

Research Article

Breast-Feeding Practices in HBV and HCV Patients

Abhishek Yadav¹, Vani Malhotra², Parveen Malhotra^{3*}, Ankit Chahal⁴, Rahul Siwach⁵, Ritika⁶, Niharika Sharma⁷, Ankita Khatri⁸

^{1,2,4,5,6,7,8}Department of Obstetrics & Gynaecology & Medical Gastroenterology, PGIMS, Rohtak, India.

^{3*}Department of Medical Gastroenterology, PGIMS, Rohtak & 128/19, Civil Hospital Road, Rohtak, Haryana, India.

Corresponding Author: Parveen Malhotra

Department of Medical Gastroenterology, PGIMS, Rohtak & 128/19, Civil Hospital Road, Rohtak, Haryana, India.

Received: 17.06.2026, Revised: 03.07.2026, Accepted: 01.08.2026

ABSTRACT

Introduction: Chronic hepatitis B (HBV) & C Virus (HCV) infection are important cause of cirrhosis of liver for which effective treatment is available but still significant number of patients require liver transplantation when it reaches end stage liver disease. Breastfeeding is highly recommended for mothers with Hepatitis B (HBV) and Hepatitis C (HCV), provided proper immunoprophylaxis is administered. Breast milk itself does not significantly increase transmission risk, and the nutritional benefits far outweigh the potential for infection. Mothers with high viral loads often receive antiviral medications Tenofovir during the third trimester to reduce the risk of transmission. All infants born to HBsAg-positive mothers must receive the Hepatitis B vaccine and Hepatitis B Immune Globulin (HBIG) within 12-24 hours of birth. With proper vaccination and HBIG, breastfeeding is completely safe and not a contraindication.

Aims and Objectives: To determine hurdles faced and implementation of breast-feeding program in HBV & HCV pregnant patients.

Materials & Methods: It was prospective study conducted at Department of Medical Gastroenterology, Post Graduate Institute of Medical Sciences (PGIMS), Rohtak, over a period of four years from 1st June, 2023 to 31st May, 2026 during which 200 confirmed pregnant patients each of HBV & HCV were enrolled in the study and were enquired about challenges faced regarding breast feeding and following of practice of breast feeding. All these 400 pregnant patients delivered in hospital surroundings. All newborns borne to HBV pregnant patients received mandatory 0.5 ml intravenous hepatitis B immunoglobulin, along with zero dose HBV vaccination, followed by complete source of vaccination. Out of these 200 HBV patients, 60 (30%) received antiviral treatment with tenofovir 300 mg, in view of raised levels of HBV DNA, HbeAg and transaminases, as per scientific guidelines. All 400 HBV and HCV pregnant females were motivated for breast feeding on every follow-up. Hence data pertaining to these total 400 patients was used in final analysis.

Results: Out of the 200 HBV pregnant patients, 196 (98%) breast fed for six months or more, 2 patients (1%) lactation did not occur, and 2 patients (1%) intentionally never breast fed due to pressure of family members due to fear of transmission of HBV infection to new born. Hence, these 4 newborns, out of 200 were given top feed. Out of the 200 HCV pregnant patients, 197 (98.5%) breast fed for six months or more, in 1 patient (0.5%) lactation did not occur, and 2 patients (1%) intentionally never breast fed due to pressure of family members due to fear of transmission of HCV infection to new born. Hence, these 3 newborns, out of 200 were given top feed.

Conclusion: The HBV and HCV patients are already terrified regarding their illness, course & side effects of treatment, familial transmission and social stigma associated with the illness. The pregnant females having HBV and HCV infection are more worried for their newborn, then for themselves. The main worry is transmission to the newborn during pregnancy and after delivery, especially by breast feeding and close contact with mother. The main precipitant are family members, relatives and society at large. Hence, all manoeuvres should be done to break all challenges and myths associated with breastfeeding in HBV and HCV infected mothers.

