

Frequency of Depressive Disorders in Patients of Hepatitis C

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ABSTRACT

The aim of this study was to evaluate the patients with chronic hepatitis C for depression and to compare this with the patients of mild, moderate and severe depression. This study was conducted at Government teaching hospital Shahdara Lahore, Pakistan from 01.01.2016 to 30.06.2016 in a non-contrived setting and was basing on observations. The mode of data collection was cross-sectional. Data was collected from 200 patients who visited outdoor of the hospital. All patients were divided in to three groups, group-1 (mild depression n=80), group-2 (moderate depression, n=72) and group-3 (severe depression, n = 40). During statistical analysis one more group was identified with the name group-0, the patients of HCV which were not facing depressive disorders. The analysis was conducted age wise and the frequency & severity of depression was measured with Hamilton Depression Rating Scale (HDRS). Frequency of depressive disorders was 4% in group-0, 40% in group-1, 36% in group-2 and 20% in group-3 with p value < 0.001. Chronic HCV has significant impact on depressive disorders and creates anxiety in patients therefore it must be closely observed and managed during treatment.

Keywords: Depression, Chronic HCV, Hamilton Depression Rating Scale (HDRS)"

INTRODUCTION

According to the report of WHO, nearly 180-190 million among the world's population are infected with hepatitis B virus (HBV) or hepatitis C virus (HCV)¹ whereas 130 million people are at severe risk of chronic carriers which may be turned into liver cirrhosis or liver cancer and if it is not controlled then death rate due to HCV will surpass that from AIDS². Every year in the world almost 3-4 million people get infected with HCV and 350,000 people die due to HCV disorders³. Pakistan is the second (4.8%) highest country in the world which has high prevalence of HCV while Egypt (22%) and China (3.2%) are at first and third positions respectively⁴. Mostly, people of Pakistan are unaware with this disease or either they have not gone for HCV test otherwise situation may be alarming.

Due to the lacking of preventive measures, chronic hepatitis C has become the main reason of chronic liver disease (CLD)[5]. A Western study revealed that 10% recipients of kidney transplant were facing chronic HCV[6]. The chronic HCV is a cause of risk increment in kidney transplant patients and this risk is converted into danger when routine blood transfused process is performed during hemodialysis⁷. The development of direct-acting antiviral agents (DAAs) has been found effective against all HCV genotypes and appeared as safe in clinical treatments and liver transplant recipients with

HCV infection but data regarding their use is still limited⁸.

Late complications of chronic liver disease (CLD) are cirrhosis and hepatocellular carcinoma which increase frequency of anxiety and mood disorder in patients⁹. Disproportionate relationship between chronic pain and pain related diagnosis has been found in chronic HCV patients¹⁰. Patients with chronic HCV do more usage of medical services in comparison with simple HCV patient because of depression related issues due to anxiety, pain or declined physical functions. Depression in chronic HCV patient becomes the reason of fatigue and lower quality of life¹¹. Higher levels of chronic inflammations and subsequent reason cytokines contribute in depressive disorders¹². The health related quality of chronic HCV patients is relatively poor and it can be improved by interferon therapy through Sustained Viral Response (SVR)¹³ but one of the side effect of interferon (IFN)-alpha is occurrence of frequency of anxiety and mood disorders in patients. One of the reasons for stopping of interferon treatment is the detection of psychiatric issues during treatment that is why it is not in common use now a day¹⁴.

HCV has one more negative impact on brain neurocognitive function also. Psychiatric symptoms are unavoidable in hepatitis C disease and have bad influence on patient's health or it may cause depression, anxiety and other psychiatric issues¹⁵. Depression and other psychiatric issues are important to detect and manage in HCV treatment because it has been reported that rate of depression in hepatitis C patients is ranging from 22 to 59%¹⁶. Other reasons of depression in HCV patients are important to discuss here that combination of non-

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alcoholic fatty liver disease (NAFLD) and HCV patients will have higher chance of getting depression¹⁷. Chances of depression may increase in mentally ill and restarted patients or the individuals who take intravenous drugs in combination with HCV². This study was aiming to evaluate the patients with hepatitis C for depression and to compare this with patients with mild, moderate and severe depression.”

