# Review of: "Sero-prevalence of Viral Hepatitis B and C infection and associated factors among Pregnant Women in Southeast Ethiopia: Community-based crossectional study"

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**First of all, I would like to thank you for choosing me as a reviewer.**

The presented article is of epidemiological importance.

The topic of the article is highly interesting and may be of interest to certain readers.

The research issue is significant because it assesses the seroprevalence of hepatitis B and C virus infection and associated factors among pregnant women in Robe town, Southeast Ethiopia.

The study provides a valuable roadmap for future research endeavours and regulatory actions in the field of communicable diseases in general and hepatitis in particular in Ethiopia.

Therefore, I congratulate the authors for this effort.

Nevertheless, I have some considerations that I consider necessary for the work to be more consistent:

**General comments:**

- Has HDV/ HBV co-infection been observed in patients? As is known, HDV is a defective RNA pathogen requiring the simultaneous presence of HBV to complete its life cycle.
- I would advise that if there are PCR results, serological markers of HBV (HBeAg), or (anti-HBs), (anti-HBc) in the patients' data, it is better to be included in the article.
- No recommendations in abstract
- The aim of the present study, therefore, not (was therefore)
- No introduction or background in the abstract, since it attracts the reader and shows the importance of the study

- The study's "methodology" informs that a rapid test was used to diagnose viral hepatitis, and serum was used to detect the HBsAg and Anti-HCV markers. Is there any difference between the use of serum in the application of the test? Is there any claim of increased sensitivity and specificity using serum compared to plasma or whole blood?
- Suggestion: In Table 1, the wealth index uses an unusual spelling that can give grounds for pejorative terms; instead of

classifying as "poor" or "rich," establish ranges in relation to the country's minimum salary.

- Adjust Table 4 to the text.

- In the Discussion, the paragraph "The source of observed discrepancy might be due to differences in the habit of using intravenous drugs, exposure to blood transfusion, and potential variability in the efficiency of the commercially available test kits used for screening AntiHCV Antibodies in the study. Considering the magnitude and severity of viral hepatitis, findings from the present study indicate prevention and control of viral hepatitis needs a high degree of attention by all stakeholders, government, and funding agencies" doesn't have any reference.

- In the line "Pregnant women with a history of hospital admission were seven times more likely than those without a history of hospital admission to contract HBV infection (AOR= 6.96, 95% CI 1.73, 27.99, P= 0.006)," it is important to discuss more about the high levels of these findings. Why is hospitalization a possible way to infection? How is the level of contact with other viral agents in hospitals in this country? Do they have a high level of infection through hospitalization dissemination?

- The paragraph "Furthermore, the possible explanation might be that having contact with someone who is chronically ill or a carrier of the hepatitis B virus may increase the probability of exposure to the source of infection, suggesting household/close contact to be a potential risk factor for viral hepatitis transmission in the present study, which demands great attention in providing health education for the community regarding mode of viral hepatitis transmission and implementation of preventive measures to be taken while providing care for a family member having liver disease." There's no reference.

- The discussion deals with 2, 3, and 5 times higher levels of contamination risk according to the variables used in the study. At what point does multinomial analysis allow me to make this interpretation? This needs to be clearer, what it tells me (if there is a risk or protection factor).

- The paragraph "These differences might be due to the low level of community awareness of infection prevention and transmission modes of viral hepatitis. Observed differences might be due to variations in the sample size of study participants, awareness of the transmission mode of hepatitis viruses, safety precautions, traditional practices, and the culture of the society. The implication of the present study suggests the need for great attention to be given to community awareness creation to avoid risky socio-cultural behavior that may contribute to the transmission of viral hepatitis." There's no reference.

- It is important to discuss a little about the co-infection found in this study.

- It's always important to bring up the discussion: What's different about my work? How will my findings contribute to the literature?

- Anti-HCV testing does not confirm current infection with HCV; it indicates previous and current infection (and not acute or chronic as stated in the methodology), so positively tested patients should be confirmed by qualitative RT-PCR. Results of Anti-HCV should not be used in estimation of HCV prevalence because it could indicate previous infection with HCV. The rate here should be referred to as "infection at some point in time (either previously or currently).

- Typo: "HBsAg," not "HBsAgn."

**Specific comments:**

- The study design:

    - It is unclear how the pregnant women were selected and contacted,

    - Is this design multistage random sampling and not systematic random sampling?

    - Where were the women contacted? At home or PHUs?

    - How were the pregnant women in each of the selected kebeles identified? Is there a sampling frame that includes all pregnant women?

    - What was the total number of pregnant women in the three selected kebeles to define an interval of 2?

    - What is the registration system for pregnant women in Ethiopia?

- Please indicate how the wealth index was calculated?

- Please indicate what the period between the exposure to the risk factors and the interview was. I mean, while asking the subjects, what was the period you asked about (within the last six months or lifelong exposure?)

- Better to differentiate the risk factors into healthcare-associated and lifestyle-related risk factors in the results and discussion sections.

- Better to develop a table for the bivariate analysis (HBV and HCV) and another table for binary logistic regression (HBV and HCV) to indicate the exact significant risk factors, excluding the confounders.

- In the discussion and conclusion sections, please do not repeat the numbers and percents previously mentioned in the results and in the tables

- Please elaborate on the healthcare system and the blood transfusion system in Ethiopia and the policy in the facilities providing this service