RELATIONSHIP BETWEEN LIVER DISEASES AND LEVELS OF ANXIETY AND DEPRESSION

Imtiaz Ahmad Dogar, Naim Siddiqui, Asma Bajwa, Aysha Bhatti, Nighat Haider, Zahid Yaseen Hashmi

ABSTRACT

Objective: To assess the level of anxiety and depression in the patients suffering from various liver diseases and to determine the correlation, if any, between clinical and demographic factors and adverse psychological consequences.

Design: Correlational study.

Place and duration of study: The study was conducted in the District Headquarter Hospital, Faisalabad from September to November 2007.

Subjects and Methods: 102 patients with liver diseases participated in this study through purposive convenient sampling technique. To take the measures of anxiety and depression HADS (hospital anxiety and depression scale) was used while demographic variables were recorded on a demographic sheet. The results were obtained by using Pearson correlation and analysis of variance (ANOVA).

Results: Results showed a positive correlation 0.511 between the scores of anxiety and depression. It was also found out that most of the liver patients were experiencing anxiety (n=73, 71.6 %) and depression (n=72, 70.6 %). Negative correlation -0.335 was observed between years of education and depression while housewives were found to be more anxious than people doing jobs.

Conclusion: In view of the high presence of psychiatric symptoms in liver diseases, doctors working in medical/liver units should be better equipped to assess and manage psychiatric symptoms that accompany medical diseases.

Key words: Anxiety, Depression, Liver Diseases.

INTRODUCTION

Hepatitis poses a significant health problem on the global scale[1]. The world health organization estimates that 3% of the world's population (170 million people) is infected with hepatitis C virus and is at risk of developing liver cirrhosis and liver cancer[2]. Hepatitis C is now the leading cause of end stage liver failure and leading indication for liver transplant in the developed world. Like many other medical illnesses, hepatitis C is also associated with an increased prevalence of psychiatric disorders particularly anxiety and depression[3, 4].

The evidence about presence of psychiatric symptoms in hepatitis is important because they have an adverse effect upon the course of illness in form of amplification of physical symptoms, functional impairment, reduced treatment compliance, and reduced quality of life[5]. The association is of particular importance in hepatitis C because hepatic patients often come from population groups at risk of psychiatric disorders, such as injecting drug users. In addition, treatment of hepatitis C involves interferon alfa, which has neuropsychiatric side effects. These psychiatric symptoms are the major reason for delay or discontinuation of interferon alfa treatment [6]. Successful medical treatment of hepatitis C therefore requires detection and management of depression and other psychiatric symptoms before and during the treatment [5]. The reasons for high prevalence of depression in patients with liver diseases are not clear. It has been hypothesized that these may arise from the disease itself or these may have been found because a high proportion of the patients come from population segments at risk of psychiatric disorders or these symptoms may be triggered by the stigmizing nature of the diagnosis.

Another study indicates that about 55% of all the liver cirrhosis patients developed diagnosable psychi-

Imtiaz Ahmad Dogar, Associate Professor, Department of Psychiatry and Behavioral Sciences, Punjab Medical College, Faisalabad.
E mail: psycon2005fsd@yahoo.com.

Naim Siddiqui, Assistant professor, Psychiatry, SIUT Karachi

Asma Bajwa, Clinical Psychologist, PMC/DHQ Hospital, Faisalabad.

Aysha Bhatti, Internee Psychologists, Department of Psychiatry, DHQ Hospital, Faisalabad.

Nighat Haider, Clinical Psychologist, PMC, DHQ/ Allied Hospitals, Faisalabad.

Zahid Yaseen Hashmi, Professor of Medicine Punjab Medical College,Faisalabad.

Correspondence:

Dr. Imtiaz Ahmad Dogar

atric morbidity. These psychiatric conditions include depressive episode, generalized anxiety disorder, delirium, and adjustment disorder. The same proportion (55%) of hemodialysis patients and a lesser proportion (30%) of Chronic Obstructive Pulmonary Disease (COPD) patients compared with cirrhosis patients were found to have psychiatric morbidity. The rates were found higher than hypertension and normal subjects. Poor medical conditions seem to be associated with psychiatric morbidity [7].

