RESEARCH ARTICLE

DETERMINANTS OF QUALITY OF LIFE AMONG PEOPLE LIVING WITH HIV/AIDS: A CROSS SECTIONAL STUDY IN CENTRAL KARNATAKA, INDIA

Aswin Kumar[1], HO Girish[2], Ayesha S Nawaz[1], PS Balu[3], B Vijay Kumar[4]

[1] Department of Community Medicine, SS Institute of Medical Sciences and Research Centre, Davangere, Karnataka, India
[2] Department of Community Medicine, Karwar Institute of Medical Sciences, Karwar, Karnataka, India
[3] Department of Community, Medicine, JJM Medical College, Davangere, Karnataka, India
[4] Oxford Medical College, Bangalore, Karnataka, India

Correspondence to: Aswin Kumar (docak82@gmail.com)

DOI: 10.5455/ijmsph.2014.230820142 Received Date: 28.07.2013 Accepted Date: 23.08.2014

ABSTRACT

Background: India houses 2.5 million people living with HIV/AIDS. Once a fatal illness, HIV/ AIDS has become a chronic illness due to advent of antiretroviral therapy. Morbidity and mortality indicators used in measuring health of the community only quantify the health but quality of life is not measured. Quality of life is a multidimensional aspect and several factors influence it in a different way.

Aims & Objectives: Assess quality of life and its determinants among people living with HIV/AIDS.

Materials and Methods: A cross sectional study conducted during Jan 2012 to June 2012, at outpatient clinic of tertiary care centre involved 200 people living with HIV/AIDS. Interview method was used to collect the data. Quality of life was assessed using WHOQOL-BREF questionnaire and other part of the questionnaire contained the socio-demographic and HIV related characteristics. The data was analyzed by using excel 2007, Z test was used wherever necessary and presented.

Results: Mean age of the study subjects was 33.77 years and 61.5% of the participants were females. Quality of life was rated as poor by 26% of the study subjects and 27% of the subjects are dissatisfied with their overall health status. Quality of life score was highest in environmental domain (11.61 ± 1.83) and lowest in Social relationships domain (8.97 ± 3.36). Age lesser than or equal to 30 years had better Quality of life mean in environmental and social domain. Subjects from urban area had better mean in physical, psychological and environmental domain. Education associated with social and environment domain. Higher CD4 count is associated with better mean in physical domain.

Conclusion: Many socio-demographic factors influence quality of life. These factors should be considered in planning care of HIV infected people.

Key Words: HIV/AIDS; Determinants; WHO-QOL BREF; Demographic Factors; CD4 Cells

Introduction

Human immunodeficiency virus (HIV) infection / Acquired immunodeficiency syndrome (AIDS) is one of the serious public health problems with severe impact on various facets of human life.[1] At present, in the world, around 35 million people are suffering from HIV/AIDS.[2] Every year 2.5 million people are infected by this virus.[2] India has the second largest number of people living with HIV/AIDS (PLWHA) (About 2.5 million).[3] Once a fatal illness, HIV/ AIDS has become a chronic illness due to advent of antiretroviral therapy. Since the advent of ART; hospitalization, opportunistic infections and deaths due to HIV have reduced to a great extent. India had launched national ART program in 2004 with the aim to provide free ART drugs to the patients suffering from HIV/ AIDS. At present, more than 335 ART centers are providing access to patients to get free ART and other care.[3]

Traditional health indicators such as mortality and morbidity are used to measure impact of disease burden and outcome of an intervention. These indicators only quantify the disease, but do not measure quality of life (QOL) of patients, which has been described as 'the missing measurement in health'.[4] Modern medicine being concerned only with the eradication of the disease, there is a need to introduce humanistic element into health care. In recent years, measurement of QOL is incorporated to assess the burden of the disease.[4]

Quality of life is a multi-dimensional concept. There is a lack of universally agreed definition of QOL.[5] WHO defines QOL as "individual's perceptions of their position in life in context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns". This broader definition of QOL by WHO, indicates QOL is a subjective feeling. [4] There are many factors which affect the QOL of patients with chronic illnesses. The identification of these factors is important in order to provide better health and social care services.[6]

Several instruments for measuring QOL have been developed and used in different settings. The validity of

the WHOQOL-Bref instrument is very well established.[7] There are limited studies to assess the QOL among PLWHA in this part of the country. This study assessed the QOL and some factors, influencing it among PLWHA attending integrated positive prevention clinic at a tertiary care hospital at Davangere.

