

# IMPACT OF SOCIAL SUPPORT ON MENTAL HEALTH PROBLEMS OF PATIENTS WITH CHRONIC HEPATITIS C IN DISTRICT GUJRAT, PAKISTAN

Sameera Shafiq<sup>1</sup>, Sadia Aslam<sup>2</sup>

<sup>1,2</sup>Department of Psychology,  
University of Gujrat - Pakistan.

**Address for correspondence:**  
**Sameera Shafiq**

Lecturer, Department of Psychology,  
University of Gujrat - Pakistan.

E-mail: sameera.shafiq@uog.edu.pk

Date Received:

April 14, 2019

Date Revised:

August 7, 2020

Date Accepted:

September 10, 2020

## ABSTRACT

**Objective:** To find out the effects of different levels of social support on mental health problems.

**Methodology:** This cross-sectional survey was conducted on 202 purposively selected, diagnosed patients of chronic hepatitis C, enrolled from various hospitals and private clinics situated in Gujrat. Urdu version of Depression, Anxiety, Stress Scale (DASS) developed by Lovibond et al. and Social Support Scale (SSS) was used to collect data. Frequencies and percentages, Pearson Product moment correlation and Multiple Analysis of Variance (M-ANOVA) were calculated with SPSS 21 to measure the impact of levels of social support on depression, anxiety, and stress of the patients.

**Results:** There was a significant negative correlation between social support and depression ( $r = -0.54$ ,  $p < 0.001$ ), anxiety ( $r = -0.53$ ,  $p < 0.001$ ), and stress ( $r = -0.34$ ,  $p < 0.001$ ) among patients with chronic hepatitis C. Multivariate analyses of variance (MANOVA) revealed a significant impact of levels of social support provided to these patients on their psychological outcomes in terms of depression, anxiety, and stress ( $F(6, 394) = 9.15$ ,  $p < 0.0005$ ; Wilk's  $\Lambda = 0.77$ , partial  $\eta^2 = 0.12$ ).

**Conclusion:** The levels of social support significantly affect mental health problems; depression, anxiety, and stress in patients with chronic hepatitis C.

**Key Words:** Anxiety, Chronic hepatitis C, Depression, Stress

*This article may be cited as: Shafiq S, Aslam S. Impact of social support on mental health problems of patients with chronic hepatitis C in district Gujrat, Pakistan. J Postgrad Med Inst 2020; 34(3): 183-8.*

## INTRODUCTION

Human body is susceptible to different kinds of microorganisms that threaten life. One of the chronic diseases is hepatitis C caused by Hepatitis C Virus (HCV). HCV is considered causative factor in causing liver damage that subsequently leads to high rate of mortality and morbidity across the globe<sup>1-2</sup>. In 2015, the mortality was 1.34 million and there were 71 million cases diagnosed with HCV at that time<sup>3</sup>. A significant percentage of chronic hepatitis C leads to hepatocellular carcinoma and cirrhosis<sup>4</sup>.

Hepatitis C has emerged as one of the major health hazards in developing countries including Pakistan<sup>5-7</sup>. Pakistan has been found to have highest burden of cases diagnosed with chronic hepatitis C that subsequently results in deaths due to liver failure and liver cancer<sup>8</sup>. The prevalence of HCV in general population has been estimated from 4.7% to 6.8% on the basis of studies conducted between 1992 and 2015. This prevalence is considered to be significantly higher as compared to

other countries in South Asia<sup>9-11</sup>. It has been further investigated that genotype 3a is the most prevalent type (49.05%<sup>12</sup>) in Pakistan. The primary factors responsible for the spread of HCV in Pakistan are transfusion of infected blood, followed by the use of razors in barber shops and needles in health care and drug abuse settings<sup>8, 13</sup>.

