

Prevalence of Hepatitis B Virus Infection and Its Determinants among Pregnant Women in East Africa: Systematic Review and Meta-Analysis

Authors : Bantie Getnet Yirsaw, Muluken Chanie Agimas, Gebrie Getu Alemu, Tigabu Kidie Tesfie, Nebiyu Mekonnen Derseh, Habtamu Wagnew Abuhay, Meron Asmamaw Alemayehu, Getaneh Awoke Yismaw

Abstract : Introduction: Hepatitis B virus (HBV) is one of the major public health problems globally and needs an urgent response. It is one of the most responsible causes of mortality among the five hepatitis viruses, and it affects almost every class of individuals. Thus, the main objective of this study was to determine the pooled prevalence and its determinants among pregnant women in East Africa. Methods: We searched studies using PubMed, Scopus, Embase, ScienceDirect, Google Scholar, and grey literature that were published between January 01/2020 to January 30/2024. The studies were assessed using the Newcastle Ottawa Scale (NOS) quality assessment scale. The random-effect (DerSimonian) model was used to determine the pooled prevalence and associated factors of HBV among pregnant women. Heterogeneity was assessed by I^2 statistic, subgroup analysis, and sensitivity analysis. Publication bias was assessed by the Egger test, and the analysis was done using STATA version 17. Result: A total of 45 studies with 35639 pregnant women were included in this systematic review and meta-analysis. The overall pooled prevalence of HBV among pregnant women in East Africa was 6.0% (95% CI: 6.0%–7.0%, $I^2 = 89.7%$). The highest prevalence of 8% ((95% CI: 6%, 10%), $I^2 = 91.08%$) was seen in 2021, and the lowest prevalence of 5% ((95% CI: 4%, 6%) $I^2 = 52.52%$) was observed in 2022. A pooled meta-analysis showed that history of surgical procedure (OR = 2.14 (95% CI: 1.27, 3.61)), having multiple sexual partners (OR = 3.87 (95% CI: 2.52, 5.95)), history of body tattooing (OR = 2.55 (95% CI: 1.62, 4.01)), history of tooth extraction (OR = 2.09 (95% CI: 1.29, 3.39)), abortion history (OR = 2.20 (95% CI: 1.38, 3.50)), history of sharing sharp material (OR = 1.88 (95% CI: 1.07, 3.31)), blood transfusion (OR = 2.41 (95% CI: 1.62, 3.57)), family history of HBV (OR = 4.87 (95% CI: 2.95, 8.05)) and history needle injury (OR = 2.62 (95% CI: 1.20, 5.72)) were significant risk factors associated with HBV infection among pregnant women. Conclusions: The pooled prevalence of HBV infection among pregnant women in East Africa was at an intermediate level and different across countries, ranging from 1.5% to 22.2%. The result of this pooled prevalence was an indication of the need for screening, prevention, and control of HBV infection among pregnant women in the region. Therefore, early identification of risk factors, awareness creation of the mode of transmission of HBV, and implementation of preventive measures are essential in reducing the burden of HBV infection among pregnant women.

Keywords : hepatitis B virus, prevalence, determinants, pregnant women, meta-analysis, East Africa

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