RESEARCH ARTICLE

The relationship between schemas and quality of life of HIV patients: Role of social connectedness as a mediator

Rabiah Javed Bhatti[1], Samar Fahd[2]

[1] Department of Applied Psychology, The Islamia University of Bahawalpur, Bahawalpur, Pakistan
[2] Department of Applied Psychology, The Islamia University of Bahawalpur, Bahawalpur, Pakistan

Corresponding Author:
Rabiah Javed Bhatti (email: rabianokia6.1@gmail.com)

ABSTRACT

As the AIDS epidemic has unfolded, it has caused adverse psychosocial and economic consequences, disrupting the personal and familial lives of the infected individuals and society in general. The present study attempted to study the relationship between schemas and the quality of life among HIV individuals. The study also incorporated the role of social connectedness as a mediator. For data collection, HIV patients (n = 30) were taken using convenient sampling from the specialized HIV clinic in Rahimyar Khan, Pakistan. The information was gathered using the Urdu versions of the following standardized instruments: the Schema Mode Inventory, the WHOQOL-HIV BREF, and the Social Connectedness Scale-Revised. The results showed a strong relationship between individuals' schemas and their quality of life. Maladaptive schemas negatively predict the quality of life, while social connectedness positively predicts the quality of life, and maladaptive schemas negatively predict social connectedness. The mediation analysis established that social connectedness fully mediates the relationship between self-esteem and social anxiety. The study also provided an understanding of the positive role of social connectedness as a mediator in enhancing the quality of life of HIV patients.

INTRODUCTION

The AIDS scourge has severe mental and financial consequences, leading to a transformation in family structure and, as a result, disrupting the nuclear and extended family's capacity to respond to the needs of HIV-affected members (Ankrah, 1993). In addition, integrated interventions for HIV-infected people can help them to seek and access health care services, reduce risky sexual behaviors and the risk of transmission, and improve psychological health. In exploring the underlying processes, Bhatta, Liabsuetrakul, & McNeil (2017) suggest a need for several systematic assessments and meta-evaluations primarily based on interventions targeted at restoring social interaction, communication skills, and health quality in people with HIV.

For people living with HIV, enhancing the emotional bonds of curing, strengthening a healthy life, and increasing life expectancy are very important. It is highly dependent on timely diagnosis, treatment, and adherence. Studies confirm that medication adherence is always less than required in

chronic patients (Rehman et al., 2019). According to Young's theory (1995), maladaptive schemas should be highly steady and stable beliefs that explain poor treatment responses to clinical problems. A correlational study conducted in Tehran with HIV/AIDS patients suggests that "practical interventions to reduce maladaptive responses may result in healthier outcomes, quality of life, and self-care behaviors" (Seyedalinaghi et al., 2020).

According to Bhatta, Liabsuetrakul, & McNeil (2017), "interventions with a revised section of standard health-related facilities can be a positive resource in enhancing the quality of life of individuals infected with this chronic disease. Behavioral or social intervention practices are based on various ideas that change a person's psychological and social characteristics. Behavioral or social intervention program endows HIV clients to share experiences between groups that will help lessen their loneliness, negative emotions and stress".

The conception of quality of life states that a person's perception of his or her position in life is according to the culture and values of the life in which they live and concerning their goals, expectations, standards, and concerns (WHO, 1995). A standard of living reflects a person's physical, mental, emotional, and social functioning in life. Quality of life can be enhanced through a variety of management approaches, including independent, social, psychological, structural, and environmental rehabilitation. Environmental, organizational, social, and human factors may impede treatment compliance and influence the overall health conditions of people living with HIV.

The World Health Organization (1997) defines social health structures as "the conditions in which people are born, raised, lived, worked, and their age" and "the underlying causes of these conditions" (Marmot & Bell, 2012). These conditions act as natural environments in which individual behaviors meet in accordance with environmental and biological descriptions that affect health (Green & Hiatt, 2009). Following a proper treatment plan for better HIV management is strongly linked with medical, psychological, behavioral, interpersonal, and intrapersonal dynamics. Studies (Carrico et al., 2007; Davis et al., 2016, as cited in Taylor, 2018) have shown that during treatment, clients who do not follow the rules have more mental health problems, less social support, destructive ways to deal with stress, and use drugs and alcohol too much.

