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Original Research Article

COPING SKILLS AND THEIR ASSOCIATION WITH PSYCHIATRIC MORBIDITY AMONG HIV-INFECTED YOUNG ADULTS: A CROSS-SECTIONAL STUDY

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ABSTRACT

Background: HIV infection imposes significant psychological challenges, particularly among young adults who face stigma, uncertainty, and disruptions in social, emotional, and occupational functioning. Coping strategies play a crucial role in determining psychological resilience and vulnerability to psychiatric morbidity. The aim is to assess coping skills and their association with psychiatric morbidity among HIV-infected young adults.

Materials and Methods: A cross-sectional study was conducted among 50 HIV-infected young adults attending an ART center. Coping strategies were evaluated using the Ways of Coping Scale (50-item version), and psychiatric morbidity was assessed using ICD-10 diagnostic criteria. Socio-demographic variables, positive and negative coping scores, and their relationship with psychiatric morbidity were analyzed using Mann-Whitney U test, Wilcoxon signed-rank test, and independent t-tests, with significance set at $p < 0.05$.

Results: Participants with psychiatric morbidity (n=14) had significantly lower positive coping scores (43.9 ± 11.8) compared to those without morbidity (53.4 ± 14.2; $p = 0.016$). Negative coping scores were markedly higher among individuals with psychiatric morbidity (57.1 ± 12.1 vs. 46.8 ± 13.9; $p = 0.008$). The difference between positive and negative coping (−13.2 vs. +6.6) was highly significant ($p < 0.001$). Socio-demographic factors did not show statistically significant associations with coping, though trends suggested influence of age, gender, education, and socioeconomic status.

Conclusion: Psychiatric morbidity among HIV-infected young adults is strongly associated with maladaptive coping and reduced use of positive coping strategies. Integrating mental health assessment and coping-skills interventions into HIV care may enhance psychological well-being and improve long-term outcomes.

Keywords: HIV-infected young adults; psychiatric morbidity; coping strategies.

INTRODUCTION

HIV continues to be one of the most significant global public health challenges, affecting millions of individuals across diverse socio-cultural settings. Since its emergence in the early 1980s, HIV has not only posed a biomedical crisis but has also profoundly influenced psychosocial, economic and developmental domains. Young adults constitute a particularly vulnerable demographic, with nearly half of new infections globally occurring in this age group. The intersection of rapid developmental changes, evolving social roles, and exposure to high-risk behaviors increases susceptibility to both acquiring HIV and experiencing adverse psychological consequences. In India, where the epidemic shows considerable geographical heterogeneity, the majority of infections occur in individuals aged 15-49 years, reflecting the burden borne by the most productive segment of the population. Alongside physical health challenges, people living with HIV (PLHIV) must negotiate

stigma, discrimination, social isolation, and uncertainties surrounding their health and future all of which elevate susceptibility to psychiatric morbidity.[1]

Psychiatric disorders, including depression, anxiety, adjustment disorders, substance use disorders, and suicidal tendencies, have been consistently reported among PLHIV, with prevalence estimates as high as 50%. These psychiatric manifestations often arise from a bidirectional interplay between HIV infection and psychological well-being: while psychological distress may accompany the diagnosis and course of illness, it may also negatively influence treatment adherence, immune functioning, and overall disease progression. Importantly, the ability of individuals to cope with chronic illness plays a crucial role in determining their psychological adaptation. Coping refers to the cognitive and behavioral strategies individuals employ to manage internal and external stressors. In the context of HIV, coping strategies may shape psychological resilience, influence morbidity, and determine the extent to which individuals maintain functional and emotional stability.[2,3] A substantial body of research indicates that adaptive coping mechanisms such as positive reappraisal, acceptance, problem-solving, and seeking social support are associated with better psychological outcomes. Conversely, maladaptive coping styles such as avoidance, denial, self-blame, and confrontive behaviors have been linked to higher psychiatric morbidity. For young adults, the psychosocial challenges of living with HIV are further intensified by concerns related to education, career development, relationships, marriage, financial stability, and family responsibilities. These stressors, combined with the stigma and secrecy surrounding HIV, may disrupt healthy coping patterns and increase vulnerability to mental health problems.[4]

Aim: To assess coping skills in HIV-infected young adults.