Keywords: Hepatitis C Virus, HBV Virus, Breast Feeding, Challenges, Myths.

INTRODUCTION

Chronic hepatitis B (HBV) & C Virus (HCV) infection are important cause of cirrhosis of liver for which effective treatment is available but still significant number of patients require

liver transplantation when it reaches end stage liver disease. HBV patients in two-third of cases are in inactive carrier stage whereas in one-third cases they are in chronic phase or in cirrhotic stage but in both cases require life-

long follow-up. Mother-to-child transmission of hepatitis B virus (HBV) is among the most important causes of chronic HBV infection and is the commonest mode of transmission worldwide. Currently, the presence of HBsAg, HBeAg and HBV DNA in breast milk is confirmed. Several studies have reported that breastfeeding carries no additional risk that might lead to vertical transmission. Beyond some limitations, the surveys have not demonstrated any differences in HBV transmission rate regarding feeding practices in early childhood. Promotion of breastfeeding is substantial, especially for low-income individuals and regions with uncertain, unfeasible, and unsafe water supplies. Lactoferrin, minimal inflammation or activation within the infant gut during exclusive breastfeeding, and nonspecific biological molecules in the milk are identified as major factors of breast-milk defense [1]. MTC is also an important route in HCV (5%) but very less in comparison to HBV.

Aims and Objectives

To determine satisfactory index of HBV & HCV patients with treatment given and hurdles faced by them.to them.

MATERIAL AND METHODS

It was prospective study conducted at Department of Medical Gastroenterology, Post Graduate Institute of Medical Sciences (PGIMS), Rohtak, over a period of four years from 1st June, 2023 to 31st May, 2026 during which 200 confirmed pregnant patients each of HBV & HCV were enrolled in the study and were enquired about challenges faced

regarding breast feeding and following of practice of breast feeding. All these 400 pregnant patients delivered in hospital surroundings. All newborns borne to HBV pregnant patients received mandatory 0.5 ml intravenous hepatitis B immunoglobulin, along with zero dose HBV vaccination, followed by complete source of vaccination. Out of these 200 HBV patients, 60 (30%) received antiviral treatment with tenofovir 300 mg, in view of raised levels of HBV DNA, HbeAg and transaminases, as per scientific guidelines. All 400 HBV and HCV pregnant females were motivated for breast feeding on every follow-up. Hence data pertaining to these total 400 patients was used in final analysis.

Statistical Analysis

All the data was entered in Microsoft Excel and was analysed using SPSS 15.0 version.

OBSERVATIONS & RESULTS

Out of the 200 HBV pregnant patients, 196 (98%) breast fed for six months or more, 2 patients (1%) lactation did not occur, and 2 patients (1%) intentionally never breast fed due to pressure of family members due to fear of transmission of HBV infection to new born. Hence, these 4 newborns, out of 200 were given top feed. Out of the 200 HCV pregnant patients, 197 (98.5%) breast fed for six months or more, in 1 patient (0.5%) lactation did not occur, and 2 patients (1%) intentionally never breast fed due to pressure of family members due to fear of transmission of HCV infection to new born. Hence, these 3 newborns, out of 200 were given top feed.

TABLE 1- Showing Percentage of Breastfeeding in HBV Group

Total HBV Pregnant Patients	HBV Patients Who Breastfed	HBV Patients in Whom Lactation not occurred	HBV Patients Who Intentionally Never Breastfed
200	196 (98%)	2 (1%)	2 (1%)

TABLE 2- Showing Percentage of Breastfeeding in HCV Group

Total HBV Pregnant Patients	HBV Patients Who Breastfed	HBV Patients in Whom Lactation not occurred	HBV Patients Who Intentionally Never Breastfed
200	196 (98%)	2 (1%)	2 (1%)

Having HBV and HCV infection are more worried for their newborn, then for themselves. The main worry is transmission to the newborn during pregnancy and after

delivery, especially by breast feeding and close contact with mother. The main precipitant are family members, relatives and society at large. Hence, all manoeuvres should be done to

break all challenges and myths associated with breastfeeding in HBV and HCV infected mothers.