Social support is considered to involve social network of people tied together to make provision of tangible and intangible resources available to help a person with effective stress coping approach. It is often comprised of three types of resources namely, instrumental, informational and emotional<sup>14</sup>. Patients diagnosed with hepatitis C face considerable problems in social domain<sup>15</sup>. They are mostly discriminated by the family members and suffer from distress. The major factor responsible for this attitude is lack of knowledge about hepatitis C, its spread and its effects on the routine working of the patients. A significant correlation between psychological conditions such as depression with lower levels of social support was observed in other chronic disorders

like cardiac diseases, multiple sclerosis, and acquired immunodeficiency syndrome (AIDS)<sup>16-18</sup>. Furthermore, the effects of social support and coping was mediated through the third intermediate variable namely depression among physical disorders<sup>19,20</sup>.

Almost 22.4 % of the patients suffer from depression whereas 15.2 % have anxiety. The patients who are not considered for interferon therapy face significantly high level of depression and anxiety as compared to those who are offered treatment<sup>21</sup>. Other studies have reported different levels of anxiety, depression and stress<sup>22</sup>. Anxiety was found to be negatively related to social support provided by the family<sup>23</sup>. Hence, high level of depression and anxiety is evident in the presence of low level of social support<sup>24-25</sup>. Social factors are believed to cause symptomatology of depression and anxiety disorders<sup>26</sup>. There is a dire need to investigate impact of social ties on well-being of individuals to make the findings generalizable.

On the basis of review of literature, it can be hypothesized that there will be a negative relationship between social support with depression, anxiety, and stress in patients with chronic hepatitis C and the levels (low, medium, high) of social support will affect the scores of mental health problems.

## METHODOLOGY

This cross-sectional study was carried out in the department of psychology, University of Gujrat, Gujrat. The sample of 202 diagnosed patients of chronic hepatitis C was taken from different private and public hospitals of district Gujrat. Purposive sampling technique was used with the inclusion criteria of diagnosed patients of chronic hepatitis C with either sex and of adult age group. Patients with complications of hepatitis C and other major co morbidities were excluded. Urdu version of Depression, Anxiety, Stress Scale (DASS) developed by Lovibond et al.<sup>27</sup> was used in conjunction with indigenously developed questionnaire in Urdu, namely, Social Support Scale (SSS)<sup>28</sup>. DASS comprised of 42 and SSS composed of 52 items. They were found reliable with cronbach alpha coefficients of 0.94 and 0.96 for DASS and SSS respectively. The standardized instruments were rated at four points Likert scale with response categories scoring from 0 to 3.

Ethical approval from ethics committee and permission from management of health facility was obtained. The data was analyzed with SPSS version 21. Frequencies and percentages were calculated for the demographic variables of the participants'. Pearson product correlation was calculated to analyze the association of scale and subscales of social support with depression, anxiety and stress in patients. Finally, Multiple Analysis of Variance (MANOVA) was applied to measure the im-

pact of levels of social support on depression, anxiety, and stress of the patients.

## RESULTS

The demographic characteristics of the participants are given in table 1.

Pearson product-moment correlation coefficients for social support and mental health of the patients showed that there was a significant negative correlation between social support and depression as shown in table 2.

The results of table 3, multivariate tests for MANOVA showed that there was statistically significant differences in the mental status of the patients with chronic hepatitis C based on the levels of social support they received from others.

MANOVA for between subjects effects showed that the levels of social support had statistically significant effects on depression, anxiety and stress as given in table 4.

Tukey Post Hoc analysis revealed that the mean scores for depression and anxiety were significantly different among low, medium, and high levels of social support ( $p < 0.0005$ ). Mean scores for stress significantly differed between low-high level and medium-high level of social support. Mean scores for stress did not significantly differ between low-medium level of social support as shown in table 5.

## DISCUSSION

The results of the present study indicated that there was a significant negative relationship between the mental health problems and perceived social support among the patients with hepatitis C. The findings supported the first hypothesis of the study. i.e. patients with hepatitis C having low social support suffered from high levels of depression, anxiety, and stress. Various types of social support such as informational social support, social networking and emotional social support and social support in general has been found to be negatively associated with the levels of depression<sup>29-30</sup>. It has been further observed that either healthy individuals or patients diagnosed with chronic illness exhibit high level of anxiety in the presence of low level of social support<sup>31-32</sup>. Similar negative linear correlation existed between level of stress and social support among adults<sup>33</sup>. The extensive review of literature indicated that social support is a complex multidimensional concept that is found to play a crucial role in influencing health and well-being of individuals residing in any given community. The presence of constraint and conflict within the relationships exacerbates the problems pertaining to both mental and physical health<sup>34</sup>.

