

Out-of-pocket Expenditure and its Impact on the Quality of Life among Patients Attending the Anti-retroviral Therapy Centre of a Tertiary Care Hospital in Kolkata, India

Mamunur Rashid¹, Dipendra Narayan Goswami², Kuntala Ray³, Mausumi Basu⁴, Aparajita Mondal¹, Abhipsa Dey⁵

¹Junior Resident, ³Associate Professor, ⁴Professor and Head, ⁵Senior Resident, Department of Community Medicine, PGMER, Kolkata, West Bengal, India

²Professor and Head, Department of Community Medicine, JIS Institute of Medical Science and Research, Howrah, West Bengal, India

Correspondence: Dr. Mausami Basu, Email : basu.mausami544@gmail.com

Abstract:

Introduction: Out-of-pocket expenditure (OOPE) has a negative impact on Quality of life (QoL) of People Living with HIV (PLHIV) which can increase the risk of slipping into poverty. **Objective:** Primary Objective of this study was to estimate the burden of OOPE in seeking health care among HIV patients attending the Anti-retroviral therapy (ART) centre of a tertiary care hospital; and secondary objectives were to assess their QoL, to identify the association of socio-demographic characteristics with the OOPE & QoL and to find out the correlation between OOPE and QoL. **Method:** A cross-sectional study was conducted among 232 patients attending ART centre of a tertiary care hospital in Kolkata using a pre-designed, pre-tested, structured schedule. Multivariable binary logistic regression was done to identify the association of their socio-demographic characteristics and clinical profile with the OOPE and QoL. **Results:** About 41.4% of the study population rated their QoL as neither poor nor good, 18.9% rated as 'good'. All the participants reported OOPE; 20.7% in the form of direct health expenditure. Participants belonging to the age group 18-39 years, residing in a joint family, had family member infected with HIV and had associated co-morbidity were statistically significant covariates of direct health expenditure; whereas participants belonging to the age group ≥40 years, living in a joint family, involved in an unskilled occupation, and belonging to middle and lower middle were statistically significant covariates of poor QoL. **Conclusion:** OOPE was experienced by all participants. As per the study findings QoL was neither poor nor good among participants. With increase in OOPE, the QoL worsened.

Keywords: Anti-Retroviral Agents, Health Expenditure, Out-of-pocket Expenditure, Quality of Life

Introduction:

Globally there were 39.0 million [33.1–45.7 million] people living with HIV at the end of 2022 including around 1.5 million children (0–14 years old) and 37.5 million adults (more than 15 years).^[1] New HIV infections (1.3 million) and AIDS-related deaths (630 000) have continued to decrease worldwide, which is closer to achieving Sustainable Development Goal (SDG) 3.3 of ending AIDS as a public health threat by 2030.^[2] From 2010, deaths due to HIV have been reduced by more than half (51%) and globally HIV epidemic claimed 69%

Quick Response Code	Access this article online	How to cite this article :
	Website : www.healthlinejournal.org	Rashid M, Goswami D, Ray K, Basu M, Mondal A, Dey A. Out-of-pocket Expenditure and its Impact on the Quality of Life among Patients Attending the Anti-retroviral Therapy Centre of a Tertiary Care Hospital in Kolkata., India. Healthline. 2024; 15 (1): 40-50
	DOI : 10.51957/Healthline_603_2024	

fewer lives in 2022 since the peak in 2004. Of the people living with HIV in 2022, 86% [73–98%] knew their status, 76% [65–89%] were receiving treatment and 71% [60–83%] had suppressed viral loads. Worldwide 29.8 million PLHIV were receiving antiretroviral therapy.

