Awareness of Hepatitis B (HBV) and Experiences of Discrimination among Infected Patients in Coastal Eastern India.

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ABSTRACT

INTRODUCTION

Hepatitis B (HBV) remains a global health challenge, especially in regions like Coastal Eastern India, where awareness about the disease and its transmission is often limited. This study aims to assess HBV awareness, transmission knowledge, and the emotional and social discrimination experienced by infected individuals in this region.

MATERIALS AND METHODS

A cross-sectional study was conducted with 131 HBV-infected patients from Coastal Eastern India. Data were gathered through structured interviews covering demographics, HBV knowledge, and emotional and social impacts. Descriptive statistics were used for analysis.

RESULTS

The study found that 70% of participants were male, with the majority being under 30 years old. Most patients (75-90%) had adequate knowledge of HBV transmission, but gaps existed in awareness about mother-to-child transmission. The emotional impact was significant, with 95% feeling ashamed and 94% reporting workplace discrimination. Despite these challenges, all participants showed a willingness to adopt preventive measures.

CONCLUSION

The study highlights the need for enhanced HBV education and strategies to reduce stigma and discrimination. Improving knowledge about HBV transmission and creating supportive environments are essential for better outcomes for HBV-infected individuals.

KEYWORDS: *Hepatitis B, Awareness, transmission, discrimination, stigma, vaccination*

INTRODUCTION

Hepatitis B (HBV) is a primary global health concern, particularly in regions such as Eastern India, where the prevalence of the infection is high. Despite the availability of vaccines and treatment options, HBV remains a leading cause of chronic liver disease, including cirrhosis and liver cancer. The virus is transmitted primarily through blood, sexual contact, and from mother to child during birth, with many individuals remaining asymptomatic for years, unknowingly transmitting the virus to others. In India, the prevalence of HBV is relatively high, with an estimated 3-5% of the population being infected

(Ramasamy et al., 2024). The impact of HBV extends beyond the physical health of affected individuals, as many face social stigma and discrimination due to the association of the disease with unsafe behaviors, particularly sexual transmission. This study focuses on the awareness of HBV and the experiences of discrimination among those infected in the coastal region of Eastern India.

Understanding the level of knowledge and awareness about HBV is critical in combating the virus, as misinformation can hinder prevention and treatment efforts. Previous studies have highlighted significant gaps in the public's understanding of the transmission and prevention of HBV, especially among non-medical populations (Singh et al., 2020). Ahmed et al. (2024) found that awareness of HBV in Bangladesh was limited, particularly among adults who did not have direct contact with healthcare settings. Similar trends are evident in India, where educational efforts targeting the general population have been insufficient in spreading accurate knowledge about the disease, its transmission, and available vaccines. In a study conducted by Behera et al. (2021), it was noted that many individuals with HBV were unaware of how the virus spreads, and misconceptions about transmission through casual contact persisted. This lack of knowledge contributes to the fear and stigma surrounding the disease, which in turn discourages individuals from seeking medical help or undergoing routine testing.

Social stigma and discrimination are pervasive challenges that individuals with HBV face in many communities, including in India. The stigma often arises from misconceptions that equate HBV infection with moral or behavioral shortcomings, especially when associated with sexual transmission or intravenous drug use (Behera et al., 2021). This stigma leads to emotional distress and isolation, as infected individuals may feel ashamed, guilty, or unworthy of normal social interactions. Research by Behera et al. (2021) indicates that individuals infected with HBV experience significant discrimination in their families, workplaces, and even in healthcare settings. Such discrimination is compounded by the lack of education on HBV, leading to a vicious cycle of misinformation, fear, and ostracization. A similar study by Abraham et al. (2021) showed that media messaging plays a significant role in shaping public perceptions of HBV, and negative portrayals in the media can further exacerbate stigma. Therefore, it is essential to address both the knowledge gaps and the stigma that patients with HBV endure to improve their quality of life and increase treatment adherence.

While the global goal of eliminating viral hepatitis by 2030 is ambitious, it requires overcoming several obstacles, including enhancing public awareness, improving access to vaccinations, and reducing discrimination against infected individuals (Ramasamy et al., 2024). In particular, Eastern India faces unique challenges in this regard. Studies have shown that healthcare workers in the region have limited knowledge about HBV transmission, prevention, and the vaccine, which hinders the overall efforts to manage and control the virus (Singh et al., 2020). Thus, interventions targeting healthcare professionals, as well as the general public, are essential to improve knowledge and reduce the stigma surrounding HBV.

