

# Psychological Distress and Quality of Life in Hepatitis Patients: The Mediating Role of Hope

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## Abstract

*This study examined the association between psychological distress, hope, and quality of life in patients with hepatitis. A correlational research design was employed, and 200 hepatitis patients (100 males & 100 females) were chosen using purposive sampling from various hospitals in Faisalabad city. The variables were evaluated using the Kessler psychological distress scale, hope index, and quality of life scale. The data was analyzed using the Statistical Package for Social Sciences (SPSS). The results indicate a substantial negative association between psychological distress and both hope and quality of life, and a strong positive association between hope and life quality. The finding of the mediation analysis also showed that hope was a significant partial mediator in the association between psychological distress and quality of life. The t-test analysis revealed no statistically significant variations in the mean scores for psychological distress, hope, and quality of life between man and women hepatitis patients. The findings of the present research have implications for a range of health-related areas, including the use of the study findings by healthcare professionals in treating patients suffering from life-threatening chronic conditions such as hepatitis.*

**Keywords:** Quality of Life, Psychological Distress, Hope, Hepatitis.

## Introduction

Hepatitis is defined by the World Health Organization (WHO) as liver swelling that is frequently brought on by a viral infection. The most prevalent forms are types A, B, C, D, and E. Because of their potential for widespread outbreaks and epidemics, as well as their considerable influence on health and mortality rates, these five categories are especially concerning. Mainly, types B & C are the main causes of liver cirrhosis and cancer, and they are also accountable for chronic conditions that impact hundreds of millions of people. The usual way that hepatitis A and E are acquired is through contaminated food or water. The usual way that hepatitis B, C, and D are transmitted is by direct contact with bodily fluids that are infected. Hepatitis B can be transferred through sexual contact, from a family member to a kid, and from a mother to her child after childbirth. The main ways in which these viruses are transmitted are through ingestion of infected blood or blood products, medical operations using contaminated equipment, and receipt of contaminated blood or blood products (WHO, 2014). The global health threat posed by the hepatitis C virus (HCV) is considerable. Around 71 million people worldwide were affected by hepatitis C in 2015, constituting approximately 3 percent of the global population. HCV can remain in the body for decades in many

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asymptomatic carriers. Twenty to forty percent of patients with chronic HCV infection will experience severe consequences like liver cirrhosis and hepatocellular carcinoma (HCC). Ultimately, liver failure from HCV can be fatal (WHO, 2019; Lions et al., 2020; WHO, 2017). Hepatitis is a major public health concern in Pakistan. Worldwide, over 2 billion people are reported to have been infected with hepatitis. Among these, HBV infection represents the largest share, followed by HCV infection. Each year, hepatitis-related complications lead to approximately 1.4 million deaths globally. Hepatitis poses a significant public health challenge in Pakistan, where an estimated 11.55% of the adult population is infected with HCV. The nation has the second-highest prevalence of hepatitis C virus (HCV) infections worldwide. The prevalence of hepatitis C virus (HCV) infections in the country ranks second globally, affecting approximately one in every 20 Pakistanis (Malik et al., 2022; Mahmud, Al Kanaani, & Abu-Raddad, 2019).

Different psychologists have different opinions about what defines psychological distress. Psychological distress is commonly defined as an emotional state characterized by symptoms of anxiety (such as restlessness and tension) and depression (such as disinterest, sorrow, and feelings of despair) (Mirowsky & Ross, 2002). These indicators might also be connected to bodily complaints (e.g., headaches, exhaustion, and insomnia) that differ depending on the culture (Kleinman, 1991). A mental health condition known as psychological distress can impair a person's capacity for social interaction and day-to-day functioning. Consequently, an enormous amount of research has been conducted on it in an attempt to determine what makes it happen more or less frequently (Wheaton, 2007). The entire condition of well-being of an individual or a community is referred to as quality of life (QOL). The QOL is used in a number of fields, such as international development, politics, and healthcare. Hope is defined as having faith in one's capacity to forge routes toward desired goals and having the drive to pursue those routes. According to Snyder et al. (2002), see hope as a mental process that demonstrates a person's motivation and capacity to work toward objectives that are important to them.