In India, the HIV epidemic level is low with adult HIV prevalence of 0.20% and HIV incidence is 0.05 per 1000 uninfected population in 2022, about 24.67 lakh people living with HIV (PLHIV) and India is the second largest HIV epidemic country in the world, which accounts for 6.3% of all PLHIV.^[3]

The availability and affordability of highly active antiretroviral therapy, especially after 2001, has led to significant improvement in the health status and survival of patients with HIV/AIDS.^[4-6] By 2012, India achieved the highest reduction of new infections in the whole world (57%).^[7] This is due to the provisioning of free-of cost consultations, routine investigations, along with antiretroviral and specific prophylactic therapies. Under NACP phase-V, PLHIV continue to have access to free diagnostic facilities; free first-line, second and third-line ART; prevention, diagnosis; and management of opportunistic infections including management of Tuberculosis (TB) with daily anti-TB treatment through a single window approach. As on March 2023, there were 34,515 HCTS facilities including 5,428 confirmatory facilities where a total of 3.39 crore of HIV testing were conducted in the country. The viral load suppression was at 93% among on-ART PLHIV who were tested for viral load in 2022-23 which is higher than the 85% in 2021-22. It has significantly reduced the bulk of the direct health costs. National Health Policy acknowledges in its background analysis that 63 million persons are pushed to poverty every year due to healthcare costs.^[8] This is mostly due to out-of-pocket (OOP) expenditure on health, which means spending on health care from household resources and income, predominantly through private healthcare facilities.

PLHIV have to cope with a range of HIV-related symptoms and a plethora of morbidities due to crippling immune system reduce QoL, thereby impairing their physical, mental, and social well-being.^[9] The advent of highly active antiretroviral treatment (HAART) has changed the concept of HIV/AIDS from a deadly disease to a chronic manageable illness with focus shifted from fighting the virus to ensuring a good QoL.^[10,11] Vihaan programme (2013) enhances treatment adherence and retention in HIV care for PLHIV in India. Despite the free availability of antiretroviral therapy in India, seeking care can still incur out-of-pocket (OOP) expenses, which may impact treatment compliance and outcomes. Indirect health-related and nonmedical costs have not been extensively studied, although they significantly contribute to the economic burden of accessing healthcare services and despite the known fact that a high economic burden in availing the services affects treatment compliance and outcomes. With this background a study was conducted to estimate the burden of out-of-pocket expenditure in seeking health care among HIV patients attending the ART centre of a tertiary care hospital in Kolkata; to assess their quality of life; to identify the association of their socio-demographic characteristics & clinical profile with the OOP incurred in seeking health care & their QoL and to find out the correlation between OOP and QoL.

Method:

Study type, design, setting and population:

This hospital-based study, cross-sectional in design was conducted over a period of 3 months, from May to July 2022, at the ART centre of IPGME&R and SSKM hospital Kolkata, West Bengal. The ART centre in question since its inception caters to 3598 PLHIV among them 1931 were alive and on ART. The study participants consisted of adult persons (18 years and more) who were infected with HIV, taking ART for more than 1 year and were currently on 1st

line ART at the ART centre of this institution. However, PLHIV who were not willing to participate excluded from the study.

Sample size and Sampling method

The sample size was calculated using the Cochran formula, $Z^2 p (1-p)/d^2$, where p stood as the prevalence and d as the absolute precision for the calculation (5%). Taking $p = 16.3\%$ or 0.163 as proportion of poor quality of life from a study by Sarkar et al among male PLHA in West Bengal, India in 2019^[9]; $q(1-p) = 83.7\%$ or 0.837; Standard normal deviate (Z_α) at 95% C.I= 1.96; Absolute error = 5%; the sample size was calculated as 210. However, presuming a non-response rate of 10%, a final sample size of 232 was planned. From the 1738 eligible PLHIV, 232 study participants were selected by systematic random sampling. Anti-retroviral drugs were usually given once in a month to the PLHIV. Each time before consultation they need to submit their treatment card to the reception of the centre, from these authors made the sampling frame. Authors ensured that there is no repetition.

Study tools and technique

A pre-designed, pre-tested structured schedule was used for the study comprising of socio-demographic and disease related variables (gender, education, occupation, type of family, socioeconomic status, coverage with any health insurance, any associated co-morbidities etc.); Health expenditure-related variables included – sources of expenditure; direct health expenditure (doctor's consultation fee, purchase of medicine, diagnostic charges, and hospital charges); indirect health expenditure (transportation charge, lodging charges, and loss of wages for both the patients and the family members).

