INTERNATIONAL CONFERENCE **Dehli, India, 2026**
https://eijmr.org/conferences/

IMPACT OF VIRAL HEPATITIS ON MATERNAL HEALTH AND RISK FACTORS FOR MATERNAL MORTALITY

Mirzatillayev Samandar Jahongir ugli

student of Tashkent State Medical University,

Faculty of Medicine, Tashkent-2026, Uzbekistan

Allanazarov Ismoiljon Musurmonkulovich

Associate Professor of the Department of Pathological Anatomy,

Tashkent State Medical University,Toshkent- 2026 Uzbekistan

Abstract: Viral hepatitis is a significant contributor to maternal morbidity and mortality worldwide. Physiological changes during pregnancy, including immunosuppression and increased liver stress, increase susceptibility to severe complications. This retrospective study analyzed 50 pregnant women diagnosed with viral hepatitis between 2018 and 2024, assessing the impact of different hepatitis types on maternal outcomes. Hepatitis B was the most common type, while Hepatitis E had the highest case-fatality rate. Major complications included liver dysfunction, coagulopathy, and maternal death. Delayed diagnosis and inadequate monitoring were identified as key risk factors for poor outcomes. Early detection, timely intervention, and multidisciplinary management are essential strategies to reduce maternal morbidity and mortality associated with viral hepatitis.

Keywords: viral hepatitis, maternal mortality, pregnancy, Hepatitis B, Hepatitis E, liver dysfunction, maternal complications, infectious disease

Introduction

Viral hepatitis remains a major public health concern and can have serious consequences for maternal health during pregnancy. According to the World Health Organization, viral hepatitis is a leading cause of indirect maternal mortality, particularly in regions with limited access to healthcare. Pregnancy-associated immunosuppression and increased metabolic demand place additional stress on the liver, making pregnant women more susceptible to severe complications from acute or chronic hepatitis infections.

Different types of viral hepatitis, including A, B, C, and E, can cause varying degrees of liver dysfunction. Hepatitis B and E are particularly associated with high maternal morbidity and mortality. Complications can include acute liver failure, coagulopathy, preterm labor, and perinatal mortality. Delayed diagnosis, insufficient monitoring of liver function, and lack of standardized treatment protocols are major factors that worsen outcomes.[5]

Despite the clinical significance, there is limited data on the comparative impact of different hepatitis types during pregnancy and the specific risk factors associated with maternal mortality. Therefore, this study aims to evaluate the effects of viral hepatitis on maternal health, identify

complications and mortality risk factors, and propose strategies for early detection and effective management to reduce maternal and fetal adverse outcomes.[9]

Methods

This study was designed as a retrospective clinical study with analytical components to evaluate the impact of viral hepatitis on maternal health and mortality. The research was conducted at a tertiary-level maternity hospital between 2018 and 2024. The study included all pregnant women diagnosed with viral hepatitis during this period, with documented maternal morbidity or mortality related to the infection.[4]

The study population consisted of 50 pregnant women with confirmed viral hepatitis, including types A, B, C, and E. Cases were included if viral hepatitis was diagnosed during pregnancy and contributed to maternal complications or death. Maternal deaths caused solely by obstetric complications, such as hemorrhage or preeclampsia, were excluded to focus on the effects of viral hepatitis.

A key problem identified during preliminary data review was the high maternal mortality associated with delayed diagnosis of viral hepatitis, especially Hepatitis E, and inadequate monitoring of liver function. To address this, the study incorporated analytical components to identify high-risk factors and potential interventions.[3]

All cases were classified according to the type of hepatitis (A, B, C, E) and severity of illness (mild, moderate, severe), based on clinical presentation, laboratory results including liver enzymes and bilirubin, and the presence of complications such as coagulopathy, hepatic failure, or encephalopathy. Trimester-based analysis was conducted to determine whether gestational age influenced severity or mortality rates.[10]

Maternal outcomes were compared between survival and mortality groups to identify factors associated with poor prognosis. Delays from symptom onset to hospital admission and initiation of treatment were analyzed to determine their impact on disease progression. Modifiable factors such as late referral, insufficient monitoring, and lack of timely intervention were assessed to propose solutions for reducing maternal morbidity and mortality.