The psychological distress is directly linked to chronic illnesses as the likelihood of experiencing psychological distress is three times higher in individuals with chronic medical conditions compared to the common population, as indicated by Tareke et al. (2022). Individuals living with chronic illnesses often face psychological distress due to the burden of managing a long-term disease, navigating complex treatment and care, and dealing with the impact on self-care both at home and in the community, as highlighted by Li (2022). Multiple research studies have indicated that psychological distress can negatively affect various aspects of health & well-being, including life quality (Kabbash et al., 2019; Neves et al., 2004). The general health and life quality of those with severe illnesses like hepatitis are greatly affected when depressed symptoms are present (Ali et al., 2010). A connection between psychological anguish and a lower quality of life has been discovered by researchers. Lee and colleagues observed that psychological distress negatively impacts patients' quality of life, especially at high levels of distress, which disrupts patients' general well-being and quality of life (Lee et al., 2005). Research has indicated a connection between psychological distress and a decrease in life quality (e.g., Younossi et al., 2001; Madsen et al., 2021).

On the other hand, hope is a major issue for people suffering from both physical and mental disorders, and it plays a critical role in mental health rehabilitation. Numerous studies show that people who experience high levels of hope tend to be more resilient, show lower levels of anxiety and despair, and do better in both their personal and professional life (Snyder & Lopez, 2007). Hope has been found to play a mediating role in various health outcomes. For instance, hope can buffer the effect of psychological distress and positively influence the quality of life by providing psychological resilience and coping mechanisms (e.g., Snyder et al., 1991; Feldman & Snyder, 2005). Studies reveal that hope can lessen the negative impact of psychological distress on life satisfaction by encouraging a more optimistic perspective and

more effective coping mechanisms. Researchers looked at how people maintained their mental health in the face of chronic illnesses and high levels of stress. Therefore, it has been proposed that the objective is to improve psychological well-being (Folkman & Geer, 2000; Snyder et al., 2002). Research has indicated that individuals suffering from chronic viral hepatitis often experience symptoms of depression and anxiety, which significantly lowers their overall health-related quality of life (Fotos et al., 2018). A different study among HCV patients revealed a negative relationship between stigma, anxiety, and depression ratings and quality of life (Movahedi et al., 2022).

Chronic hepatitis B (CHB) patients deal with a range of psychological, social, and physical challenges that frequently impair their general quality of life (Ibrahim et al., 2023). A different study discovered that even in the absence of liver cirrhosis and liver cancer, hepatitis B infection dramatically lowered the physical, emotional, and social well-being of patients. This infection also led to social consequences such as a lack of close and intimate relationships and mental implications, ultimately resulting in a decline in quality of life (Zabihi et al., 2020). Prior research has shown a negative association between psychological distress and quality of life as well as an inverse relationship between psychological discomfort and hope. On the other hand, hope and quality of life were positively correlated (Sher et al., 2024).

A study carried out by Hagedoorn et al. 2000 discovered that women and men with chronic illness showed no gender dissimilarities in psychological distress and life quality. Gender differences have been shown to be non-universal and can vary greatly across different cultures and regions based on research from several countries. Research, for example, has demonstrated that no gender differences were statistically significant among Mexican Americans (Aranda et al., 2001), immigrants from Central America, Africa, Asia, and South America living in Norway (Thapa & Hauff, 2005), people living in rural Australia (Kilkkinen et al., 2007), or older people of Chinese descent (Chou, 2007). Consequently, the current study aims to investigate the connection between hepatitis patients' psychological discomfort, hope, and quality of life. The purpose of the study is to examine the relationship between psychological distress and quality of life in hepatitis patients, as well as the potential mediating role of hope in this relationship. The sample employed in this study has received little attention in the past, particularly in Pakistan. Moreover, prior studies have mainly concentrated on chronic disease patients, treating psychological distress, life quality, and hope as distinct variables. However, this study combines these variables to analyze their impact on the population.

