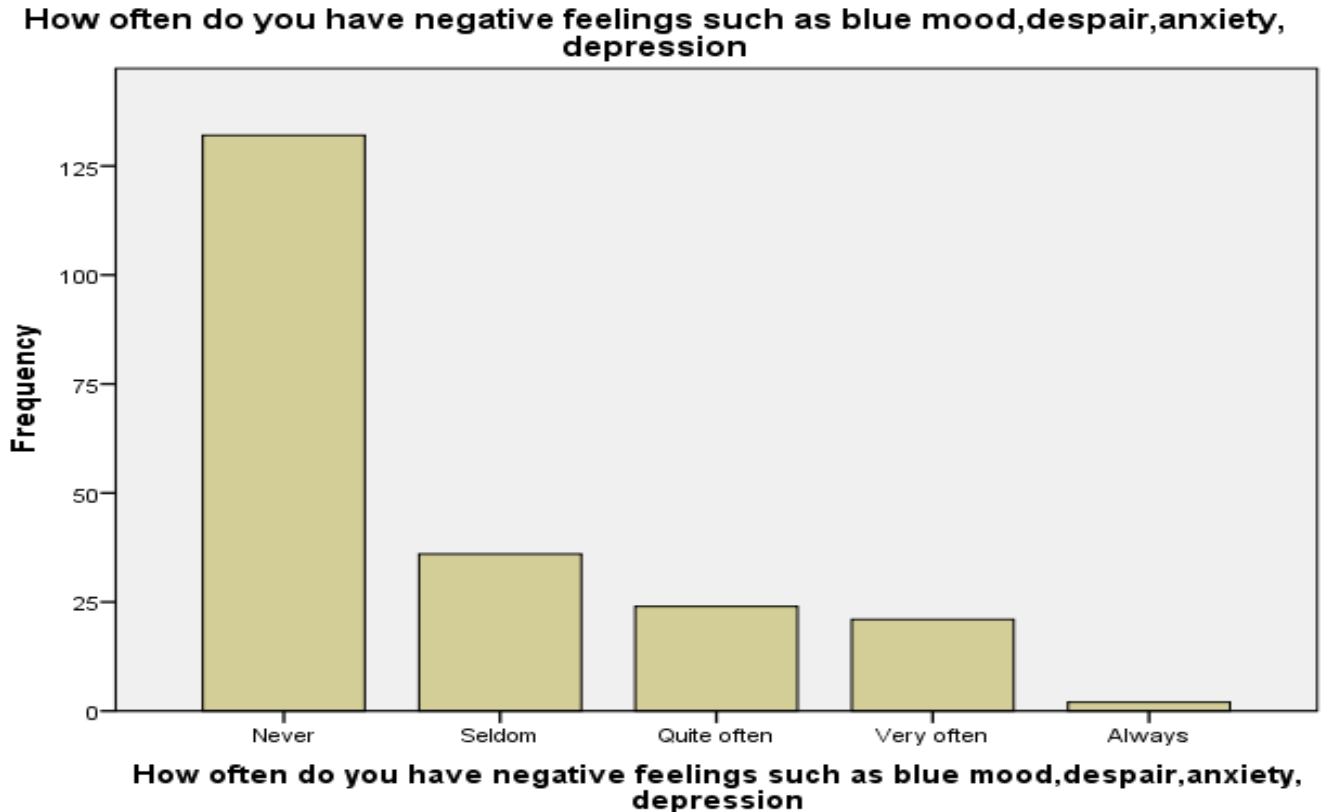
Figure 6: Negative feelingsas expressed by the study respondents

Body mass index is a simple and commonly used measure of nutritional status. Results from this study have shown a relationship between the BMI and quality of life with a p value of 0.007.Meaning an increase in the BMI will result to an increase in quality of life and vice versa. Its relationship to survival in HIV infection is important for two main reasons. Firstly, wasting syndrome (less than 10% involuntary weight loss in conjunction with chronic diarrhea, weakness and fever) is considered an AIDS defining illness according to the CDC classification of disease. (CDC, 2013)

CONCLUSIONS

The study found that, being bothered by physical problems/symptoms related to HIV infection, dependence on medical treatment, and meaningfulness of ones life and unsatisfied physical living environment strongly effect on quality of life. Other factors that were statistically significant on quality of life include having enough money to meet ones needs being accepted by people they know and access to important information.

Quality of life was still more likely to be affected by the health status, viral load, body mass index, side effects and other co morbidities, quality of sleep, financial status, body appearance, physical environment and the ability to perform activities of daily living.

RECOMMENDATIONS

Economic empowerment to the people living with HIV should be given priority so that they can access basic need they require. This can be achieved through formation of support groups and engaging in income generating activities.

Education for all should be advocated for so that they can get empowered with knowledge on how to participate in maintaining good quality of life

Clinicians, counselors, social workers and other available support groups should trained so as to screen clients holistically having in mind all other factors that affect client's treatment outcome. CCC should be integrated with other programs in the community that focus on wellbeing of the patient and creating friendly home environment and linkage.

Support groups available for the willing individuals should be restructured to fit with the ever changing dynamics of lifestyles, Probably through inclusion of technology in order to help mobilize people and disseminate information easily. Peer educators should also be continually trained and facilitated to handle support groups.

Measurement of health outcomes should assess the population health not only on basis of saving lives, but also in terms of improving them. Therefore patient expectation of services and experiences in health care should increasingly be explored by means of researches and data analyses and the result be used to motivate change in care provisions if needed. This will be crucial development since priorities in health care are still usually determined by professionals and health authorities.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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