

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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Potential competing interests: No potential competing interests to declare.

The study focuses on a crucial public health issue that affects pregnant women. This is the most important study group given that they could be potential sources of new infection through vertical transmissions. However, the study did not clarify how the testing was done and considered HCV-Ab reactive individuals as being infected; individuals can be antibody-positive after spontaneous recovery or after treatment. Many of the rationales for the apparent discrepancy, according to this study, are due to differences in socioeconomic characteristics and geographic areas. Rather than mentioning cultural differences, geographic location, and sociodemographic characteristics, the researcher should specify which cultural practice or sociodemographic characteristic is related to HBV and HCV transmission dynamics among pregnant women.

Abstract

1. Objective: Have you assessed HCV infection or HCV exposure?
2. Methods: change "women." to women?
3. Results: If HCV-Ab testing is all that was done, then cannot conclude that HCV infection. Change "95CI" to "95%CI" and define it the first time you use it. Given that most HBV and HCV risk factors are the same, why were some HBV risk factors not related to HCV exposure?
4. How is household contact measured? Conclusion: History of dental extraction, hospital admission, household contact, tattooing, and sexually transmitted diseases, blood transfusion plays a great role in the transmission of viral hepatitis. Since hepatitis viruses, such as HEV and HAV, are primarily transmitted feco-orally, could you perhaps revise this conclusion?

Introduction

1. There has been no nationwide survey measuring the burden of viral hepatitis infection in different socioeconomic, geographic, and demographic subgroups in the last three decades, and the studies available in Ethiopia have been limited and outdated. Nonetheless, few papers present national estimates of HBV and the HCV survey [*Presentation by Mengistu Erkie and Hanna Aberra (2020). Scaling-up hepatitis testing to achieve the SDGs: Challenges and opportunities from the COVID-19 response. Coalition for Global Hepatitis Elimination*] and <https://destine-ethiopia.org/about/>.

2. The aim of the present study was therefore to determine the seroprevalence of HBV and HCV infections. Please take the above comment

Methods:

1. Sample size: using p of 50% could be the last option for estimating sample size. Instead of using 50%, why don't you utilise the estimates of HBV and HCV among pregnant women in Ethiopia that are currently available? Here, another concern might be whether to use a 5% margin of error. Although you used a systematic random sample technique to identify participants, the sampling you used was two-stage rather than systematic and an estimated sample size is sufficient when using a simple random sampling technique. It is important to take the design effect into account when using the sampling technique employed in this study.
2. Risk factors: It is believed that one of the main risk factors of HBV and HCV exposure in countries with low or middle incomes happens via therapeutic injection while injection drug use could be another source. This study, however, did not address it. Does polygamous marriage in this country have legal status?
3. Two experienced laboratory professionals collected five ml of venous blood from a peripheral vein in plain tubes from all eligible pregnant women under aseptic conditions and transported them to the laboratory. Which one was accurate, though, as the abstract states 3 millilitres?
4. The testing was through rapid tests. Thus, what were the implications of collecting venous blood and transportation rather than capillary blood and on-site testing?
5. The red band may appear in the control area or both the control and testing areas, indicating invalid tests. Do you consider them as positive?
6. The results of the rapid test were communicated to the study participants and made available as soon as possible. How do you communicate the results if the testing was not done on-site?
7. Where was the pre-test conducted? Was it in the selected Kebeles?
8. All infected pregnant women were counselled on the disease and referred for proper specialized care. If the pregnant women were reactive to HCV, it is difficult to conclude that they are infected. So, what has been done for women who have been exposed to HCV?

Results

1. The study presented an age mean with a range that was maybe not normally distributed. What were the mean and IQR?
2. Wealth index: the study collected income data, and three-quarters of the study participants were housewives. So, how do you measure monthly income? I'm assuming the wealth index variable was calculated using income. However, wealth index calculation is another approach to determining socioeconomic status that requires asset-based measurement for urban and rural areas separately. It also requires an additional analysis to generate the wealth quantile. So, how was it done?
3. What about the distribution of other variables than sociodemographic factors collected in the survey?
4. the study collected data regarding the history of STI, and one-fifth of the study participants had never been to school.

Do you believe this person is capable of correctly identifying all STIs?

5. Parity category: you obtained data from pregnant women; thus, you might possibly find a nullipara woman. Don't you find them? Since para two women and multipara are still multiparas, the class of parity is not independent.
6. Is polygamy permitted in Ethiopia? or does it imply that the husband has multiple sexual partners?
7. What was 95%CI of both HBV and HCV prevalence?
8. Have you adjusted for sociodemographic factors?

For instance, age could have an effect on HBV infection and HCV exposure.

1. In the bivariable analysis, the connection between hospitalisation and HCV exposure is strong. When confounders are controlled, the 95% CI interval includes the null value. So, what was the primary reason for this huge change?

Discussions

1. In the present study, the prevalence of Hepatitis B and Hepatitis C infections among pregnant women was 7.6% (95CI: 5.1-10.2) and 2.2% (95CI: 1-3.7), respectively, whereas 0.24% were co-infected among all participating pregnant women. Prevalence of HBsAg in the present study was consistent with a study finding from the study conducted in Gambella 7.9 % [19] , 7.8% in southern Ethiopia [20] but higher than the finding from studies conducted in Tigray 5.5% [21] , 6.9% in Deder [22] , 6.6% in Bahir Dar northwest Ethiopia [23] . On the other hand, the prevalence of HBsAg in the present study was lower than 8.5% in Jigjiga [24] , 9.55% in Ghana. All of the above results are within the 95% confidence interval; thus, it is difficult to conclude whether they are lower or higher.
2. The reasons for variations of seroprevalence HBsAg in Ethiopia and elsewhere might be due to differences in geographical areas, level of awareness on a different route of viral transmission, sociodemographic differences, cultural practices, and behavioural practices toward the risk of HBV infections. What impact do geographical differences play in viral hepatitis transmission?
3. Thus, the relative increase in the prevalence of HBsAg observed in the present study among pregnant women suggests that the present study area is one of the priority target areas for the prevention and control of hepatitis in the country. Can you say that where the 95CI: 5.1-10.2?
4. significant association among study participants having a history of dental extraction with HBsAg infection. However, it conflicted with the study finding report from Saudi Arabia in which dental extraction was not significantly associated with HBV infection [37]. The reason for these discrepancies could be due to differences in sociodemographic characteristics and study settings. Contamination of blood and blood products is clearly the primary way of transmission for HBV and HCV. When it comes to tooth extraction, universal precautions may be an issue. Differences in socio-demographics are not responsible for this. I would advise avoiding utilising socio-demographics as a rationale.
5. This is because a history of sexually transmitted infection is closely related to involvement in heterosexual practice or having multiple sexual partners and unprotected sexual intercourse. Hence, the present study finding suggests having a history of sexually transmitted infections is a risk factor for HBV infection and recommends the need for prevention of transmission of HBV infection primarily starts with behavioral change on practicing safer sex. F For example, HIV is a

sexually transmitted infection with the same route of transmission. So, consider the most typical mode of sexual transmission.

6. What were the study's other limitations? For example, the data was gathered by an interview-administered questionnaire. Do you believe that every woman openly reports her past multiple sexual partners? So, your study was not influenced by social desirability bias.