

## **Perceived Stigma and Mental Health: Mediating Role of Coping Strategies in People Living with HIV Positive**

**Javeria Iffat Akhlaq**

Riphah International University, Lahore, Pakistan

**Hina Rana**

University of Lahore, Lahore, Pakistan

**\*Rabbia Ashraf**

Fazaia College of Education, Lahore, Pakistan

The present study was conducted to investigate perceived stigma, coping strategies, and mental health in people living with HIV positive. A correlational research design was used with purposive sampling. It was hypothesized that coping strategies (maladaptive and adaptive) are likely to mediate the relationship between perceived stigma and mental health. The sample comprised a total of  $N = 148$ , divided between men ( $n = 117$ ) and women ( $n = 31$ ) with a mean age of 34 years ( $SD = 9.09$ ). The mediational analysis revealed that coping strategies partially mediated the relationship between perceived stigma (vicarious and internalized) and mental health (depression). The study concluded that stigmatization and coping mechanisms play an important role in HIV patients' psychological health. Findings suggest that adaptive coping is an excellent buffer against perceived stigma and mental distress. Research findings provide new insights into the development of specific psychological and psychosocial approaches aimed at the prevention of stigmatization and promotion of effective coping mechanisms to contribute towards HIV patients' mental health.

*Keywords:* perceived stigma, coping strategies, mental health, HIV

Since the beginning of the HIV endemic, people diagnosed with this illness have been widely stigmatized, prompting extreme social outcomes related to their privileges, medicinal services, individuality, and social interactions (Mawar et al., 2005). Individuals suffering from HIV describe the disease to be highly stigmatized as it is behaviorally acquired and contagious (Kontomanolis et al., 2017). In Pakistan, HIV is recognized as a serious health concern and the number of cases are growing exponentially. Till 2018, approximately 160,000 adults were reported to be living with HIV in Pakistan. Among them, 22,000 were reported as newly infected and around 6400 people in Pakistan had died from an AIDS-related illness (UNAID, 2019).

People living an HIV positive condition, not only have to adapt to the devastating symptoms of their illness, but have to deal with the stigma that is associated with it. Stigma means the procedure by which a certain group of people is marked as socially unwanted, and these people are devalued because of characteristics which are culturally regarded as significantly criticizing (Maskey et al., 2018). People living with chronic health conditions like HIV or AIDS are often assumed to have some features that are considered disgraceful in a specific cultural context (Parker & Aggleton, 2003). They are often stereotyped with devalued status, shame, disgrace, prejudice, and discrimination due to the bias created by socially shared knowledge about them (Boyes & Cluver, 2013). This may include all discriminatory behaviors

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\*Correspondence concerning this article should be addressed to Ms. Rabia Ashraf, Fazaia College of Education, Lahore, Pakistan. Email: rabbiaashraf14@gmail.com

such as rejecting and avoiding them because of fear of contamination or criticizing their character because of their illness.

Various empirical investigations have reflected that stigma is a prime risk factor associated with poor medication adherence and mental wellbeing including stress, feeling of depression, anxiousness, and poor quality of life (Varni et al., 2012). Stigma related to HIV often serves as one of the major barriers in the development of effective prevention and care programs. Literature highlights that perceived stigma is an important factor linked to the development of psychological distress (Basha et al., 2019). However, only some researchers have recorded this specific phenomenon or/and inspected the pathways through which social stigma identified with HIV is experienced, influencing the physical and psychological well-being of people with HIV. Therefore, the present research attempts to investigate the deliberating and protecting factors, in this regard. There is a strong need to study variables such as stigma associated with HIV. This can be critical in causing hindrances for people with HIV to seek care, which remains a worldwide challenge (Ali, 2019). Understanding how individuals cope with HIV disease is essential to the development of effective interventions that can decrease morbidity. Effective coping has also been associated with a better quality of life and reduction of risk-taking behavior (Ashton et al., 2005).

Literature suggests that people face a lot of prejudice, discrimination (related to associated stigma), various traumas, and psychological pressures when they are as HIV positive (Chandra et al., 2003), which continues to call for need to cope. Lazarus and Folkman (1984) defined coping as “continuously varying behavioral and mental activities to control explicit external and internal needs that inform as exhausting or surpassing the assets of the individual” (Bhat et al., 2015). Coping strategies comprise cognitive and behavioral actions to organize internal or external factors that stress upon events and factors (Silva et al., 2018). Research highlights that adaptive coping strategies are linked with decreased depressive symptoms (Jia et al., 2004), effective management of stress, and enhanced treatment adherence (Bhat et al., 2015). Regarding HIV, some people cope by hiding the fact that they have HIV and use this denial as a way to cope which could lead to emotional and behavioral problems (Ajibade et al., 2016) and form the basis of dysfunctional coping. Such passive strategies of coping are a way to avoid psychological distress, and may have been caused by enduring the negative behavior of others due to the stigma associated with HIV.