A study compared asymptomatic hepatitis B carriers with healthy participants in terms of their psychological states. Hepatitis B virus carriers were more likely to have psychiatric disorders than healthy controls (30.2% vs. 11.6%). The carriers also had significantly higher depression and anxiety scores and lower global assessment of functioning scores than did the comparison group [8]. It is evident that patients with chronic HCV have a compromised quality of life, a higher prevalence of psychiatric disorders and higher scores of fatigue. These effects don't seem to be related to the severity of liver inflammation of fibrosis [9].

Despite this literature many questions remain unanswered regarding Pakistan. Depression has been the main focus of the previous researches but few of them addressed the anxiety. The purpose of current study was to determine the presence of the symptoms of anxiety and depression in hepatic patients. It was aimed at studying the relationship between symptoms of anxiety and depression and their association with age, gender, marital status, family type, type of residence, occupation and income.

SUBJECTS AND METHODS

Participants

One hundred and two liver disease patients from liver center DHQ hospital, Faisalabad participated in the research. Participants having diagnosis of hepatitis B, hepatitis C, and liver cirrhoses were approached with the help of liaison medical officers using purposive convenient sampling technique.

Instruments

Hospital anxiety and depression scale was administered to measure levels of anxiety and depression in hepatic patients. It is valid and reliable instrument containing 14 statements followed by a four point rating scale scoring from 0 to 3. Item number 1, 3, 5, 6, 8, 10, 11, and 13 are scored in reverse order. Cumulative score on subscales of anxiety and depression may range from 0 to 21. Present study employed translated and validated Urdu version of this scale [10].

Bio data form consisted of questions about personal and demographic variables.

Procedure

Researchers approached liaison medical officers at liver center, Faisalabad. They introduced the researchers with the participants having diagnosis of hepatitis B, hepatitis C, and liver cirrhoses. Researchers took a verbal informed consent from the participants before booklets containing research instruments were handed them over to fill in. A team of raters was trained to administer research instruments onto the illiterate participants who help them fill in the booklets. When all the data had been collected, the scales were scored according to the scoring instructions provided with the scales.

Raw results were tabulated along with demographic information obtained from the participants. Spearman correlation and Analysis Of Variance (ANOVA) was completed using SPSS 16 to analyze the data.

RESULTS

Out of 102 patients, 73 patients (71.6%) had anxiety symptoms on Anxiety sub scale of HADS while seventy two (70.6%) showed depression on HADS depression sub scale. Patients showed a slight difference of percentage among different severity levels of both anxiety and depression. Mild depression is more prevalent than moderate and severe depression while moderate anxiety is slightly higher in percentage than mild and severe anxiety (table 1). A positive correlation between anxiety and depression is found to be statistically significant, $r = + 0.511$, $n = 102$, $p < .01$, two tailed. A correlation analysis of anxiety and depression with age, income and years of education has produced statistically insignificant results except for a negative correlation is found between age and years of education, $r = -.235$, $n = 102$, $p < 0.05$, two tailed and score on depression sub scale and years of education are negatively related, $r = -.335$, $n = 102$, $p < 0.05$, two tailed (table 2). Analysis of variance has failed to establish significant difference among different types of hepatic diagnosis in both anxiety and depression, $F (5, 96) = 2.538$, $p > 0.05$ and $F (5, 96) = 1.116$, $p > 0.05$ (table 3). Gender wise differences are also not significant, $F (1,100) = 0.982$, $p > 0.05$ and $F (1,100) = 2.670$, $p > 0.05$ in anxiety and depression respectively. Residence, $F (1,100) = 0.743$, $p > 0.05$ and family type, $F (1,100) = 0.107$, $p > 0.05$ are failed to be statistically related with anxiety and also with depression, $F (1,100) = 0.203$, $p > 0.05$ and $F (1,100) = 0.73$, $p > 0.05$. Anxiety and depression are