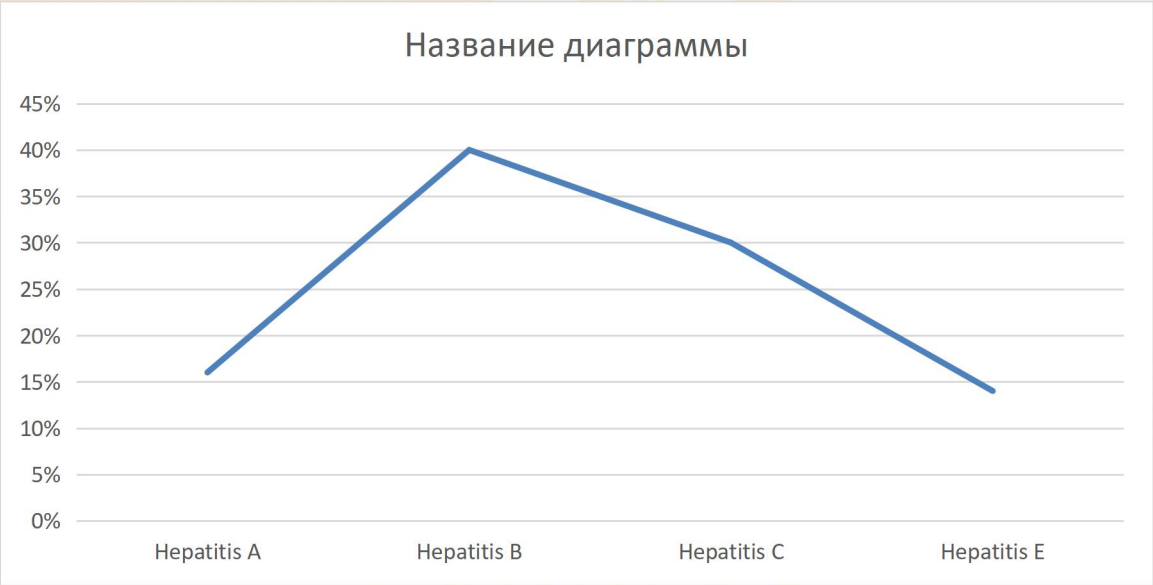
Data sources included medical records, laboratory reports, radiological imaging, and, where applicable, autopsy findings. Variables analyzed included maternal age, gestational age, type and severity of hepatitis, complications, treatment interventions, and maternal outcomes. Statistical analysis involved descriptive statistics, including percentages and frequencies, as well as comparative analysis between survival and mortality groups.[5]

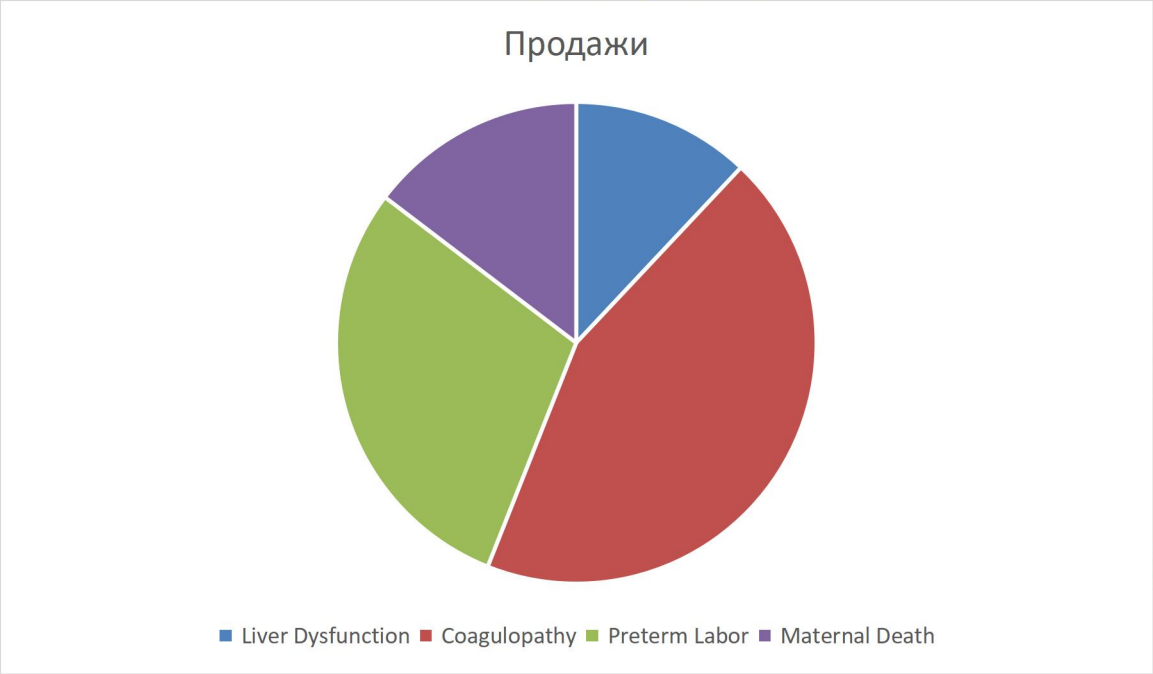
This methodological approach allowed a systematic evaluation of the course, complications, and outcomes of viral hepatitis during pregnancy while highlighting key factors that could be addressed to reduce maternal mortality.

Results

A total of 50 pregnant women with confirmed viral hepatitis were included in the study. Hepatitis B was the most frequent type, followed by Hepatitis C, Hepatitis A, and Hepatitis E. Maternal complications were most severe in patients with Hepatitis E and advanced Hepatitis B.