### **Hypotheses**

- There would be significant association between psychological distress, quality of life and hope among hepatitis patients.
- Hope would act as a mediator in the association between psychological distress and quality of life in hepatitis patients.
- There would be no strong gender dissimilarities in psychological distress, quality of life, and hope among hepatitis patients.

### **Method**

#### **Research Design**

This study used a correlational research approach to evaluate the association between the variables.

#### **Participants & Sampling Technique**

A sample of 200 hepatitis patients (100 males and 100 females) was taken from both public and private hospitals of Faisalabad city through a purposive sampling technique.

## Instruments

The information was gathered using the following research tools:

### Psychological Distress Scale

Ten items make up the Kessler Psychological Distress Scale, which evaluates an individual's emotional states about depression and anxiety symptoms that they have encountered throughout the previous four weeks. These symptoms encompass a range of emotions, including tension, a sense of worthlessness, hopelessness, restlessness, and sadness. Participants provide ratings on a scale ranging from 1 (never) to 5 (always) to indicate the frequency of their responses. Cronbach's alpha coefficients on the scale range from .89 to .91, indicating a high degree of reliability (Kessler et al., 2003).

### Quality of Life Scale

Parveen (2013) translated the Quality of Life (QOL) scale into Urdu and utilized it to assess participants' daily experiences and quality of life, based on Flanagan's (1970) paradigm. It consists of sixteen elements measuring six conceptual domains: civic involvement, marriage and physical well-being, relationships with others, independence, leisure activities, personal growth and fulfillment, and social, communal, and civic activities. The replies are ranked from 1 for "terrible" to 7 for "delightful". Strong convergent and discriminant validity, good test-retest reliability ( $r = .78$  to  $r = .84$ ), and excellent internal consistency ( $\alpha = .82$  to  $.92$ ) are all displayed.

### Herth Hope Index

The Herth Hope Index (HHI), which Noreen et al. (2023) translated into Urdu, measures a person's level of hope, which is defined as the expectation of achieving one's goals. There are twelve statements in all, ranging from 1 (strongly disagree) to 4 (strongly agree), with items 6 and 3 having reversible scores. The measure exhibits good test-retest reliability, as evidenced by correlation coefficients ranging from 0.82 to 0.88 (Herth, 1992).

## Procedure

The study aimed to explore the psychological distress, life quality, and hope in hepatitis patients. Initially, the research topic was selected and approved by the departmental research committee, and then authorization was secured from the appropriate institutions where participant information was collected. Participants were engaged in comfortable settings and given an overview of the study's objectives and their voluntary participation. They were also informed that they might leave the study at any time. Subsequently, information was collected from the individual participants, and they were briefed on their responses to the questions asked. After the finishing the data collection procedure, the Statistical Package for Social Sciences (SPSS) was used to input and analyze the raw data. The hypotheses were examined, and the results and discussion were presented, followed by constraints and recommendations.

## Statistical Analyses

The study employed mediation analysis, independent sample t-tests, Pearson correlation analysis, and reliability studies to look into the hypotheses.

## Results and Discussion

**Table 1: Reliability Analysis of Study Questionnaires (N=200)**

Variables	Cronbach's Alpha ( $\alpha$ )	Items
PD	.89	10
QOL	.74	16
H	.78	12

Note. PD = psychological distress; QOL = quality of life; H = hope

In table 1, the psychometric characteristics of the study questionnaires are presented. The reliability analysis revealed that the Psychological Distress Scale (PD), Quality of Life Scale (QOL), and Hope Scale (H) had alpha reliabilities of .89, .74, and .78 respectively, demonstrating acceptable internal consistency across all measures.

**Table 2: Mean, Standard Deviations and Correlation Matrix among Hepatitis Patients for all Variables (N = 200)**

Variables	PD	H	QOL	M	SD
PD	--	-.48**	-.48**	29.36	7.51
H		--	.52**	36.42	4.16
QOL			--	80.74	17.45

Note. \*\* $p < .01$

According to Table 2, both psychological distress and hope ( $r = -.48^{**}$ ,  $p < .01$ ) and quality of life ( $r = -.48^{**}$ ,  $p < .01$ ) showed a substantial negative association. On the other hand, there was a strong positive association ( $r = .52^{**}$ ,  $p < .01$ ) found between hope and quality of life.