Materials and Methods

Design and Sampling

This was a cross sectional, observational study conducted during Jan 2012 – June 2012, based on a convenient sample of 200 PLWHA recruited from the integrated positive prevention outpatient clinic of a tertiary care hospital, Davangere. PLWHA above 18 years willing to participate in the study were included in the study. Those PLWHA who were admitted in the hospital during the study period were excluded from the study. Ethical clearance was obtained from the institutional ethical committee.

Questionnaire

The pre-structured questionnaire consisted of 2 parts. Quality of life was assessed by WHOQOL – BREF questionnaire.[8] Each item using 5 point Likert scale, where 1 indicates lowest (negative) perceptions and 5 indicates highest (positive) perceptions. These items were in 4 domains. The four domains of QOL are physical health domain, psychological health domain, social relationships domain and environmental domain. The mean score were transformed to 4 – 20 range. Higher the scores, better is the Quality of life.

Another part of the questionnaire included demographic information such as age, gender, place of residence, educational level, employment status and per capita monthly income. HIV related characteristics like time since diagnosis, ART use, CD4 count, WHO staging were also collected.

Collection of Data

The study subjects were identified during study period at integrated positive prevention clinic at Bapuji hospital attached to J.J.M medical college. Every patient, who was fulfilling the inclusion criteria and visiting the clinic was approached during each interview period.

All the subjects were informed about the purpose of the study. After obtaining the informed consent, they were interviewed separately in privacy, in a language understandable to the subjects, using a pre structured questionnaire.

All the information collected was based on patient's self-report, with the exception of CD4 count at the start of the treatment and at present, and clinical staging at the start of the treatment. This information was collected from the medical records.

Data Analysis

The data was entered and analyzed in Microsoft Excel 2007 version. Percentage, mean, standard deviations, Z test were used wherever required. For all the tests, a 'p' value of < 0.05 was considered for the statistical significance.

Results

Background Characteristics

To reach the sample size of 200, we approached 212 PLWHA, and a response rate of 94% was achieved. Mean age of the participants in the study was 33.77 years (SD=7.58) (Table 1). Most (61.5%) of the participants were female, and majority of the participants (61%) were residing in rural area. Majority (67%) of the participants had per capita income less than ₹ 620, and only 41% of the participants studied up to high school and above. About 43% of them were either widowed or living single or separated/ divorced from their spouse.

Table 2 shows HIV related characteristics of the participants. Mean duration since HIV diagnosis was 21.21 months (SD = 11.19), majority (76%) were diagnosed in last 2 years. 44% of the participants were on ART. About 38% of the PLWHA had CD4 count $\leq$350 cells and majority (61%) were in WHO stage 2.

Quality of Life (QOL)

QOL was rated as neither poor nor good by 47% of the participants, but 26% of the participants rated it poor (Table 3). About 47% of the participants were neither satisfied nor dissatisfied with their health status, but 27% of them were dissatisfied with their health status (Table 4). Table 5 shows the mean scores of the 4 domains of quality of life. QOL scores were high for environmental domain (Mean = 11.61, SD= 1.83) and psychological domain (Mean = 11.24, SD = 2.06) indicating higher quality of life. Social relationship domain was having least score (Mean =8.97, SD = 3.36).

