

FREQUENCY OF DEPRESSION AMONG HEPATITIS C PATIENTS

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ABSTRACT

Objective: To estimate the frequency of depression among hepatitis C positive patients.

Material and Methods: This descriptive cross sectional study was conducted in the Department of Medicine, Hamdard University Hospital and KV site Hospital Karachi from November 1, 2008 to March 15, 2009, on 100 diagnosed Hepatitis C positive patients above 13 years of age and of both sexes. Depression was assessed using DSM-IV criteria. Patients were divided into three sub groups, patients with ongoing treatment interferon (IFN)/ribavirin (or both), post treatment patients and patients with hepatitis C but without any treatment.

Results: Out of 100 patients, (50 males and 50 females), 92% were married, ranging in age from 17 to 75 years with a mean age of 43 ± 12.6 years. Regarding treatment, 72% patients were taking treatment (88% on interferon + ribavirin and 12% on IFN alone), 8% were post treatment while 20% patients did not take any medication. The frequency of depression among all subgroups was 90% with 6% population being depressed even before diagnosis, 5% after they got to know that they are HCV positive and 32% after the IFN treatment. Interestingly 47% patients had depression both before starting IFN and also continuing after IFN therapy. Suicidal ideation was reported by 6%. None of HCV positive cases were on any antidepressants. Fifteen percent patients had positive family history of HCV.

Conclusion: This study reflects high frequency of undiagnosed depression in hepatitis C patients, with significant levels of depression among all patient subgroups. Depression is largely undetected and untreated.

Key words: Hepatitis-C, Depression, Psychiatric Disorder, IFN Alpha

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INTRODUCTION

Hepatitis C poses a very significant health problem on a global scale even in our country it is becoming an alarming infection¹. According to The World Health Organization, 3% of the world's population is infected with hepatitis C virus². The prevalence of hepatitis C virus (HCV) infection in Pakistan has been estimated as high as 35% in some areas^{2,3}.

Association of HCV and depression has been studied. Prevalence of HCV infection has been found to be higher in patients with psychiatric disorders especially in intravenous (IV) drug abusers than in general population⁴. Conversely chronic hepatitis C patients have a higher prevalence of various psychiatric disorders including depression.⁵

Combination treatment with pegylated interferon (IFN)-alpha plus ribavirin has been shown to be most effective in treating patients with chronic hepatitis C (CHC). Despite its efficacy, one of the most common side effects of this regimen is depression¹. Patients present with non-specific complaints, such as fatigue, and systemic symptoms, such as dryness of mouth and eyes^{5,6}.

Psychiatric side effects of IFN usually occur in >20% of patients treated for hepatitis C.^{7,8} Psychiatric disorder is the main reason for delay or discontinuation of interferon Alfa treatment⁹. Successful medical treatment of hepatitis C therefore requires detection and management of depression both before and during treatment⁶.

Neuropsychiatric symptoms associated with IFN- α therapy include cognitive, behavioral and affective components, which can affect both mental and physical functioning of the patient and these symptoms not only decrease the response of the treatment but are particularly distressing as they may interfere with work and interpersonal relationships.

The mechanism of IFN induced depression is described in many ways by different hypothesis and studies¹⁰⁻¹². INF alpha activates some cytokines which are good candidates for induction of psychobehavioral dis-

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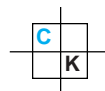
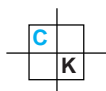
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orders. Secondly IFN alpha modulates the peripheral activity of indolamine-dioxygenase — a regulating enzyme of serotonin metabolism. Other authors have postulated an immune-induced vagal mechanism.

IFN alpha treatment is reported to produce:

- 1) Decrease in tryptophan availability for serotonin synthesis
- 2) Decrease in the 5-HIAA level.
- 3) Modification of the central serotonergic receptors.

This study was conducted to estimate the frequency of depression among hepatitis C positive patients presenting to Department of Medicine, Hamdard University Hospital Karachi.