Psychologically, people with HIV face multiple distress related to chronic illness such as, disclosure of HIV status, complex treatment, and fear of infecting their loved ones (Basha et al., 2019). Depression, trauma, and other types of psychological problems are common in people living with HIV (PLHIV) (Boyes & Cluver, 2015). The most prevalent psychiatric disorders in PLHIV include mood and anxiety disorder, particularly depression. Mental health issues increase the complications among PLHIV including substance abuse, risky sexual practices, suicide attempts, and non-adherent behavior towards treatment (Pence, 2009; Basha et al., 2019)

According to the conceptual framework provided by Eshun-Wilson et al. (2018), several factors influence depression in people living with HIV. These include psychosocial factors like perceived lack of support, stigma, interpersonal conflict, anxiety, bereavement, and substance abuse. According to Eshun-Wilson et al. (2018) these factors contribute to the development and maintenance of depression in HIV patients. This, in turn, affects their treatment adherence.

Similarly, according to the theoretical perspective, individuals who are neglected emotionally do not get a chance to learn adaptive emotion regulation strategies (Morris et al., 2010). Therefore, they are inclined to evaluate the consequences of negative events using maladaptive coping strategies. From the perspective of cognitive psychology, the maladaptive appraisal of negative life events may lead to develop depression and anxiety in patients living with HIV (Beck, 1976; Zhou et al., 2019).

The current study attempts to investigate the predictors of mental health i.e., at what level HIV-infected patients experience HIV stigma, which may affect their mental health over time. The present study is aimed at investigating how coping strategies mediate the predictive relationship between perceived stigma and mental health in patients living with HIV.

### **Objective**

- Assessing the mediating role of coping strategies between perceived stigma and mental health in PLHIV.

### **Hypothesis**

- Coping strategies are likely to mediate the relationship between perceived stigma and mental health in PLHIV.

## **Method**

### **Research Design**

The current study employs a correlational research design to study the relationship between the research variables.

### **Sampling Strategy**

The study uses a purposive sampling strategy to collect data. The sample was selected through the following inclusion and exclusion criteria.

G-Power Analysis was calculated to estimate sample size in which the effect size was  $p = .03$  medium, the alpha level probability was .05 and power was .95 which gave sample size of 115. The sample size analyzed by G-Power was also decided based on previous research. In the present study, the population consisted of men and women from Punjab AIDS Control Program Complex Lahore and Benazir Bhutto Hospital Rawalpindi having HIV-positive status. They were selected based on the set criteria of inclusion and exclusion criteria.

### **Participants Characteristics**

Participants diagnosed with HIV positive were recruited via purposive sampling. The sample consisted of  $N = 148$  respondents with a mean age of 34 years and living in a nuclear family system ( $n = 82$ ). The average duration of their illness was 2.7 years. The majority were men ( $n = 117$ ), married ( $n = 95$ ), and Muslim. The representation of men in the current study sample was higher (79 % men vs. 21 % women). Many respondents had obtained 10 or fewer years of education. Participants' average reported earnings were  $M = 21.25$  or less per month, reflecting the participant's overall low socioeconomic status. In the current study, the majority of the participants had informed families about illness ( $n = 131$ ) and reported positive reactions and satisfactory relations with family after diagnosis of disease. Almost all participants were unaware of the stage of their illness, but regularly took medicine (96 %) and visited the hospital (92.6 %). In the current study, the major participants responded to unknown reasons for contracting HIV ( $n = 53$ ), followed by sexual transmission ( $n = 30$ ) as the major cause.

## Measuring Instruments

### *Demographic Information Sheet*

The researcher devised a preliminary information sheet containing participants' demographics to collect the information based on previous literature related to their age, gender, education, and marital status, no. of siblings, birth order, family setup, family income, and relationship with family, history of treatment, treatment duration, etc.

### *India HIV-Related Stigma Scales (Steward et al., 2008)*

The scale comprised 40 items which measure four different types of stigma related to HIV. Each subscale (i.e. Enacted, Vicarious Stigma, Felt Normative Stigma & Internalized Stigma) contained 10 items. They measure different dimensions of people's perception of HIV stigma. Enacted stigma was scored on a point-two scale i.e. 0 and 1 and all other three scales were scored on a four-point scale. Higher scores indicated higher stigmatization. High inter-correlation among items was reported in previous literature, however, in the present research, the reliability of all four scores was also significantly good i.e. Enacted = .70; Vicarious: = .87; Felt Normative: = .87 & Internalized: = .85.