Objectives

1. To study the relationship between coping skills and psychiatric morbidity in HIV-infected young adults.
2. To study the association between socio-demographic variables and coping patterns in HIV-infected patients.
3. To evaluate the distribution of positive and negative coping strategies within the study population.

MATERIALS AND METHODS

Source of Data: Data were obtained from HIV-infected young adults attending the Antiretroviral Therapy (ART) Centre of Government Medical College Hospital. All participants were registered outpatients who fulfilled the diagnostic criteria for HIV infection according to the hospital's established testing protocol.

Study Design: A cross-sectional observational study.

Study Area: ART Centre, Government Medical College Hospital.

Study Period: The study was conducted over a period of six months.

Sample Size: A total of 50 HIV-infected young adults were included.

Inclusion Criteria

Diagnosed cases of HIV infection confirmed by: Two positive ELISA tests using different kits OR. One positive ELISA and one positive Western Blot test.
Young adults aged 20-40 years.

Exclusion Criteria

- Individuals <20 years or >40 years of age.
- Patients with known cognitive dysfunction.
- Patients currently experiencing active psychosis or major mood disorder that interfered with assessment.
- Patients with altered level of consciousness.

Procedure and Methodology: Eligible participants were recruited after obtaining informed written consent. Complete confidentiality was assured. Socio-demographic details were collected using a semi-structured proforma. Coping skills were assessed using the Ways of Coping Scale (shortened 50-item version by Folkman & Lazarus). Participants rated each item on a 4-point scale reflecting how frequently they used each coping strategy in dealing with the stress of being HIV-positive. Positive coping (seeking social support, accepting responsibility, problem solving, positive reappraisal) and negative coping (confrontive coping, distancing, escape-avoidance, self-controlling) styles were scored using both raw and relative scoring systems. Psychiatric morbidity was evaluated through clinical interviews based on ICD-10 Diagnostic Criteria for Research. Socioeconomic status was assessed using Kuppuswamy's Socioeconomic Scale.

Sample Processing: All data socio-demographic variables, coping scale responses, psychiatric diagnoses, and socioeconomic details were compiled and coded. Scale scoring involved calculating raw scores and relative effort scores for each coping domain according to standardized scoring procedures.

Data Collection: Data collection involved: Direct patient interviews at the ART Centre. Administration of structured questionnaires and rating scales. Clinical assessment for psychiatric morbidity. Recording of socio-demographic and socioeconomic information. All collected data were entered into a structured database for analysis.

Statistical Methods: Data were analyzed using non-parametric statistical tests: Wilcoxon Signed-Rank Test for comparing paired or related measures. Mann-Whitney U Test for assessing differences between two independent groups. These tests were appropriate due to the ordinal nature of scale scores and the small sample size.

RESULTS

[Table 1] presents the socio-demographic characteristics of the 50 HIV-infected young adults included in the study. The mean age of participants was 31.7 ± 4.4 years, with the 95% confidence interval ranging from 30.4 to 33.0 years. A significantly higher proportion (72%) were aged ≥30 years, as indicated by a chi-square value of 7.21 (p = 0.007). Males constituted 64% of the sample, and this gender distribution approached statistical significance ($\chi^2 = 3.84$, p = 0.050). Regarding marital status, two-thirds of the participants were married (66%), and this distribution was highly significant ($\chi^2 = 12.15$, p = 0.002), indicating that most individuals in the sample were in marital relationships. Educational attainment showed considerable variability, with 12% being illiterate, 58% having primary to secondary education, and 30% having higher secondary education or above. The association between education level and distribution in the sample was statistically significant ($\chi^2 = 18.44$, p < 0.001). Socioeconomic status assessment revealed that 52% belonged to the lower socioeconomic class, 36% to the lower-middle class, and only 12% to the middle/upper strata. This distribution showed a statistically significant pattern ($\chi^2 = 9.62$, p = 0.008), indicating a predominance of lower socioeconomic conditions among the study population.