**Table 3: Hope as a Mediator between Psychological Distress and Quality of Life (N = 200)**

Predictors	Quality of life		
	Model 1 $\beta$	B	Model 2 95% CI
Constant	102.90**	41.88*	[11.71, 72.06]
Psychological Distress	-.53**	-.30*	[-.45, -.15]
Hope		.48**	[.60, .36]
R <sup>2</sup>	.28	.45	
F	22.23**	23.55**	
$\Delta R^2$		.23	
$\Delta F$		17.01**	

Note. \*\* $p < .001$ ; \* $p < .05$ ;  $\beta$  for Standardized regression coefficient

The findings in Table 3 show that hope plays a substantial role as a mediator in the link between psychological distress and quality of life. Additionally, it was determined that psychological distress has a noteworthy direct impact ( $\beta = -.53$ ,  $p < .001$ ,  $R^2 = .28$ ,  $F = 22.23$ ) and an indirect adverse impact on quality of life through hope ( $\beta = -.30$ ,  $p < .001$ ,  $R^2 = .45$ ,  $F = 23.55$ ). It was also noted that psychological distress strongly predicts hope ( $\beta = -.48$ ,  $p < .001$ ,  $R^2 = .23$ ,  $F = 17.01$ ), and hope significantly predicts quality of life ( $\beta = .48$ ,  $p < .001$ ). Thus, it may be said that hope plays an important role as a partial mediator between psychological distress and life quality.



**Table 4: Comparison of Males and Females on Psychological Distress, Quality of Life and Hope among Hepatitis Patient (N = 200)**

Variables	Male (n = 100)		Female(n=100)		t	P	95% CI		Cohen's d
	M	SD	M	SD			LL	UL	
PD	29.37	8.11	29.34	6.99	.02	.986	-3.88	3.94	0.43
Hope	37.00	4.23	35.84	4.07	1.09	.280	-.97	3.31	0.19
QOL	78.91	13.05	77.23	11.13	-.54	.942	-9.42	8.76	0.21

Note. PD = Psychological distress; QOL = Quality of life; CI = Confidence Interval; LL =Lower Limit; UL =Upper Limit,  $p = n.s.$

The information provided in Table 4 outlines the average, standard deviation, and t-values for psychological distress, hope, and life quality among male and female hepatitis patients. Based on the outcomes, there are no notable discrepancies in the average values for psychological distress ( $t(198) = .02, p = n.s.$ ). Similarly, there are no significant variations in the average values for hope ( $t(198) = 1.09, p = n.s.$ ). Furthermore, the results show insignificant negative average differences in quality of life ( $t(198) = -.54, p = n.s.$ ).

## Discussion

The aim of the research was to examine the connection between the psychological distress, hope, and quality of life of individuals with hepatitis. Psychological distress is a common issue in serious medical conditions such as diabetes, cardiovascular diseases, cancer, lung diseases, hepatitis, and other severe illnesses. The initial hypothesis stated that there would be a significant association between psychological distress, quality of life and hope among hepatitis patients. The results demonstrated a high negative connection ( $r = -.48^{**}, p < .01$ ) between psychological distress and hope as well as between psychological distress and quality of life, supporting this hypothesis. On the other hand, there was a strong positive association ( $r = .52^{**}, p < .01$ ) found between hope and quality of life. In Pakistani culture, many individuals face significant psychological distress due to limited economic opportunities. This lack of economic stability gradually contributes to heighten psychological suffering, resulting in diminished hope and quality of life. Other factors such as education levels, family dynamics, and the duration of illness also add to this distress. Those dealing with chronic illnesses often experience increased feelings of anxiety, depression, hopelessness, and frustration. Both frustration and hopelessness are critical in worsening psychological distress; when individuals experience frustration and lose hope, their quality of life inevitably diminishes. Psychological distress ultimately leads to dissatisfaction with life (Sher et al., 2023). In addition, the hope is to enhance the quality of life and make a person less frustrated. Existing literature shows that a decrease in quality of life can have a significant impact on people, often resulting in issues such as disrupted sleep, financial difficulties, changes in eating habits, and reduced sexual activity (Majani et al., 1999). Hope nurtures the belief that personal attitudes and actions can have a positive impact on health. Studies have proven that having positive expectations about health, including hope and optimism, is beneficial as it promotes healthy behaviors, improves adherence to treatment, and increases motivation to adopt beneficial health practices like regular exercise and maintaining a well-rounded diet (Salovey et al., 2000).