### *The Brief Cope (Carver, 1997)*

The Brief Cope Inventory (Carver, 1997) is a shorter version of the COPE inventory to evaluate different adaptive and maladaptive coping strategies used by the individual in a stressful situation. In the current study, formal permission was taken from the original author as well as the author of the translated version (Bawer, & Malik, 2007) for its usage. The scale had 28 items and comprised 14 coping strategies each rated on a four-point Likert scale from 1 (I have not been doing this at all) to 4 (I have been doing this a lot). Scores were calculated by summing all the item's scores where a higher score indicated high coping. A previous study has shown high reliability of scales i.e. ranged from .64 to .82. In the present study, Cronbach alpha coefficients of scales ranged from .49 to .81.

### *Depression, Anxiety, Stress Scale (DASS; Lovibond & Lovibond, 1995)*

DASS is a self-report measure of psychological distress that contains 21 items, 7 items in each of the three subscales (Depression; Anxiety & Stress). In the present study, the Urdu translated version (Aslam, 2007) of DASS was used to assess psychological distress in HIV patients. The respondents scored on the 4-point Likert scale i.e. from 0 (*did not apply to me at all*) to 3 (*applied to me very much*). The overall score was calculated by summing all scores and multiplying them by a factor of 2, where higher scores indicate more psychological distress. Thus, the total score of DASS-21 ranged from 0-120. In present research the subscale of DASS-21 showed high inter-item reliability ranging from .56 - .81.

## Procedure

Formal permission for conducting research was taken from the research committee of the Clinical Psychology Department, Riphah International University, Lahore. Data comprised  $N = 148$  HIV positive patients (men,  $n = 117$  & women,  $n = 31$ ), from data collection sites through a purposive sampling technique. The research was conducted in a timely fashion. First, a pilot study was conducted which involved pretesting the questionnaires to rectify mistakes. Then, a further study was conducted. Once the instruments were finalized after translation, a pilot study was conducted on  $N = 20$  HIV positives ( $n = 16$  men and  $n = 4$  women) to check error or

omission in the questionnaire, ease of understandability to participants, and check the overall time needed to fill one form. First, informed consent was obtained and instructions were provided regarding form filling. It took about 20-25 minutes to fill the whole form.

After the required modifications, the main study was conducted. The data collection was conducted between November and December 2019 through a purposive sampling technique. A total of 155 participants volunteered for the research, but 7 of them met exclusion criteria so their forms were disregarded, and 148 participants were retained in the final study. The data tool kit comprised demographic sheets and other report measures to assess stigma, coping psychological health, and adherence to treatment in People living with HIV. All ethical research considerations were adhered to during data collection and formalities regarding study approval were carried out from the head of the Punjab AIDS Control Program. After that, formal permission was obtained from the original authors of each tool. During this period, HIV-positive patients who entered the treatment centers of Lahore and Rawalpindi were eligible for participation. Initially, consent was obtained and with the information sheet they were briefed about the nature and purpose of the present research; confidentiality was assured in the information sheet along with their right to withdraw at any time. Data was coded with a specific number so that nobody can assess participants' data other than the researcher and supervisor. A genuine presentation of the results was prepared.

### Ethical Considerations

Formal permission was taken from the department to conduct the study. Permission of using scales in the research was also sought from original authors. Written approval was obtained from the head of the AIDS Control Program. Informed consent was signed and each participant was briefed before the commencement of data collection.

### Results

The present research aimed to ascertain the relationship between perceived stigma, coping strategies, mental health, and treatment adherence in people living with HIV positive. This section includes the result according to the hypotheses of the study.

**Table 1**

*Relationship among Perceived Stigma, Coping Strategies, Mental Health*

Measures	1	2	3	4	5	6	7	8	9	<i>M</i>	<i>SD</i>
1. Enacted	-	.29**	.08	.13	.04	.00	.20*	.12	.20*	.83	1.38
2. Vicarious		-	.31**	.11	-.15	.09	.28	.17*	.22**	.51	.662
3. Felt Normative			-	.14	-.03	.04	.04	.03	.18*	2.1	.704
4. Internal				-	-.12	.39**	.29**	.19*	.18*	.83	.764
5. Adapt. Cop.					-	.12	-.26**	-.20*	-.07	45.5	8.37
6. Maladapt. Cop.						-	.23**	.30**	.10	23.8	4.87
7. Depression							-	.78**	.58**	9.99	8.73
8. Stress								-	.52**	15.24	10.83
9. Anxiety									-	6.61	6.06

*Note.* Adapt. Cop. = Adaptive Coping; Maladapt. Cop.= Maladaptive Coping

\*\* $p < .01$  (one tailed) \* $p < .05$  (one tailed)

Table 1 refers to the findings related to the correlation among perceived stigma, coping strategies, and mental health. Results of the study demonstrate a strong relationship between sub-dimensions of perceived stigma and coping strategies with outcome variable mental health.