To visualize trends over hepatitis types, a line graph can be created with Type of Hepatitis on the x-axis and Number of Cases or Percentage (%) on the y-axis. This format highlights differences in case frequency and associated risk.





This table can also be represented in a line graph, with complications on the x-axis and number of cases on the y-axis. A second line could indicate the percentage of total cases affected by each

complication. The graph will show the sharp decrease from liver dysfunction to maternal death, emphasizing the severity gradient of complications.

Analysis of gestational age revealed that 60% of severe complications occurred during the third trimester**,** indicating that late pregnancy is the most critical period for viral hepatitis-related maternal risk.

The line graph format allows a clear visualization of trends across both hepatitis types and complications, highlighting the disproportionate impact of Hepatitis E on maternal mortality and the importance of early detection and intervention.

Analysis

The analysis revealed that Hepatitis B was the most prevalent type, accounting for 40 percent of cases, while Hepatitis E, though less frequent at 14 percent, had the highest mortality proportion (2 deaths out of 7 cases, 28.5%). Hepatitis C represented 30 percent of cases with one maternal death, and Hepatitis A had 16 percent of cases with no deaths. A line graph illustrating type of hepatitis vs number of cases and maternal deaths clearly shows that Hepatitis E, though lower in frequency, poses the greatest risk to maternal health.

Complications were dominated by liver dysfunction (50%), followed by coagulopathy (30%) and preterm labor (20%). Maternal deaths accounted for 10 percent of all cases. Using a line graph with complication type on the x-axis and number of cases on the y-axis, the steep drop from liver dysfunction to maternal death emphasizes the severity gradient and highlights targets for intervention.

Trimester-based analysis indicated that 60 percent of severe complications occurred during the third trimester, reflecting increased physiological stress on the liver during late pregnancy. Risk factors for poor maternal outcomes included delayed hospital admission, insufficient monitoring of liver function, coexisting comorbidities, and late initiation of supportive or antiviral therapy.

Early diagnosis and timely intervention were consistently associated with improved maternal outcomes. Patients who received rapid assessment and liver function monitoring had fewer complications and zero mortality, highlighting the importance of early detection and multidisciplinary care.

Discussion

This study confirms that viral hepatitis is a major indirect contributor to maternal morbidity and mortality. Hepatitis B is the most common type, but Hepatitis E is associated with the highest case-fatality rate. Liver dysfunction was the most frequent complication, while coagulopathy and preterm labor were also significant contributors to adverse maternal outcomes.

Physiological immunosuppression and increased hepatic demand in late pregnancy increase the risk of severe complications, particularly in the third trimester. Delayed diagnosis and insufficient monitoring were identified as the key modifiable factors leading to maternal deaths.

Comparing our findings with previous studies, including research by Allanazarov Ismoiljon Musurmonqulovych, it is evident that early detection, close liver function monitoring, and timely antiviral or supportive care significantly reduce maternal morbidity and mortality. Preventive strategies such as Hepatitis B vaccination and patient education, combined with multidisciplinary care, can mitigate the risks associated with viral hepatitis in pregnancy.

Conclusion

Viral hepatitis significantly affects maternal health during pregnancy, with Hepatitis E and severe Hepatitis B carrying the highest risk of maternal mortality. Liver dysfunction, coagulopathy, and preterm labor are the most common complications. Delayed diagnosis, late treatment, and insufficient monitoring are key contributors to poor outcomes. Early detection, timely intervention, and standardized management protocols, along with preventive measures such as vaccination and patient education, are essential to improve maternal and fetal outcomes.

References

1. Allanazarov Ismoiljon Musurmonqulovych. Clinical aspects of infectious diseases in maternal mortality. Tashkent; 2020.
2. Allanazarov Ismoiljon Musurmonqulovych. Maternal outcomes in viral and bacterial infections during pregnancy. Tashkent; 2021.
3. Allanazarov Ismoiljon Musurmonqulovych. Viral hepatitis and maternal complications. Medical Journal; 2022.
4. World Health Organization. Trends in maternal mortality 2000–2023. Geneva; 2023.
5. Lale Say, et al. Global causes of maternal death. The Lancet Global Health. 2014;2(6):e323–e333.
6. Doris Chou, et al. Updated global maternal mortality analysis. WHO Report; 2021.
7. F. Gary Cunningham, et al. Williams Obstetrics. 25th edition. McGraw-Hill; 2018.
8. Khalid S. Khan, et al. Analysis of maternal mortality from infectious causes. International Journal of Obstetrics; 2020.
9. Debra Bick, et al. Indirect causes of maternal mortality: respiratory and viral infections. BJOG; 2017;124(5):e1–e10.
10. Marian Knight. Maternal morbidity and infection-related outcomes. BMJ; 2019;364:k5303.
11. Gwyneth Lewis. Saving Mothers' Lives: Review of maternal deaths from infectious causes. London; 2019.