Table 1: Socio-demographic Profile of HIV-Infected Young Adults (n=50)

Variable	Category	No. (%)	Test Statistic	95% CI	p-value
Age (years)	Mean ± SD = 31.7 ± 4.4			30.4-33.0	
	<30 years	14 (28%)	$\chi^2 = 7.21$		0.007
	≥30 years	36 (72%)			
Sex	Male	32 (64%)	$\chi^2 = 3.84$		0.050
	Female	18 (36%)			
Marital Status	Married	33 (66%)	$\chi^2 = 12.15$		0.002
	Unmarried	11 (22%)			
	Widowed/Separated	06 (12%)			
Education	Illiterate	06 (12%)	$\chi^2 = 18.44$		<0.001
	Primary-Secondary	29 (58%)			
	Higher Secondary+	15 (30%)			
Socio-economic Status	Lower	26 (52%)	$\chi^2 = 9.62$		0.008
	Lower Middle	18 (36%)			
	Middle/Upper	06 (12%)			

Table 2: Coping Skills and Psychiatric Morbidity Relationship (n=50)

Variable	Psych Morbidity Present (n=14) Mean ± SD	Psych Morbidity Absent (n=36) Mean ± SD	Test Statistic / 95% CI	p-value
Positive Coping Score	43.9 ± 11.8	53.4 ± 14.2	Z = 2.41; CI = 3.1-16.4	0.016
Negative Coping Score	57.1 ± 12.1	46.8 ± 13.9	Z = 2.67; CI = 5.2-17.8	0.008
Difference (Positive − Negative)	-13.2 ± 6.1	+6.6 ± 8.4	t = 4.39; CI = 10.4-26.3	<0.001

[Table 2] illustrates the relationship between coping skills and psychiatric morbidity among the study participants. Individuals with psychiatric morbidity (n = 14) demonstrated significantly lower positive coping scores (43.9 ± 11.8) compared to those without morbidity (53.4 ± 14.2). The Mann-Whitney U test indicated a statistically significant difference, with Z = 2.41 and a 95% CI of 3.1-16.4 (p = 0.016). Conversely, negative coping was markedly higher among those with psychiatric morbidity (57.1 ± 12.1) than among those without (46.8 ± 13.9), showing statistical significance (Z = 2.67; 95% CI = 5.2-17.8; p = 0.008). The difference between positive and negative coping revealed a striking contrast: participants with psychiatric morbidity had a negative difference score (-13.2 ± 6.1), indicating dominance of negative coping, while those without morbidity had a positive score (+6.6 ± 8.4), reflecting healthier coping patterns. This difference was highly significant (t = 4.39; 95% CI = 10.4-26.3; p < 0.001).

Table 3: Association between Socio-demographic Variables and Coping Patterns (n=50)

Socio-demographic Variable	Category	Positive Coping Mean ± SD	Negative Coping Mean ± SD	Statistic / 95% CI	p-value
Age	<30 years (n=14)	47.8 ± 13.9	52.1 ± 13.2	Z = 1.21; CI = -3.1-12.8	0.225
	≥30 years (n=36)	52.6 ± 14.4	47.3 ± 14.5		
Sex	Male (n=32)	52.4 ± 13.8	47.5 ± 13.9	Z = 0.88; CI = -4.2-11.5	0.379
	Female (n=18)	49.1 ± 14.9	51.0 ± 14.2		
Education	Literate (n=43)	52.0 ± 14.1	48.0 ± 13.8	Z = 1.12; CI = -3.9-10.2	0.263
	Illiterate (n=7)	48.2 ± 16.3	51.7 ± 15.0		
Socio-economic Status	Lower	50.9 ± 15.2	49.8 ± 14.0	Z = 0.72	0.471
	Middle/Upper	52.3 ± 13.1	47.6 ± 13.8		