Furthermore, to test the mediating role of coping strategy types i.e. adaptive and maladaptive coping between perceived stigma (internal and vicarious stigma) and mental health (depression), mediation analysis was done using the PROCESS. By meeting all assumptions, the analysis was run after controlling the effect of the covariate (gender) in the model.

**Table 2**

*Mediation Analysis showing Coping Strategies (Adaptive and Maladaptive) as Mediators between Perceived Stigma (Vicarious stigma) and Mental Health (Depression)*

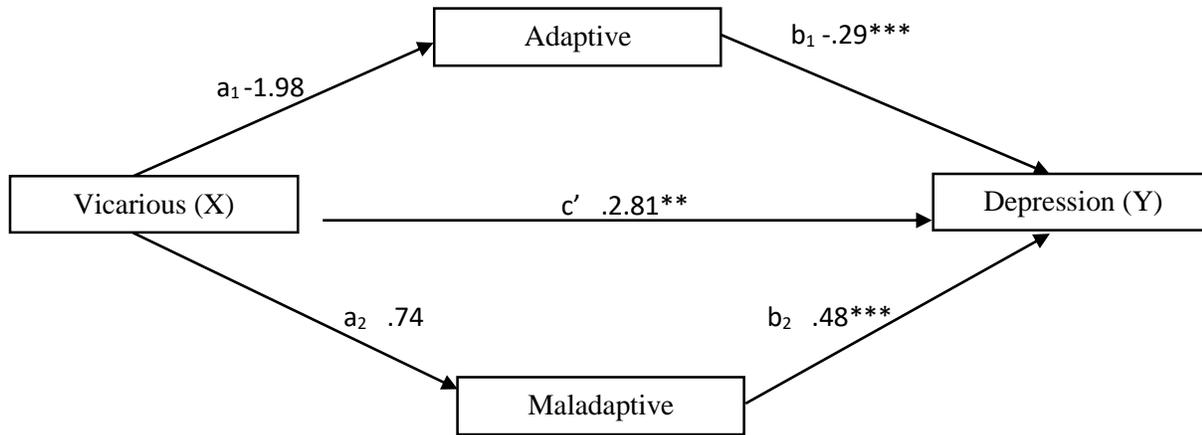
Antecedent	Consequent											
	M1(Adaptive)			M2(Maladaptive)			Y(Depression)					
	$\beta$	SE	p	$\beta$	SE	p	$\beta$	SE	p			
Perceived Stigma (Vicarious)	$a_1$	-1.98	1.03	.05	$a_2$	.74	.59	.21	$c'$	2.81	.99	.01
M1 (Adaptive)	-	-	-	-	-	-	-	-	$b_1$	-.29	.07	.00
M2 (Maladaptive)	-	-	-	-	-	-	-	-	$b_2$	.48	.13	.00
Constant	$i_{M1}$	47.69	1.58	.05	$i_{M2}$	21.86	.92	.00	$i_Y$	12.96	4.69	.01
		$R^2 = .02$				$R^2 = .03$				$R^2 = .21$		
		$F(2,145) = 2.18$				$F(2,145) = 2.92$				$F(4,143) = 9.71$		
		$p = .11$				$p = .05$				$p = .000$		

*Note.* Adaptive = Adaptive Coping Strategies (mediator); Maladaptive = Maladaptive Coping Strategies (mediator);  $c'$  = Direct effect;  $\beta$  = Standard coefficient; SE= Standard error.

Table 2 indicated that perceived stigma subscale vicarious stigma negatively predicted the subscale of coping strategies i.e. adaptive coping strategies ( $\beta = -1.98, p = .05$ ) keeping covariate (gender) effect in control. This model accounted for 2 % variances in adaptive coping strategies. On the other hand, vicarious stigma does not show significant prediction for the maladaptive subscale of coping strategies ( $\beta = .74, p = .21$ ). This model accounted for an overall 3 % variance. Moreover, a significant negative prediction was found with adaptive coping ( $\beta = -.29, p < .001$ ) while, maladaptive coping strategies depicted significant positive prediction ( $\beta = .48, p < .001$ ) for the subscale of depression. Overall, this model accounted for a 21 % variance. This inferred that adaptive and maladaptive subscales of coping strategies partially mediated the relationship between vicarious stigma and depression although the total direct effect was less as compared to the indirect effect.

