Original Article

# Sexual Dysfunction in Females with Chronic Hepatitis B

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## Abstract

**Background:** The average prevalence of hepatitis B surface antigen (HbsAg) positive in the general population is 3–4%, with a range of 1.1% to 12.2%. An estimated 40 million persons in India are thought to have a chronic Hepatitis B infection, according to certain regional level research. Chronic Hepatitis B (CHB) is highly associated with sexual dysfunction (SD), with a prevalence rate significantly higher than the general population. Women may experience reduced desire and arousal issues. SD often worsens with advanced liver fibrosis, cirrhosis, and related depression. Anxiety, depression, and stigma associated with a chronic, sexually transmissible illness are significant contributors to sexual dysfunction. Managing liver health through proper treatment, avoiding alcohol, and regular checkups can improve overall health and, in some cases, sexual function. The aim is to determine the prevalence of sexual dysfunction among female patients with chronic Hepatitis B at a Northern Indian tertiary care facility. **Material and Methods:** This study was carried out at PGIMS, Rohtak's Medical Gastroenterology Department. In a prospective study conducted over a one-year period, from May 1, 2025, to April 30, 2026, 300 individuals with diagnosed hepatitis B were asked if they had any sexual dysfunction. For better understanding 100 patients each of inactive carrier, chronic hepatitis on antiviral treatment and cirrhotic on antiviral treatment were enrolled in the study. All 300 HBV patients were females, in 20-50 yrs age group and were sexually active. Patient with past history of sexual dysfunction, anxiety, depression, diabetes mellitus, hypertension, hypothyroidism which can cause sexual dysfunction were not included in the study. All patients who were having HBV infection for at least three years were included in the study. Enzyme-linked immunosorbent assay (ELISA) testing for HbsAg and polymerase chain reaction (PCR) testing for HBV DNA were used to establish the presence of hepatitis B in every patient. Prior to study enrolment, written informed permission was obtained. **Results:** One of India's high flow facilities, our department is a Model Treatment Center (MTC) under the National Viral Hepatitis Control Program (NVHCP). Eight to ten new and forty follow-up HBV patients visit the program every day for consultations, and during the past twelve years, 12,000 HBV patients have been enrolled. A prospective investigation of 300 patients with diagnosed hepatitis B revealed that all of them were female. One hundred patients each of inactive carriers, patients with chronic hepatitis receiving antiviral therapy, and patients with cirrhosis receiving antiviral therapy were included from the 300 HBV patients in the entire pool. The sexual dysfunction was seen in 16% of cirrhotic, 10% of chronic hepatitis with significant fibrosis and 6% of Inactive carrier. Most common kind of sexual dysfunction was avoidance of sexual intercourse due to fear of HBV transmission to the sexual partner (27 patients, 84.37%), followed by loss of libido (3 patients, 9.375%) and failure to achieve sexual orgasm (2 patients, 6.25%). Out of 100 patients of HBV related cirrhotic patients, sexual dysfunction was seen in 16 patients (50%). Out of them 12 (75%) had avoidance of sexual intercourse due to fear of transmission to sexual partner, followed by loss of libido (2 patients, 12.50%) and lack of achievement of sexual orgasm (2 patients, 12.50%). In group of 100 patients of Chronic Hepatitis B with significant fibrosis- > F2 Fibrosis, total 10 patients (10%) had sexual dysfunction. Out of them 9 (90%) had avoidance of sexual intercourse due to fear of transmission to sexual partner, followed by loss of libido (1 patients, 10%) and none had lack of achievement of sexual orgasm. In group of 100 patients of chronic Hepatitis B-inactive carriers-F0-F1 Fibrosis, only 6 patients (6%) had sexual dysfunction and all of them (100%) had avoidance of sexual intercourse due to fear of transmission to sexual partner, and none had loss of libido or lack of achievement of sexual orgasm. **Conclusion:** A more comprehensive strategy is required for the management of hepatitis B patients, and each patient should be assessed not just from a hepatic perspective but also for any other hepatic effects, including sexual examination. The sexual aspect is often missed by treating team as well as not shared by patients. In India, masculinity is attached to core of heart of males and majority do not accept and share with health professionals. Hence, good repo of doctor with patients will help in healthy discussion among them on this sensitive issue.

