DOI: https://doi.org/10.54393/pbmj.v4i2.120

PAKISTAN BIOMEDICAL JOURNAL
https://www.pakistanbmj.com/journal/index.php/pbmj/index
Volume 4, Issue 2 (Jul-Dec 2021)

Original Article

Standard of Living of HIV Positive Individuals Visiting HIV Clinic Services Hospital, Lahore

Abdul Rehman[1], Maham Rehman Khan[2], Zeeshan Sarwar[1], Sana Noreen[3]*, Talha Aftab[1], Gauhar Mahmood Azeem[4], Muhammad Hamza Bin Abdul Malik[1],Rabia Kanwal[3], Ayesha Sadiqa[5]

[1] *Department of Medicine, Services Institute of Medical Sciences, Lahore, Pakistan*
[2]*Institute of microbiology and biotechnology, University of Lahore Pakistan. Lahore, Pakistan*
[3]*University Institute of Diet and Nutritional Sciences, Faculty of Allied Health Sciences, University of Lahore Pakistan. Lahore, Pakistan*
[4]*Department of neurology, Services Institute of Medical Sciences, Lahore, Pakistan*
[5]*Department of Pathology, Fatima Jinnah Medical University, Lahore, Pakistan*

ARTICLE INFO

Key Words:
Human Immunodeficiency Virus,
Acquired immunodeficiency Syndrome,
Quality of life, Bodily pain, Health distress,
Physical health summary, Mental Health

How to Cite:
Rehman, A., R. Khan, M. ., Sarwar, Z., Noreen, S. ., Aftab, T. ., M. Azeem, G. ., Bin Abdul Malik, M. H. ., Kanwal, R. ., & Sadiqa, A. . (2021). Standard of Living of HIV Positive Individuals Visiting HIV Clinic Services Hospital, Lahore. Pakistan BioMedical Journal, 4(2). https://doi.org/10.54393/pbmj.v4i2.120

Corresponding Author:
Sana Noreen
University Institute of Diet and Nutritional Sciences,
Faculty of Allied Health Sciences,
University of Lahore Pakistan. Lahore, Pakistan
sananoreeen.rizwan@gmail.com

ABSTRACT

Human Immunodeficiency Virus (HIV) infection leads to immunosuppression. **Objective:** To assess the living standards of HIV-positive patients visiting HIV Clinic of Services Hospital Lahore. **Methods**: It was a case-series study, conducted in the HIV clinic at Services Hospital Lahore. Data was collected from patients suffering from HIV-AIDS with the help of structured questionnaires. SPSS 23 software was used to enter, compile, and analyze the data. **Results**: Result of this study showed that 50% of patients visiting HIV clinic Services Hospital Lahore are in the age group of 31-45 years. Male and married patients are predominant. The questionnaire had 35 questions which are transformed into 11 dimensions. Cronbach's α coefficient were calculated for all multi-item scales and four out of eight scale. Cronbach's α for perceived health is 0.72, physical functioning is 0.79, health distress is 0.78, and cognitive function is 0.70. The total mean summary scores were also calculated. The dimensions affecting physical and mental health were added together under the summary score of physical and mental health. The added mean summary score ± SD for mental health is 55.4±11.8 and for physical health is 41.5±11.3. **Conclusions**: The patients with HIV/AIDS have an overall high standard of living. The stigma is that the patients consider themselves a bit exclusive, as AIDS is considered taboo in the Pakistani Muslim community. The research shows that patients with AIDS have excellent mental health, but their physical health is a bit worse depending on the burden of disease. Thus, HIV affects a person's physical health more than their mental health.

INTRODUCTION

The Human Immunodeficiency Virus (HIV) which is also responsible for causing acquired immunodeficiency syndrome (AIDS) infect millions of people across the globe, a multisystem deadly and now incurable disease, since the early 1980s. HIV infection is one of mankind's deadliest illnesses [1]. Sadly, there is little hope for the development of an effective vaccine in the near future, nor are other methods of activating the immune system against HIV accessible. Cellular routes are used at every stage of the HIV replication cycle, from entry through release and maturation into infectious progeny virions. HIV replication, like that of the majority of intracellular parasites, is based on interactions with host cell components, some of which are particularly integrated into progeny virions [2]. Cyclophilin A, which is a peptidyl-prolyl isomerase is the most common cellular protein seen in virions of HIV-1. One

DOI: https://doi.org/10.54393/pbmj.v4i2.120

of the two major T-cell lymphotropic retroviruses is HIV. HIV infects and destroys helper CD4+ T cells, resulting in a loss of cell-mediated immunity and an increased risk of opportunistic infections in the patient [3,4].