**Figure 1**

*Emerged Mediation Model showing Subscales of Coping strategies as a Mediator among the Vicarious Stigma Subscale of Perceived Stigma and Mental Health Subscale Depression.*

**Table 3**

*Mediation Analysis Showing Coping Strategies (Adaptive and Maladaptive) as Mediators between Perceived Stigma (Internal stigma) and Mental Health (Depression)*

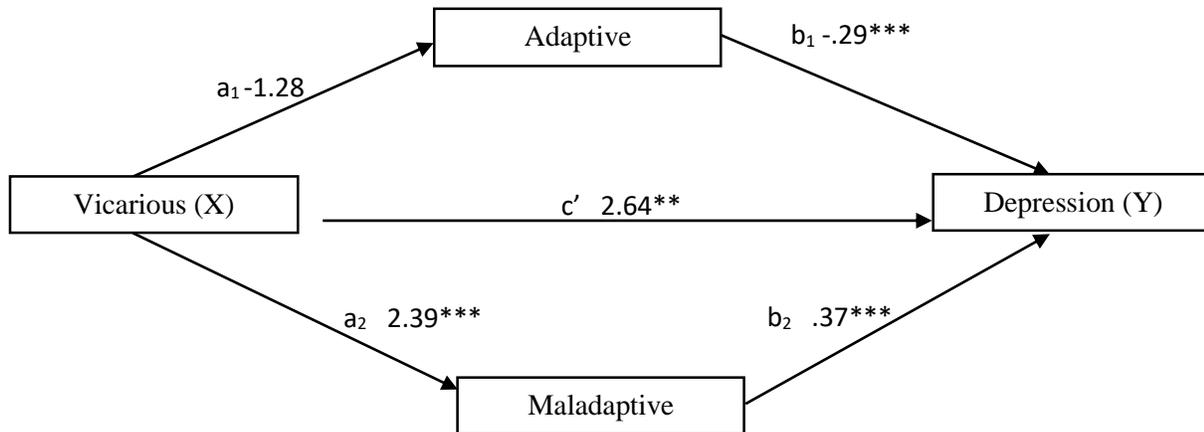
Antecedent	Consequent											
	M1(Adaptive)			M2(Maladaptive)			Y(Depression)					
	$\beta$	SE	p	$\beta$	SE	p	$\beta$	SE	p			
Perceived Stigma (Vicarious)	$a_1$	-1.28	.94	.57	$a_2$	2.39	.50	.00	$c'$	2.64	.96	.01
M1 (Adaptive)	-	-	-	-	-	-	-	-	$b_1$	-.29	.07	.00
M2 (Maladaptive)	-	-	-	-	-	-	-	-	$b_2$	.37	.14	.01
Constant	$i_{M1}$	47.18	1.55	.00	$i_{M2}$	21.25	.83	.00	$i_Y$	15.75	4.64	.01
		$R^2 = .01$				$R^2 = .15$				$R^2 = .21$		
		$F(2,145) = 1.27$				$F(2,145) = 13.67$				$F(4,143) = 9.71$		
		$p = .28$				$p = .00$				$p = .00$		

*Note.* Adaptive = Adaptive Coping Strategies (mediator); Maladaptive = Maladaptive Coping Strategies (mediator);  $c'$  = Direct effect;  $\beta$  = Standard coefficient; SE = Standard error.

Table 3 indicated that the perceived stigma subscale internal stigma doesn't predict adaptive subscales of coping strategies ( $\beta = -1.28, p = .57$ ) while controlling the effects of the covariate (gender). This model accounted for only 1 % variances in adaptive coping strategies. On the other hand, the significant positive prediction was shown of internal sigma for the maladaptive subscale of coping strategies ( $\beta = 2.39, p < .001$ ) and this model accounted for an overall 15 % variance. Similarly, the adaptive coping strategies showed a significant negative

prediction ( $\beta = -.29, p <.001$ ). While, maladaptive coping strategies showed a significant positive prediction ( $\beta = .37, p <.01$ ) for the subscale of depression. Overall, this model accounted for a 21 % variance. Thus, depicting that direct effect of coping strategies partially mediated the link between perceived stigma (Internalized stigma) and Mental Health (Depression).