Table-1: Background characteristics of study subjects

Characteristics		N	%
Gender	Female	123	62
	Male	77	38
Age Group	< 30 years	68	34
	> 30 years	132	66
Place of living	Rural	121	61
	Urban	79	39
Education status	< High school	117	59
	High school & above	83	41
Socio- economic status/ Per capita income	More than ₹ 620	66	33
	Less than ₹ 620	134	67
Employment status	Yes	170	85
	No	30	15
Marital status	Other	85	43
	Married	115	57

Table-2: HIV related characteristics of study subjects

Characteristics		N	%
Time since HIV diagnosis	≤ 24 months	151	76
	> 24 months	49	24
ART use	Yes	88	44
	No	112	56
WHO stage	Stage 1	65	32
	Stage 2	121	61
	Stage 3	14	7
CD 4 count	≤ 350 cells	76	38
	> 350 cells	124	62

Table-3: Rating of Quality of life

Rating	N	%
Very poor	10	5
Poor	53	26
Neither poor nor good	93	47
Good	44	22
Total	200	100

Table-4: Rating of Health

Rating	N	%
Very dissatisfied	3	2
Dissatisfied	55	27
Neither Satisfied nor Dissatisfied	93	47
Satisfied	49	24
Total	200	100

Table-5: Mean domain scores

Domains (N =200)	Score (Mean ± SD)
Physical health domain	11.05 ± 1.337
Psychological domain	11.24 ± 2.062
Social relationship domain	8.97 ± 3.362
Environmental domain	11.61 ± 1.826

Table 6 shows the mean domain scores with various demographic variables. There was a significant difference of QOL mean score seen in psychological domain and social relationships domain between two age groups, with subjects ≤ 30 yrs having higher means. PLWHA from urban area had higher means, compared to rural area. In physical health domain, psychological domain and environment domain, differences were statistically significant. Education also had influence in social relationship domain and environment domain – those who studied up-to high school and above had higher mean.

In HIV related characteristics (Table 7), QOL means had statistically significant correlation to CD4 count in physical health domain. ART use and time since diagnosis did not show any difference between groups.

Discussion

QOL is a complex term which relates both to the adequacy of material circumstances and to personal feeling about these circumstances. Health is considered to be a unique factor which affects QOL more than any other factors. In our study, overall QOL is rated as neither poor nor good by 47% of the participants. But 26% of the participants rated it poor, indicating more than one fourth of PLWHA perceived to be having poor quality of life. This is a cause of concern when facilities to provide good care are scaling up.

In our study, environmental domain had highest mean score among four domains – similar results are reported by some of the Indian researches.[9,10] This indicates that PLWHA are having better physical safety, leisurely activities and having access to health and other services. But social domain showed the lowest score of all the four domains – this may be partially explained by the existence of stigma and discrimination against PLWHA. Social domain also examines the sexual relation perception. HIV infection status largely alters the sexual desire mentally and socially. This may be one of the causes of low scores in social domain. Studies by some researchers also reflect same kind of result in social domain.[7,9-11]

Among Socio-demographic factors studied, age of the PLWHA, residence and education showed statistically significant difference in some QOL domains. Younger age group showed better mean in psychological domain and social domain in our study, but various studies have shown different kind of results in relation to age. Some studies demonstrated older age group is having better QOL, but in a study by Munsawaengsab C et al younger age group was having better QOL.[12-14] This may be due to different sample characteristics. Further studies are required to draw any conclusions.

In our study, PLWHA, residing in urban area, showed better mean in physical, psychological and environmental domain. This may suggest good access to health care, less stigma and discrimination, and better living conditions in urban area, compared to rural area. Study by Mahalakshmy T et al showed similar results.[12]

Table-6: Sociodemographic factors associated with various domains of Quality of life

