

*Original Article*

# Quality of life, social support, coping strategies, and their association with psychological morbidity among people living with HIV

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**Objectives:** Enhancement of quality of life and social support have become important therapeutic goals among people living with HIV. However, research from developing countries is sparse in this area. Index study was aimed to assess association of social support, coping, and quality of life with psychological morbidity among people living with HIV.

**Materials and Methods:** In this cross-sectional study, 100 people with HIV were recruited through purposive sampling who were not receiving antiretroviral therapy. To assess social support, coping, and quality of life social support questionnaire, coping strategy check list and World Health Organization quality of life-HIV BREF were administered, respectively.

**Results:** Quality of life domain scores fell in the moderate category and spirituality, religion, and personal belief domain had maximum score. Educated, married, employed, and male subjects reported better quality of life. Females reported greater use of internalization and emotional outlet coping strategies. Low social support, lower quality of life (in all domains and total score), and greater use of internalization coping strategy were significantly associated with psychiatric morbidity.

**Conclusion:** Internalization coping, low social support, and lower quality of life were associated with greater psychiatric morbidity. Therefore, to improve their mental health and overall course of HIV, multipronged interventions should be implemented for promoting the adaptive coping, social support and quality of life.

**Keywords:** HIV/AIDS, Quality of life, Coping, social support, Psychiatric disorders

**INTRODUCTION**

India has the third largest HIV epidemic in world, with 0.22% estimated prevalence in adult population, which equates to 2.34 million people living with HIV.<sup>[1]</sup> Psychiatric morbidity is commonly seen with HIV infection and depression and anxiety disorders are more commonly reported.<sup>[2]</sup> The relationship between HIV and psychiatric disorders is influenced by multitude of factors such as stigma, coping, quality of life, family role and social support, comorbid medical disorders and substance use, treatment, and course of HIV infections.<sup>[3]</sup>

Quality of life (QOL) is usually better in early asymptomatic stage than symptomatic stage of HIV infection or AIDS. Various other factors such as age, gender, education, employment status, income, severity of HIV infection, and associated medical disorders also influence the QOL.<sup>[4]</sup>

Coping strategies and social support are found to affect overall outcome – in terms of physical health, emotional health, health behaviors, and HIV disease course.<sup>[4,5]</sup> Individual's coping<sup>[6]</sup> and social support<sup>[7]</sup> also have specific effects on immune response and progression of HIV infection. Enhancing the problem focused coping and social support is found to improve quality of life in subjects with HIV/AIDS.<sup>[8]</sup>

In view of achievable longevity with the available treatment modalities for HIV, enhancement of quality of life, social support, and adaptive coping has become important therapeutic goals. Research is sparse from developing countries and public health measures need further scaling up to deal with double danger of HIV and mental health issues. Therefore, index study aimed to assess the quality of life, social support, coping strategies, and their association with psychological morbidity among people living with HIV.

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## MATERIALS AND METHODS

### Subjects

After obtaining the ethics clearance from the Institutional Ethics Committee, index study was conducted at immunology outdoor clinic of tertiary care teaching hospital in North India.

The sample comprised 100 people with HIV, not receiving antiretroviral therapy. After obtaining written informed consent, literate subjects of age 18–55 years were included and the subjects with any other comorbid medical disorders were excluded. HIV diagnosis was based on seropositive status on ELISA test and subsequently demographic and clinical pro forma and following instruments were administered.

### Social support questionnaire

It is a self-administered measure of perceived social support.<sup>[9]</sup> This Indian adapted version has high test-retest reliability ( $r = 0.91$ ,  $P < 0.01$ ) and significant concurrent validity.<sup>[10]</sup>

### Coping strategy check list

It is a self-administered measure for assessing commonly used strategies to deal with the stressful situations.<sup>[11]</sup> Hindi translation of the tool (Cronbach's alpha 0.64) was used.<sup>[12]</sup>

### World Health Organization quality of life-HIV BREF

It is 31-item self-administered cross-cultural instrument based on WHOQOL-BREF (26 items).<sup>[13]</sup> This scale has shown good internal consistency, test-retest reliability ( $r = 0.68$ – $0.95$ ), and discriminant validity.<sup>[14]</sup>

### Statistical analysis

Descriptive analysis was done with the Statistical Package for the Social Sciences version 21.0 for Windows (Chicago, Illinois, USA). Association between variables was assessed through correlational analysis. Binomial logistic regression analysis was used to assess correlates of psychiatric morbidity.