Participants were interviewed using WHOQOL-HIV BREF 2012 (Field Trial Version)^[12] questionnaire to assess QoL, which produces a profile with four domain scores and two individually scored items, rated on a 5-point Likert scale. Score of each domain as well as overall (total) is considered good if score is

$\geq$ median of the maximum attainable score, both domain-wise and in totality. The mean score was transformed to 0–100 range. The parameters taken in each domain are as follows: physical health (domain 1), psychological health (domain 2), social relationship (domain 3), and environmental health (domain 4). The schedule was translated in Bengali (local language) and the latter was back translated into English by two different Subject matter experts to ensure reliability. The final Pretesting was done among 24 PLHIV who were not included in the study. Face and content validity were ensured by the experts at the Department of Community Medicine and the final schedule was used for the study. Cronbach Alpha was 0.8. Authors had approached ART counsellors and with the help of them informed written consent was obtained from the participants.

Data Analysis

The data collected from the field were edited for any inconsistencies and appropriately coded, after which data were tabulated into Microsoft Excel 2019 and then imported to SPSS 25 for analysis. The categorical variables and proportions were represented by number (n) and percentage (%). Chi-square test was done to identify the association between socio-demographic characteristics and clinical profile of the participants with the OOPe and QoL. Correlation between OOPe and QoL was assessed using Spearman's rho or Spearman correlation coefficient. A p value of <0.05 was considered statistically significant.

Operational definitions and measurement of outcome variables:

- The following definitions were used to measure the OOP health expenditure in relation to HIV:
 - OOP health expenditure:** These are made by patients or their families at the point of receiving health services particularly in relation to HIV in the last 3 months.
 - Direct health expenditure:** It includes

doctor's fee, purchase of medicine, diagnostic charges, and hospital charges.^[13]

- **Indirect health expenditure:** It includes transportation charge, lodging charges, and loss of wages for both the patients and the family members.^[13]
 - **CHE (Catastrophic health expenditure):** It is defined as the household's health expenditure in relation to HIV when exceeds 10% of the total household income.^[14]
2. As all the participants reported indirect form of health expenditure, authors have seen association with direct health expenditure which was categorized as present and absent.

Ethical considerations

Before the commencement of the study, utmost care was given to maintaining anonymity and confidentiality, especially as it involved patients with HIV/AIDS. The study received approval from the Institutional Ethics and Research Advisory Committee, IPGME&R, and SSKM hospital Kolkata, West Bengal. Permission was also obtained from West Bengal State AIDS Prevention and Control Society (WBSAPCS).

Results:

The final sample comprised of 232 PLHIV with 48.8% in the age group of 40-49 years; 63.8% were males; 74.1% were Hindu; 79.3% from the general caste; 43.1% studied up to the primary level, more than half (55.6%) worked as unskilled workers; 56.9% were married and 84.5% belonged to nuclear families. About one-third of the participants (33.2%) were classified under the middle socioeconomic status according to the modified B. G. Prasad scale 2021. Furthermore majority (89.7%) of the participants were residing in urban areas. Nearly one-fifth (19%) had family member infected with HIV; 88% did not have any associated co-morbidities;

16 participants were diabetic and 9 were both diabetic and hypertensive and 77.6% had no health insurance coverage. 96 (41.4%) participants were taking ART for less than 5 years. 8 participants were currently taking anti-tubercular drug. 8% of the participants reported viral load more than 1000 copies. (Table 1)

Overall quality of life and general health:

About 41.4% rated their quality of life as neither poor nor good and only 18.9% replied with a positive rating of "good", one-fourth of the participants (24.1%) were dissatisfied, while 29.3% reported being satisfied. Additionally, 46.6% of the participants mentioned that they were neither satisfied nor dissatisfied with their health.