**Table 1: Socio-demographic characteristics of the patients with chronic hepatitis C (n=202)**

Variables	Categories	No.	%age
Age	20-45 years	155	76.73
	46-70 years	47	23.27
Gender	Male	103	51.0
	Female	99	49.0
Marital Status	Married	178	88.1
	Unmarried	24	11.9
Nature of Employment	Housewives	73	36.13
	Private Employment	75	37.12
	Government Employment	51	25.24
	Retired	3	1.48

**Table 2: Inter-correlation coefficients among scales and subscales of depression, anxiety, stress, and social support in patients with chronic hepatitis C (n=202)**

Scales/subscales	1	2	3	4	5	6	7	8	9
1. Depression	-	.86**	.67**	-.36**	-.40**	-.51**	-.53**	-.59**	-.54**
2. Anxiety		-	.60**	-.35**	-.43**	-.51**	-.51**	-.58**	-.53**
3. Stress			-	-.21**	-.26**	-.33**	-.29**	-.40**	-.34**
4. Information Support				-	.71**	.82**	.79**	.71**	.86**
5. Tangible Aid					-	.73**	.76**	.71**	.82**
6. Emotional Support						-	.88**	.88**	.96**
7. Esteem Support							-	.86**	.95**
8. Social Network Support								-	.93**
9. Social Support									-
M	20.07	21.04	25.12	9.67	7.82	27.97	20.78	24.26	90.50
SD	9.4	8.74	9.07	4.46	3.90	10.65	8.01	8.22	32.68

Note: \*\*Correlation coefficient is significant at the 0.01 level (2-tailed).

**Table 3: Multivariate Analysis of Variance (MANOVA) for effects of social support on depression, anxiety, and stress among patients with hepatitis c**

Effect		Value	F	Sig.	Partial Eta Squared	Noncent Parameter	Observed Power
Levels of Social Support	Pillai's Trace	.23	8.57	.000	.11	51.42	1.00
	Wilks' Lambda	.77	9.15	.000	.12	54.92	1.00
	Hotelling's Trace	.29	9.73	.000	.13	58.41	1.00
	Roy's Largest Root	.29	19.62	.000	.22	58.87	1.00

The second hypothesis of the study related to the significance of the effects of social support on the mental health problems (depression, anxiety and stress) of the patients was confirmed in the light of the results of the table 3. This finding is consistent with the results of the previous researches indicating mediating effect of social support on mental health problems of adults<sup>35-37</sup>. The support that a sick person gets from immediate family members and friends can boost resilience towards the chronic illness like chronic hepatitis C and

might instigate one to seek treatment and adhere to the treatment regime for better outcome.

The level of social support affected depression. The absence of social support predicted subsequent onset of depression in patients' anxiety and stress<sup>38-39</sup>. Burgeoning empirical evidences suggested that social networking of people enhances their immunity to physical illnesses. Therefore, person-environment fit model in relation to health status of individuals advocated that

**Table 4: MANOVA for between-subjects effects**

Source	Dependent Variable	Type III Sum of Squares	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power
Corrected Model	Depression	3884.07a	1942.03	27.15	.000	.21	54.31	1.00
	Anxiety	3257.81b	1628.90	26.75	.000	.21	53.51	1.00
	Stress	1480.25c	740.12	9.78	.000	.09	19.56	.98
Intercept	Depression	80982.11	80982.11	1132.35	.000	.85	1132.35	1.00
	Anxiety	88968.23	88968.23	1461.52	.000	.88	1461.52	1.00
	Stress	127114.20	127114.2	1680.37	.000	.89	1680.37	1.00
Levels of Social Support	Depression	3884.07	1942.03	27.15	.000	.21	54.31	1.00
	Anxiety	3257.81	1628.90	26.75	.000	.21	53.51	1.00
	Stress	1480.25	740.12	9.78	.000	.09	19.56	.98

a. R Squared = .214 (Adjusted R Squared = .207)    b. R Squared = .212 (Adjusted R Squared = .204)  
 c. R Squared = .090 (Adjusted R Squared = .080)    d. Computed using alpha = .05