## RESULTS

### Demographic details

As depicted in [Table 1], mean age was 33 years and majority of them were male, married, from nuclear family of rural background, with heterosexual orientation and half of them were Hindu by religion. Mean years of education was about 7 years, but males were more educated than females (8.28 years vs. 6.72 years,  $t = 2.11$ ,  $P = 0.037$ ) and greater proportion of males were employed compared to females (80% vs. 7.5%,  $X^2 = 50.48$ ,  $P < 0.001$ ). The mean duration of HIV infection was 12 months and mean CD4 count ( $n = 63$ )

**Table 1:** Demographic profile ( $n=100$  study participants).

Variable	Mean (SD)
Age (years)	33.57 (7.71)
Education (years)	7.66 (3.67)
	<b>n / %</b>
Gender	
Male	59
Female	40
Intersex	1
Occupation	
Employed	51
Unemployed/Housewife	49
Sexual orientation	
Heterosexual	98
Bisexual	01
Homosexual	01
Marital status	
Currently single	27
Married	73
Religion	
Hindu	52
Non-Hindu	48
Family	
Nuclear	68
Extended or other setting	32
Locality	
City	39
Village	61

**Table 2:** Psychosocial profile.

Variable	Frequency/%
Psychiatric disorder – present <sup>#</sup>	45
	<b>Mean (SD)</b>
Social support questionnaire – total score	52.59 (7.98)
Coping skills	
Denial	3.66 (3.14)
Internalization	1.87 (2.51)
Externalization	0.63 (1.15)
Emotional outlet	0.59 (0.94)
Anger	0.22 (0.56)
Quality of life	
Physical	13.54 (2.85)
Psychological	12.29 (2.83)
Social relationship	12.22 (2.88)
Environment	12.06 (2.44)
Level of independence	13.14 (3.00)
Spirituality, religion, and personal belief	14.81 (3.42)
Total score	78.07 (14.56)

<sup>#</sup>Mood disorder (depression)–24%, substance use disorder–17%, adjustment disorder–7%, panic disorder–1%, and schizophrenia–1%

was 278.98 at the intake in the study. Most common belief about source of HIV infection was sexual contact (58%),

35% subjects did not report any suspected source, and lesser proportion reported source due to injecting drugs, blood products, and artificial insemination (total 7%).

### Psychosocial profile

As depicted in Table 2, about half of the participants had psychiatry comorbidity (45%) and most common disorder was depression (24%), followed by substance use disorder (17%) – including opioid (5%), alcohol (3%), nicotine dependence (8%), adjustment disorder (7%), panic disorder (1%), and schizophrenia (1%).

Mean social support score was 52. Denial coping had the highest score. Spirituality, religion, and personal belief domain of quality of life had the highest score and environment domain had the lowest score. Each domain of quality of life had significant correlation with other domains of QOL ( $r = 0.4800.853, P = 0.001$ ).

### Association of coping, social support, and quality of life with demographic and clinical variables

More educated participants had greater score on externalization coping ( $r = 0.218, P < 0.05$ ) and quality of life ( $r = 0.287-0.472$  on different QOL domains,  $P < 0.01$ ). Income was positively associated with quality of life – total score ( $r = 0.242, P = 0.015$ ), psychological ( $r = 0.251, P = 0.012$ ), social relationship ( $r = 0.212, P = 0.034$ ), environment ( $r = 0.392, P < 0.001$ ), and level of independence domain ( $r = 0.333, P = 0.001$ ).

Females had greater scores on internalization ( $2.52 \pm 2.77$  vs.  $1.44 \pm 2.26, P = 0.012$ ) and emotional outlet coping ( $1.07 \pm 1.09$  vs.  $0.25 \pm 0.65, P < 0.001$ ), compared to males. Males had better quality of life on domain of environment ( $12.60 \pm 2.56$  vs.  $11.28 \pm 2.09, P = 0.008$ ), level of independence ( $15.42 \pm 3.36$  vs.  $13.90 \pm 3.39, P = 0.03$ ), and total QOL score ( $80.72 \pm 14.84$  vs.  $74.51 \pm 13.49, P = 0.037$ ), compared to females.