Limitation of Study DISCUSSION

It is estimated that almost 50% of the cases of chronic hepatitis B virus (HBV) infection result from vertical transmission or are acquired in early childhood, especially in endemic areas [2]. The prevalence of chronic HBV infection in pregnant women reflects that in the general population [3]. About 5% of mothers worldwide are chronic HBV carriers [4]. Recent studies have demonstrated the short- and long-term benefits of breastfeeding both for mothers and children. Breastfeeding, especially if exclusive and prolonged, leads to significant reduction in hospitalization rates for gastroenteritis, respiratory infections, and sepsis in the early months of life [5]. The benefits for low-resource countries are even greater because breastfeeding is related to better infant and childhood survival [6]. Exclusive breastfeeding for 6 months, followed by continued breastfeeding at least to 12 months, could prevent 1 301 000 deaths or 13% of all child deaths under 5 years of age in a hypothetical year [7]. Guo et al [8] recently have reported an embarrassing number of HBV-positive women who opted for bottle feeding because of concern about the risk of transmission of HBV via breast milk. Although HCV seropositivity with viremia is not a contraindication to breastfeeding, rates of breastfeeding initiation are lower among people with viremia than among those with an undetectable viral load, and differed by socioeconomic status. Breastfeeding was associated with improved child growth. Patient and provider education on the safety and benefits of breastfeeding in this population is needed. In one study, 579 individuals were included. Of those, 362 (62.5%) initiated breastfeeding or provided breast milk to their infants, with a median duration of breastfeeding of 1.4 months. People with HCV viremia, defined as a detectable viral load at any point during pregnancy, were less likely to initiate breastfeeding than those who had an undetectable viral load [8]. In our study, we have achieved exceptional results of achieving approximately 98% of success rate in initiation of breast feeding in both HBV and HCV patients. None of our HBV pregnant patient newborn had vertical transmission which proves that breastfeeding is totally safe and cannot lead to vertical transmission, if indicated cover of HBIG, HBV vaccination is

given to newborn, in addition to timely starting of antiviral treatment in pregnant mother, wherever scientifically indicated. Patient satisfaction can be considered as an indirect measure of health outcomes and quality of provided services. Patient-Centered care (PCC) is a crucial objective for enhancing healthcare in the 21st century. PCC has demonstrated effectiveness in caring for patients with chronic conditions [10]. In our study group of both HCV & HBV everybody was satisfied with the treating team which included doctors, nurses and other health care professionals. The main reason behind can be implementation of Jeevan Rekha Project & National Viral Hepatitis Control Program (NVHCP) through which there is provision of massive screening among high-risk groups, hence leading to early detection and timely starting of total free treatment including viral load and other routine tests, drugs, endoscopy, fibroscan, indoor admission in wards etc which are provided under one roof, on daily basis without any waiting period. The conjoined team effort has led to good social bonding with the patients which overcame the hurdle of illiteracy and rural background in majority of patients who were treated for HCV & HBV. A prescence of female staff in treating team is beneficial, as female patient share their problems more comfortably with the same sex member of the treating team. The ethical behaviour of healthcare professionals towards them, in particular nurses, is important [11]. Nurses play important roles in coordinating care with other healthcare professionals, and in advocating for patients. In our team, keeping this in mind we have trained female nursing officers who perform Fibroscan, assist in doing endoscopy and do even psychological counselling of these patients. Our pharmacist is also female and not only distribute drugs but also do additional psychotherapy of patients. It is frequently seen that patient and their relatives due to strong fear of HCV & HBV infection, repeatedly try to allay their fears by asking same question to different team members, thus, correct and same answers have to be given by all team members, for mental solace of patient and other family members. This Malhotra's Ashi-Angel approach by our team has brought fruitful result which is evidenced by extraordinary compliance in our treated patients [12] and even overcoming phobias in successfully treated HCV patients, even after attainment of sustained virological response

and same has been termed as Malhotra's syndrome [13].