Table 1

Proportion of anxiety and depression

Degree of severity	Anxiety Number(%age)	Depression Number(%age)
Normal	29 (28.45)	30 (29.40)
Mild	20 (19.60)	31 (30.40)
Moderate	29 (28.45)	18 (17.70)
Severe	24 (23.50)	23 (22.50)

Table 2

Correlation matrix for anxiety, depression, income, age & education

	Age	Monthly Income	HADS Anxiety Score	HADS Depression Score	Years of Education
Age	1.000	.039	.064	.047	-.235*
Monthly Income	.039	1.000	-.111	-.097	-.076
HADS Anxiety Score	.064	-.111	1.000	.511**	-.178
HADS Depression Score	.047	-.097	.511**	1.000	-.335**
Years of Education	-.235*	-.076	-.178	-.335**	1.000

n = 102;
*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

Table 3

Anxiety & depression scores as per hepatic diagnosis

	Hepatitis B	Hepatitis C	Chronic liver disease	Decompensated cirrhosis	Others	Multiple
n	4	70	4	16	2	6
Anxiety Mean ± SD	8.00 ± 2.00	11.39 ± 4.648	9.25 ± 2.5	11.19 ± 4.490	7.00 ± 0	9.67 ± 4.082
Depression Mean ± SD	6.50 ± 3.109	9.97 ± 4.559	12.25 ± 3.096	9.69 ± 6.3	13.50 ± 4.95	10.69 ± 5.164

Table 4

Anxiety & depression scores as per marital status

	Single	Married	Divorced	Widow/widower
n	10	87	1	4
Anxiety Mean ± SD	9.1 ± 3.281	10.98 ± 4.454	10 ± 0	15.25 ± 5.697
Anxiety Mean ± SD	8 ± 4.269	10.15 ± 4.884	14 ± 0	10.50 ± 4.796

Table 5

Anxiety & depression as per occupation

	Student	Business	Service	House wives	Farmer	Unemployed	Laborer	Student + job	Other
n	4	14	19	48	2	5	5	2	3
Anxiety Mean ± SD	9.75 ± 3.403	11.21 ± 4.173	7.68 ± 3.667	12.38 ± 4.160	11.50 ± 6.364	11 ± 5.196	10.40 ± 6.269	6 ± 1.41	1.3 ± 2.7
Depression Mean ± SD	7.25 ± 2.986	9.71 ± 2.785	7.74 ± 5.425	11.54 ± 4.332	12.50 ± 3.536	5.4 ± 4.278	11.20 ± 6.140	5 ± 2.828	11.7 ± 8.15

not significantly related to marital status of the patients, $F(3, 98) = 2.284$, $p > 0.05$ and $F(3, 98) = 1.138$, $p > 0.05$ (table 4). There is no difference in depression level of the patients among different types of occupations, $F(8, 93) = 2.477$, $p > 0.05$ but a statistically significant difference is found in anxiety levels of the patients, $F(8, 93) = 2.225$, $p < 0.05$ (table 5). In post hoc Scheffe's test house wives are found to be more anxious than patient doing service.

DISCUSSION

Results indicate that most of the patients with liver diseases experience anxiety and depression symptoms. Previous researches have also found similar results [3, 4]. In efforts to find the reason of the association some researchers have postulated that the disease process involved in hepatitis diseases gives rise to psychiatric symptoms. Others have pointed out that patients with liver diseases come from the population sub groups that carry a high risk of psychiatric disorders [7]. A third line of reasoning has suggested that disorder labeling, the stigma that it entails, is responsible for the increased rates of psychiatric symptoms [11, 12]. A negative correlation is observed between education and depression. This finding is in agreement with another study [13]. It may be speculated that literacy and education give people more knowledge and control over their lives, enabling them to better cope with social and environmental stressors. Or it may be because their better know how of the current scientific and medical discoveries bestow them hope that prospects of the disease are good and symptoms are manageable hence uprooting their depression as compared with the uneducated lot of the patients. In occupation wise analysis of anxiety levels, significance was revealed. Hepatic housewives scored higher on anxiety scale than hepatic patients doing service. Higher levels of anxiety in housewives might have been indicated because women in households running family affairs assume a great responsibility on themselves that enhances anxious feelings in them. They might tend to magnify any threats to their health or it may be because they believe more in the myths spread about hepatic diseases.