**Table 5: Tukey Post-hoc analysis**

Dependent Variable	(I) Levels of Social Support	(J) Levels of Social Support	Mean Difference (I-J)	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Depression	Low	Medium	4.40*	.008	.95	7.86
		High	10.57*	.000	7.17	13.97
	Medium	Low	-4.40*	.008	-7.86	-.95
		High	6.17*	.000	2.69	9.65
	High	Low	-10.57*	.000	-13.97	-7.17
		Medium	-6.17*	.000	-9.65	-2.69
Anxiety	Low	Medium	4.27*	.005	1.08	7.45
		High	9.70*	.000	6.56	12.84
	Medium	Low	-4.27*	.005	-7.45	-1.08
		High	5.43*	.000	2.23	8.64
	High	Low	-9.70*	.000	-12.84	-6.56
		Medium	-5.43*	.000	-8.64	-2.23
Stress	Low	Medium	2.57	.205	-.99	6.12
		High	6.51*	.000	3.01	10.01
	Medium	Low	-2.57	.205	-6.12	.99
		High	3.94*	.027	.37	7.52
	High	Low	-6.51*	.000	-10.01	-3.01
		Medium	-3.94*	.027	-7.52	-.37

interventions aimed at improving social ties of individuals affected their enrichment of mental and physical fitness<sup>40</sup>. Hence, development and maintenance of psychological well-being of people is thought to be the direct outcome of social support that is provided by the people who hold worthy positions in the eyes of the patients<sup>41</sup>.

**CONCLUSION**

Mental health problems were found to be negatively correlated with social support in patients with chronic hepatitis C. The psychological well-being of the patients was significantly affected by the level of social support.

**IMPLICATIONS**

In the light of the findings of the present study, it can be implicated that there is a dire need to design educational interventions that would target support persons

playing significant role in the lives of the patients with hepatitis C. Referral systems in the hospitals and clinics should be established for provision of timely counseling services to these patients and their families.

### LIMITATIONS

The sample size comprised of only two hundred and two patients. Therefore, caution must be taken to generalize the results on the rest of the patients of Pakistan. The present study has not investigated the role of personality traits as these factors might have mediated the relationship between social support and mental health. Future research might incorporate the confounding variables such as personality traits in the research design to see the impact on subsequent variables of the study.