METHODOLOGY

“In this study, the data were collected from 234 HCV patients visited OPD of Gastroenterology of Government teaching hospital Shahdhra Lahore, Pakistan, from 01.01.2016 to 30.06.2016. Out of all collected questionnaire survey forms 34 forms were excluded because they were not usable. Therefore, study was conducted on 200 patients. The patients of ages between 18 - 65 years were included in the study, diagnosed with chronic HCV with minimum of 06 months duration of disease with psychiatric disorders or neurological disorder, cirrhosis, liver failure, patients on treatment with interferon, liver disease of etiology or the patient of hemodialysis due to HCV. Before conducting surveys, prior verbal permission was acquired from the hospital administration as well as patients. The study population was divided into three groups: group-I (mild depression n = 80), group-II (moderate depression, n = 72) and group-III (severe depression, n = 40) with group wise formation of ages and genders of the patients. After noting history, physical examinations were performed. The presence of chronic HCV was diagnosed through positive serologic markers for at least 6 months including anti-HCV anti-body and HCV PCR. More investigations were performed including coagulation profile, liver function tests and serum albumin. Depressive disorders were evaluated by Hamilton Depression Rating Scale (HDRS). This questionnaire survey included 17 questions. Each question had 5 choices (0 – 4). In this questionnaire, maximum score taken for depression was 21. Participants scored 0 – 7 were taken as no depression, 8 – 11 as mild depression and 12 – 21 were taken as facing severe depression. SPSS version 20 was used for data analysis. In statistical analysis, age differences, gender and severity of depressive disorders were divided in four groups was measured through chi-square with significance $p < 0.05$.”

RESULTS

A total of 200 pts completed the study. Out of these, 90(45%) were male while 110(55%) were female. From table-I, demographics of the participants of the study can be seen, there were 200 patients taken as

population of the study. Among 200 patients, 45 patients were having ages between 21-35 years, 95 patients were in between the ages of 36-50 years and 60 patients were above the age of 50 years.

Table I: Descriptive statistics (n=200)

Age (years)	
21-35	45
36-50	95
Above 50	60
Gender	
Male	90
Female	110

Table II: Frequency of depressive Disorders in groups

Depressive Disorders	Groups			
	Group-0	Group-1	Group-2	Group-3
	8	80	72	40
21-35	5 (62.50%)	15 (18.75%)	20 (27.77%)	6 (15%)
36-50	3 (37.50%)	48 (60%)	25 (34.72%)	20 (50%)
Above 50	Nil	17 (21.25%)	27 (37.50%)	14 (35%)
Total Depressive Disorders	4%	40%	36%	20%

p-value <0.001

Initially, 200 patients were divided in three groups named group-1, group-2 and group-3 according to the severity level in depression frequency of chronic HCV patients. During study one more group was identified with the name group-0 in which those patients were kept who were lacking depression. From table-II, there are eight (08) patients in group-0, eighty (80) patients in group-1, seventy two (72) patients in group-2 and forty (40) patients in group-3.

In group-0 of chronic HCV patients having no depression, 5 patients exist between 21-35 years age, 3 patients exist between 36-50 years of age while there is no patient of above 50 years age. In group-1 of chronic HCV patients having mild depression, 15 patients exist between 21-35 years age, 48 patients exist between 36-50 years of age while 17 patients are above 50 years age. In group-2 of chronic HCV patients having moderate depression, 20 patients exist between 21-35 years age, 25 patients exist between 36-50 years of age while 27 patients are above 50 years age. In group-3 of chronic HCV patients having severe depression, 6 patients exist between 21-35 years age, 20 patients exist between 36-50 years of age while 14 patients are above 50 years age.

DISCUSSION

Liver diseases such as hepatic decompensation, variceal bleeding or hepatocellular carcinoma can

catch the patients of HCV at later stages if it is not diagnosed in time[18]. Majority of the patients experience anxiety and depression symptoms with liver diseases. Psychological stress can be translated into immune system activation which release proinflammatory cytokines¹⁹. HCV can also be the cause of cryoglobulinemia, insulin resistance and several cardiovascular diseases²⁰. In our culture the HCV patient is stigmatized which cause anxiety, depression, fatigue, malaise and negative moods in patients, and these may be the barriers in treatment of patients. There is another type of depression called iatrogenic depression which results from interferon- alpha (IFN-alpha)⁹. A research revealed that depressive disorders in HCV patients have negative impact on employment, job performance and productivity²¹. The findings of this study are in accordance with the results of previous studies that patients of chronic HCV are more in depressive disorders than patients of HBV and if HCV is combined with other liver diseases it may cause the greater depression and reduced quality of life. The frequency of depression disorders in HCV patients was higher in this study and more in the case of chronic HCV. Patients of HCV are at high risk of developing depression of than the persons without HCV and the rate of mortality due to depression is also very high.

CONCLUSION

Chronic HCV has significant impact on depressive disorders and creates anxiety in patients therefore it must be closely observed and managed during treatment. Improved clinical outcomes can be obtained from a sustained virological response. Many studies have shown that risk of liver related mortalities can be lessened through treatment of chronic HCV with antivirals. The availability of effective treatment centers and encouraging behavioural components like affordable cost can minimize the death rates due to depressive disorders of chronic HCV. Deeper studies are required to realize the effect of the recent drugs used for HCV treatment.