**Keywords:** Hepatitis B, HbsAg, HBV DNA Quantitative, women, sexual arousal, infertility.

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## Introduction

Globally Viral hepatitis is now recognized as a major public health challenge, and it is estimated that 325 million people worldwide are living with chronic HBV or HCV infection.[1,2] Hepatitis B surface antigen (HbsAg) positivity in the general population varies from 1.1% to 12.2%, with an average frequency of 3-4%. In India, viral hepatitis is becoming more widely acknowledged as a public health issue. According to certain research conducted at the

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regional level, an estimated 40 million persons in India have a chronic Hepatitis B infection.[3,4] In India, 20–30% of cirrhosis cases and 40% of hepatocellular carcinoma (HCC) cases are caused by chronic HBV infection.[3] Sexual dysfunction is highly prevalent among females with Chronic Hepatitis B (CHB), affecting up to 57% of patients. The condition manifests through diminished sexual desire, arousal difficulties, orgasmic disorders, and dyspareunia. It is heavily linked to both physical liver changes and psychological factors. Psychological impact causes depression, anxiety, and the social stigma associated with a chronic, sexually transmissible infection are primary drivers of diminished sexual function. Hormonal imbalance occurs in advanced liver disease which affects hormone metabolism, altering sex hormone-binding globulin and thus can diminish the vitality and desire required for a healthy sex life. The severity of sexual dysfunction correlates directly with the progression of liver disease and fibrosis. Studies indicate that women with HBV infection face a higher risk of reproductive tract infections and tubal blockages, which can create emotional and physical distress regarding family planning. Medical management aims at keeping viral loads suppressed and managing liver fibrosis through regular hepatology check-ups helps normalize hormone regulation and physical vitality. Mental health support by counselling and therapy are critical tools in mitigating the depression, performance anxiety, and intimacy fears tied to an HBV diagnosis. The effective and open communication by addressing the physical discomfort (such as using lubricants for dyspareunia) and engaging in safe-sex conversations with partners can reduce the fear of transmission.

**Aim of Study:** To determine the prevalence of sexual dysfunction among female patients with chronic Hepatitis B at a Northern Indian tertiary care facility.

## Materials and Methods

This study was carried out at PGIMS, Rohtak's Medical Gastroenterology Department. In a prospective study conducted over a one-year period, from May 1, 2025, to April 30, 2026, 300 individuals with diagnosed hepatitis B were asked if they had any sexual dysfunction. For better understanding 100 patients each of inactive carrier, chronic hepatitis on antiviral treatment, cirrhotic patient on antiviral treatment and acute hepatitis B patients were enrolled. All 400 HBV patients were males, in 20-50 yrs age group and were sexually active. The males were intentionally selected, as taking sexual history is easier in them in comparison to females. Patient with past history of sexual dysfunction, anxiety, depression, diabetes mellitus, hypertension, hypothyroidism which can cause sexual dysfunction were not included in the study. Except for acute hepatitis B, rest all patients who were having HBV infection for at least three years, or more were included in the study. Enzyme-linked immunosorbent assay (ELISA) testing for HbsAg and polymerase chain reaction (PCR) testing for HBV DNA were used to establish the presence of hepatitis B in every patient.

## Results

One of India's high flow facilities, our department is a Model Treatment Center (MTC) under the National Viral Hepatitis Control Program (NVHCP). On daily basis, 8-10 new and 40 follow up patients of HBV come for consultation and till date 12,000 HBV patients have been enrolled in last twelve years in this program. On prospective analysis of 300 confirmed hepatitis B patients, all were females. Out of total pool of 300 HBV patients, 100 patients each of inactive carrier, chronic hepatitis on antiviral treatment, cirrhotic patient on antiviral treatment were enrolled. The sexual dysfunction was seen in 16% of cirrhotic, 10% of chronic hepatitis with significant fibrosis and 6% of Inactive carrier. Most common kind of sexual dysfunction was avoidance of sexual intercourse due to fear of HBV transmission to the sexual partner (27 patients, 84.37%), followed by loss of libido (3 patients, 9.375%) and failure to achieve sexual orgasm (2 patients, 6.25%). Out of 100 patients of HBV related cirrhotic patients, sexual dysfunction was seen in 16 patients (50%). Out of them 12 (75%) had avoidance of sexual intercourse due to fear of transmission to sexual partner, followed by loss of libido (2 patients, 12.50%) and lack of achievement of sexual orgasm (2 patients, 12.50%). In group of 100 patients of Chronic Hepatitis B with significant fibrosis- > F2 Fibrosis, total 10 patients (10%) had sexual dysfunction. Out of them 9 (90%) had avoidance of sexual intercourse due to fear of transmission to sexual partner, followed by loss of libido (1 patients, 10%) and none had lack of achievement of sexual orgasm. In group of 100 patients of chronic Hepatitis B-inactive carriers-F0-F1 Fibrosis, only 6 patients (6%) had sexual dysfunction and all of them (100%) had avoidance of sexual intercourse due to fear of transmission to sexual partner, and none had loss of libido or lack of achievement of sexual orgasm.