### REFERENCES

1. Brown RS, Gaglio PJ. Scope of worldwide hepatitis C problem. *Liver Transpl* 2003; 9:S10-3.
2. Shepard CW, Finelli L, Alter MJ. Global epidemiology of hepatitis C virus infection. *Lancet Infect Dis* 2005; 5:558-67.
3. World Health Organization. Global Hepatitis Report 2017. WHO; 2017. Available at: <https://apps.who.int/iris/bitstream/handle/10665/277005/WHO-CDS-HIV-18.46-eng.pdf>
4. Perz JF, Armstrong GL, Farrington LA, Hutin YJF, Bell BP. The contributions of hepatitis B virus and hepatitis C virus infections to cirrhosis and primary liver cancer worldwide. *J Hepatol* 2006; 45:529-38.
5. Khan UR, Janjua NZ, Akhtar S, Hatcher J. Case-control study of risk factors associated with hepatitis C virus infection among pregnant women in hospitals of Karachi-Pakistan. *Trop Med Int Health* 2008; 13:754-61.
6. Raza SA, Clifford GM, Franceschi S. Worldwide variation in the relative importance of hepatitis B and hepatitis C viruses in hepatocellular carcinoma: a systematic review. *Br J Cancer* 2007; 96:1127-34.
7. Menhas R, Umer S. Hepatitis: A Rapidly Spreading Viral Infection in Pakistan. *Iran J Public Health* 2015; 44:879-80.
8. Ali SA, Donahue RMJ, Qureshi H, Vermund SH. Hepatitis B and hepatitis C in Pakistan: prevalence and risk factors. *Int J Infect Dis* 2009; 13:9-19.
9. Waheed Y, Shafi T, Safi SZ, Qadri I. Hepatitis C virus in Pakistan: a systematic review of prevalence, genotypes and risk factors. *World J Gastroenterol* 2009; 15:5647-53.
10. Umar M, tulBushra H, Ahmad M, Data A, Ahmad M, Khurram M et al. Hepatitis C in Pakistan: A review of available data. *Hepat Mon* 2010; 10:205-14.
11. Umer M, Iqbal M. Hepatitis C virus prevalence and genotype distribution in Pakistan: Comprehensive review of recent data. *World J Gastroenterol* 2016; 22:1684-700.
12. Idrees M, Riazuddin S. Frequency distribution of hepatitis C virus genotypes in different geographical regions of Pakistan and their possible routes of transmission. *BMC Infect Dis* 2008; 8:69.
13. Akbar H, Idrees M, Manzoor S, Ur Rehman I, Butt S, Yousaf MZ et al. Hepatitis C virus infection: A review of the current and future aspects and concerns in Pakistan. *J Gen Mol Biol Virol* 2009; 1:12-8.
14. House JS & Kahn RL. Measures and concepts of social support. In: Cohen S, Syme SL (Eds.), *Social support and Health*. New York Acad Press 1985:83-108.
15. Blasiole JA, Shinkunas L, LaBrecque DR, Arnold RM, Zickmund SL. Mental and physical symptoms associated with lower social support for patients with hepatitis C. *World J Gastroenterol* 2006; 12:4665-72.
16. Bisschop MI, Kriegsman DMW, Beekman ATF, Deeg DJH. Chronic diseases and depression: the modifying role of psychosocial resources. *Soc Sci Med* 2004; 59:721-33.
17. Schwartz C, Frohner R. Contribution of demographic, medical, and social support variables in predicting the mental health dimension of quality of life among people with multiple sclerosis. *Health Soc Work* 2005; 30:203-12.
18. McDonnell KA, Gielen AC, O'Campo P, Burke JG. Abuse, HIV status and health-related quality of life among a sample of HIV positive and HIV negative low income women. *Qual Life Res* 2005; 14:945-57.
19. Jia H, Uphold CR, Wu S, Reid K, Findley K, Duncan PW. Health-related quality of life among men with HIV infection: effects of social support, coping, and depression. *AIDS Patient Care STDS* 2004; 18:594-603.
20. Hilsabeck RC, Hassanein TI, Perry W. Biopsychosocial predictors of fatigue in chronic hepatitis C. *J Psychosom Res* 2005; 58:173-8.
21. Kraus MR, Schäfer A, Csef H, Scheurlen M, Faller H. Emotional state, coping styles, and somatic variables in patients with chronic hepatitis C. *Psychosomatics* 2000; 41:377-84.
22. Alavi M, Grebely J, Micallef M, Dunlop AJ, Balcomb AC, Day CA et al. Assessment and treatment of hepatitis C virus infection among people who inject drugs in the opioid substitution setting: ETHOS study. *Clin Infect Dis* 2013; 57:S62-9.
23. Hill HM, Levermore M, Twaite J, Jones LP. Exposure to community violence and social support as predictors of anxiety and social and emotional behavior among African American children. *J Child Fam Stud* 1996; 5:399-414.
24. Friedmann E, Thomas SA, Liu F, Morton PG, Chapa D, Gottlieb SS et al. Relationship of depression, anxiety, and social isolation to chronic heart failure outpatient mortality.