A study by Lobbestael et al. (2010) recognized that schemas reflect an individual's internal representation. They develop at a very young age, are shaped by selective straining processes of external experiences, and proceed to develop and advance throughout life (as cited in Riaz et al., 2013). Perocelli et al. (2001), as cited by Riaz et al. (2013), say that schema methods are activated when specific plans or reactions to deal with them turn into effective emotions that significantly affect human performance.

According to Taylor (2018), "chronic illness is not easy to deal with, particularly for people with HIV infectivity." A study by (Bader et al., 2006) observed the relationship between compliance, management, psychological factors, quality of life, and physical symptoms from the standpoint of people living with HIV and found that adherence strategies should be targeted in empowerment, good community support, and resilience. DiMatteo (2004), in his study, examined that "better treatment outcomes are considerably high among patients belonging to interconnected families as compared to the disconnected or conflicted families" (as cited in Taylor, 2018).

Numerous HIV-positive individuals have experienced more excellent social isolation and deprivation, which may increase the probability that the infection will advance (Bower et al., 1998). Basavaraj, Navya, and Rashmi (2010) reviewed the evidence that HIV disease has a crucial effect on the proportions of life quality, as well as physical and psychological wellness, social support, and life

functioning. Acquiring support both from well-being care experts and reference groups results in improved health outcomes (Moskowitz et al., 2009; Reilly & Woo, 2004; as cited in Brannon, Feist, & Updegraff, 2013).

In social cognition research, numerous methods have been employed to evaluate schemas; self-report is the most feasible way to assess these. Beck and Freeman (1990) have also suggested that schemas need to be assessed uniquely for each person, whereas Young (1990) has proposed a categorization system of 15 general schemas that are supposed to be the cause of mental health problems and can be evaluated nomothetically. These Early Maladaptive Schemas (EMS) are designed to assess questions addressing facets of intimate relationships.

In light of the literature cited above, the following conceptual model of the present research proposes to study the relationship between schemas and the quality of life of HIV patients. Besides, the study also suggests that social connectedness will have a potential mediating effect on the relationship.
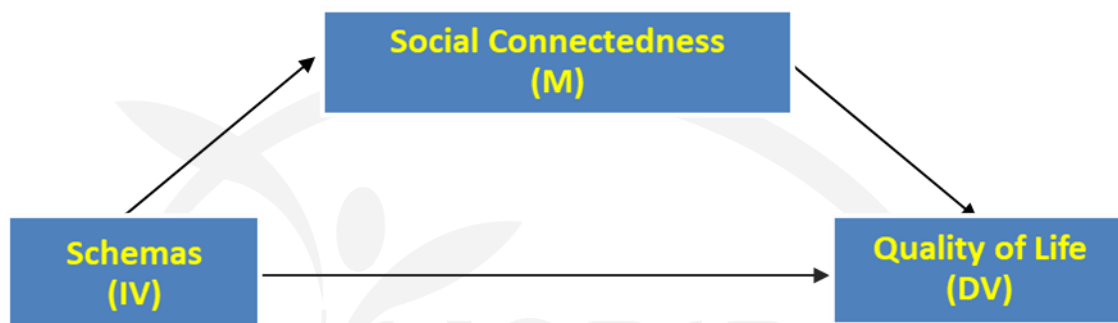

Figure 1. Conceptual Model

METHOD

The present work study was planned to determine the relationship between schemas and the quality of life among HIV individuals. A regression-based mediation research design was employed to collect data from these patients. The study's first aim was to determine the relationship between schemas and the quality of life among HIV individuals; the second objective was to determine the role of social connectedness as a mediator between schemas and quality of life among HIV individuals. In order to determine the relationship between schemas and the quality of life among HIV individuals and analyze the role of social connectedness as a mediator between schemas and quality of life, information was purposively gathered from these patients at the specified HIV Special Clinic, Sheikh Zyed Hospital, Rahimyar Khan city.

The researcher gathered the data from these patients using a convenient sampling technique from the specified HIV Special Clinic, Sheikh Zyed Hospital, Rahimyar Khan City. A total of 30 HIV patients identified through diagnostic tests and medical records participated in the study. These individuals lie between either stage 1 or stage 2 of their disease, with no other terminal or chronic illness. The responses were collected from males (20; 66.6%), females (6; 20%), and transgenders (4; 13.3%).