According to research, an individual infected with HIV has the same life expectancy as an individual who is not infected by HIV - as long as these individuals have been diagnosed early obtain appropriate health care services, and take their HIV medicine as prescribed. There are currently a high number of HIV-positive persons in twenties to sixties. Current mortality rates are extremely low, leading in optimistic projections for future life expectancy. However, we have very limited experience with HIV patients in their seventies and eighties, so we know less about the impact HIV may have later in life. In addition, medical care for persons infected with HIV is anticipated to improve in the future. People living with HIV will benefit from better anti-HIV medicines that have fewer adverse effects, are easier to take, and suppress HIV more effectively [2,5].

Adults living with HIV and AIDS frequently face vocational challenges. Individuals with HIV must regularly adjust to an unpredictable illness course, unlike patients with acute medical illnesses who needs to follow the same medical treatment in case they return to pre-disease stages. Spirituality, it has a major impact on feelings of really well. Spirituality was viewed as a bridge between pessimism and life purpose among HIV-infected persons. Coping is another aspect that influences quality of life (QoL). coping is defined as "the reasoning and behavioral effort done to accept, minimize and handle stress that in normal circumstances cannot be managed. Individuals who dealt and mastered the art of stress management and problem-solving skills have better QoL then those who could not adapt to these behavioral modifications [4-7]. It has been claimed that educational and behavioral therapies that encourage bold and effective decisions making and problem-solving skills are more effective than those that provide emotional supportive approaches which promotes submissive acceptance of one's condition [5,7-9].

The invent of ART therapy for HIV/AIDS as contagious and dangerous causes issues for infected individuals as well as people surrounding them, QoL measures can be the key to obtain the data needed for in ART behavioral and scientific studies. Although the correlation between ART therapy and individual's behavioral modification construction can be mind boggling, this thesis delivers a framework needed to comprehend the associations, contributing to a better analysis of importance of ART on multiple aspects of individuals infected by HIV and AIDS' QoL [5,10-14]. It is important to turn attention towards maximizing the beneficial result of ART, particularly in developing countries and sectors with limited resources. Infected individuals living in the rural areas are the ones in dire need of support, as well as to develop educational programs which provides awareness over the subject of stigma and prejudice, programs like these may result in improved living standards of people infected with HIV and AIDS. Medical monitoring of side reactions throughout ART therapy, as well as comprehensive monitoring following any ART transition, may result in higher QoL, a stronger patient-doctor connection, and perhaps longer adherence with fewer undesirable side effects [6,15-17].

METHODS:

It is a Case-Series conducted at HIV clinic of Services hospital, Lahore. All the patients visiting HIV clinic, Services Hospital Lahore during the three weeks were considered as sample size. Non-probability convenient sampling method was used for this study. The inclusion criteria consist of HIV positive patients (based on ELISA) coming to HIV Clinic of Services Hospital Lahore. Patients that were no willing to give consent for this study were excluded. NAAT (nucleic acid amplification test) is used for confirmation in these cases [7].

We interviewed 57 patients and detailed structured questionnaire was used to collect data. Eleven dimensions were used: Physiological discomfort, perceived health, health transition, physical functioning, cognitive functioning, physiological distress, psychological health, vitality, social activities, role functioning and living standards. According to some interviews some patients found it difficult to grasp the concepts of the abstract for example “struggled in reasoning and decision making”. SPSS computer software version 23 was used for entry, compilation and analysis of data. For quantitative variables, mean and standard deviation were calculated. For qualitative variables, frequency and percentage distribution tables were generated. Data was presented using Pie charts and bar graphs. For the qualitative variables *Chi-square* test and for quantitative variables 't' test were applied. P value of 0.05% was taken as significant. Formal approval was taken from ethical committee of Services Hospital Lahore.

