

Evaluation of anxiety and depression in chronic liver disease patients.

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Abstract:**Objective:** To evaluate the risk factors of anxiety and depression in chronic liver disease patients**Methodology:** In this longitudinal study seven hundred fifty-five patients (mean age 51 ± 5 years, 59% males). All the patients were suffering from chronic hepatitis B, chronic Hepatitis C, Alcoholic liver disease and non-alcoholic fatty stomach disease. Questionnaires were included anxiety, using the Hamilton depressing rating scale (HDRS) and Hamilton anxiety scale (HARS), including socio-demographic, health status and family support. The criteria for inclusion in the study were having liver disease from last 15 months. Clinical functional and psychological assessments were performed.**Results:** In this study patients with depression was 59.3%, with anxiety 17.4% patients and both anxiety and depression were noted in 36.7% patients. After measuring and calculating all the variables score of depression and anxiety were recorded. A higher HDRS score was noted in patients older than 46 years ($p=0.024$). Patients with gastrointestinal bleeding had a prominent higher score of anxiety than those without bleeding ($p=0.019$). A higher HARS score was present in the women ($p=0.011$), unemployed patients ($p=0.009$) and those with alcoholic liver disease ($p=0.006$). There was direct correlation between the duration of disease and the value of HDRA and HARS score.**Conclusion:** In the chronic liver disease patients' depression and anxiety are increasingly high with passage of time, gastrointestinal bleeding and unemployment. Increased prevalence of relax by patients are more likely to be due to the low acceptance of disease prognosis.**Keywords:** Chronic stomach Disease, Depression, Anxiety.**Introduction:**

Patients with chronic liver disease have growing devastation and regeneration of the liver cells and parenchyma progressive to cirrhosis and fibrosis in at least 4-6 months. The causing factors of chronic liver diseases include (HBV and HCV) hepatotropic viruses, fatty stomach, autoimmune hepatitis etc¹. The chronic stomach patients have high mortality rate is only due to irreversible cirrhosis, but also have multiple complications such as hypertension, mental disease, depression and anxiety².

Depression is defined as mental abnormality characterized by persistent and enveloping low mood along with low self-esteem and lack of interest or happiness in normal and healthy activities. Mostly chronic stomach diseases renowned from decades and linked with depression³.

Earlier clinical studies also concluded that chronic liver diseases patients have more depression predisposition than normal healthy people. Although, the main mechanism of that relationship is still unknown, since all the past researches use many different tools and scales to calculate depression in different chronic diseases⁴.

In recent past years, chronic liver diseases patients has more chances to develop anxiety and depression because it is disturbing the quality of life, which is directly linked with deterioration of clinical outcome, decreased patient satisfaction from treatment and multiply mortality rate⁵. The aim of study was to evaluate the risk factors of anxiety and depression in chronic liver disease patients and to assess the part of economic factors, clinical and social risk factors for developing depression and anxiety. We try to collect the data for all the risk factors contribute to develop depression and anxiety in chronic liver disease patients, to indicate the related risk factors between

these two diseases, which may give more information to overcome depression and anxiety in the chronic liver disease patient s⁶.

Methodology:

In this longitudinal cohort study seven hundred fifty-five patients (mean age 51 ± 5 years, 59% males). All the patients were suffering from chronic hepatitis B, chronic Hepatitis C, Alcoholic liver disease and alcoholic fatty stomach disease. Questionnaires were included anxiety, using the Hamilton depressing rating scale (HDRS) and Hamilton anxiety rating scale (HARS), including socio-demographics, health status and family support. The criteria for inclusion in the study were having liver disease from last 15 months. Clinico functional and psychopathological assessments were performed.

**Table: 1 Psycho-Social by Chart**

Hamilton depressing rating scale (HDRS) has four sub categories, utilize to evaluate the negative thoughts and emotions. The reliability co-efficient of scale was equal to 85%. Hamilton anxiety rating scale (HARS) was used to estimate the perceived anxiety from different seven factors in last four months period. Data were analyzed by using SPSS 22. In sorting out all variables, implications of all the

variables is based on level of significance. P-value is less than 0.005 ($p < 0.05$), all the variables are significant.