**Figure 2**  
*Emerged Mediation Model showing Subscales of Coping Strategies as a Mediator among the Internal Stigma Subscale of Perceived Stigma and Mental Health Subscale Depression*



Direct effect of X on Y= c'= 2.64, p=.00  
 An indirect effect of X on Y through M<sub>1</sub>.andM<sub>2</sub> on Y in parallel =  $\beta=1.27$

**Discussion**

Stigma has long being associated with negative implications, particularly among those individuals with extraordinary, devastating diseases. This phenomenon is quite commonly observed in patients diagnosed with HIV illness (Deribew et al., 2010). On account of the stigma linked to HIV, people often must face discrimination i.e., they have to bear the critical and hurtful actions of the public who consider their illness as a subject of ridicule because of the stereotypes associated with it as reported by the United Nations (UN, 2001). This stigmatization and prejudice associated with HIV disrupt public health efforts to counter this pandemic. Research has shown that perceived stigma related to acquiring or having HIV has a damaging outcome on a person's overall perception regarding life satisfaction (Greeff et al., 2009). Perceived stigmatization is evidence that has been linked with adverse mental health outcomes, lowered self-efficacy, and decreased medical adherence (Rintamaki et al., 2009). These stigmatized threats prevent HIV-diagnosed patients from disclosing information about their illness and serve as a barrier to seeking and following treatment.

Thus, there is a strong urge to look for protecting factors and along with effective coping strategies which can act as a buffer against this stigmatization and enhance individual mental health. Keeping in mind the importance of this issue, the current study aims to assess the relationship and to investigate its predictors between perceived stigma, coping strategies, and mental health inpatient diagnosed with HIV positive. The current study included N = 148 participant, both men (n = 117) and women (n = 31) of average age 34 years.

The mediation analysis of current study revealed that sub-dimensions of coping scale adaptive and maladaptive strategies partially mediated the relationship between perceived stigma (vicarious and internalized) and mental health (depression). Friends and family are a greater source of interaction and psychological support, but when this support system stigmatizes, neglects, or ignores them, this stripped off with the ability to effectively cope and brings them on verge of the feeling of despair and seclusion. Indigenous research also validates the current findings (Khan et al., 2015) that since HIV patients often shape their self-perception based on the discriminating stories and negative people's attitudes towards the other which, however, often made them frustrated and tense when they observe themselves as the subject of discussion.

Stigma generates a distinctive experience of trauma and psychological distress it transmits a degraded social identity within a particular context (Major & O'Brien, 2005). In order to manage these stressors and counter emotional responses, people living in a stigmatized environment utilize many coping strategies. As stigma is linked with the degradation process, it often creates social dissimilarity and tension at the individual level. This creates a hostile living environment that tears down protective mechanisms and jeopardizes HIV patients' skills to effectively cope with these stressors (Bogart, 2011) thus, making them more vulnerable to experiencing depressive symptoms. In the present study, the sample size was small and the representation of men was high as compared to women which limits the generalizability of present findings on a larger population. Thus, additional research is needed to provide empirical evidence of risk in a specific population. Another limitation of the study is that participants were recruited from only two AIDS centers of Lahore, so it is suggested to conduct further quantitative and qualitative studies with a larger and more heterogeneous sample.

### **Conclusion**

Nonetheless, the present study reveals that HIV-positive individuals, who faced discrimination and prejudice because of stigma associated with their illness, are prone to mental health issues. Therefore, perceived stigmatization and coping mechanisms have a great impact on the psychological health of patients living with HIV. Effective coping is an excellent buffer to cope with perceived stigma and manage mental distress.

### **Future Implications**

The present study will contribute to fighting HIV/AIDS and promoting health in general. The conclusions drawn from the study are crucial to HIV prevention policies. It may also be valuable to health care departments in developing strategies that may help in reducing the effect of stigma on mental health. Moreover, this study would help in adding some indigenous findings to the existing literature and help in combating stigmatization to improve patients' psychological health and wellbeing.

### **References**

- Ajibade, B. L., Oseni, R. E., & Akinpelu, A. O., (2016). Perceived psychological impacts of stigmatization and coping styles amongst people living with HIV/AIDS (PLWHA) in selected hospitals, Abeokuta, Ogun state, Nigeria. *Journal of Natural Sciences Research*, 6(8), 2225-0921.
- Akram, B. & Ilyas, M. (2017). Coping strategies, mental health and HIV status: Predictors of suicidal behaviour among PWIDs. *The Journal of the Pakistan Medical Association*, 67(4), 568-572.