Physical health domain:

Most of the participants felt that physical pain prevented them from doing what they needed to do, with 48.3% experiencing little pain and 27.6% experiencing moderate pain. About one-third (37%) of the participants stated that they required some form of medical treatment to function in their daily life, although the majority reported having enough energy (60.3%). When it came to mobility, more than half (53.4%) of the participants were able to get around on an average level (neither poor nor good). As for sleep, 29.3% expressed being neither satisfied nor dissatisfied, while 55.1% were satisfied. Regarding their ability to perform daily living activities, 36.2% replied as neither satisfied nor dissatisfied, and 32.8% were satisfied. Additionally, more than one-fourth (27.6%) of the participants expressed satisfaction with their capacity for work, and 37.9% were neither satisfied nor dissatisfied. As per total score 55.2% of the patients rated their QoL as good in Physical health domain.

Psychological health domain:

The majority of the PLHA (46.5%) reported enjoying their life a little, and 43.1% enjoyed a moderate amount. Almost half of them (48.2%)

Table 1: Distribution of the study participants according to their socio-demographic characteristics and clinical profile (N=232)

Variables	Categories	n (%)
Age group (years)	18-29	36 (15.5)
	30-39	40 (17.2)
	40-49	112 (48.3)
	50-59	24 (10.3)
	60 and above	20 (8.7)
Gender	Male	148 (63.8)
	Female	80 (34.5)
	Third gender	4 (1.7)
Religion	Hinduism	172 (74.1)
	Islam	60 (25.9)
Caste	General	184 (79.3)
	Other Backward class	16 (6.9)
	Scheduled caste	32 (13.8)
Marital status	Married	132 (56.9)
	Unmarried	52 (22.4)
	Widowed/ Divorced/separated	48 (20.7)
Educational status	Illiterate	44 (19.0)
	Primary	100 (43.0)
	Secondary	44 (19.0)
	Graduate and above	44 (19.0)
Occupation	Unskilled	129 (55.6)
	Skilled	40 (17.2)
	Service	35 (15.1)
	Others	28 (12.1)
Family type	Nuclear	196 (84.5)
	Joint	36 (15.5)
Socio-economic status *	Upper (I)	23 (9.9)
	Upper Middle (II)	76 (32.8)
	Middle (III)	77 (33.2)
	Lower Middle (IV)	56 (24.1)
Type of residence	Urban	208 (89.7)
	Rural	24 (10.3)
Family member infected with HIV	Yes	44 (19)
	No	188 (81)
Associated co-morbidity	Yes	28 (12)
	No	204 (88)
Health insurance coverage	Yes	52 (22.4)
	No	180 (77.6)

* As per Modified B. G. Prasad Classification 2021

found their life to be moderately meaningful, and an equal number (39.6%) replied that they were able to concentrate a little and a moderate amount. Regarding their bodily appearance, the majority (77.6%) of PLWHA reported being moderately able to accept it. Nearly one-fifth (18.9%) of PLWHA expressed moderate satisfaction with themselves, while 44.8% were neither satisfied nor dissatisfied with themselves. More than half (51.7%) of the participants were experiencing negative feelings such as a blue mood, despair, anxiety, and depression very often. As per total score 57.3% of the patients rated their QoL as good in psychological health domain.

Social relationship domain

One fourth (22.4%) of the participants were dissatisfied with their personal relationship, whereas 62% and 12% expressed being neither satisfied nor dissatisfied and satisfied, respectively. Regarding their sex life, higher dissatisfaction (24.1%) was reported, while 50% and 22.4% stated being neither satisfied nor dissatisfied and satisfied, respectively. When it came to social support from friends, the majority (72.4%) mentioned feeling neither satisfied nor dissatisfied. As per total score 57.3% of the patients rated their QoL as good in social relationship domain.