Many of the patients are suffering from hepatitis B, Hepatitis C, GI Bleeding and fatty liver diseases from more than one year. The main reason increasing depression in chronic liver diseases patient is long term management of disease and it is too much costly to be afford by middle class family patients. Anxiety is however, to much relate with the attitude of society towards patients care and treatment.

Results:

In this study patients with depression was 59.3%, with anxiety 17.4% patients and both anxiety and depression were noted in 30.7% patients. The conditions and factors causing depression not only linked with the chronic liver disease but also aggravate by the long duration of treatment in which mild-moderate depression 40%-55% and major depression may cause by the behavior of family and friends, which account as 15%-22%.

Etiology	Percentage% (n)
Alcoholic	5.6% (40)
Non-Alcoholic	42.9% (124)
Hepatitis C	17% (129)
Hepatitis C and Alcohol	12.8% (97)
Hepatitis B and C	4.7% (30)
Hepatitis B	11.2% (85)
Unknown	4.4 % (41)

Table 1: The Etiology of Chronic liver Disease in the study Population.

After measuring and calculating all the variables score of depression and anxiety were recorded. A higher HDRS score was noted in patients older than 46 years ($p=0.024$). Patients with gastrointestinal bleeding had a prominent higher score of anxiety than those without bleeding ($p=0.019$). A higher HARS score was present in the women ($p=0.011$), unemployed patients ($p=0.009$) and those with non-alcoholic liver disease ($p=0.006$). There was direct correlation between the duration of disease and the value of HDRA and HARS score. Even though the main reasons for the high risk of developing depression in chronic liver diseases patients are not very clear yet.

Discussion:

The results of this longitudinal study, after analyzing data of 755 patients with chronic liver diseases provide evidence that chances of anxiety and depression may increases many times as diseases prolonged and need to much attention of patient and their family members. Patients activities of daily life and participation in healthy social activities will play key role to decreases the chances of depression and anxiety⁷. In this fast growing and busy life, it is necessary to develop the activities and objective

which helps to decrease the depression and improves patients prognosis in chronic liver diseases⁸. Additionally, Horikawa et al concluded that age was also another obvious causing factor. They find that there was huge difference in developing depression in old age patients than younger ones⁹. On the other hand, few studies have given different data with rather males with chronic liver diseases. On the other hand, there is no too much strong evidence regarding gender related difference in developing depression and anxiety¹⁰.

While on the other hand, Forton et al. reveals risk factors for the high incidence of anxiety and depression in chronic liver disease patients are not too much clear, rising evidences and researches has favors the hypoglycemia that hepatitis directly or indirectly persuade biological changes in the central nervous system, which can be lead to psychiatric issues like depression, anxiety etc. ¹¹. Moreover, the study from Weissen born et al point out the sharp decrease the dopamine transporter binding in chronic liver disease patients with increasing fatigue and cognitive problems, which may be coupled with the depression in this chronic disease patients¹².

Henao et al, conducted a randomized un-controlled trail concluded that the inflammatory response is usually mixed up with the pathogenesis of chronic liver diseases. Mostly hepatic inflammation enhances the expansion of liver fibrosis, in this large quantity of inflammasomes may perform a key role¹³. There is inflammasomes are multi-protein complexes, which is sensible to endogenous and exogenous damaging cells, eventually enhancing the inflammatory response in liver cells. Moreover, increasing in number of inflammasome activation can lead to hepatocyte degeneration¹⁴.

In addition to all the previous studies, one the possible enlightenment for all these researches is that there should be further investigation be made on increasing depression and anxiety due to disturbance of immune system, depression may increase es due to the negative attitude of society towards this communicable diseases and dur to the long term management of chronic liver diseases¹⁵. Another rationalization is different psychological theories, which describe that patients with depression have high rates of noncompliance with medical treatment of diseases¹⁶.

Conclusion:

In the chronic liver disease patient’s depression and anxiety increasingly high with passage of time, gastrointestinal bleeding and unemployment. Increased prevalence of depression by patients is more likely due to the low acceptance of disease prognosis. Patients affected with chronic liver diseases, has different levels of anxiety and depression, which can adversely affect clinical results and diseases prognosis.

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