**Table 1: Showing sexual dysfunction distribution in total pool of HBV Patients**

| Total HBV Patients | Females | Males | Sexual Dysfunction Present | Sexual Dysfunction Absent |
|---|---|---|---|---|
| 300 | 300 (100%) | 0 (0%) | 32 (10.66%) | 268 (89.34%) |

**Table 2: Showing prevalence of sexual dysfunction in various groups of Females with HBV**

| Total HBV Patients | Chronic Hepatitis-Inactive Carriers- F0-F1 Fibrosis | Chronic Hepatitis B- F2 -F3 Fibrosis- On antiviral treatment | HBV Related Cirrhosis- F4- On antiviral treatment |
|---|---|---|---|
| 300 | 100 | 100 | 100 |
| Sexual Dysfunction Present | 6 (6%) | 10 (10%) | 16 (16%) |
| Sexual Dysfunction Absent | 94 (94%) | 90 (90%) | 84 (84%) |

**Table 3: Showing types of sexual dysfunction in various groups of Females with HBV**

| Total HBV Patients with Sexual Dysfunction | Chronic Hepatitis-Inactive Carriers- F0-F1 Fibrosis | Chronic Hepatitis B- F2 -F3 Fibrosis- On antiviral treatment | HBV Related Cirrhosis- F4- On antiviral treatment |
|---|---|---|---|
| 32 | 6 | 10 | 16 |
| Failure to Achieve Sexual Orgasm | 0 | 0 | 2 |
| Loss of Libido | 0 | 1 | 2 |
| Avoidance of Sexual intercourse due to fear of HBV transmission to Sexual partner | 6 | 9 | 12 |

## Discussion

The HBV DNA (deoxyribonucleic acid) virus, which is a member of the Hepadnaviridae family and mostly infects hepatocytes in its hosts, is the cause of hepatitis B.[5] HBV infections can be acute or chronic, ranging from moderate illness or asymptomatic infection to severe or infrequently fulminant hepatitis.[6] Hepatocellular necrosis and rapid inflammation are the hallmarks of acute hepatitis B, which has a 0.5–1% case fatality rate.[7] Persistent HBV infection, as demonstrated by the presence of HbsAg in the blood or serum for more than six months, with or without concurrent active viral replication and signs of hepatic damage, is known as chronic hepatitis B infection.[6] Disturbances in sexual desire and the psychophysiological changes that define the sexual response cycle are referred to as SD, and they play a major role in interpersonal conflict and discontent. Dyspareunia (pain during sexual activity), decreased sexual desire, arousal problems, and orgasmic abnormalities are the main symptoms of female SD. On the other hand, erectile dysfunction (ED), early ejaculation, and decreased sexual desire are the main characteristics of male SD.[8,9] There is dearth of studies reporting sexual dysfunction in females with chronic hepatitis B, thus the need of doing the same was felt by us. As we are having large pool with approximately 40% female representation with many who were sexually active. Moreover, they were coming for regular follow-up for many years, hence proper analysis was made about sexual dysfunctions. All the details about the same was done by female doctors and nursing officers, for overcoming the inhibition of giving sexual history to male health worker. Patients with at-least three years history of suffering from HBV was taken into account, so that there was ample time for HBV infection to show its effect in body. The sexual dysfunctions in female were almost half in comparison to males.[10] The main difference between two groups was intake of alcohol, smoking and intravenous drug abuse in many HBV patients in male group whereas in females, none had these habits. The most common complaint in female was fear regarding sexual transmission of HBV to male partner, thus leading to avoidance of sex. Some male partners also had fear of getting sexual transmission from their female counterpart and thus avoided sex, some for years together. It is clear from our data that HBV per se has least impact on loss of libido or achievement of sexual orgasm, thus had minimal representation in inactive carrier or F2-F3 fibrosis stage. Whatsoever impact comes, it comes in cirrhotic stage and it can be perse due to cirrhosis only. The same impact can be appreciated in cirrhosis due to other aetiologies like HCV, MAFLD or autoimmune. The good compliance on drugs, regular follow up, abstinence from alcohol, smoking and drugs leads to improvement or stabilization of disease. The good psychotherapy leads to removal of depression which is an important reason for causing sexual dysfunction.

## Conclusion

A more comprehensive strategy is required for the management of hepatitis B patients, and each patient should be assessed not just from a hepatic perspective but also for any other hepatic effects, including sexual examination. Females have less sexual dysfunction in respect to males due to non-intake of alcohol and smoking in our geographical location. The sexual aspect is often missed by treating team as well as not shared by patients. In India, masculinity is attached to core of heart of males and majority do not accept and share with health professionals. Hence, good repo of doctor with patients will help in healthy discussion among them on this sensitive issue.

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### Conflicts of interest

There are no conflicts of interest.

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