These standardized instruments were used to test the relationships among the study variables: The Schema Mode Inventory (SMI, short edition) by Young et al. (2007) comprises one hundred and twenty-four statements arranged on a six-factor Likert scale. The scale provides a range of response options (1-6), from never or rarely to always. It is each subscale comprises ten statements. The minimum score range is ten, and the maximum is sixty. The Schema Mode Inventory (SMI) (Urdu version; Riaz et al., 2013) was employed to identify the schema modes of the target population. The

scale has satisfactory internal consistency and discriminatory values for all the scales (Lobbestael et al., 2010). Each schema has a distinctive rating scale. Scores endorsed in each schema are measured by calculating the number of items within each schema (Pozza, Albert, and Dèttore, 2020). High scores indicate the significant presence of maladaptive schemas.

The WHOQOL-HIV BREF (WHO, 2021) comprises thirty-one questions. The scale incorporates two standard items and twenty-nine explicit items that illustrate six domains of quality of life. A five-factor Likert scale has been employed to establish scores, providing 1–5 response options. In the present study, Urdu translation (Ahmed et al. 2020) was used to assess the health-associated quality of life for HIV/AIDS-infected individuals. The revised version of the Social Connectedness Scale (SCS-R) developed by Lee & Robbins (1995) was used to assess a patient's level of social bonding. It is a reporting method developed to assess the degree to which an individual feels attached to others in his or her social environment. In the present study, social connectedness was measured by the Urdu translation of the SCS-R version (Fatima, 2014). The scale encompasses eight statements. The Likert-factor-6 scale has a response range of 1-6 (from strongly disagree to strongly agree). Reverse scoring was done with items comprising negative statements. A high rating implies a good level of social connections. The reliability coefficient of SCS-R, as determined by Lee, Draper, and Lee (2001), is 0.94. Fatima (2014) reported a figure of 0.89 that shows good reliability in the Urdu translation of the scale. The responses were analyzed using SPSS-26.

RESULT

The study's main objective was to investigate the relationship between schemas and the quality of life among HIV individuals and analyze the role of social connectedness as a mediator between schemas and quality of life. The current sample was subjected to a descriptive analysis of demographic variables. Besides, hierarchical regression analysis was run to test mediation analysis in the study.

Table 1. Demographics of participants *(n = 30)* HIV patients

Gender	n (%)
Male	20 (66.6)
Female	6 (20.0)
Transgender	4 (13.3)

Table 1 shows the frequency and percentage of respondents. The table showed the participant's gender; there were 20 male respondents, 6 female respondents, and 4 transgender respondents.

Table 2. Predictors of quality of life *(n = 30)*

Predictor Variable	B	SEB	β	R^2
SCH	-2.12	0.20	-0.51***	0.38***
SC	3.01	0.25	0.57***	0.62***

SCH = schema; SC= social connectedness; ***p < 0.001

In Table 2, simple linear regression advocates that maladaptive schemas negatively predict the quality of life *(β = -0.51, t = -10.47, p < 0.001)* andexplains 38% variance in quality of life *(R^2 = 0.38, F(1, 29) = 109.58, p < 0.001),* while social connectedness positively predicts quality of life *(β = 0.57, t =* 27.49, *p* < 0.001) and explained 62% of the variance in it *(R^2 = 0.62, F(1, 29) = 755.86, p < 0.001).*

Table 3. Schemas as a predictor of social connectedness (N = 30)

Predictor Variable	B	SEB	β	R^2
SCH	-3.01	0.25	-0.51***	0.38***

SCH = schema; ***p < 0.001

Table 3 indicates that maladaptive schemas negatively predict social connectedness $(β = -0.51, t = 11.89, p < 0.001)$ and explains 38% variance in social connectedness $(R^2 = 0.38, F(1, 29) = 141.4, p < 0.001)$.

Table 4. Hierarchical regression for social connectedness, mediating the relationship between schemas and quality of life among HIV individuals *(n = 30)*

Predictor	$β$	ΔR^2
Step I		0.38***
Schemas	-0.51***	
Step II		0.45***
Schemas	-0.08	
Social connectedness	0.62***	
Total		0.57***

***p<0.001

Table 4 demonstrates the mediating effect of social connectedness between the relationship between schemas and quality of life. For any mediation analysis, three conditions must be satisfied. The first circumstance is that schemas show significant negative prediction of quality of life $(β = -0.51, t = -10.47, p < 0.001), F(1, 29) = 109.59, p < 0.001)$ with 38% variance in quality of life $(R^2 = 0.38)$. The second condition is tested in which social connectedness is significantly predicting quality of life in a positive direction $(β = -0.57, t = -27.49, p < 0.001), F(1, 29) = 755.86, p < 0.001)$. This model explains 57% of the variance in quality of life $(R^2 = 0.57)$. The last condition is the prediction of social connectedness by schemas which has been found as negatively significant $(β = -0.51, t = 11.89, p < 0.001), F(1, 29) = 144.10, p < 0.001)$ with 38% variance in quality of life $(R^2 = 0.38)$.