This study aims to evaluate the awareness of Hepatitis B among infected patients in Coastal Eastern India and explore their experiences with discrimination. By examining these aspects, the study seeks to contribute to a broader understanding of the barriers to effective HBV management and the psychosocial challenges faced by those living with the infection. Furthermore, this research highlights the need for targeted education and stigma-reduction programs that address both the medical and social dimensions of HBV in the region. Addressing these gaps can significantly improve the well-being of those affected by HBV and contribute to the overall goal of reducing the burden of viral hepatitis in India and Southeast Asia by 2030.

MATERIALS AND METHODS

Study Design

This cross-sectional descriptive study aimed to assess the awareness of Hepatitis B (HBV) and experiences of discrimination among HBV-infected patients in Coastal Eastern India. The study was conducted from July to December 2024, with ethical approval obtained from the institutional ethics committee. Informed consent was obtained from all participants.

Study Setting

The research was conducted in government hospitals, private clinics, and community health centers in the coastal regions of Eastern India, serving both urban and rural populations.

Participants

The study included 131 adult HBV-infected patients, diagnosed with chronic or acute HBV, who were willing to participate. Participants were selected using a convenience sampling method. Patients with severe comorbidities or who could not provide informed consent were excluded.

Data Collection

Data were collected through structured interviews and self-administered questionnaires, which included demographic information, knowledge about HBV transmission, prevention, vaccination, and experiences of discrimination. The questionnaire was pre-tested for clarity and administered by trained interviewers fluent in local languages.

Data Analysis

Data were analyzed using SPSS version 25.0, with descriptive statistics (frequencies, percentages) and Chi-square tests to assess relationships between demographic characteristics and knowledge/discrimination. A significance level of 0.05 was used.

Ethical Considerations

Ethical approval was obtained, and participants provided informed consent. Confidentiality was maintained, and participants were informed of their right to withdraw at any time.

Result

The demographic analysis of patients infected with Hepatitis B (HBV) in Coastal Eastern India reveals notable trends in gender, age, and educational background. Of the 131 patients, males constituted a significant majority, with 92 cases (70%), compared to females, who accounted for 39 cases (30%). In terms of age distribution, the largest group comprised individuals under 30 years (42 cases, 32%), followed by those aged 31–40 years (36 cases, 28%), 41–50 years (29 cases, 22%), and 51–70 years (24 cases, 18%). Regarding educational attainment, the highest proportion of patients were graduates, making up 48 cases (37%), while undergraduates constituted 35 cases (27%). Those with matriculation-level education accounted for 25 cases (19%), and postgraduates formed the smallest group, with 23 cases (17%) (Table 1). These findings highlight a younger and predominantly male demographic, with a significant portion of patients achieving at least undergraduate-level education.

Table 1. Demographic Characteristics of Hepatitis B (HBV) Infected Patients

Variables	***No. of cases***	***Frequency***
Male	***92***	***70***
Female	***39***	***30***
Age	*No of cases*	*%*
<30	*42*	*32*
31-40	*36*	*28*
41-50	*29*	*22*
51-70	*24*	*18*
Education	***No of cases***	***%***
Matriculation	*25*	*19%*
undergraduate	*35*	*27%*
Graduate	*48*	*37%*
Post graduate	*23*	*17%*

Furthermore, our result presents the level of knowledge among HBV-infected patients regarding the transmission and consequences of the disease. The majority of participants correctly identified that HBV could be spread through sharing toothbrushes (77%), consuming food prepared by an infected person (75%), sharing razors (75%), and engaging in sexual intercourse with an infected person (90%). A high percentage also acknowledged that HBV could be transmitted via pre-chewed food (88%) and shared food plates (88%). However, many participants were uncertain or incorrect in their understanding of other transmission routes, such as mother-to-child transmission during birth (48% yes, 50% unsure) and holding hands (21% yes, 39% unsure). Regarding prevention, 65% of participants were aware of the availability of a vaccine for HBV, but only 13% believed the infection could be cured. Additionally, 65% of participants knew that HBV could cause advanced liver disease (cirrhosis), while fewer (46%) recognized its link to liver cancer. A notable portion of patients remained unsure about the long-term consequences of the disease, with 42% uncertain about whether it could be fatal and 50% unsure about the lifelong nature of the infection (Table 2). These results highlight a need for more education to address gaps in knowledge about HBV's transmission, prevention, and long-term impacts.

