Socioeconomic Susceptibility to Depression in Patients with Chronic Hepatitis B infection in a developing country

Dr. Jafferi , Syed Khawar Abbas

INTRODUCTION

Depression is considered one of the most prevalent psychiatric disorders among patients with hepatitis B virus (HBV)-related liver disease and has adverse effects on the disease progression. However, there is a scarcity of studies contributing to the assessment of depression in hepatitis B patients. There is also little research into risk factors, particularly underlying socio-economic factors.

OBJECTIVES

This study aimed to examine depression and identify whether difference in socio-economic status is related to the level of depression amongst chronic hepatitis B patients.

MATERIALS AND METHODS

- This is a cross-sectional study, which was conducted in 2010 with private patients of Sindh, Pakistan. We included patients who were diagnosed with chronic hepatitis B (CHB), and aged 18 years old or above. We excluded patients if they had cognitive impairment or other severe health conditions that might affect their capability to answer questions in the interview. The convenient sampling method was used to recruit CHB patients attending the private clinics. They were face-to-face interviewed while all the data have been recorded. The interviewers were trained intensively to ensure the data quality. All patients participating in the study were informed and asked to give their written informed consent. A total of 75 CHB patients from various parts of Sindh were enrolled in the study.

- Data about social, economic, clinical and depressive symptoms were collected using a structured questionnaire. Age, gender, education level, employment, marital status and household monthly income were obtained. We also acquired data about the number of co morbidities that were suffered. There were two items regarding pain and discomfort and anxiety and depression.

- We explored whether patients currently smoked or not by asking them to report their smoking status in the last 30 days. Also their history of no alcohol abuse in last 3 months has been taken into account.

- We used the Patient Health Questionnaire (PHQ-9) to screen depressive symptoms via nine self-reported questions. This instrument was developed following the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) criteria. Each item had four option levels from "not at all" (0 point) to "nearly every day" (3 points), resulting in a total score ranging from 0 to 27 points. Patients were divided into different severity groups comprising: none (0), minimal (1–4), mild (5–9), moderate (10–14), moderately severe (15–19) and severe (20–27).

- Data analysis performed on SPSS software. Descriptive statistics were used to present the socioeconomic variables and the severity of depression among participants. Chi-squared test was conducted to compare the difference in the prevalence of depressive symptoms among various socioeconomic groups. Multivariate logistic and Tobit regressions were employed to determine associated factors with "Having depressive symptoms" (Yes/No—binary variable) and "Patient Health Questionnaire (PHQ-9) score" (Censored continuous variable), respectively. Independent variables included socio-economic characteristics (age, gender, marital status, educational level, occupation, income level), having problems with pain and anxiety, AUDIT-C score and current smoking status. These models combined with stepwise backward selection strategies, with the threshold of p-value for variable selection of 0.2, in order to produce reduced models. P-value less than 0.05 indicated statistical significance.

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RESULTS

There were 54.5% male patients, 81.1% of patients having high school education or more, 89.2% of patients having a spouse or partner and 36.4% of patients being private work and freelancers. The mean age was 49.2 years old (SD = 16.0). 5.7% and 6.7% of participants had problems with pain and anxiety, respectively.

There were about one third of patients experiencing depressive symptoms (37.5%). Most of them suffered minimal depressive symptoms (31.4%), followed by mild depressive symptoms (5.7%). The mean PHQ-9 score was 1.0 (SD = 1.9). There were also only 4.0% and 14.4% of patients having AUDIT-C positive and current smoking status, correspondingly.

Significant differences were found among age and education groups regarding the presence of depressive symptoms ($p < 0.05$). Patients aged 31–45 years (OR = 2.18; 95% CI = 1.00–4.74), having problems with pain (OR = 32.61; 95% CI = 4.28–248.39) and a higher number of co morbidities (OR = 1.84; 95% CI = 1.17–2.88) were associated with a higher likelihood of having depressive symptoms. Meanwhile, higher income, private earning or freelancer and higher EQ-VAS were negatively related to the presence of depressive symptoms.

Patients aged 31–45 (Coef. = 1.17; 95% CI = 0.12–2.22), having a spouse/partner (Coef. = 2.35; 95% CI = 0.44–4.26) and having problems with pain were positively correlated to PHQ-9 score. By contrast, higher education, higher household income, freelancer or blue-collar workers/farmers and higher EQ-VAS were negatively related to PHQ-9 score.

CONCLUSION

- A high percentage of chronic hepatitis B patients experienced depressive symptoms. We found a higher age was related to having depressive symptoms. By contrast, higher income level and being a freelance worker were positively associated with a lower risk of having depression compared to low-income level and unemployment.

- Moreover, a lower PHQ-9 score also correlated with a higher education level compared to a level less than high school, while living with a spouse or partner was related to a higher PHQ-9 score compared to being single. Family support, financial support and active participation in consultation should be conducted during treatment to improve the quality of life and the emotional state of HBV patients.

Conflict of Interests

I, Dr. Jafferi declare that there is no conflict of interests regarding the publication of this paper.