Qeios

Peer Review

Review of: "Detection of Hepatitis B Virus Serological markers among Adult HIV Positive Female Patients on HAART in Ogun State, Nigeria"

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Detection of Hepatitis B Virus Serological Markers among Adult HIV Positive Female Patients on HAART in Ogun State, Nigeria":

Strengths

1. **Relevant Public Health Topic**: The study addresses the important issue of HBV-HIV co-infection, a major public health concern in sub-Saharan Africa.
2. **Clear Study Objective**: The aim—determining the prevalence of HBV markers in HIV-positive females on HAART—is well stated and directly investigated.
3. **Ethical Considerations**: Ethical approval and informed consent were obtained and clearly documented.
4. **Data Presentation**: The tables and figures are comprehensive and provide detailed insight into serological marker distribution and associated demographics/risk factors.

Areas for Improvement

1. Language & Grammar

- The manuscript needs proofreading for **grammar, sentence clarity, and typographical errors**. E.g., "participant are" should be "participants are."
- **Tense inconsistencies** occur throughout the article (past and present tense are mixed).

2. Structure & Flow

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- The **introduction is informative**, but overly lengthy with some redundant information. It can be **condensed** for clarity and to better focus on the research gap.
- The **discussion overlaps with the results section**, making it repetitive. Instead, the discussion should interpret the findings in the context of existing literature.

3. Scientific Rigor

- **Statistical Analysis**:
  - While the chi-square values are reported, the results lack depth in explaining **why certain associations are significant or not**.
  - A multivariate analysis could have helped **control for confounders** (e.g., age, marital status).
- **Sample Size Justification**:
  - The formula is presented, but the **input values are not well justified** (why P=0.063, source of prevalence).

4. Clarity in Data Interpretation

- The **serological profiles**, particularly the high HBeAg positivity (73.6%), require stronger discussion—does this suggest **active replication or possible test cross-reactivity**?
- The **clinical implications** of the low HBsAb positivity (1.8%) in a vaccinated population should be further elaborated.

5. Figures & Tables

- Some **tables are too dense** and may benefit from simplification or consolidation.
- **Figures lack captions and explanatory legends**, reducing clarity for visual interpretation.

SPECIFIC AREAS FOR IMPROVEMENT

1. Abstract (Lines 8–29)

- **Issue**: Sentence structure is awkward and overly long. For instance:

  "All of which were used according to the manufacturer's instructions..." — this clause is grammatically isolated and unclear.
- **Fix**: Break sentences into shorter, clearer statements. Summarize the **most important findings only** (e.g., HBeAg 73.6% is highly notable) and **highlight implications** (e.g., public health concern).

2. Introduction (Pages 2–3, Lines ~30–110)

- **Issue**: The section is overloaded with **background statistics** and **repetitive points** about HBV and HIV interaction.
- **Fix**:
  - Summarize the HBV-HIV background in one paragraph.
  - Clearly state the **research gap** earlier (e.g., "No prior study using HBV 5-in-1 Panel among HAART-experienced females in Ogun State...").
  - Move **explanations about serological markers** to the Discussion section instead.

3. Methodology → Sample Size Calculation (Page 4)

- **Issue**: While the formula is shown, the choice of **prevalence (P=0.063)** is not well justified or cited clearly.
- **Fix**: Add a citation or context: "Based on Okocha et al. [18], which found 6.3% HBV-HIV co-infection among a similar population..."

4. Laboratory Investigation → HBV Detection (Page 6)

- **Issue**: The **description of the 5-in-1 rapid test** takes up too much space and reads like a manual.
- **Fix**: Condense this into 1–2 paragraphs. Summarize that the test is **qualitative**, list the 5 markers, and note the **principle type** (sandwich vs. competitive immunoassay). Move full details to an appendix or supplementary file if needed.

5. Results → Seroprevalence Findings (Figure 1 & Table 3–7)

- **Issue**: The **extremely high HBeAg prevalence (73.6%)** raises concern — **unusual for a population on HAART**.
- **Fix**:
  - Discuss possible **false positives** or **active replication with ineffective suppression**.
  - Compare with other studies and hypothesize **why HBsAg is low but HBeAg is high** (e.g., window period, occult infection, test cross-reactivity).

6. Discussion Section (Pages 19–21)

- **Issues**:
  - Some explanations repeat the **results section almost word-for-word**.
  - Statements like "*this supported previous studies...*" are vague and need specific reference backing.

- **Fix**:
  - Focus the discussion on **implications** of major findings (e.g., how low HBsAb affects vaccine coverage or immunity).
  - Clearly connect findings to **risk behaviors** identified (e.g., unprotected sex, lack of vaccination).
  - Add **limitations**, such as: small sample size, use of only rapid diagnostics, or inability to assess viral DNA.

7. Tables

- **Table 8 (Page 16)**: Risk factors and marker positivity are laid out, but it's difficult to interpret.
  - **Fix**: Add **summary rows** (e.g., % of those without vaccination who tested positive), or highlight significant associations.
  - Include **p-values** for comparisons — currently missing.
- **All tables**: Avoid repeating percentages (e.g., 4(3.6%) and 4(3.6%) again in "Number Positive"). Just once is enough.

8. Writing Quality Throughout

- **Examples of grammatical errors**:
  - *"The participant are..."* → should be "participants are."
  - *"A non-married and a widow tested positive..."* → awkward, unclear wording.
- **Fix**: Use a grammar tool or seek editing support to:
  - Correct pluralization errors.
  - Avoid redundancy (e.g., "0.9 percent" repeated too often).
  - Standardize tenses — especially past tense in Methodology and Results.

Final Suggestions

- Add a **"Limitations" subsection** in the Discussion.
- Strengthen the **public health recommendation** in the conclusion — e.g., "Routine screening and targeted vaccination should be integrated into HIV care settings in Ogun State."

Declarations

Potential competing interests: No potential competing interests to declare.