CONCLUSION

The HBV and HCV patients are already terrified regarding their illness, course & side effects of treatment, familial transmission and social stigma associated with the illness. The pregnant females

In the present study, the sample size was less, hence larger studies are required to judge the exact success of psychological motivation regarding breastfeeding in HBV and HCV infected pregnant patients.

Conflict of Interest

The authors declare that there was no conflict of interest and no funding was taken from any source to conduct this research.

REFERENCES

1. Petrova M, Kamburov V. Breastfeeding and chronic HBV infection: clinical and social implications. *World J Gastroenterol*. 2010 Oct 28;16(40):5042-6. doi: 10.3748/wjg.v16.i40.5042. PMID: 20976840; PMCID: PMC2965280
2. Alter MJ. Epidemiology of hepatitis B in Europe and worldwide. *J Hepatol*. 2003;39 Suppl 1: S64-S69. doi: 10.1016/s0168-8278(03)00141-7.
3. Jonas MM. Hepatitis B and pregnancy: an underestimated issue. *Liver Int*. 2009;29 Suppl 1:133-139. doi: 10.1111/j.1478-3231.2008.01933.x.
4. World Health Organization. Hepatitis B and breastfeeding. No 22, November 1996
5. Quigley MA, Kelly YJ, Sacker A. Breastfeeding and hospitalization for diarrheal and respiratory infection in the United Kingdom Millennium Cohort Study. *Pediatrics*. 2007;119: e837-e842. doi: 10.1542/peds.2006-2256.
6. Effect of breastfeeding on infant and child mortality due to infectious diseases in less developed countries: a pooled analysis. WHO Collaborative Study Team on the Role of Breastfeeding on the Prevention of Infant Mortality. *Lancet*. 2000; 355:451-455
7. Jones G, Steketee RW, Black RE, Bhutta ZA, Morris SS. How many child deaths can we prevent this year? *Lancet*. 2003; 362:65-71. doi: 10.1016/S0140-6736(03)13811-1
8. Guo Y, Liu J, Meng L, Meina H, Du Y. Survey of HBsAg-positive pregnant women and their infants regarding measures to prevent maternal-infantile transmission. *BMC Infect Dis*. 2010; 10:26. doi: 10.1186/1471-2334-10-26
9. Grasch et al. Breastfeeding Initiation, Duration, and Associated Factors Among People With Hepatitis C Virus Infection. January 2024. *Obstetrics and Gynecology* 143(3)
10. Wei-Chih Su, Tsung-Tai Chen, Chien-Hsien Wu, Ling-Na Shih, Chih-Kuang Liu, Ya-Seng (Arthur) Hsueh, The association between comprehensive patient-centered care and health-related quality of life (HRQoL) for patients with chronic viral hepatitis-A pathway analysis, *Journal of the Formosan Medical Association*, Volume 123, Issue 10,2024, Pages 1057-1063
11. Hepatitis B virus carriers' experience with treatment, and ethical behaviour of healthcare professionals towards them Sachiko FUKUI¹, Kayoko OHNISHI², Saori YASUOKA³, Hisako YANO⁴. Aomori University of Health and Welfare Konan Women's University Toho University Nagoya City University
12. Malhotra P, Malhotra V. Malhotra's Ashi-Angel Concept for Effective Management of Hepatitis B and C. *Int. J. Adv. Res.* 13 (01), 1035-41
13. Malhotra P, Malhotra V, Sanwariya Y, Aman, Vishwajeet, Manisha. Phobias in Successfully treated HCV Patients *Int. J Adv. Res.*13 (01), 382-385