- Am Heart J 2006; 152:940.e1-8.
25. Turner A, Phillips L, Hambridge JA, Baker AL, Bowman J, Colyvas K. Clinical outcomes associated with depression, anxiety and social support among cardiac rehabilitation attendees. *Aust New Zealand J Psychiatr* 2010; 44:658-66.
  26. Mirza I, Jenkins R. Risk factors, prevalence, and treatment of anxiety and depressive disorders in Pakistan: systematic review. *Br Med J* 2004; 328:794.
  27. Lovibond SH, Lovibond PF. *Manual for the Depression Anxiety Stress Scales*. (2nd Ed). Sydney: Psychology Foundation 1995. Available at: <https://www.worldcat.org/title/manual-for-the-depression-anxiety-stress-scales/oclc/222009504>.
  28. Malik AA. The study of social support as a determining factor in depressed and non-depressed as measured by an indigenously developed social support scale, Unpublished PhD Dissertation. Pakistan: University of Karachi; 2002. Available at: <https://bmcnurs.biomedcentral.com/articles/10.1186/s12912-016-0134-x>
  29. Werner-Seidler A, Afzali MH, Chapman C, Sunderland M, Slade T. The relationship between social support networks and depression in the 2007 National Survey of Mental Health and Well-being. *Soc Psychiatry Psychiatr Epidemiol* 2017; 52:1463-73.
  30. Alsubaie MM, Stain HJ, Webster LAD, Wadman R. The role of sources of social support on depression and quality of life for university students. *Int J Adoles Youth* 2019; 24:484-96.
  31. Hu T, Xiao J, Peng J, Kuang X, He B. Relationship between resilience, social support as well as anxiety/depression of lung cancer patients: A cross-sectional observation study. *J Cancer Res Ther* 2018; 14:72-7.
  32. Davaridolatabadi E, Abdeyazdan G. The relation between perceived social support and anxiety in patients under hemodialysis. *Electron Physician* 2016; 8:2144-9.
  33. Baqutayan S. Stress and social support. *Indian J Psychol Med* 2011; 33:29-34.
  34. Cockerham WC, Dingwall R, Quah SR. The Wiley Blackwell encyclopedia of health, illness, behavior, and society, 5 volume set. *Soc health Illness* 2014; 5:2195-200. Available at: <https://www.wiley.com/en-us/The+Wiley+Blackwell+Encyclopedia+of+Health%2C+Illness%2C+Behavior%2C+and+Society%2C+5+Vol-ume+Set-p-9781444330762>
  35. Watkins K, Hill EM. The Role of Stress in the Social Support–Mental Health Relationship. *J Coll Counsel* 2018; 21:153-64.
  36. Gentz SG, Calonge Romano I, Martínez-Arias R, Ruiz-Casares M. Predictors of mental health problems in adolescents living with HIV in Namibia. *Child Adoles Ment Health* 2017; 22:179-85.
  37. Shelton AJ, Wang CDC, Zhu W. Perceived Social Support and Mental Health: Cultural Orientations as Moderators. *J Coll Counsel* 2017; 20:194-207.
  38. Berkman LF, Blumenthal J, Burg M, Carney RM, Catellier D, Cowan MJ et al. Effects of treating depression and low perceived social support on clinical events after myocardial infarction: the Enhancing Recovery in Coronary Heart Disease Patients (ENRICH) Randomized Trial. *J Am Med Assoc* 2003; 289:3106-16.
  39. Aneshensel CS, Stone JD. Stress and depression: A test of the buffering model of social support. *Arch Gen Psychiatry* 1982; 39:1392-6.
  40. Kathleen Ell. Social networks, social support and health status: A Review. *Soc Serv Rev* 1984; 58:133-49.
  41. Kawachi I, Berkman LF. Social ties and mental health. *J Urban health* 2001; 78:458-67.

## CONTRIBUTORS

SS conceived the idea, wrote initial manuscript, collected and interpreted data and finalized the manuscript. SA helped in data collection, refining the manuscript, writing and finalizing bibliography and carrying out corrections. Both authors contributed significantly to the submitted manuscript.