Married participants had greater social support ( $53.65 \pm 7.36$  vs.  $49.70 \pm 8.98, P = 0.027$ ), quality of life on social relationship domain ( $13.50 \pm 2.93$  vs.  $12.14 \pm 3.04, P = 0.04$ ), environment domain ( $12.71 \pm 2.53$  vs.  $10.88 \pm 3.35, P = 0.004$ ), total QOL score ( $79.87 \pm 13.88$  vs.  $73.19 \pm 15.50, P = 0.04$ ), lesser internalization ( $1.31$  vs.  $3.37, P < 0.001$ ), and emotional outlet coping strategies ( $0.39$  vs.  $1.11, P = 0.001$ ), compared to unmarried study participants.

Employed participants had better quality of life on psychological ( $12.90 \pm 2.61$  vs.  $11.65 \pm 2.93, P = 0.027$ ), social relationship ( $13.94 \pm 2.64$  vs.  $12.30 \pm 3.15, P = 0.006$ ), level of independence ( $12.67 \pm 2.32$  vs.  $11.42 \pm 2.42, P = 0.01$ ), spirituality, religion, and personal belief domains ( $15.49 \pm 3.28$  vs.  $14.10 \pm 3.45, P = 0.042$ ), total QOL score

( $81.78 \pm 12.81$  vs.  $74.20 \pm 15.37, P = 0.009$ ), and lesser score of emotional outlet coping ( $0.25$  vs.  $0.93, P < 0.001$ ), compared to unemployed participants. We could not find any association of duration of illness with coping, quality of life or social support.

Participants with lesser social support had greater use of denial ( $r = -0.211, P < 0.05$ ), internalization ( $r = -0.377, P < 0.01$ ), and emotional outlet coping ( $r = -0.226, P < 0.05$ ), while participants with better social support had greater quality of life ( $r = 0.239-0.384$  on all the domains of QOL and total QOL score,  $P < 0.01$ ).

Participants with greater use of externalization coping had higher CD4 counts ( $r = 0.752, P < 0.05$ ). Participants with greater use of internalization and emotional outlet coping had lower quality of life ( $r = -0.217-0.407$  on different QOL domains,  $P < 0.01$ ).

Subjects with psychiatric disorder more commonly used internalization coping ( $2.68 \pm 2.99$  vs.  $1.20 \pm 1.80, t = 3.07, P = 0.003$ ) and they had lesser social support ( $50.08 \pm 8.34$  vs.  $54.63 \pm 7.11, t = 2.94, P = 0.004$ ) and total QOL score ( $68.90 \pm 12.25$  vs.  $85.57 \pm 11.79, t = 6.90, P < 0.001$ ) and QOL domain score – physical ( $12.0 \pm 2.45$  vs.  $14.8 \pm 2.53, t = 5.57, P < 0.001$ ), psychological ( $10.43 \pm 2.58$  vs.  $13.81 \pm 2.02, t = 7.34, P < 0.001$ ), social relationship ( $11.46 \pm 2.76$  vs.  $14.5 \pm 2.47, t = 5.80, P < 0.001$ ), environment ( $10.68 \pm 2.65$  vs.  $13.47 \pm 2.43, t = 5.46, P < 0.001$ ), level of independence ( $10.86 \pm 1.98$  vs.  $13.04 \pm 2.36, t = 4.91, P < 0.001$ ), and spirituality, religion, and personal belief ( $13.44 \pm 3.64$  vs.  $15.92 \pm 2.80, t = 3.85, P < 0.001$ ), compared to participants without psychiatric disorders.

### Psychosocial correlates of psychiatric disorders

On binomial logistic regression analysis, internalization coping (OR = 1.30), social support (OR = 0.92), and quality of life (all domains) (OR = 0.50–0.78) were found as significant correlates for psychiatric disorders [Table 3].