Table 2: Knowledge about Hepatitis B (HBV) Transmission and Prevention Among Infected Patients

Knowledge about HBV	***Yes (%)***	***No (%)***	***Not sure (%)***
Can it be spread by someone who looks healthy	*52*	*25*	*23*
Can it be spread from person to person by eating food prepared by the infected person	*75*	*6*	*19*
Can it be spread by sharing a toothbrush with an infected person	*77*	*4*	*19*
Can it be spread by eating food that has been pre-chewed by an infected person	*88*	*2*	*10*
Can it be spread by being coughed on by an infected person	*71*	*10*	*19*
Can it be spread by sharing razors with an infected person	*75*	*6*	*19*
Can it be spread by sharing food plates with someone who is infected	*88*	*2*	*10*
Can it be spread by having sexual intercourse with an infected person	*90*	*0*	*10*
Can it be spread when intravenous drug users share needles with each other	*63*	*8*	*29*
Can it be spread by holding hands with an infected person	*21*	*40*	*39*
Can it be spread from mother to child during birth	*48*	*2*	*50*
Would it be preventable by vaccination	*65*	*6*	*29*
Can it cause advanced liver disease (cirrhosis)	*65*	*5*	*30*
Can it cause liver cancer	*46*	*4*	*50*
Is it fatal	*48*	*10*	*42*
Do you think people with hepatitis B can be infected for whole life	*40*	*10*	*50*
Do you think a person infected with hepatitis B can be cured	*13*	*10*	*77*

This table outlines the emotional and social challenges faced by patients infected with Hepatitis B (HBV) following their diagnosis. A significant majority of participants reported feeling ashamed (95%) and guilty about themselves (100%), with most also feeling they had brought trouble to their families (96%) and put others at risk of HBV infection (96%). Additionally, many patients wanted to avoid close contact, such as kissing or hugging (88%), and some felt they should avoid sharing utensils with other family members (62%). Social isolation was also reported, with 42% feeling that others isolated them, although the majority (58%) did not experience this. Patients also felt stigmatized, with 33% believing they were viewed negatively by others as having a shameful sexually transmitted disease and 52% feeling undesirable as a potential spouse. Workplace discrimination was prevalent, with 94% of patients reporting discrimination at work and 88% facing discrimination within their own families. Furthermore, 87% of patients felt discriminated against in healthcare settings. Despite these challenges, many participants felt they could be trusted not to harm others (90%) and trusted as friends (100%).

Interestingly, while only 40% were willing to voluntarily disclose their infection, all (100%) expressed a commitment to adopting appropriate lifestyle measures to prevent transmission (Table 3). These results highlight the emotional toll and widespread discrimination faced by HBV-infected patients, underscoring the need for more supportive and non-judgmental environments.

Table 3: Feelings and Experiences of Discrimination Among HBV-Infected Patients

Feelings of the HBV-infected patients after acquiring HBV infection	***Yes (%)***	***No (%)***
Feeling ashamed	*95*	*5*
Felt that they brought trouble to their family	*96*	*4*
They felt guilty about themselves	*100*	*0*
Felt that they put others at risk for HBV infection	*96*	*4*
Felt that they should avoid close contact with others, such as kissing or hugging	*88*	*12*
Felt that they should avoid using the same utensils for feeding or drinking water with other family members	*62*	*38*
Felt that others isolated them	*42*	*58*
Felt that they were poorly viewed by others in the community as having a shameful sexually transmitted disease (STD)	*33*	*67*
Felt that they may be trusted not to bring harm to others	*90*	*10*
Felt that they may be trusted as friends	*100*	*0*
Felt that they were viewed as undesirable as a husband or wife	*52*	*48*
Felt that they were discriminated at workplace	*94*	*6*
Felt that they were discriminated in their own family	*88*	*12*
Felt that they were discriminated in the hospital	*87*	*13*
Showed their voluntary willingness to divulge that they were infected	*40*	*60*
Showed their voluntary willingness to adopt appropriate life style measures to avoid transmission of infection	*100*	*0*