Groups		N	Physical Health domain		Psychological domain		Social relationships domain		Environment domain	
			Mean ± SD	Z score	Mean ± SD	Z score	Mean ± SD	Z score	Mean ± SD	Z score
Gender	Male	77	11.29 ± 1.45	1.97	11.4 ± 2.05	0.87	7.03 ± 2.72	1.19	11.08 ± 1.74	-1.46
	Female	123	10.90 ± 1.22		11.14 ± 2.07		6.58 ± 2.38		11.46 ± 1.870	
Age group	<30 Years	68	11.13 ± 1.34	0.6	11.74 ± 2.18	2.41*	9.63 ± 3.31	2.01*	11.82 ± 1.81	1.18
	>30 Years	132	11.01 ± 1.34		10.98 ± 1.96		8.63 ± 3.35		11.5 ± 1.83	
Residence	Rural	121	10.83 ± 1.36	- 2.95*	10.98 ± 2.03	- 2.26*	8.88 ± 3.27	-0.44	11.26 ± 1.76	- 3.45*
	Urban	79	11.38 ± 1.24		11.65 ± 2.06		9.1 ± 3.51		12.15 ± 1.80	
Education	< High school	117	10.96 ± 1.26	-1.12	10.99 ± 1.89	-1.98	8.45 ± 3.27	- 2.62*	11.29 ± 1.77	- 2.98*
	≥ High school	83	11.18 ± 1.43		11.59 ± 2.25		9.7 ± 3.37		12.06 ± 1.81	
Employment	Yes	170	11.08 ± 1.34	0.81	11.22 ± 2.12	-0.42	8.79 ± 3.36	-1.88	11.62 ± 1.81	0.23
	No	30	10.87 ± 1.31		11.37 ± 1.73		10.0 ± 3.23		11.53 ± 1.96	
Socioeconomic status	≥ ₹ 620	66	11.08 ± 1.43	0.19	11.29 ± 2.14	0.22	8.92 ± 3.26	-0.14	11.56 ± 1.82	-0.26
	< ₹ 620	134	11.04 ± 1.29		11.22 ± 2.03		8.99 ± 3.42		11.63 ± 1.84	
Marital status	Other	85	11.08 ± 1.26	0.27	11.26 ± 2.23	0.1	8.69 ± 3.26	-1.01	11.86 ± 1.78	1.66
	Married	115	11.03 ± 1.40		11.23 ± 1.94		9.17 ± 3.43		11.43 ± 1.85	

** Significant parameter*

Table-7: HIV related characteristics associated with various domains of Quality of life

Groups		N	Physical Health domain		Psychological domain		Social relationships domain		Environment domain	
			Mean ± SD	Z score	Mean ± SD	Z score	Mean ± SD	Z score	Mean ± SD	Z score
Time since diagnosis	<24 months	151	11.07 ± 1.39	0.35	11.17 ± 2.05	-0.87	8.71 ± 3.26	-1.85	11.53 ± 1.70	-0.97
	> 24 months	49	11 ± 1.16		11.47 ± 2.10		9.78 ± 3.79		11.86 ± 2.18	
ART use	Yes	88	10.99 ± 1.28	-0.58	11.41 ± 1.87	1.04	9.45 ± 3.34	1.81	11.6 ± 1.88	-0.08
	No	112	11.1 ± 1.38		11.11 ± 2.20		8.59 ± 3.34		11.62 ± 1.80	
CD 4 Count	< 350 cells	76	10.76 ± 1.14	- 2.57*	10.87 ± 2.18	-1.96	8.63 ± 3.29	-1.13	11.54 ± 1.91	-0.41
	> 350 cells	124	11.23 ± 1.42		11.47 ± 1.97		9.18 ± 3.40		11.65 ± 1.78	

** Significant parameter*

PLWHA with education of high school and above had better mean in psychological, social and environmental domain. This indicates that better educated person may understand the disease better, leading to better coping attitude, and interact with other people in a harmonious way. With higher education, standard of living also improves. Other studies also showed positive relationship of education with psychological domain but other domains are not related with education.[9,11,15,16]

The other sociodemographic variables like gender, employment, socioeconomic status did not show any association with QOL domains. In HIV related characteristics, the respondents with CD4 cell count ≤ 350 cells/mm^3 had lower mean of QOL in physical domain, when compared with respondents having CD4 cell count > 350 cells/mm^3. Physical domain assess the effect of illness on various facets of physical health such as pain, discomfort, need for medication, sleep and physical ability to perform activities. Increase in CD4 count is a proxy measure of improvement in general health condition. Studies by Xiaoyan X and Handajani YS et al also showed similar results.[17,18]

Conclusion

Social problems of the PLWHA are still an area which needs attention of the policy makers. Study also indicated that some demographic features like age, residence and education can be associated with the quality of life of PLWHA, and CD4 count too influences the quality of life. This information can be utilized to plan holistic care for HIV infected people.