## DISCUSSION

Index study assessed the quality of life, social support, coping strategies, and their association with psychological morbidity among people living with HIV in north India. Demographic profile of our patients was similar to earlier studies from India<sup>[15]</sup> and West.<sup>[16]</sup>

Coping is a conceptual framework that individual uses to deal with the stressful situations.<sup>[17]</sup> Denial coping has been shown to correlate with the lower QOL and higher depression score.<sup>[18]</sup> Talukdar *et al.* reported better coping strategies in females, compared to males.<sup>[19]</sup> We found greater internalization and emotional outlet coping strategies in female study participants.

**Table 3:** Correlates of psychiatric disorder.

Variable	B	SE	Wald	df	Sig	Exp. (B)	CI
SSQ total	-0.07	0.02	7.57	1	0.006	0.92	0.87-0.97
Internalization coping	0.26	0.09	7.4	1	0.006	1.30	1.07-1.58
Quality of life							
Physical	-0.44	0.10	19.20	1	<0.001	0.63	0.52-0.78
Psychological	-0.68	0.14	23.25	1	<0.001	0.50	0.38-0.66
Social relationship	-0.44	0.09	20.38	1	<0.001	0.64	0.53-0.77
Environment	-0.44	0.10	18.41	1	<0.001	0.63	0.52-0.78
Level of independence	-0.56	0.14	14.92	1	<0.001	0.57	0.42-0.75
Spirituality, religion, and personal belief	-0.23	0.07	11.59	1	0.001	0.78	0.68-0.90

Quality of life is a multidimensional report of individual's subjective perceptions of the life in context of their culture, value system, goal expectations, and standards.<sup>[13,20]</sup>

In line with the previous studies,<sup>[21-23]</sup> male study participants had better quality of life in our study. Lower quality of life in female study participants could also be explained with lower literacy, unemployment, and financial dependency in females.<sup>[23]</sup> Marashi *et al.* reported better quality of life in females<sup>[24]</sup> and Rzeszutek found comparable QOL scores in both the genders.<sup>[25]</sup>

The QOL domain scores fell in the moderate category.<sup>[26]</sup> In line with earlier study,<sup>[23]</sup> spirituality, religion, and personal belief domain of quality of life had greater score in our study, while other studies found higher QOL score in physical,<sup>[27]</sup> psychological,<sup>[28]</sup> and environment domain;<sup>[29]</sup> thus, findings varied as per different studies.

Similar to earlier studies,<sup>[28,29]</sup> environment domain had minimum QOL score in index study. Environmental domain of QOL assesses influence of various factors such as work environment, financial resource, accessibility of healthcare, and social care services.

QOL is determined by education,<sup>[28,29]</sup> marital status,<sup>[30]</sup> income,<sup>[27,29,30]</sup> employment,<sup>[29]</sup> social support,<sup>[22,29]</sup> and coping.<sup>[31]</sup> Index study found better quality of life in married and employed individuals, with higher education, income, and social support and lower quality of life in individuals with internalization and emotional outlet coping.

In our study, more educated participants reported higher use of externalization coping strategy and participants with higher externalization coping also had greater CD4 counts. Similarly, positive association of quality of life and CD4 count was reported in earlier studies.<sup>[23]</sup> Such associations of CD4 counts with QOL and adaptive coping can be due to recruitment of outpatients in stable condition, not receiving ART.

Among HIV positive individuals, greater psychiatric morbidity is reported with avoidant coping,<sup>[32]</sup> low social support,<sup>[33]</sup> and poor quality of life.<sup>[34]</sup> Similarly, index study

found significant association of low social support, lower quality of life (all domains and total score), and greater use of internalization coping strategy with psychiatric disorders.

The present study had limitations such as small sample size, non-inclusion of patients on ART, and recruitment of literate outpatients of single tertiary care hospital limits generalizability of findings. Due to cross-sectional nature of the study, we could not delineate the temporality or causality of psychosocial correlates of psychiatry morbidity.

To conclude, low social support, lower quality of life in all domains, and greater use of internalization coping strategy increase the psychiatric morbidity in people living with HIV. Interventions to promote adaptive coping and to enhance social support and quality of life may further improve their mental health as well as disease course.

#### Declaration of patient consent

Patients' consent not required as there are no patients in this study.

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Nil.

#### Conflicts of interest

There are no conflicts of interest.

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