

Determinants of Missed Hepatitis B Birth Dose Among Children in Darbhanga: A Cross-Sectional Study: Reg No: 102

Ankesh Prabhakar, Chandra Mani, Rashmi Priya, Hemant Kumar, Vijay Kumar Chaudhary, Prabhat Kumar Lal

Darbhang Medical College and Hospital

CORRESPONDING AUTHOR

Dr Ankesh Prabhakar, Darbhanga Medical College and Hospital

Email: ankeshprabhakar@gmail.com

CITATION

Prabhakar Ankesh, Mani Chandra, PriyaRashmi, Kumar Hemant, Chaudhary Vijay Kumar, Lal Prabhat Kumar. Determinants of Missed Hepatitis B Birth Dose Among Children in Darbhanga: A Cross-Sectional Study: Reg No: 102. Journal of the Epidemiology Foundation of India. 2025;3(2Suppl):29.

DOI: <https://doi.org/10.56450/JEFI.2025.v3i2Suppl.029>

ARTICLE CYCLE

Received: 10/11/2025; Accepted: 20/12/2026; Published: 31/12/2025

This work is licensed under a Creative Commons Attribution 4.0 International License.

©The Author(s). 2026 Open Access

ABSTRACT

Introduction: Hepatitis B is a viral infection of global health significance, with 1.2 million new infections occurring annually leading to approximately 1.1 million deaths, primarily from cirrhosis and hepato-cellular carcinoma. It can be effectively prevented through safe and widely available vaccines. Under the National Immunization Schedule, hepatitis B vaccine birth dose (HBV-BD) is recommended within 24 hours of birth, but coverage remains sub-optimal, with Bihar reporting 68.2% and Darbhanga district 61.3%. This study aimed to identify factors associated with missed HBV-BD among children. **Methods:** A cross-sectional study conducted at the Routine immunization OPD under Community Medicine Department, DMCH, Darbhanga during August–September 2025. Universal sampling included all children (upto 2 years of age) accompanied by mothers/caregivers attending the OPD. Data collection was done by face-to-face interviews using a pre-tested semi-structured questionnaire and immunization status was confirmed after checking the immunization cards. Statistical analysis was performed using MS Excel 2024 and Jamovi 2.6.44.0. Chi-square (X²) test was used to measure the association of missed HBV-BD with mother's and father's education, occupation, family income, joint or nuclear family, place of residence, gender of child, mode of delivery, place of birth, birth order, birth weight, immunization counselling during ANC visits, knowledge of birth/zero dose, HBV-BD recommendation. A p-value ≤0.05 was considered statistically significant. **Results:** Among 218 study participants 37.2% missed HBV-BD. Majority of participants belonged to rural areas (66.5%) and joint families (68.8%). Significant associations (p≤0.05) were found between missed HBV-BD and lack of immunization counselling during antenatal care (ANC) visits, poor knowledge about birth/zero dose among mothers/caregivers and absence of recommendation to administer HBV-BD within 24 hours of birth. **Conclusion:** Improving HBV-BD coverage requires its targeted recommendation and immunization counselling of pregnant women/caregivers during ANC visits, at the time of delivery, and immediately post-delivery.

KEYWORDS

Hepatitis B birth dose, cross-sectional studies, vaccine coverage, public health