RESULTS:

The research was conducted in HIV clinic of Services Hospital Lahore, to assess the quality of life in HIV positive patients visiting HIV clinic. We visited HIV clinic for three consecutive weeks and interviewed 57 patients. We divided the 57 patients in four groups depending upon their ages. The first age group ranged from 1-15 years and no patient (0%) was observed in this age group.

DOI: https://doi.org/10.54393/pbmj.v4i2.120

Age of Respondents				Gender		Martial Status		Occupation				
0 – 15	16 – 30	31 – 45	46 – 60	M	F	Married	Un Married	Office	Worker	House Wife	Student	unemployee
0	19	29	19	38	19	44	13	6	28	14	1	8
0	33.33	50.87	33.33	66.66	33.33	77.19	22.8	10.52	49.12	24.56	1.75	14.03

Table 1: Baseline Characteristics of HIV positive patients visiting HIV Clinic in Services Hospital Lahore, Pakistan .

The second age group ranged from 16-30 years and 19 patients (33.33%) were observed in this age group. The third age group ranged from 31-45 years and 29 patients (50.87%) were observed in this age group. The last group ranged from 46-60 years and 19 patients (33.33%) were observed in this age group. Out of 57 patients 38 (66.7%) were male and 19(33.3%) were female. 44 (77.2%) patients were married and 13 (22.80%) were unmarried. Considering the occupation of the patients 6 out of 57 (10.52%) patients were related to office work, 28 were related to work (49.12%), 14 females (24.6) were house wives and only 1 patient (1.75%) was student and the other 8 (14.03%) were unemployed as shown in Table 1.

Measures	No. of Items	Range of Score	Cronbach's α	Mean score ± SD
Perceived Health	5	5-100	0.722	10.32±3.91
Body aching	2	0.616	0.616	7.28±2.64
Quality of Life	1	0-100	-	3.75±1.065
Role Performance	2	0-100	0.669	3.11±1.16
Social activities	1	0-100	~	4.19±1.187
Vitality	4	0-100	0.025	13.42±3.29
Psychological Health	5	0-100		18.77±3.12
Health Distress	4	0-100	-0.291	17.73±4.78
Cognitive Performance	4	10-100	0.785	18.92±3.94
Physiological Performance	6	0-100	0.703	
Health Transition	1	0-100	~	13.46±3.185
Physiological Health Summary		19.6-63.2	~	41.46±11.28
Psychological Health Summary		15.3-67.1	~	55.42± 11.84

Table 2: Quality of life scoring
~ It is not possible to calculate Cronbach's alpha for one item scales and summary scores

Cronbach's alpha coefficient was calculated for all multi-item scales and four out of eight scales showed the value greater than 0.7. The coefficient for bodily pain was 0.616. For Role functioning it was 0.699 and for vitality it is 0.26 for Mental function it was -0.29 as shown in Table 2.

Scoring for Quality of Life

The results for each of 11 MOS-HIV scores are given in table 2 along with two summary scores. The scores were ranged between 0-100 and a higher score indicates a better functioning and better quality of life in HIV positive patients. The scores were calculated by Mean Score ± Standard Deviation. The score for perceived health comes out to be 10.32 ± 3.91. The scores for bodily pain come out to be 7.28 ± 2.64. The scores for quality of life item comes out to be 3.75 ± 1.065. The scores for role functioning come out to be 3.11 ± 1.16 and the score for social functioning comes out to be 4.19 ± 1.187. The scores for vitality come out to be 13.42 ± 3.29. The scores for Mental Health come out to be 18.77 ± 3.12. The scores for Health Distress come out to be 17.73 ± 4.78 and the score for Cognitive Functioning comes out to be 18.92 ± 3.94 and Physical Functioning score was calculated as 13.46 ± 3.185. The lowest score was calculated for Role Functioning referring that the patient's ability to play his or role in school or in house hold activities is impaired the most and is unable to play his or her role. The highest score was calculated for Cognitive Functioning and implies that the cognitive function of the patient is affected the least due to HIV.

