

Review of: "HIV/HBV Coinfections Among People Living With HIV/AIDS in Yenagoa, Bayelsa, Nigeria"

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Potential competing interests: No potential competing interests to declare.

Thank you for the opportunity to review this manuscript. I have provided suggestions below- I have several major concerns with this article and recommend major revisions. My biggest concern with the manuscript is the low sample size and the authors not reporting a sample calculation prior to the study being done. I think this makes it hard to draw solid conclusions from this manuscript. I also have concerns about this study's methods- there are no details about how long the recruitment lasted, information on individuals not agreeing to participate in the study or how many people were asked, vs. participated.

Abstract:

Suggested language: Coinfection is another a major challenge because it affects the rate at which HIV progress to AIDS. In this study, 104 HIV-positive patients were recruited and evaluated for the presence of HBV in among people living with HIV/AIDS (PLWHA) in Yenagoa, Nigeria. Blood samples were re-screened for the presence of HIV antibodies using the Determine HIV-1/2 (Alere), then screened for HBsAg with RDT [this needs to be spelled out] and ELISA kit following the respective manufacturer's instructions. The overall coinfection was 2.0% for HIV/HBV. CD4 counts and viral load was an indicator for HIV/HBV coinfections[was the presence or absence of HBsAg, not an indicator? as just mentioned above?]. A higher HIV/HBV coinfection occurred among age groups >41 years (2.2%), females (3.0%), CD4 counts <200 cells/μl (3.7%), and Viral load 200-999 copies/ml (2.4%). None of the sociodemographic characteristics of these participants was significantly associated ($p > 0.05$) with HIV/HBV coinfections. The present study has further confirmed the presence of HIV/HBV coinfections among PLWHA in Yenagoa, Nigeria males were more prone to HIV/HBV coinfection. At the same time, their female counterparts demonstrated a more excellent disposition to HIV infection only. HIV status did seem to influence the predisposition to HBV infection, as an increase in susceptibility was observed with HIV-infected patients in Yenagoa, Nigeria.

- Hepatitis B should only be capitalized if it is starting a sentence- this needs to be fixed throughout the manuscript.
- Please be sure to check statements made note that deaths were mostly due to HBV related complications like cirrhosis and liver cancer not HBV deaths specifically: An estimated 296 million people had chronic HBV infection in 2019, and more than 820,000 people died due to HBV
- Recommend to state disease burdens rather than disease loads

- Since the focus is on Africa I would recommend removing the statement about Asia as it makes the statement confusing
- I recommend cleaning up the introduction into specific outlined sections as in its current form it contradicts itself and seems a bit all over the place. For example the following statements state different prevalences for co-infection of HBV and HIV in Nigeria- In Nigeria, HIV/HBV coinfection rate is estimated to be between 10.0% and 70.0% (Owolabi et al., 2014). In Nigeria, the rates were also at 13.0% and 3.6% for HIV/HBV and HIV/HCV, respectively.
- Please elaborate on Ijaw and what that is specifically for readers
- Information on the hospital site would be valuable- any research previously done to assess prevalence of HIV in this population, the population volume or reach for this hospital and how many people are served by this clinic. This would help us understand a bit more on the sample size and if it is an accurate representation of the true burden in the region. How many patients per day are seen also on average at this hospital?
- Why were stool samples mentioned in the methods? Above it said blood draw was done? Please clarify
- Do you mean demographic questionnaire rather than well-structured questionnaire? Please clarify.
- Please note the sensitivity and specificity of the HBsAg test kits
- I am not clear on why CD4 count was included possibly clarify- was this just to confirm positive HIV infection? If so please note that.
- The selected age groupings for the statistical analysis are wide and not well standardized I might recommend adjusting this if possible
- How long did this study take place
- Please provide a detailed ethics statement
- Was this the first time people were diagnosed with co-infection or hepatitis B? If so - what happened after that, was there any follow-up or additional care provided for these individuals?
- I also have concerns with the overall conclusions the authors make
- The following is in the last sentences of the paper "This study also reveals a low prevalence of HIV/HBV coinfection, significantly correlated with low CD4+ T cell count and high viral load (as in the case of HBV) among PLWHA in Yenagoa, Nigeria. Moreover, among PLWHA who are currently on ART, a decreased prevalence of this HIV/HBV coinfection was seen. To fully comprehend the effect of ART on HIV/HBV coinfection among PLWHA, more research is advised."
- Was viral load measured for HBV? It is not clearly stated within the paper and if it was please describe that in detail, or is this just referring to HIV viral load? Please clarify
- There is no mention that people with HIV are on the same medication as people with HBV and the status of one's treatment would impact their viral load in both infections- this is a major flaw in the study design that should be addressed
- The copied sentence alludes to being on ART (which was not properly defined in the paper) would impact one's co-infection status for two completely separate viruses which is not the case. One can still get HBV on ART and have co-infection but one's viral load for both diseases might be lessened because of ART. Please make that distinction

within the conclusion as it is misleading in its current form.

Unfortunately, I think this sample size is too small to make inferences within this population. Were any sample calculations made before this study- usually that is a preferred method so we know how many individuals in advance we will need to make adequate conclusions drawn from a study. Additionally, this paper found a lot of contradictions with previously published literature and I think that it is because of the small sample size for this study.