Environmental health domain

The majority (60.3%) of the participants felt moderately safe in their daily life. When it came to

their physical environment, most of them (79.3%) considered it healthy, and 8.6% found it to be very healthy, while one fifth (17.2%) perceived it as only a little healthy. In terms of financial resources, nearly two-thirds (61%) had a little money, while 31% possessed a moderate amount. For daily information, more than one-third (36.2%) had access to a little, while 55.1% had access to a moderate amount. When it came to leisure activities, more than one-third (37.9%) had moderate opportunities, while 51.7% had limited scope. Only a small percentage (6.9%) were dissatisfied with the condition of their living place, while 58.6% expressed neither satisfaction nor dissatisfaction, and 31% were satisfied. In relation to access to health services, the majority (74.1%) were satisfied, and a large number (65.5%) expressed satisfaction with their transportation options. As per total score only 35.5% of the patients rated their QoL as poor in Environmental health domain.

Table 2 showed that over 20% of patients experienced direct health expenditure, with investigations being the category with the highest expenditure. All participants faced indirect health expenditure in the form of transportation costs. The median out-of-pocket expenditure (OOPE) among patients with HIV who were taking ART was Rs. 300 (IQR: 170–550), and the median indirect health expenditure was Rs. 285 (IQR: 100–400). In This study, the out-of-pocket expenditure was considered catastrophic for 5.1% (12/232) of households.

Table 2: Distribution of the study participants according to their out-of-pocket expenditure (N=232)

Out-of-pocket Expenditure	Present n(%)	Absent n(%)
A. Direct health expenditure	48 (20.7)	184 (79.3)
Purchase of Medicine	8 (3.4)	224 (96.6)
Investigations	40 (17.2)	192 (82.8)
B. Indirect health expenditure	232 (100.0)	-
Transportation	232 (100.0)	-
Loss of wages of patient	148 (63.8)	84 (36.2)
Loss of wages of attendant	4 (1.7)	228 (98.3)
Food	16 (6.9)	216 (93.1)

Table 3 presented the mean scores $\pm$ SD of the patients on various domains and facets of WHO QOL BREF. The physical health score was 56.4 ± 15.6 , psychological health was 46.2 ± 13.4 , social relationship was 48.9 ± 13.8 , and environmental health was 54 ± 10.5 . The highest median score was observed in the physical health domain, i.e., 56 with an interquartile range of 44–69, and the lowest was in the psychological health domain, i.e., 44 with an interquartile range of 38–56.

Chi-square test was done to identify association between socio-demographic characteristics and Clinical profile and direct health expenditure. Univariable logistic regression performed between statistically significant independent variables and direct health expenditure found that age group 18-39 years, residing in a joint family, family member

infected with HIV and associated co-morbidity had statistically significant higher odds of direct health expenditure than the references. (Table 4)

Multivariable logistic regression model showed that that age group 18-39 years, residing in a joint family, family member infected with HIV and associated co-morbidity) were statistically significant covariates of direct health expenditure. (Table 4) (Multicollinearity do not exist; Tolerance value <0.10 or Variance inflation factor >10 indicate multicollinearity)

Table 5 Chi-square test was done to identify association between Sociodemographic characteristics and Clinical profile and QoL. Univariable logistic regression performed between the statistically significant independent variables (Sociodemographic characteristics and clinical

Table 3: Descriptive statistics of domain wise transformed score (0-100) of WHO quality of life-BREF (N=232)

Domains	Attained Transformed Score		Mean $\pm$ SD	Median (IQR)
	Minimum	Maximum		
Physical health	25	94	56.43 ± 15.58	56 (44-69)
Psychological health	13	81	46.16 ± 13.38	44 (38-56)
Social relationship	25	94	48.97 ± 13.78	50 (44-50)
Environmental health	31	88	54.09 ± 10.47	50 (50-63)

SD=Standard Deviation, IQR=Interquartile range

Table 4: Binary logistic regression Showing Factors Associated with Direct Health Expenditure (N=48)