Summary Scores

To calculate the summary score, we took the dimensions which effect the physical and mental health. The physical health summary score is affected most by bodily pain, physical functioning, role functioning, social functioning and vitality. The mental health summary score is affected by mental health, health distress and cognitive function. Health transition, QoL was analyzed separately. To calculate the summary score, the mean scores of the respected dimensions were added along with standard deviations to get a total score. Perceived health is analyzed as a multiscale item and has no effect on summary scores.

Response	Frequency	Percentage %
Excellent	2	3.5
Very Good	5	8.8
Good	15	26.3
Fair	20	35.1
Poor	15	26.3

Table 3: General living standards
*It's a subjective factor that does not effect, scoring

Out of 57 patients 2 patients responded as excellent (3.5%), 5 patients responded as very good (8.8%). 15 patients responded as good (26.3%), 20 patients responded as fair (35.1%) and 15 patients responded as poor (26.3%) [Table 3].

DOI: https://doi.org/10.54393/pbmj.v4i2.120

Response of Patients	Frequency	Percentage %
Could hardly be better	8	14
Pretty Good	28	49.1
Good and Bad Equal	15	26.3
Pretty Bad	4	7
Very bad could hardly be worse	2	3.5

Table 4: Quality of life during last 30 days
*It is a subjective variable and does not effect, scoring
Table 4 is showing that out of 57 patients, 8 patients responded that their quality of life could hardly be better (14%), 28 patients responded as pretty good (49.1%), 15 patients responded as good and bad parts equal (26.3%), 4 patients responded as pretty bad (7%) and 2 patients responded as very bad could hardly be worse (3.5%).

Response	Frequency	Percentage %
Much Better	17	29.8
Little Better	20	35.1
About the same	17	29.8
Worse	3	5.2

Table 5: Health transition
*It is a subjective variable and does not affect scoring
Table 5 is showing that out of 57 patients 17 patients responded as much better (29.8%), 20 patients responded as little better (35.1%), 17 patients responded as about the same (29.8%) and 3 patients responded as worse (5%).

DISCUSSION:

To measure standard of living in HIV positive males and females visiting the HIV clinic at Services Hospital Lahore, a socially acceptable Urdu form of the MOS-HIV was created. The interview indicated significant variations in HIV-infected individuals' well-being and functional status. Individuals with four or more symptoms and advanced illness had worse physical functioning and mental wellbeing [7]. Overall, evaluation of Urdu MOS-HIV and psychometric testing indicated that this culturally modified MOS-HIV performed adequately. While some of the scales' reliability might have improved, Cronbach's score which was acceptable may vary from 0.9 for individual clinical evaluation of patient to 0.4 for population bases research. The evidence for the questionnaire's construct validity was positive. Surprisingly, the scores for HIV positive patients revealed in our study was matching exactly to those reported in other groups of symptomatic HIV infected patients [6]. It is therefore suggested that HIV infections might have a comparable impact on QoL regardless of cultural setting. This hypothesis is reinforced further by variable analysis, which indicates that mental and physical component of QoL in HIV patients described in earlier research was also culturally relevant. Alpha values of Cronbach are 0.61, 0.72 0.79, and 0.66 for body discomfort, subjective health, role functioning and physical functioning, respectively. As a result, the overall mean score SD for the physical health summary is 41.511.3. Cronbach's alpha coefficients from a comparable study for subjective health, bodily discomfort, and physical functioning are 0.77, 0.76, and 0.78, respectively. The overall mean SD for the physical health summary is 49.8.3. This demonstrates the comparability of the results gathered here with prior research. Cronbach's alpha coefficients for mental health [5,18], health distress, and cognitive functioning are 0.29, 0.78, and 0.73, respectively. As a result, the overall mean score SD for the mental health summary is 55.411.8. Cronbach's alpha coefficients from a comparable study for mental health, health distress, and cognitive performance are 0.77, 0.80, and 0.68, respectively. For the mental health summary, the overall mean score SD is 48.68.8.