Other demographic variables don't seem to be operating in changing the rate of anxiety and depression. It may be because the process of the disease is so complex and psychological strain generated by the stigma associated with hepatic diseases is so overwhelming that no demographic specification could avoid it. This confirms the two of the alternative explanations of the presence of anxiety and depression in hepatic patients that such adverse effects are generated either by the disease process involved in hepatic diseases as it gives rise to psychiatric symptoms or by the stigma that hepatic diseases entail [11, 12]. The third line of explanation has been rejected that the patients with liver diseases come from the population sub groups that carry a high risk of psychiatric disorders as no change has been recorded in both anxiety and depression as per demographic variable.

CONCLUSION

The prevalence of psychiatric symptoms of anxiety and depression in hepatic patients is alarmingly high as shown by the results; hence the medical personals working in hospitals should keenly monitor such patients for psychiatric symptoms. Furthermore they should be better trained in psychiatry so that they should be able to assess and manage such psychiatric symptoms appropriately.

REFERENCES

1 Hoofangle JH. Hepatitis C: The clinical spectrum of the disease. J Hepatol 1997; 26: 15-20.

2. Marcellin P. Hepatitis C: The clinical spectrum of the disease. J Hepatol 1999; 31: 9-16.

3. Yates WR, Gleason O. Hepatitis C and depression. Depress Anxiety 1998; 7: 188-93.

4. Bayliss MS, Gandek B, Bungay KM, Sugano D, Hsu MA, Ware JE. A questionnaire to assess the generic and disease-specific health outcomes of patients with chronic hepatitis C. Qual Life Res 1998; 7: 39-55.

5. Dwight MM, Kowdley KV, Russo JE, Ciechanowski PS, Larson AM, Katon WJ Jr. Depression, fatigue, and functional disability in patients with chronic hepatitis C. J Psychosom Res 2000; 49: 311-7.

6. Zdilar D, Franco-Bronson K, Bucher N, Locala JA, Younossi ZM. Hepatitis C: Interferon alfa and depression. Hepatology 2000; 31: 1207-11.

7. Aghanwa HS, Ndububa D. Specific psychiatric morbidity in liver cirrhosis in a Nigerian general hospital setting. Gen Hosp Psychiatry 2002; 24: 436- 41.

8. Atesci FC, Cetin BC, Oguzhanoglu NK, Karadag F, Turgut H. Psychiatric disorders and functioning in Hepatitis B virus carriers. Psychosomatics 2005; 46:142-7.

9. Abdo AA. Hepatitis C and poor quality of life: Is it the virus or the patient? Saudi J Gastroentrol 2008; 14: 109-13.

10. Mumford DB, Tareen I, Bajwa M, Bhatti MR, Kareem R. The translation and evaluation of Urdu version of Hospital Anxiety and Depression Scale. Acta Psychiatr Scand 1991; 83: 81-5.

11. Lobo A, Campos R, Marcos G, Garcia-Campayo J, Campayo A, Lopez-Anton R, et al. Somatic and psychiatric co-morbidity in Primary Care patients in Spain. Eur J Psychiat 2007; 21: 71-8.

12. Malik M, Abbas N, Azad N. Psychiatric co-morbidity in medical and surgical in-patients, referred for Psychiatric Consultation. J Rawal Med Coll 2008; 12: 19-24.

13. Kessler RC, McGonagle KA, Zhao S, Nelson CB, Hughes M, Eshleman S, et al. Life time and 12 month prevalence of DSM-III-R psychiatric disorders in the United states. Results from the National Co morbidity Survey. Arch Gen Psychiatry 1994; 51: 8-19.