Limitations

The cross sectional nature of the study itself precludes any conclusions on QOL over a period of time.

ACKNOWLEDGEMENT

Sincere thanks to all the respondents who participated in the study. Authors acknowledge the support of staff of integrated positive prevention clinic and Mrs. Rekha who assisted in data collection.

References

1. Mweemba P. Quality of life among rural and urban Zambian men and women with hiv/aids [PhD Dissertation]. Kent state university; 2008.
2. HIV/AIDS. World Health Organization. Available from: URL: http://www.who.int/hiv/en/
3. HIV Data. Department of AIDS Control & National AIDS control Organization. Available from: URL: http://www.naco.gov.in/NACO/Quick_Links/HIV_Data/
4. Program on mental health WHO QOL user manual. Geneva: Division of mental health and prevention of substance abuse world health organization; 1998.
5. Basavaraj KH, Navya MA, Rashmi R. Quality of life in HIV/AIDS. Indian J Sex Transm Dis 2010;31:75-80.
6. Rüütel K, Pisarev H, Loit HM, Uusküla A. Factors influencing quality of life of people living with HIV in Estonia: a cross-sectional survey. J Int AIDS Soc 2009;12:13.

7. Fatiregun AA, Mofolorunsho KC, Osagbemi KG. Quality of life of people living with HIV/AIDS in kogi state, Nigeria. Benin Journal of Postgraduate Medicine 2009;11:21 – 7.
8. WHOQOL- BREF Introduction, administration, scoring and generic version of the assessment: Division of mental health and prevention of substance abuse world health organization;1996.
9. Nirmal B, Divya KR, Dorairaj VS, Venkateswaran K. Quality of life in HIV/AIDS patients: A cross sectional study in south India. Indian J Sex Transm Dis 2008;29:15-7.
10. Gowda S, Channabasappa AN, Dhar N, Krishna D. Quality of life in HIV/AIDS patients in relation to CD4 count: A cross sectional study in Mysore district. International Journal of Health and Allied Sciences 2012;1:263-67.
11. Bello SI, MPharm, Bello IK. Quality of life of HIV/AIDS patients in a secondary health carefacility, Ilorin, Nigeria. Proc (Bayl Univ Med Cent) 2013;26:116–9.
12. Mahalakshmy T, Premarajan KC, Hamide A. Quality of life and determinants in people living with human immunodeficiency virus infection in puducherry, India. Indian J Community Med 2011;36:203-7.
13. Shan D, Ge Z, MingS, Wang L, Sante M, He W, et al. Quality of life and related factors among hiv-positive spouses from serodiscordant couples under antiretroviral therapy in henan province, china. PLoS ONE 2011;6:e21839.
14. Munsawaengsub C, Khair BB, Nanthamongkolchai S. People living with HIV/AIDS in the city of Bangkok: quality of life and related factors. J Med Assoc Thai 2012;95:S127-34.
15. Odili, Ikhurionan IB, Usifoh SF, Oparah AC. Determinants Of Quality Of Life In Hiv/Aids Patients. West African Journal of Pharmacy 2011;22:42 – 8.
16. Wig N, Lekshmi R, Pal H, Ahuja V, Mittal CM, Agarwal SK. The Impact OfHiv/Aids On The Quality Of Life: A Cross Sectional Study In North India. Indian J Med Sci 2006;60:3-12.
17. Xiaoyan X, Sato MK. Quality of life and related factors among people living with HIV in China. Journal of Nursing and Healthcare of Chronic Illness 2011;3:513–20.
18. Handajani YS, Djoerban Z, Irawan H. Quality of Life People Living with HIV/AIDS: Outpatient in Kramat 128 Hospital Jakarta. Acta Med Indones 2012;44:310-6.

Cite this article as: Kumar A, Girish HO, Nawaz AS, Balu PS, Vijay Kumar B. Determinants of quality of life among people living with HIV/AIDS: A Cross sectional study in central Karnataka, India. Int J Med Sci Public Health 2014;3:1413-1417.
Source of Support: Nil
Conflict of interest: None declared