The concluding sign of mediation is apparent as schemas that are a significant predictor of quality of life $(β = -0.51, t = -10.47, p < 0.001)$ became a non-significant predictor of quality of life $(β = -0.08, t = -1.51, p > 0.05)$ when social connectedness got into the model. Hence, results signifies that social connectedness $(β = -0.69, t = -21.84, p < 0.001)$ fully mediates the relationship among self- esteem and social anxiety at $(\Delta R^2 = 0.45, F(1, 29) = 476.78, p < 0.001)$. This meditational model is further resolved based on Sobel's test (1986) for determining the significance of mediation which proved to be significant with a 49.1% variance in quality of life described by schemas attributable to the mediational effect of social connectedness. The hypothesis is supported that social connectedness mediates the relationship between self-esteem and anxiety and indirectly predicts social anxiety *(Sobel's Z = - 10.901, p < 0.001)*.

DISCUSSION

The primary purpose of the research was to study the relationship between schemas and the quality of life among HIV individuals and analyze the role of social connectedness as a mediator between schemas and quality of life. The research was conducted at the HIV special clinic in Rahimyar Khan City. The motivation behind this research is that HIV individuals are extraordinarily stigmatized and vulnerable. This study's results revealed a mediating effect of social connectedness between schemas and quality of life. The research results confirm prior studies (Lee, Dean, & Jung, 2008; Ashida & Heaney, 2008) that social connectedness plays a significant role in the relationship between an individual's schemas and quality of life. Social disconnectedness creates social isolation; individuals experience discomfort in social situations and always bear in mind the apprehension of being judged and evaluated. Such negative cognitions do not let them move forward, resulting in dysfunctional behavior. Research has suggested that companionable people have more social relationships, including family support, positive schemas, and good quality of life.

CONCLUSION

The current research aims to study the correlation between schemas and quality of life and the mediating effect of social connectedness. The results revealed a significant negative correlation between schemas and quality of life, and social connectedness is a mediator between schemas and quality of life. There is a limitation to this study. The study was a regression-based mediation design. Thus, a causal connection among the study variables cannot be assumed. Therefore, future research should use an experimental design to study causal relationships between these variables with a larger sample size. The present study has several implications for research and practice. The current research sheds light on the role of social connectedness in the relationship between self-esteem and social anxiety. These findings can help HIV counselors and psychologists dealing with HIV patients. They can develop different intervention programs or strategies by guiding people to improve their schemas and social connections and enabling them to ultimately cope better with their illness and enhance their quality of life.

DECLARATION

Data access statement

The data described in this article can be accessed by contacting the first author.

Declaration of interest's statement

The author declares no conflict of interest.

Additional information

This study is a part of the Ph.D. dissertation of the first author.

REFERENCES

Ahmed, A., Saqlain, M., Akhtar, N., Hashmi, F. K., Blebil, A., Dujaili, J., Umair, M. M., & Bukhsh, A. (2020). Psychometric assessment of translated Urdu version of WHOQOL-HIV BREF among patients living with HIV. https://doi.org/10.21203/rs.3.rs-34790/v1

Ankrah E. M. (1993). The impact of HIV/AIDS on the family and other significant relationships: the African clan revisited. *AIDS care, 5*(1), 5–22. https://doi.org/10.1080/09540129308258580

Ashida, S., & Heaney, C. A. (2008). Differential associations of social support and social connectedness with structural features of social networks and the health status of older adults. *Journal of Aging and Health, 20*(7), 872–893. https://doi.org/10.1177/0898264308324626

Bader, A., Kremer, H., Erlich-Trungenberger, I., Rojas, R., Lohmann, M., Deobald, O., Lochmann, R., Altmeyer, P., & Brockmeyer, N. (2006). An adherence typology: Coping, quality of life, and physical symptoms of people living with HIV/AIDS and their adherence to antiretroviral treatment. *Medical Science Monitor: International Medical Journal of Experimental and Clinical Research, 12*(12), 493-500. https://pubmed.ncbi.nlm.nih.gov/17136004/

Basavaraj, K. H., Navya, M. A., & Rashmi, R. (2010). Quality of life in HIV/AIDS. *Indian Journal of Sexually Transmitted Diseases and AIDS, 31*(2), 75–80. https://doi.org/10.4103/0253-7184.74971