DISCUSSION

The demographic profile of Hepatitis B (HBV)-infected patients in Coastal Eastern India reveals trends that align with findings from other regional and global studies. The male predominance (70%) in this cohort is consistent with several studies conducted in similar settings. It was observed a higher incidence of HBV among male healthcare workers in Eastern India, which mirrors broader trends in the region (Singh et al. 2020). This gender discrepancy may be due to higher risk behaviors among men, such as higher exposure to unprotected sexual practices or risky occupational exposure (Lee et al., 2023). The age distribution in our study, with the largest group under 30 years (32%), also reflects the younger age group's susceptibility to HBV infection, particularly through sexual transmission and unsafe medical practices, as reported by Behera et al. (2021). The relatively high proportion of participants with higher education (37% graduates) in this study could be indicative of improved healthcare access and greater awareness in educated populations, which contrasts with findings in some rural or less educated communities, where HBV awareness remains low (Mukherjee et al., 2017).

Regarding knowledge of HBV transmission, the findings suggest a reasonable level of awareness but also significant gaps. The majority of participants correctly identified common transmission routes, such as sexual contact (90%) and sharing toothbrushes or razors (77%). These findings are similar to those reported by Ahmed et al. (2024), who also found that a significant proportion of their study population in Bangladesh understood HBV's transmission routes. However, knowledge gaps were evident, particularly with regard to mother-to-child transmission (50% unsure) and the long-term consequences of the disease. A similar gap in knowledge about the fatal nature of HBV and its potential to cause liver cancer was found in studies by Singh et al. (2020) and Venkatesh et al. (2023). These gaps emphasize the need for more targeted education campaigns to address misconceptions and enhance understanding of HBV's long-term impacts and prevention strategies.

The social and emotional challenges faced by HBV-infected patients in this study highlight the pervasive stigma and discrimination experienced by individuals living with the virus. A staggering 95% of patients reported feeling ashamed, and 96% felt they had brought trouble to their families, echoing the findings of Behera et al. (2021), who reported significant stigma against HBV patients, particularly in familial and community settings. This stigma is often exacerbated by the perception of HBV as a shameful, sexually transmitted disease, which, as Lee et al. (2016) found in their review of hepatitis B-related stigmatization, is common in many Asian communities. The findings of this study also reveal the significant social isolation and workplace discrimination experienced by HBV-infected patients, with 94% reporting discrimination at work and 88% facing discrimination within their families. These results corroborate those of Behera et al. (2022), who found that stigma and discrimination against HBV-infected individuals were often linked to unemployment and low literacy, reinforcing the socio-economic dimensions of HBV-related stigma.

Moreover, the emotional toll of HBV is evident, as many patients expressed feelings of guilt and fear of infecting others. These emotional responses align with findings from Abraham et al. (2021), who discussed the impact of media messaging on the psychological well-being of individuals living with HBV, suggesting that better public health campaigns could reduce such stigmatization. Interestingly, despite these negative emotions, a significant portion of patients (100%) expressed a commitment to adopting preventive measures to avoid transmitting the virus, reflecting a desire for responsible health behavior. This aligns with findings from Patnaik et al. (2021), who emphasized the importance of education in fostering positive behavior change among HBV-infected individuals.

However, the study also revealed a reluctance to voluntarily disclose HBV infection, with only 40% of participants willing to share their diagnosis. This finding resonates with the work of Lee et al. (2016), who found that fear of stigmatization and discrimination often led individuals to conceal their HBV status, highlighting the critical role that a supportive healthcare environment and public education can play in encouraging disclosure and reducing stigma.

In conclusion, this study reinforces the need for comprehensive educational campaigns aimed at addressing knowledge gaps about HBV transmission, prevention, and long-term consequences. The

emotional and social challenges highlighted in this study underscore the importance of reducing stigma and discrimination in both healthcare and social settings. The findings also suggest that targeted interventions, including better media messaging and increased community awareness, are essential in promoting positive health behaviors and supporting HBV-infected individuals. Efforts to combat stigma, particularly in the workplace and family settings, are crucial in improving the quality of life and mental health of those affected by HBV.

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