There are numerous limitations to our research. The research population's characteristics, in particular, may have introduced biases that underestimated the influence of HIV infection on standard of living. The sample size is modest in this study because we have a limited amount of time, and secondly, AIDS is not very widespread, as the Muslim population is the largest in Pakistan, and sexual contact is not a significant communicable route of transmission owing to religious restrictions. Patients taking part in the study may be unable to freely express their emotions as AIDS is considered a taboo in Pakistan. Due to lack of awareness regarding the disease it is considered only as a sexually transmitted disease seen in homosexuals or prostitutes. People who are tested positive for HIV are stigmatized socially, devalued and are considered outcasts which results in limited opportunities for social acceptance, education, housing and treatment. This stigma and taboo is the major limiting factor in expression of feelings in this group of patients [7,19-20].

Patient-reported outcome assessments, such as living standards relating with health were created and used mostly in the United States, the United Kingdom, and other advanced nations. Patient-reported assessments can give us a clearer idea we need for the understanding of better usage of resources. States in which simple clinical testing like viral load and CD4 counts, may now be considered prohibitively expensive for common therapy, thus it is a necessity to analyze and evaluate the reported surveys of HIV infected individuals and weather if they can replace or augment these measures [6]. With further development, these techniques might provide a low-cost and suitable

DOI: https://doi.org/10.54393/pbmj.v4i2.120

equipment needed to fight the battle against HIV and other deadly illnesses. This research also provides us with an idea of how the private lives of Pakistani HIV positive individuals are affected by this virus. Treatments that attempt to improvise better living standards in HIV/AIDS positive individuals should consider their physical and emotional requirements. HIV/AIDS support groups, for example, encouraging such individuals to join psychosocial support groups can be considered a great help [7,20]. Furthermore, initiatives that give material support to HIV-affected families may help to reduce the stress caused by patients' HIV-related physical restrictions. Given the major position of female patients as home caregivers in Pakistan, treatments targeted at increasing QOL may enhance their mental and physical health, as well as the health of their family [15,21].

CONCLUSIONS:

The research reveals that HIV patients have a high mean mental health summary score, showing that HIV has no effect on mental and cognitive functioning until the disease is advanced. However, the average summary value of physiological health is lower than the average summary value of psychological health, indicating that patients have extra difficulties with physical labor as seen by bodily discomfort and physical functioning with substantial Cronbach's alpha. Thus, HIV/AIDS impairs physical functioning of the body more than mental performance.

REFERENCES:

[1] Patel P, Rose CE, Collins PY, Nuche-Berenguer B, Sahasrabuddhe VV, Peprah, E., Levitt, NS. Noncommunicable diseases among HIV-infected persons in low-income and middle-income countries: a systematic review and meta-analysis. AIDS (London, England), 2018, **32**(Suppl 1), S5. doi.org/10.1097/QAD.0000000000018882.

[2] Smith C, Sabin CA, Lundgren JD, Thiebaut R, Weber R, Law M *et al.* Factors associated with specific causes of death amongst HIV-positive individuals in the D: A: D Study. Aids, 2010, **24**(10), 1537-1548. doi.org/10.1097/QAD.0b013e32833a0918

[3] Palios J, Kadoglou NP & Lampropoulos S. The pathophysiology of HIV-/HAART-related metabolic syndrome leading to cardiovascular disorders: the emerging role of adipokines. Experimental Diabetes Res., 2012, 2012. doi.org/10.1155/2012/103063

[4] Kreuzer K.-A, & Rockstroh J. Pathogenesis and pathophysiology of anemia in HIV infection. Annals of Hematology, 1997, **75**(5), 179-187. doi.org/10.1007/s002770050340

[5] Emerson B, Plough K, Pangloli A, Haq S, Serinaldi D & Bannister E. Detection of acute HIV-1 infections utilizing NAAT technology in Dallas, Texas. Journal of Clinical Virology, 2013, 58, e48-e53. doi.org/10.1016/j.jcv.2013.08.005

[6] Andersson GZ, Reinius M., Eriksson LE, Svedhem V, Esfahani FM, Deuba K, Ekström AM. Stigma reduction interventions in people living with HIV to improve health-related quality of life. Lancet HIV, 2020, **7**(2), e129-e140. doi.org/10.1016/S2352-3018(19)30343-1

[7] Dutra BS, Lédo AP, Lins-Kusterer L, Luz E, Prieto IR & Brites C. Changes health-related quality of life in HIV-infected patients following initiation of antiretroviral therapy: a longitudinal study. Brazilian J. Infec. Disea., 2019, **23**, 211-217. doi.org/10.1016/j.bjid.2019.06.005