Bhatta, D. N., Liabsuetrakul, T., & McNeil, E. B. (2017). Social and behavioral interventions for improving quality of life of HIV infected people receiving antiretroviral therapy: a systematic review and meta-analysis. *Health and Quality of Life Outcomes, 15*(1). https://doi.org/10.1186/s12955-017-0662-4

Bower, J. E., Kemeny, M. E., Taylor, S. E., & Fahey, J. L. (1998). Cognitive processing, discovery of meaning, CD4 decline, and AIDS-related mortality among bereaved HIV-seropositive men. Journal of Consulting and Clinical Psychology, 66(6), 979–986. https://doi.org/10.1037//0022-006x.66.6.979

Brannon, L., Feist, J., & Updegraff, J. A. (2013). Health psychology: An introduction to behavior and health (8th ed.). Cengage Learning.

Fatima, M. (2014). Social connectedness in relationship with volunteerism among adults [Unpublished Master's Thesis]. University of Sargodha.

Green, L. W, & Hiatt, R. A. (2009). Behavioural determinants of health and disease. In R. Detels, R. Beaglehole, M. A. Lansang, & M. Gulliford (Eds.) Oxford textbook of public health (5th ed, pp. 120–136). Oxford University Press. https://doi.org/10.1093/med/9780199218707.003.0007

Lee, R. M., & Robbins, S. B. (1995). Measuring belongingness: The social connectedness and the social assurance scales. *Journal of Counseling Psychology, 42*(2), 232–241. https://doi.org/10.1037/0022-0167.42.2.232

Lee, R. M., Dean, B. L., & Jung, K.-R. (2008). Social connectedness, extraversion, and subjective well-being: Testing a mediation model. *Personality and Individual Differences, 45*(5), 414–419. https://doi.org/10.1016/j.paid.2008.05.017

Lee, R. M., Draper, M., & Lee, S. (2001). Social connectedness, dysfunctional interpersonal behaviors, and psychological distress: Testing a mediator model. *Journal of Counseling Psychology, 48*(3), 310–318. https://doi.org/10.1037/0022-0167.48.3.310

Lobbestael, J., van Vreeswijk, M., Spinhoven, P., Schouten, E., & Arntz, A. (2010). Reliability and validity of the short Schema Mode Inventory (SMI). *Behavioural and Cognitive Psychotherapy, 38*(4), 437–458. https://doi.org/10.1017/S1352465810000226

Marmot, M., & Bell, R. (2012). Fair society, healthy lives. *Public health, 126 Suppl 1*, S4–S10. https://doi.org/10.1016/j.puhe.2012.05.014

Pozza, A., Albert, U., & Dèttore, D. (2020). Early maladaptive schemas as common and specific predictors of skin picking subtypes. *BMC Psychology, 8*(1). https://doi.org/10.1186/s40359-020-0392-y

Riaz, M. N., Khalily, T., & Kalsoom, U.-e. (2013). Translation, adaptation, and cross language validation of short Schema Mode Inventory (SMI). *Pakistan Journal of Psychological Research, 28*(1), 51–64.

SeyedAlinaghi, S., MohsseniPour, M., Aghaei, E., Zarani, F., Fathabadi, J., & Mona Mohammadifirouzeh. (2020). The relationships between early maladaptive schemas, quality of life and self-care behaviors in a sample of persons living with HIV: The potential mediating role of cognitive emotion regulation strategies. *The Open AIDS Journal, 14*(1), 100–107. https://doi.org/10.2174/1874613602014010100

Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. *Sociological Methodology, 13*, 290–312. https://doi.org/10.2307/270723

Taylor, S. E. (2018). *Health psychology* (10th ed.). McGraw-Hill Education.

World Health Organization (1997). *Measuring quality of life.* https://www.who.int/tools/whoqol

World Health Organization. (2021). WHOQOL-BREF: Introduction, administration, scoring and generic version of the assessment: field trial version, December 1996 (No. WHOQOL-BREF). World Health Organization. https://doi.org/WHOQOL-BREF

Young, J. E. (1990). *Cognitive therapy for personality disorders: A schema-focused approach.* Professional Resource Exchange, Inc.

Young, J. E., Arntz, A., Atkinson, T., Lobbestael, J., Weishaar, M. E., van Vreeswijk, M. F., & Klokman, J. (2007). *The Schema Mode Inventory (SMI).* Schema Therapy Institute.