Variables	Categories	Direct health expenditure (present) n (%)	OR (95% CI)	P-value	aOR (95% CI)	P-value
Age group	18-39 years	24 (50)	2.53 (1.32-4.86)	0.005	3.93 (1.79-8.60)	0.001
	≥ 40 years	24 (50)	Ref	-	Ref	-
Family type	Nuclear	36 (75)	Ref	-	Ref	-
	Joint	12 (25)	2.22 (1.02-4.85)	0.045	2.48 (1.05-5.87)	0.039
Associated co-morbidity	Yes	16 (33.3)	7.16 (3.09-16.57)	<0.001	16.62 (5.85-47.17)	<0.001
	No	32 (66.7)	Ref	-	Ref	-
Family member infected	Yes	4 (8.3)	3.05 (1.04-9.01)	0.043	12.22 (2.37-62.96)	0.003
	No	44 (91.7)	Ref	-	Ref	-

Omnibus test P-value: 0.000, Nagelkerke R^2 : 0.288, Hosmer Lemeshow P-value: 0.951

Table 5: Binary logistic regression showing factors associated with poor QoL (N=115)

Variables	Categories	Poor QoL n(%)	OR (95% CI)	p-value	a OR (95% CI)	P-value
Age group	18-39 years	20 (17.4)	Ref	-	Ref	-
	≥40 years	95 (82.6)	4.36 (2.38- 7.97)	<0.001	7.015 (3.18-15.43)	<0.001
Socio-economic status	Upper middle	23 (20)	Ref	-	Ref	-
	Middle	56 (48.7)	8.81 (4.44-17.47)	<0.001	3.662 (1.56-8.55)	0.003
	Lower middle	36 (31.3)	5.94 (2.89-12.20)	<0.001	2.661 (1.10-6.42)	0.029
Occupation	Service	8 (7)	Ref	-	Ref	-
	Unskilled	83 (72.2)	6.09 (2.55-14.49)	<0.001	3.992 (1.35-11.72)	0.012
	Skilled	12 (10.4)	1.44 (0.51-4.08)	0.486	0.291 (0.07-1.23)	0.094
	Others	12 (10.4)	2.53 (0.85-7.51)	0.094	2.366 (0.58-9.52)	0.226
Type of family	Nuclear	87 (75.7)	Ref	-	Ref	-
	Joint	28 (24.3)	4.38 (1.90-10.10)	0.001	21.48 (5.21-88.48)	<0.001
Health insurance coverage	Yes	16 (13.9)	Ref	-	Ref	-
	No	99 (86.1)	2.75 (1.42-5.31)	0.002	2.206 (0.92-5.27)	0.075

Omnibus test P-value: 0.000, Nagelkerke R²: 0.228, Hosmer Lemeshow P-value: 0.103

profile) and poor QoL found that age group ≥40 years, living in a joint family, not covered by health insurance, belonging to middle and lower middle class, and involved in unskilled type of occupation had statistically significant higher odds of poor QoL than the references.

However, multivariate logistic regression model showed that age group ≥40 years, involved in unskilled type of occupation, living in a joint family and belonging to middle and lower middle class were statistically significant covariates of poor QoL. (Table 3) (Multicollinearity do not exist; Tolerance value <0.10 or Variance inflation factor >10 indicate multicollinearity)

A very weak negative significant correlation between total OOPE and physical health, social relationship, and environmental health, respectively. However, there was no correlation between psychological health and total OOPE.

Figure 1 showed that almost half of the study participants (49.6%) reported their QoL as poor; 44.8%, 42.7%, 46.6% and 35.5% of the participants

reported poor QoL in physical health, psychological, social relationship, and environmental health domain respectively.

Discussion:

The HIV positive persons experience a poor quality of life due to their illness. In addition, the financial burden due to OOPE can further worsen their QoL. Though there has been therapeutic improvements, indirect costs like transportation and loss of wages still represent a higher cost.^[6]

In the present study, all participants faced indirect OOPE and direct health expenditure was only 20.7%. Alvi et al at Jawaharlal Nehru Medical College, Aligarh also demonstrated similar findings.^[15]

All the participants faced indirect OOPE in the form of transportation costs and loss of wages which was similar to the study by Barennes et al at Lao People's Democratic Republic^[4], Okere et al at Tanzania^[16] and Adeniran et al at Nigeria^[17] where the most notable OOPs were related to transportation and to loss of income.