- Ali, A. M. (2019). Internalized stigma is associated with psychological distress among patients with substance use disorders in Egypt. *Journal of Systems and Integrative Neuroscience*, 5(2), 1-7. <https://doi.org/10.15761/JSIN.100209>.
- Ashton, E., Vosvick, V., Chesney, M., Gore-Felton, C., Koopman, C., O'Shea, K., Maldonado, J., Bachmann, M., Israelski, D., Flamm, J. & Spiegel, D. (2005). Social support and maladaptive coping as predictors of the change in physical health symptoms among persons living with HIV/AIDS. *AIDS Patient Care and STDs*, 19(9), 587-98. <https://doi.org/10.1089/apc.2005.19.587>.
- Aslam, N. (2010). Trauma, depression, anxiety, and stress among individuals living in earthquake affected and unaffected areas. *Pakistan Journal of Psychological Research*, 25(2), 131-148.
- Basha, A. E., Derseh, T. B., Haile, E. G. Y., & Tafere, G., (2019). Factors affecting psychological distress among people living with HIV/AIDs at selected hospitals of North Shewa Zone, Amhara Region, Ethiopia. *Journal of AIDs Research and Treatment*. <http://doi.org/10.1155/2019/8329483>
- Bawer, M., & Malik., F., (2007). Determinants of psychological distress and PTSD in earthquake victims in Kashmir [Unpublished masters dissertation]. Department of Psychology, Government College University.
- Beck, A.T. (1976). *Cognitive therapy and the emotional disorders*. International Universities Press
- Bhat, U. S., Cherisn, V. A., Bhat, A., Chapman, J. H., Lukose, A., Patwardhan, N., Satyanarayana, V., & Ramakrishna, J., (2015). Factors affecting psychological well-being and quality of life among women living with HIV/AIDS. *Nitte University Journal of Health Science*, 5(4), 66-76. <https://doi.org/10.1055/s-0040-1703938>
- Bogart, L. M., Wagner, G. J., Galvan, F. H., Landrine, H., & Klein, D.J. (2011). Perceived discrimination and mental health symptoms among black men with HIV. *Cultural Diversity & Ethnic Minority Psychology*, 17(3), 295–302. <https://doi.org/10.1037/a0024056>
- Boyes, M.E., Cluver, L.D. (2015). Relationships between familial HIV/AIDS and symptoms of anxiety and depression: The Mediating Effect of Bullying Victimization in a Prospective Sample of South African Children and Adolescents. *Journal of Youth and Adolescence*, 44 (4), 847–859. <https://doi.org/10.1007/s10964-014-0146-3>
- Carver, C. S. (1997). You want to measure coping but your protocol's too long: Consider the Brief COPE. *International Journal of Behavioral Medicine*, 4(1), 92–100. [https://doi.org/10.1207/s15327558ijbm0401\\_6](https://doi.org/10.1207/s15327558ijbm0401_6)
- Chandra, P. S., Deepthivarma, S., & Manjula, V. (2003). Disclosure of HIV infection in South India: Patterns, reasons and reactions. *AIDS Care*, 15(2), 207–215. <https://doi.org/10.1080/0954012031000068353>

