

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.

Thank you for this topic and the data we learn here from Ethiopia!

General comments

1. please always use the same format to present your confidence intervals: you have both formats in your text: 2.2% (95%CI: 1.0 - 3.7) and the format with commas (AOR =2.70, 95% CI 1.09, 6.69)
2. generally, in epidemiological science papers, only one digit is used after the comma, rather than two. Two digits behind the comma is more appropriate in papers with a purely biological or basic science content.
3. please always first introduce your abbreviation - unless your journal explicitly lists it as common knowledge (HIV is often common knowledge, but I would expect you needed to introduce HBV, HCV or AOR).
4. please take care to the details: always same formatting of spaces before and after = / no space before a % / sometimes you have a =, sometimes not → at the moment it looks rather a bit careless and not carefully reviewed.
5. I have given options for corrections with strike through words ~~words~~ to delete and *words in italics to insert or were modified*.
6. in the middle of a sentence, hepatitis B or hepatitis C is spelt with a small h and not with a capital H - however, abbreviations of course are always written with capital letters (HBV or HCV)

Please go through your whole text and correct all the above points in all the sections. I will not mention each of these items singularly in the up-coming review points.

Thank you.

Minor comments

Abstract - objective: perhaps introduce your abbreviations here already "hepatitis B and C virus (HBV and HCV) infection"

Abstract - methods:

- delete the . in the first sentence here: “ ... conducted among pregnant women. from March to...”
- HBsAg - is the standard abbreviation (not HBsAgn). Please spell it out the first time you use it in the abstract, so “Hepatitis B surface antigen (HBsAg)”. And then please review the whole text to make sure it is always correctly written.
- once your abbreviations are introduced (see above), you can save space by always using them in further parts of the text (see further comments of the same content further below).

Abstract - results:

- in the first bracket you lack the % for 95% CI
- also please introduce a space before your opening bracket after 2.2%
- one woman (not one women) was co-infected
- household ~~C~~contact (not a capital C)

Abstract - conclusions:

- The seroprevalance (not a capital S)
- The seroprevalence of 7.6% of HBV and 2.2% of HCV~~was corresponds to~~ moderate endemicity ...
- History of dental extraction, hospital admission, household contact, tattooing,~~and~~ sexually transmitted diseases, ~~and~~ blood transfusion plays a great

Introduction

- In your main body of text, it makes sense to introduce your abbreviations very early and then to stick with your abbreviations throughout the rest of the text. So: “Hepatitis B and C (HBV and HCV) infections, in particular, are the most common cause of ...”
- According to estimates from WHO, 296 million people~~have live with~~ chronic hepatitis B infection in 2019, ...
- please cut your first sentence in the paragraph starting with “According to” in at least 2, if not 3, sentences. E.g:
“According to estimates from WHO, 296 million people live with chronic hepatitis B infection in 2019, with 1.5 million new infections per year leading to 820,000 deaths, mostly from cirrhosis and hepatocellular carcinoma. Most of these deaths occur in developing countries [3]. There are approximately 1.5 million new HCV infections per year and approximately 58 million (3%) of the world’s population *live with* chronic hepatitis C virus infection, ~~leading to 1.5 million new infections per year and~~ leading to 290,000 deaths, mostly from cirrhosis and hepatocellular carcinoma, most of them in East Asia and sub-Saharan Africa.”
- delete the full-stop in the middle of the sentence: “...women in sub-Saharan Africa ranges between 2.4% in Ethiopia [6] and 11.8% in Uganda [7] - *while the* prevalence of HCV among pregnant women in sub-Saharan ...”
- what does this mean “... whereas Hepatitis C prevalence is estimated at not less than 2.5% ...” → “more than 2.5%”? or just “around 2.5%” ?
- what do you mean by “fetal wastage” ? do you mean miscarriages? pre-term birth? low birth weight infants?
- I couldn't find these figures of “19.2% very high maternal mortality and 42.6% fetal problems” in your reference [3] →

where do you get these very high figures from? please verify this reference.

- HBV causes hepatitis of ~~altering~~ *increasing severity the older the patient is at primary infection. It becomes a chronic infection* in 95% of children and 10% of adult patients. Vertical transmission plays a great role.
- Prevention of mother-to-child transmission of HBV is fundamental for reducing the burden of the disease in sub-Saharan Africa, where it is endemic. ~~Maternal screening~~ *should be combined with post-exposure prophylaxis, consisting of HBV vaccination immediately after delivery in all infants of HBsAg-positive mothers, together with immunoglobulin prophylaxis.*
- prevent and control viral hepatitis by integrating the *HBV* vaccine into the existing EPI program for children
- In particular, routine screening of pregnant women for viral hepatitis ~~was interrupted infection~~ in many public health facilities due to
- Conducting a community-based prevalence study among pregnant women was therefore crucial ~~and has endless benefits.~~
- This gives the final sample size of 422. ~~Accordingly, the study was conducted among 422 pregnant women from March 1 to May 30, 2022.~~
- The total sample size was proportionally allocated to each selected kebeles, and then a systematic sampling technique was used to select a total of 422 pregnant women from selected kebeles from March 1 to May 30, 2022.
- Dependent Variable - presence of HCV antibodies and / or HBsAg ~~Serostatus of hepatitis C virus in pregnant women and serostatus of hepatitis B virus in pregnant women.~~
- healthcare-related characteristics such as history of ~~H~~-hospital admission