MATERIAL AND METHODS

This descriptive cross sectional study, based on random sampling technique, was conducted in the Department of Medicine, Hamdard University Hospital Karachi from November 1, 2008 to March 15, 2009. In this study, 100 patients above 13 years of age and of both the sexes were included. All the pre diagnosed HCVAb positive cases visiting the outpatient department were asked for detailed history and depressive symptomatology based on DSM 1V criteria after informed consent. Patients with cirrhotic liver disease, complicated diabetes, advanced renal, hepatic, heart failure and hypothyroidism were excluded. Some of the patients didn't have any treatment for hepatitis C and some had completed the course of interferon therapy and some with ongoing interferon. Data was analyzed using SPSS version 15.

In this study we examined three groups of patients:

- 1- *The first group* was pre diagnosed as hepatitis C positive but they were not on any medication, to assess that if the virus itself is a causative factor for depression before using IFN, as proved in some researches that virus itself can be a factor for inducing some pathology resulting in depression.
- 2- *The second group* was post treatment that is they had completed course of interferon therapy with ribavirin.
- 3- *The third group* was under interferon therapy so that the frequency of depression during drug treatment could be estimated.

RESULTS

Our study comprised of 100 patients, 50 males and 50 females, ranging in age from 17 to 75 years with a mean age of 43 ± 12.6 years. Of total patients, 92% were married, responsible for transmitting hepatitis C to their partners by sexual intercourse. Among all, 64% patients were uneducated (not able to read and write their names) and 61% on monthly income between

5000-10,000 rupees. There were 41% patients who did not know their blood group, remaining 27% had B + blood group. Only 9% were vaccinated for hepatitis B (Table I).

ARE YOU VACCINATED FOR HEPATITIS B

	Frequency	Percentage
Yes	9	9.0
No	91	91.0
Total	100	100.0

Table I

Considering diagnosis 46% patients were diagnosed when they presented with symptoms like jaundice, hematemesis, nausea, fatigue, abdominal pain, joint pain, itching, dry mouth, irregular periods or hot flushes (Figure I). In spite of having HCVAb positive, 20% people did not take any medication, 72% patients were under treatment (88% on IFN+ ribavirin and 12% on IFN alone) while 8% were post treatment Table II).

YOU WERE TESTED FOR HEP C BECAUSE

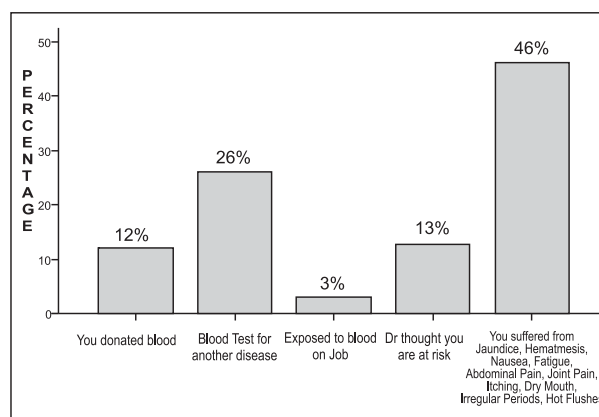


Fig. I

TREATMENT FOR HCV

TREATMENT	Frequency	Percentage
No treatment	20	20.0
Ongoing treatment	72	72.0
Post treatment IFN	2	2.0
Post treatment IFN + ribavirin	6	6.0
Total	100	100.

Table II

The frequency of depression was 90%, with 6% population depressed even before diagnosis, 5% after they got to know that they are HCV positive and 32% after the IFN treatment (figure II).

WHEN YOU GOT DEPRESSION

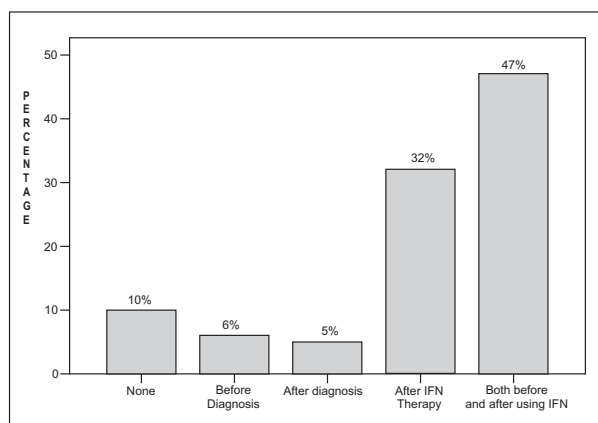


Fig. II

Interestingly 47% patients had depression both before and after taking IFN.