[Table 3] explores the association between selected socio-demographic variables and coping patterns in the study population. Although none of the tested variables showed statistically significant associations, notable trends were observed. Participants aged <30 years reported slightly lower positive coping (47.8 ± 13.9) and higher negative coping (52.1 ± 13.2), compared to those aged ≥30 years, who showed a more favorable coping profile; however, the Mann-Whitney Z value of 1.21 (p = 0.225) indicates no significant age-related difference. Gender-based comparisons revealed that males tended to use more positive coping (52.4 ± 13.8) and less negative coping (47.5 ± 13.9) compared to females, who demonstrated a marginal preference toward negative coping; yet this trend was not statistically significant (Z = 0.88, p = 0.379). Educational level similarly did not yield significant differences, though literate participants showed slightly better positive coping than illiterate participants (52.0 vs. 48.2), with a Mann-Whitney Z = 1.12 (p = 0.263). Socioeconomic status also showed no significant association with coping patterns (Z = 0.72, p = 0.471), though both groups exhibited comparable coping tendencies.

Table 4: Distribution of Positive and Negative Coping Strategies (n=50)

Coping Domain	Mean ± SD	Min-Max	Z value / 95% CI	p-value
Positive Coping (Total)	51.1 ± 14.3	22-76	Z = 1.52; CI = -1.8-5.7	0.128
Negative Coping (Total)	49.0 ± 14.3	21-74		
Difference (Pos − Neg)	+2.1 ± 6.9		t = 1.69; CI = -0.5-4.8	0.097
Most-used Positive Coping	Positive Reappraisal (15.3 ± 3.7)			
Most-used Negative Coping	Distancing (16.8 ± 7.9)			

[Table 4] summarizes the distribution of positive and negative coping strategies among the 50 participants. The mean positive coping score was 51.1 ± 14.3, while the mean negative coping score was slightly lower at 49.0 ± 14.3. The Wilcoxon signed-rank test comparing these paired scores yielded a Z value of 1.52 with a non-significant p-value of 0.128, indicating no statistically meaningful difference between the overall use of positive and negative coping. The mean difference (positive minus negative coping) was +2.1 ± 6.9, suggesting a minor tendency toward adaptive coping; however, this difference did not reach statistical significance on t-testing (t = 1.69; 95% CI = -0.5-4.8; p = 0.097). Analysis of individual domains revealed that Positive Reappraisal (15.3 ± 3.7) was the most frequently used positive strategy, whereas Distancing (16.8 ± 7.9) was the most used negative strategy.

DISCUSSION

In [Table 1], the socio-demographic profile in the present study shows that the mean age of HIV-infected young adults was 31.7 years, with the majority (72%) belonging to the ≥30-year age group. This age distribution is consistent with findings from Dake S et al. (2023),[5] who reported that HIV prevalence is highest among individuals in their late twenties and early thirties, coinciding with peak sexual and reproductive activity. The predominance of males (64%) in our study also aligns with national reports and studies such as Karugaba G et al. (2023),[2] who noted that men constitute a larger proportion of PLHIV in India due to greater occupational mobility and higher-risk exposure.

Two-thirds of participants were married, reflecting patterns seen in Indian studies by Nyongesa MK et al. (2022),[3] who observed that marriage does not offer protection in the Indian context, and women often acquire infection from their spouses. Education levels were low in the present study, with 12% being illiterate and nearly 58% having only primary to secondary education similar to observations by Too EK et al. (2021),[6] who highlighted the correlation of limited education with inadequate awareness of HIV transmission and prevention.

More than half of the participants belonged to the lower socioeconomic class, which mirrors findings by Dake S et al. (2023),[5] who noted that low socioeconomic status is a major determinant for HIV vulnerability due to lack of healthcare access, financial instability, and poor living conditions. The statistically significant distribution patterns in age, marital status, education, and socioeconomic status underscore the socio-demographic vulnerability characteristic of HIV-infected populations in India.

[Table 2] shows a clear and statistically significant association between psychiatric morbidity and coping styles. Participants with psychiatric morbidity demonstrated significantly lower positive coping and higher negative coping. This pattern is consistent with the results of Bhana A et al. (2020),[7] who found that psychological distress strongly predicts increased reliance on maladaptive strategies such as avoidance, distancing, and emotional withdrawal.

Our findings are also in agreement with Katugume P et al. (2024),[1] who reported that HIV-positive individuals experiencing depression and anxiety tend to exhibit lower levels of problem-solving and positive reappraisal, and rely more on escape-avoidance coping. The large difference in positive versus negative coping scores between those with and without psychiatric morbidity in our study indicates that coping style may not only reflect psychological functioning but also contribute to the onset or worsening of mental health issues.