Operational Definitions

- please close the bracket in the section on HBsAg
- I do not entirely agree with your 2nd sentence of the definition of Anti-HCV antibodies: you may also have positive anti-HCV antibodies without active infection - if your PCR result is negative (i.e. no viral RNA found). I would rephrase as such: Anti-HCV antibodies usually develop 2-6 months after exposure during the acute phase of infection and persist throughout life. An active infection is defined if polymerase chain reaction (PCR) is positive for HCV RNA. Since we had no PCR testing available, we defined negative anti-HCV antibodies as “no HCV infection”.

Data Collection and quality control

- at 3000 rpm (RPM) → you use the same abbreviation twice without giving the explanation, please spell out rpm the first time you use it.
- Excellent quality ~~A~~according to the instructions (no capital letters in the middle of a sentence unless for a name of a person or a brand or city / country of course)
- please give a website to reference the brands you used for your tests
- is “Best” a brand to detect anti-HCV antibodies? please indicate website (see above)
- you should indicate where you get these sensitivities and specificities “..., according to the manufacturers”.
- delete ~~The presence of a red band indicates a positive result, while its absence indicates a negative result.~~

- Were you able to offer vaccination also to seronegative partners? please mention this aspect specifically. It is a very frequent challenge in many sub-Saharan countries, so many readers will be interested to hear from you.

Result

sociodemographic characteristics

- please insert a space before your brackets (see introductory comments above) in the text and everywhere also in table 1
- 308 (75.1%) ~~were indicated they were~~ housewife as occupation
- how did you measure your wealth index?? You should give information on this in your methods section, thank you.

Seroprevalence of Hepatitis B and C virus Infection among Study Participants

- the Overall prevalence
- again... please insert a space before your brackets
- ..., whereas 1 woman (0.24%) was co-infected

table 2

- HBsAg - please check correct abbreviation in all the tables.
- normally tables don't include the 100% total - the positives and the negatives are enough information

- Binary logistic regression was used to identify factors associated with the occurrence of the Hepatitis B virus chronic HBV infection among pregnant women. Accordingly, variables with a p-value [Footnote:SC1] <0.25 in binary logistic regression were declared as a candidate for multivariable logistic regression.
- history of husband polygamy
- Finally, in the multivariable logistic regression, the following five variables were found to be significantly associated with HBV infection among pregnant women at p-value <0.05).
- ...found to be significantly associated with the presence of HBsAg infection (p <0.05).
- In the paragraph starting with "Accordingly, pregnant women who had a history of ..." you have no standard way of writing your results – this is a pity as it makes your work look like careless work for a very irrelevant reason. Please go through this whole paragraph and either follow the formatting guidelines of Qeios or at least stick to your own formatting principles through your whole text (such as P or p / gaps before and after your = etc.).
- In the same paragraph: you did not introduce your abbreviation AOR. Typically it is written as aOR (adjusted odds ratio)
- "...history of tooth extraction have a 2.7 higher likelihood (adjusted odds ratio (aOR) of 2.7 (95% CI 1.09, 6.69, p = 0.032)), those with a history of hospital admission an aOR of 7.0 (95% CI 1.7, 28.0, p = 0.006), those with a history of ... of being infected hepatitis B virus than their respective counterparts ~~respectively~~."

Table 3:

- as mentioned above, typically it is written as cOR and aOR
- please go down to only 1 digit after the comma
- please always insert a gap before your front bracket

text after table 3:

- please check the formatting of the following paragraphs as outlined above. I cannot mention all the points to be changed.
- I would not put your list of relevant information about your variables of interest in brackets, would rather write: "...nine variables were selected as candidate variables for multivariable logistic regression; these were: dental extraction, history of blood transfusion, history of household contacts, history of abortion, history of Hhusband polygamy ... "
- "higher likelihood" and not "more likelihood"

Table 4:

- Same applies as for table 3, please check your formatting accordingly

Discussion

- No need to introduce HBV and HCV again here
- Again ensure correct writing of HBsAg (not HBsAg_n) throughout the whole paper
- Can you indicate more clearly what might be the reason for the slightly lower prevalence of HBsAg in your study, rather than keeping to the rather vague terms of "sociodemographic differences, cultural practices" do you have particular practices in mind that might be done in Kenya, Ghana or Yemen but that are not done in your study setting?
- Which influence does "geographical areas" have on HBV transmission? I am not aware of any purely geographical risk factor – so therefore, I would rather delete this issue.

Footnotes

[SC1] Gap before your mathematical function

But no gap after your mathematical function