Figure 1: Distribution of study participants according to the domains of QoL as per WHOBREF_QOL (N=232)

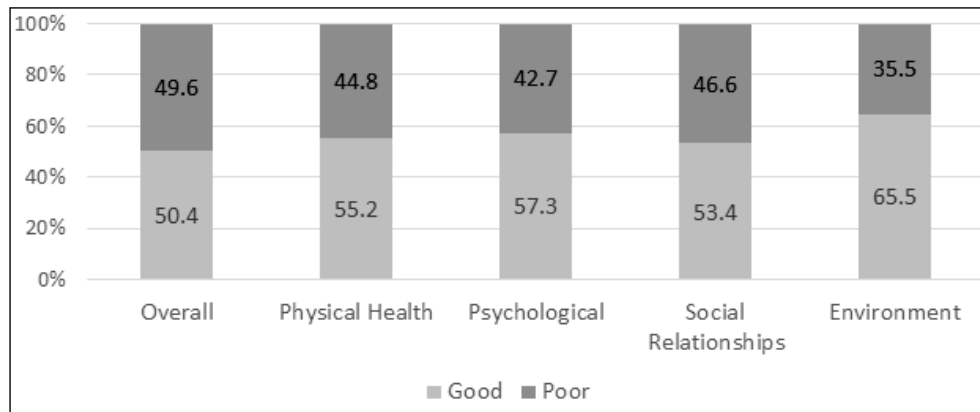
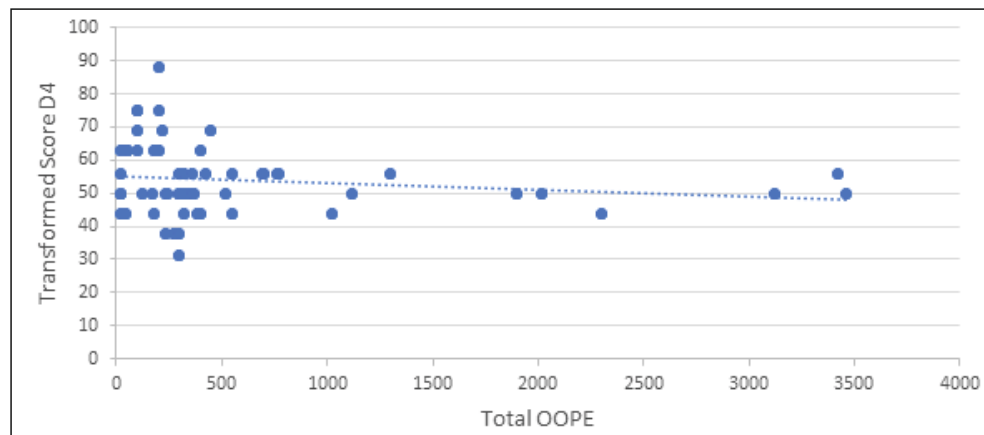


Figure 2: Correlation between Environmental health domain of QoL and total OOEPE (N=232)



The highest direct health expenditure was accounted by the cost for diagnostic tests followed by cost of medicine in the present study and study by Poudel et al at Nepal.^[18] This study found that OOEPE from medicines and investigations in HIV care is a huge barrier to health care which is consistent with some literature.^[18-21]

About 46.8% and 60% of households were affected by catastrophic health expenses respectively in the study by Barennes et al^[5] at Lao People's Democratic Republic and Adeniran et al^[17] at Nigeria which was much higher than current study (5.1%); study by Alvi et al in Uttar Pradesh (8.1%),^[15] study by Beaulière at Côte d'Ivoire (12.3%)^[19] and study by Shukla Et al at North India (16.1%).^[20]