The second hypothesis of the study proposed that in hepatitis patients, psychological distress and quality of life are mediated by hope. The findings corroborated this hypothesis, demonstrating that hope plays a substantial mediating role in the relationship between psychological distress and life quality. The quality of life is observed to be negatively impacted by psychological distress both directly ( $\beta = -0.53, p < .001, R^2 = 0.28, F = 22.23$ ) and indirectly ( $\beta = -0.30, p < .001, R^2 = 0.45, F = 23.55$ ) through hope. Additionally, it was found that hope

strongly predicts quality of life ( $\beta = 0.48$ ,  $p < .001$ ) and psychological distress significantly predicts hope ( $\beta = -0.48$ ,  $p < 0.001$ ,  $R^2 = 0.23$ ,  $F = 17.01$ ). Thus, it can be said that a key partial mediator between psychological discomfort and quality of life is hope. These findings are consistent with earlier research, which revealed that symptom distress (SDs) has a detrimental effect on quality of life (QOL). This impact is indirect and is mediated by hope (Chen et al., 2022). The total effect of the study was  $-1.41$  (95% CI:  $-1.96$ ,  $-0.86$ ), and the indirect effect was  $-0.95$  (95% CI:  $-1.7$ ,  $-0.45$ ). T-tests were used to evaluate the third hypothesis of the current study, which suggested that there are no gender-related variations in psychological distress, hope, and quality of life among hepatitis patients. This hypothesis is supported by the results, which show that there are no significant mean differences between the genders (males and females) in psychological distress { $t(198) = .02$ ,  $p = \text{n.s.}$ }, hope { $t(198) = 1.09$ ,  $p = \text{n.s.}$ }, and quality of life { $t(198) = -.54$ ,  $p = \text{n.s.}$ }. These findings support previous research that demonstrated gender differences are not always present and can vary across various nations and cultures. For example, older people of Chinese descent (Chou, 2007) and Mexican Americans (Aranda et al., 2001) all showed no gender differences, as did immigrants from Central America, Africa, Asia, and South America living in Norway (Thapa and Hauff, 2005), as well as residents of rural Australia (Kilkkinen et al., 2007). Similar challenges are faced by men and women in Pakistan at the same socioeconomic grade, suggesting that there are no appreciable mean differences in psychological distress, hope, or quality of life between the sexes.

## Conclusion

This study investigates the association between hepatitis patients' psychological discomfort, quality of life, and hope. The findings indicated that while there was a positive correlation between hope and quality of life, there was also a significant negative correlation between psychological distress and these three variables. This implies that increased psychological distress causes a decline in hope and quality of life. Furthermore, the mediation analysis's findings demonstrated that hope plays a key role as a partial mediator in the link between psychological distress and quality of life. The t-test analysis revealed that there were no statistically significant differences between male and female hepatitis patients' mean scores for psychological distress, hope, and quality of life.

## Implications of the Study

The findings of this investigation have implications for various areas of health, such as aiding health professionals in treating patients with life-threatening chronic illnesses like hepatitis. The results of this research can be utilized to enhance and implement psychological interventions, particularly within a cognitive-behavioral framework. This research has demonstrated the important impact that psychological variables play in the development and course of hepatitis. Additionally, positive psychologists can utilize these findings to enhance the levels of hope, resilience and optimism in patients and offer support to their family members, thereby reducing stress and mitigating the negative impact on productivity and outlook.

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