- Deribew, A., Hailemichael, Y., Tesfaye, M., Desalegn, D., Wogi, A., & Daba, S. (2010). The synergy between TB and HIV co-infection on perceived stigma in Ethiopia. *BMC Research Notes*, 3(1) 249. <https://doi.org/10.1186/1756-0500-3-249>
- Eshun-Wilson, I., Siegfried, N., Akena, D. H., Stein, D. J., Obuku, E. A., & Joska, J. A. (2018). Antidepressants for depression in adults with HIV infection. *Cochrane Database of Systematic Reviews*, 1(1). <https://doi.org/10.1002/14651858.cd008525.pub3>
- Greeff, M., Leana, R., Wantland, D., Makoe, L., Chirwa, M., Dlamini, P., Kohi, T., & Mullan, J. (2009). Perceived HIV stigma and life satisfaction among persons living with HIV infection in five African countries: A longitudinal study. *International Journal of Nursing Studies*, 47(4), 475-486. <https://doi.org/10.1016/j.ijnurstu.2009.09.008>
- Khan, N., Naz, A. & Rehman, M. (2015). An exploration of vicarious stigmatization confronted by HIV/AIDS patients. *Pakistan Journal of Society, Education and Language*, 1(2), 33-44.
- Kontomanolis, E.N., Michalopoulos, S., Gkasdaris, G., & Fasoulakis, Z. (2017). The social stigma of HIV–AIDS: society's role. *HIVAIDS (Auckland, N. Z.)*, 9, 111-118. <https://doi.org/10.2147/HIV.S129992>
- Kumar, S., Mohanraj, R., Rao, D., Murray, K. R., & Manhart, L. E. (2015). Positive coping strategies and HIV-related stigma in south India. *AIDS Patient Care and STDs*, 29(3), 157–163. <https://doi.org/10.1089/apc.2014.0182>.
- Lazarus R., & Folkman, S. (1984). *Stress, appraisal and coping*. Springer Publishing Company.
- Lovibond, S.H. & Lovibond, P.F. (1995). *Manual for the Depression Anxiety & Stress Scales* (2<sup>nd</sup> ed.). Psychology Foundation.
- Maskey, H. M., Cobral, J. H., Davila, A. J., Davich, W. A. J., Marcus, R., Quinn, K. E., & Rajabiun, S., (2018). Longitudinal stigma reduction in people living with HIV experiencing homelessness or unstable housing diagnosed with mental health or substance use disorders: A intervention study. *American Journal of Public Health*. 108 (7), 546-551. <https://doi.org/10.2105/AJPH.2018.304774>
- Mawar, N., Sahay, S., Pandit, A., & Mahajan, U. (2005). The third phase HIV pandemic: Social consequences of HIV/AIDS stigma & discrimination & future needs. *Indian Journal of Medical Research*, 122(6), 471-484.
- Morris, A. S., Silk, J. S., Steinberg, L., Myers, S. S., & Robinson, L. R. (2007). The role of the family context in the development of emotion regulation. *Social Development*, 16(2), 361-388. <https://doi.org/10.1111/j.1467-9507.2007.00389.x>
- O'Brien, L. T., & Major, B. (2005). System-justifying beliefs and psychological well-being: The roles of group status and identity. *Personality and Social Psychology Bulletin*, 31(12), 1718–1729. <https://doi.org/10.1177/0146167205278261>

- Parker, R., & Aggleton, P. (2003). HIV and AIDS-related stigma and discrimination: A conceptual framework and implications for action. *Social Science & Medicine*, 57(1), 13-24. [https://doi.org/10.1016/s0277-9536\(02\)00304-0](https://doi.org/10.1016/s0277-9536(02)00304-0)
- Pence, W. B., (2009). The impact of mental health and traumatic life experiences on antiretroviral treatment outcomes for people living with HIV/AIDs. *Journal of Antimicrobial Chemotherapy*, 63(4), 636-640. <https://doi.org/10.1093/jac/dkp006>
- Rintamaki, L. S., Davis, T. C., Skripkauskas, S., Bennett, C. L., & Wolf, M. S. (2009). Social Stigma Concerns and HIV medication adherence. *AIDS Patient Care and STDs*, 20(5), 359–368. <https://doi.org/10.1089/apc.2006.20.359>
- Steward, W.T., Herek, G.M., Ramakrishna, J., Bharat, S., Chandy, S., Wrubel, J., & Ekstrand, M/L. (2008). HIV-related stigma: Adapting a theoretical framework for use in India. *Social Science & Medicine*, 67(8), 1225–1235. <https://doi.org/10.1016/j.socscimed.2008.05.032>
- UNAIDS. (2019). *UNAIDS data 2019*. [https://www.unaids.org/sites/default/files/media\\_asset/2019-UNAIDS-data\\_en.pdf](https://www.unaids.org/sites/default/files/media_asset/2019-UNAIDS-data_en.pdf)
- United Nations. (2001). Declaration of commitment on HIV/AIDS. United Nations General Assembly special session on HIV/AIDS 25–27. <https://undocs.org/pdf?symbol=en/A/55/779>
- Varni, S. E., Miller, C. T., McCuin, T., & Solomon, S. E. (2012). Disengagement and engagement coping with HIV/AIDS stigma and psychological well-being of people with HIV/AIDS. *Journal of Social and Clinical Psychology*, 31(2), 123–150. <https://doi.org/10.1521/jscp.2012.31.2.123>
- Zhou, E., Qiao, Z., Cheng, Y., Zhou, J., Wang, W., Zhao, M., Qiu, X., Wang, L., Song, X., Zhao, E., Wang, R., Zhao, X., Yang, Y., & Yang, X. (2019). Factors associated with depression among HIV/AIDS children in China. *International Journal of Mental Health Systems*, 13(1). <https://doi.org/10.1186/s13033-019-0263-1>

### Contribution of Authors

Sr. No.	Author	Contribution
1.	Javaria Iffat Akhlaq	Conception, Methodology, Data Collection
2.	Hina Rana	Research Supervisor, Critical Review and Final Approval of the document
3.	Rabbia Ashraf	Data Analysis, Interpretation, Write-up