REFERENCES

1. Umar, M. and M. Bilal, Hepatitis C, a mega menace: a Pakistani Perspective. *Journal of Pioneering Medical Sciences*, 2012. **2**(2): p. 68.
2. Messina, J.P., et al., Global distribution and prevalence of hepatitis C virus genotypes. *Hepatology*, 2015. **61**(1): p. 77-87.
3. Mauss, S., et al., Late presentation of chronic viral hepatitis for medical care: a consensus definition. *BMC medicine*, 2017. **15**(1): p. 92.
4. Ali, M., et al., MOLECULAR IDENTIFICATION OF HEPATITIS C VIRUS IN DIFFERENT DISTRICTS OF

- PUNJAB, PAKISTAN: A PRELIMINARY STUDY. *Pakistan Journal of Science*, 2015. **67**(2).
5. Shalmani, H.M., M. Ranjbar, and A.H.M. Alizadeh, Recommendations for prevention and control of hepatitis C virus (HCV) infection and HCV-related chronic disease. *J Liver*, 2013. **3**(147): p. 2167-0889.
6. Tsochatzis, E., et al., Elastography for the diagnosis of severity of fibrosis in chronic liver disease: a meta-analysis of diagnostic accuracy. *Journal of hepatology*, 2011. **54**(4): p. 650-659.
7. Takahashi, H., et al., Evaluation of acoustic radiation force impulse elastography for fibrosis staging of chronic liver disease: a pilot study. *Liver International*, 2010. **30**(4): p. 538-545.
8. Gane, E. and K. Agarwal, Directly acting antivirals (DAAs) for the treatment of chronic hepatitis C virus infection in liver transplant patients: "a flood of opportunity". *American Journal of Transplantation*, 2014. **14**(5): p. 994-1002.
9. Kowdley, K.V., et al., Ledipasvir and sofosbuvir for 8 or 12 weeks for chronic HCV without cirrhosis. *New England Journal of Medicine*, 2014. **370**(20): p. 1879-1888.
10. Navines, R., et al., Depressive and anxiety disorders in chronic hepatitis C patients: reliability and validity of the Patient Health Questionnaire. *Journal of affective disorders*, 2012. **138**(3): p. 343-351.
11. Zampino, R., et al., Chronic HCV infection and inflammation: Clinical impact on hepatic and extra-hepatic manifestations. *World journal of hepatology*, 2013. **5**(10): p. 528.
12. Costantini, S., et al., Serum cytokine levels as putative prognostic markers in the progression of chronic HCV hepatitis to cirrhosis. *European cytokine network*, 2010. **21**(4): p. 251-256.
13. van der Meer, A.J., et al., Association between sustained virological response and all-cause mortality among patients with chronic hepatitis C and advanced hepatic fibrosis. *Jama*, 2012. **308**(24): p. 2584-2593.
14. Manns, M., et al., Simeprevir with pegylated interferon alfa 2a or 2b plus ribavirin in treatment-naive patients with chronic hepatitis C virus genotype 1 infection (QUEST-2): a randomised, double-blind, placebo-controlled phase 3 trial. *The Lancet*, 2014. **384**(9941): p. 414-426.
15. Younossi, Z. and L. Henry, Systematic review: patient-reported outcomes in chronic hepatitis C-the impact of liver disease and new treatment regimens. *Alimentary pharmacology & therapeutics*, 2015. **41**(6): p. 497-520.
16. Qureshi, M.O., N. Khokhar, and F. Shafqat, Severity of depression in hepatitis B and hepatitis C patients. *J Coll Physicians Surg Pak*, 2012. **22**(10): p. 632-4.
17. Singh, S., et al., Magnetic resonance elastography for staging liver fibrosis in non-alcoholic fatty liver disease: a diagnostic accuracy systematic review and individual participant data pooled analysis. *European radiology*, 2016. **26**(5): p. 1431-1440.
18. Reig, M., et al., Unexpected early tumor recurrence in patients with hepatitis C virus-related hepatocellular carcinoma undergoing interferon-free therapy: a note of caution. *J Hepatol*, 2016. **65**(4): p. 719-726.
19. Pan, Z., et al., Role of Proinflammatory Cytokines in Dopaminergic System Disturbances, Implications for Anhedonic Features of MDD. *Current pharmaceutical design*, 2017. **23**(14): p. 2065-2072.
20. Lin, R.-J., et al., MCP1 suppresses hepatitis C virus replication and negatively regulates virus-induced proinflammatory cytokine responses. *The Journal of Immunology*, 2014. **193**(8): p. 4159-4168.
21. Huisman, E.J., et al., Effects of preventive versus "on-demand" nutritional support on paid labour productivity, physical exercise and performance status during PEG-interferon-containing treatment for hepatitis C. *Clinics and research in hepatology and gastroenterology*, 2016. **40**(2): p. 221-229