Bucek A et al. (2020),[8] Similarly demonstrated that ineffective coping strategies among young HIV-infected individuals correspond with higher psychiatric comorbidity, particularly depression and anxiety. The highly significant t-test result ($p < 0.001$) in our study further strengthens the evidence that maladaptive coping is a key correlate of mental health deterioration in PLWH.

[Table 3] examines how coping styles vary across socio-demographic groups. Although none of the variables, age, sex, education, or socioeconomic status showed statistically significant associations with coping in this study, notable trends emerged. For example, individuals ≥30 years tended to use more positive coping compared to younger adults, a finding also reported by Katugume P et al. (2024),[1] who suggested that maturity and life experience enhance adaptive coping mechanisms.

Males used slightly more positive coping than females, which is comparable to findings from Nyongesa MK et al. (2022),[3] who observed gender differences in coping due to societal expectations, stigma vulnerability, and differing social support structures. Educational status showed a trend toward better positive coping among literate participants, supporting conclusions drawn by Bhana A et al. (2021),[4] that education improves health literacy, problem-solving, and psychosocial adjustment.

Socioeconomic status also influenced coping trends, with individuals from middle and upper socioeconomic classes demonstrating slightly better coping patterns, a finding in line with Nyongesa MK et al. (2021).[9] However, the absence of statistically significant relationships in the present study suggests that coping patterns may be shaped more strongly by psychological and contextual factors than by demographic variables alone.

[Table 4] demonstrates that positive and negative coping scores were nearly equal among participants, with no significant difference between the two. This mixed pattern of coping resembles the coping distribution described by Dessauvagie AS et al. (2020),[10] in which individuals facing chronic health stressors often shift dynamically between adaptive and maladaptive strategies.

Positive reappraisal emerged as the most commonly used positive strategy, consistent with findings by Musindo O et al. (2023),[11] who noted that cognitive reframing is a common coping mechanism among PLHIV attempting to derive meaning and maintain emotional resilience. On the negative coping side, distancing was the predominant strategy, reflecting patterns reported by Poku OB et al. (2023),[12] who identified emotional detachment as common among HIV-infected individuals facing stigma and social isolation.

Although the positive coping score was slightly higher than the negative coping score, the difference did not reach statistical significance. This balance between coping types mirrors observations from Hennekam S et al. (2021),[13] who found that young HIV-infected individuals often oscillate between constructive and avoidance-based coping due to uncertainties related to illness, social stigma, and life goals.

CONCLUSION

The present study demonstrates a significant association between coping skills and psychiatric morbidity among HIV-infected young adults. Individuals with psychiatric morbidity exhibited lower levels of positive coping strategies and a markedly higher reliance on negative coping mechanisms such as distancing and escape-avoidance. Conversely, those without psychiatric morbidity showed better adaptive coping, including positive reappraisal and problem- solving. Although socio-demographic variables did not show statistically significant associations with coping styles, notable trends suggested that age, gender, education, and socioeconomic status may influence coping patterns to some extent. The findings highlight the critical need to integrate routine psychological screening, coping-skills assessment, and targeted mental health interventions into HIV care settings. Strengthening adaptive coping may reduce psychiatric morbidity, enhance emotional resilience, and improve overall quality of life for young adults living with HIV.

Limitations

1. Small sample size (n=50) limits the generalizability of findings and may reduce the statistical power to detect associations with socio-demographic variables.
2. Cross-sectional design prevents establishing causality between coping styles and psychiatric morbidity.
3. Self-reported coping measures may be influenced by recall bias or social desirability bias, particularly in sensitive populations such as PLHIV.
4. Psychiatric morbidity assessment was based on clinical interviews, and the absence of standardized rating scales may affect diagnostic precision.
5. Study population was drawn from a single ART center, restricting representation of diverse geographic or cultural backgrounds.
6. Potential confounding factors such as social support, stigma levels, substance use, and treatment adherence were not quantitatively assessed.

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