Suicidal ideation was reported by 6% which shows severity of neuropsychiatric side effects of IFN therapy. None of HCV positive cases were on antidepressants or had referral to mental care provider at any stage of depression. Family history of hepatitis C was positive in 15% patients.

Out of 100 patients, 65% patients were not aware how they got infected by HCV, and 11 % had history of blood transfusion (Figure III).

Regarding alternate treatment 8% used homeo/herbal medication. Among all, 14% patients were in habit of smoking and another 4% to paan/chaalia.

WHAT DO YOU THINK YOU GOT INFECTED BY HCV

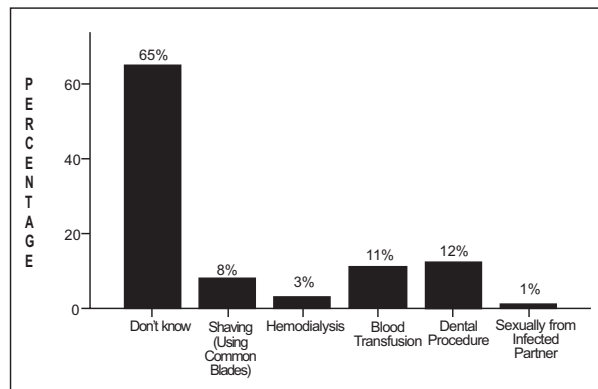


Fig. III

DISCUSSION

In common with persons with other significant medical illnesses, persons with hepatitis C have high rates of psychological symptoms and reduced quality of life compared with the general population³. In our study comprising 100 patients 90% had depression. World

wide various prevalence rates of depression among HCV patients have been reported. Fattovich et al has reported as low as 1% rate of depression in HCV patients.¹³ But they have reported only severe cases of depression. Lee et al¹⁴ reported a prevalence rate of 14.8% for depression. Higher rates of depression reported in HCV patients are 37.3%¹⁵ and 44%¹⁶. This gross difference in the prevalence rates of depression in HCV patients may be due to various diagnostic tools for depression used by different authors. Various scales are available for diagnosing depression in clinical settings e.g. Hamilton Depression Rating Scale, Hospital Anxiety and Depression Scale, Structured Clinical Interview for DSM-IV axis I disorders, Zung Self-Rating Depression Scale; Self-Rating Depression Scale, Beck Depression Inventory etc. Also various ethnic groups may have different rates of depression. Another important factor is that our study was conducted in the hospital setting which may not be representative of general population. Well conducted population based study will be required to get the true picture of the disease burden.

As the current most common route of transmission is intravenous drug use, in our study 65% patients did not know about the routes of transmission and how they got infected so the most common route remains unknown in this population sample or we can say as 64% patients were uneducated belonging to low socioeconomic strata, they were unaware of causative factors, transmission and hazards of Hepatitis C.

In our study 90% have depression assessed on DSM IV criteria but none of them were on antidepressants, none had received an evaluation of their symptoms or treatment accordingly. All of those with diagnosis of depression had not received formal psychiatric evaluation, even at general practitioner level, despite their prolonged contact with the medical services for Hepatitis C treatment.

CONCLUSION

Although our study is not a population based study, it shows a higher frequency of depression in hepatitis C. Our study underlines the frequency of undiagnosed depression in persons with hepatitis C, with significant levels of psychiatric disorder across all patient subgroups. It also corroborates presence of depression among patients who did not take any treatment showing that depression is also caused by the disease process itself. Another important finding is depressive symptomatology found in the patients before they were diagnosed reflecting that the depression might have led to hepatitis C as most of the people belonged to unsatisfactory socio-economic status rendering them ignorant to their health.

RECOMMENDATIONS

A well designed population based study is required to study the association of HCV and depression. However our findings, taken together, suggest that the

management of the hepatitis C, while taking liver function into account, must be in order to achieve maximum quality of life and function in patients.

All those affected must be seen as at risk of psychiatric disorder, and management aimed at offering the best quality of life must include a component of evaluation and management of psychiatric symptoms. All the patients should be screened for neuropsychiatric problems to aid the management outcome. Families of the patients should also be tested as sexual transmission is very common. Health authorities should take active part in organizing awareness programmes among public regarding routes of transmission, prevention and treatment of the disease.

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CONFLICT OF INTEREST

Authors declare no conflict of interest