[8] Moro ALD. Fatores de risco para falha virológica primária em pacientes com HIV e genotipagem pré-TARV: um estudo de corte retrospective, 2018, http://hdl.handle.net/10183/188749

[9] Strathdee SA, Martin NK, Pitpitan EV, Stockman JK & Smith DM . What the HIV pandemic experience can teach the United States about the COVID-19 response. J. acquired immune deficiency syndromes (1999), 2021, **86**(1), 1. doi.org/10.1097/QAI.0000000000002520

[10] Oster AM, Switzer WM, Hernandez AL, Saduvala N, Wertheim JO, Nwangwu-Ike, N, Hall HI. Increasing HIV-1 subtype diversity in seven states, United States, 2006-2013, 2017, Annals of Epidemiology, **27**(4), 244-251.e241. doi.org/10.1016/j.annepidem.2017.02.002

[11] Becasen JS, Denard CL, Mullins MM, Higa DH & Sipe TA. Estimating the prevalence of HIV and sexual behaviors among the US transgender population: a systematic review and meta-analysis, 2006-2017. Am. J. Pub. Hlth. 2019, **109**(1), e1-e8. doi.org/10.2105/AJPH.2018.304727

[12] Ramachandran S, Thai H, Forbi JC, Galang RR, Dimitrova Z, Xia G-l, Gentry J. A large HCV transmission network enabled a fast-growing HIV outbreak in rural Indiana, 2015, 2018, E Bio Medicine, **37**, 374-381. doi.org/10.1016/j.ebiom.2018.10.007

[13] Bala R & Yadav C. Targeted Intervention with Female Sex Workers: Role of Punjab State AIDS Control Society and National AIDS Control Organization. Int. J. Res. Soc, 2019, Sci., **9**(1), 2.

[14] Ali A, Ali NS, Nasir U, Aadil M, Waqas N, Zil-E-Ali A, Anjum I. Comparison of knowledge and attitudes of medical and dental students towards HIV/AIDS in Pakistan. Cureus, 2018, **10**(4). doi.org/10.7759/cureus.2426

[15] Khan R & Bilal A. Knowledge about HIV and

DOI: https://doi.org/10.54393/pbmj.v4i2.120

Discriminatory Attitudes toward People Living with HIV in Pakistan. Pakistan J. Pub. Hlth., 2019, **9**(1), 37-41.doi.org/10.32413/pjph.v9i1.237

[16] Hipolito RL, Oliveira DCd, Costa TLd, Marques SC, Pereira ER & Gomes AMT. Quality of life of people living with HIV/AIDS: temporal, socio-demographic and perceived health relationship1. Revista latino-americana de enfermagem, 2017, 25. doi.org/10.1590/1518-8345.1258.2874

[17] Ghiasvand H, Waye KM, Noroozi M, Harouni GG, Armoon B & Bayani A. Clinical determinants associated with quality of life for people who live with HIV/AIDS: A Meta-analysis. BMC Health Services Research, 2019; **19**(1), doi.org/10.1186/s12913-019-4659-z

[18] Cotto B, Natarajanseenivasan K & Langford D. HIV-1 infection alters energy metabolism in the brain: contributions to HIV-associated neurocognitive disorders. Progress in Neurobiology, 2019, 181, 101616. doi.org/10.1016/j.pneurobio.2019.101616

[19] Cho H, Iribarren S & Schnall R. Technology-mediated interventions and quality of life for persons living with HIV/AIDS. Applied Clinical Informatics, 2017, **8**(02), 348-368. doi.org/10.4338/ACI-2016-10-R-0175

[20] Kreuzer K.-A, & Rockstroh J. Pathogenesis and pathophysiology of anemia in HIV infection. Annals of Hematology, 1997, **75**(5), 179-187. doi.org/10.1007/s002770050340

[21] Pelchen-Matthews A, Ryom L, Borges ÁH, Edwards S, Duvivier C, Stephan C, Weber J. Aging and the Evolution of comorbidities among HIV-positive individuals in a European cohort. Aids, 2018; **32**(16), 2405-2416. doi.org/10.1097/QAD.0000000000001967