In the present study age group 18-39 years, residing in a joint family, family member infected with HIV and associated co-morbidity had statistically significant higher odds of direct health

expenditure whereas the major determinants for the direct costs were household income, occupation, health status of respondents, respondents accompanied or not, and study district in Nepal.^[18]

In this study about 41.4% rated their quality of life as neither poor nor good, only 18.9% replied with a positive rating of "good", 24.1% were dissatisfied, 29.3% reported being satisfied and 46.6% mentioned that they were neither satisfied nor dissatisfied with their health. In a study by Sarkar et al at Calcutta School of Tropical Medicine (CSTM) Kolkata, the corresponding figures were 55.5%, 28.2%, 38.6%, 19.1% and 41.4%,^[9] respectively. In another study by Sunita et al at Himachal Pradesh,^[22] 71.25% patients rated their QOL good and only 10% were dissatisfied with their health.

The present study used the WHOQOL-BREF-HIV scale to determine the QOL of persons who were infected with HIV/AIDS and registered at the ART

centre of IPGMER-SSKM. In this study mean scores $\pm$ SD of the patients on various domains and facets of WHO QOL BREF were physical health score 56.4 ± 15.6 , psychological health was 46.2 ± 13.4 , social relationship was 48.9 ± 13.8 , and environmental health was 54 ± 10.5 which were almost in line with Kolkata study.^[9] In our domain-based analysis, we observed there is a need for more attention toward psychological and social relationship domain as compared with other domains.

The mean scores were highest for physical domain in the current study, which was similar to study by Sarkar et al at Kolkata,^[9] Shukla et al at Lucknow,^[14] Sunita et al at Himachal Pradesh,^[22] Dasgupta et al at Malda,^[23] Arya et al at Delhi,^[24] Arjun et al at South India,^[25] Giri et al at Nepal,^[26] Liping et al at China,^[27] and Alvi et al at Aligarh,^[28] in contrast to the study by Rajeev et al at Chitradurga, Karnataka where psychological domain had highest mean score,^[13] Wig et al at North India where social domain had highest mean score,^[21] and Agarwal et al at Madhya Pradesh^[29] where mean quality of life score was highest in the environmental domain. Majority patients in this study were stable, asymptomatic, on long-term treatment with minimal side effects. This is the reason why the physical domain was found to have a good score.

The present study found an association between QOL and age group which was reported by Liping et al^[27] and Acharya et al.^[30] Contrary to the study by Acharya et al where education HS and above had significant association with overall QOL current found no association between QoL and level of education.^[30]

Age, Type of family, socioeconomic status, type of occupation had significant association with the QoL in this study while educated, employed in the government sector, belonging to general caste category and living with their spouse were the factors for their better QoL in HP.^[22] Age, education, employment, income and CD4 count had positive correlation with QoL in Delhi study.^[24] Participants with higher socioeconomic status (SES) and self-motivated to take ART had shown better scores across all the domains of QoL in South India study.^[25]

QoL scores shared a negative correlation with the total OoPE, but it was not statistically significant. Direct and indirect health expenditures were also negatively correlated with the QoL.

Conclusion:

Availing HIV care needs OoP expenditures despite free provision of HIV/AIDS care, most of which is spent on non-medical and indirect expenses. OoPE was experienced by all participants. Nearly half of the participants reported overall and domain wise poor QoL. With increase in OoPE, the QoL worsened. Efforts must be directed to increase social and emotional support perceived by PLHIVs and innovative supporting policy should be implemented so as to improve the quality of life of PLHIV. Encouraging family, friends, and employers to provide support, understanding, and non-stigmatizing treatment can help them maintain their self-esteem, relationships, and professional lives.

Acknowledgment:

We express sincere gratitude toward all the study participants who provided their valuable time for the interview and shared their personal experiences, which helped shape this study. We would also like to acknowledge the authority and all the concerned staff at the ART Centre, IPGME&R, and SSKM Hospital, Kolkata, for their cooperation and precious insights into the subject of this research work.

Declaration:

Funding: Nil

Conflict of Interest: Nil

References:

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