

Peer Review

Review of: "Liver Enzyme and Bilirubin Abnormalities and Associated Factors Among Patients with Liver Disease in a Tertiary Hospital, Northwest Ethiopia: A Cross-Sectional Study"

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General Observations

- **Abstract:**

1. The abstract provides a clear overview of the study but lacks a summary of key findings in the conclusion.
2. Statistical findings are well presented, but a clearer statement of clinical implications would improve readability.

- **Introduction:**

1. The introduction contains important background information, but it lacks logical flow and is somewhat repetitive.
2. The rationale for the study is stated, but a clearer research gap and novelty compared to prior studies need to be highlighted.
3. Some citations are outdated and should be replaced with more recent references.

- **Methods and Materials:**

1. Study design and sampling method are well described.
2. Ethical considerations are addressed properly.
3. However, more clarity on inclusion/exclusion criteria is needed.

4. The **statistical methods** are properly stated, but a justification for selecting the logistic regression model should be added.
- **Results:**
 1. Data is presented well, but **tables are very dense** and should be summarized in the text to improve readability.
 2. Some **numbers in tables are inconsistent** with those mentioned in the text.
 3. Consider **using graphical representations (bar charts, scatter plots) for major findings** to improve clarity.
 - **Discussion:**
 1. The discussion is **brief** and does not **fully explore how findings align or contrast with prior studies**.
 2. It would be beneficial to **explain mechanisms underlying observed associations** (e.g., why vegetable intake affects AST levels).
 3. Some **citations lack critical evaluation** (e.g., the discussion of the role of BMI in liver function lacks references to specific obesity-related liver disease mechanisms).
 - **Conclusion:**
 1. The conclusion **adequately summarizes key findings**, but recommendations for clinical practice or future research should be **explicitly stated**.
 - **References:**
 1. Some references are **outdated (before 2010)**—it is better to include more recent studies, especially for epidemiological data.

Section-by-Section Corrections and Suggestions

Abstract

- **Correction:**
 1. "Thus, the purpose of this study was to evaluate the extent of liver function abnormalities and the factors that are related to it in patients with liver disease."

2. Revised:

"This study aimed to assess the extent of liver function abnormalities and identify associated risk factors in patients diagnosed with liver disease."

- **Suggestion:**

- **Add 1–2 sentences summarizing the clinical relevance of the findings.**

- "Despite of this, LFT detects the severity of liver diseases..."

- **Revised:**

- "Despite this, liver function tests (LFTs) are essential for assessing the severity of liver diseases..."

- 1. The burden of liver disease globally and regionally** (include recent WHO data).

Introduction

- **Correction:**

- **Suggestion:**

The introduction should clearly articulate:

1. **Why this study is needed** (e.g., limited studies on liver function in Ethiopian populations).

2. **A clearly defined research question/hypothesis.**

Methods

- **Correction:**

1. "A pretested structured questionnaire was used to gather the sociodemographic, lifestyle, and information about diets using a face-to-face interview."

2. **Revised:**

"A pretested structured questionnaire was administered via face-to-face interviews to collect data on sociodemographic characteristics, lifestyle habits, and dietary intake."

- **Suggestion:**

1. **Clarify how the sample size was determined.** Was there a power calculation?

2. **Provide justification for the logistic regression model** (e.g., assumption checking).

3. **State how missing data were handled.**

Results

- **Correction:**

1. "Among 307 patients, 117 (38.11%, 95% CI: 32.64%, 43.57%), 212 (69.06%; 95% CI: 63.85%, 74.25%), 168 (54.72%, 95% CI: 49.12%, 60.32%)..."

2. **Revised:**

"Among the 307 patients, **38.1%** (n=117, 95% CI: 32.6–43.6%), **69.1%** (n=212, 95% CI: 63.9–74.3%), and **54.7%** (n=168, 95% CI: 49.1–60.3%) exhibited abnormal ALT, AST, and total bilirubin levels, respectively."

Suggestion:

1. Use **graphs to improve the visualization of major findings.**
2. Tables **should not repeat data** already explained in the text—summarize key takeaways instead.

Discussion

- **Correction:**

1. "The likely hood of patient's ALT abnormality occurrence being male was reduced by 83%..."

2. **Revised:**

"Male patients had an **83% lower likelihood of ALT abnormalities** compared to females (AOR = 0.17, 95% CI: 0.08–0.38)."

- **Suggestion:**

- **Expand comparisons to previous studies** in Ethiopia, Africa, and globally.
- **Explain possible biological mechanisms:**
 1. Why does ALD primarily elevate AST?
 2. How does **vegetable intake** protect against AST elevation?
 3. What role does **exercise play** in bilirubin metabolism?

Conclusion

- **Correction:**

- "Females, having hepatic virus, blood transfusion history, lack vegetable dietary habit, and lack regular physical exercise, and ALD, anemic risk factors for liver function tests."

- **Revised:**

"Females, viral hepatitis infection, a history of blood transfusion, inadequate vegetable intake, lack of

regular physical exercise, alcoholic liver disease, and anemia were identified as significant risk factors for liver function abnormalities."

Suggestion:

- Add **practical recommendations for clinicians** (e.g., dietary interventions, screening protocols).
- **Suggest future research areas**, such as longitudinal studies to assess causality.
 1. Use **author-date format in-text** (e.g., "According to Zhang et al. (2011), elevated ALT is strongly correlated with viral hepatitis").
 2. Ensure all citations **match a consistent style**

References

- **Correction:**
- **Citation inconsistency:** Some references use numbers, while others use author names.
- **Revised:**
- **Suggestion:**
- Update epidemiological references to include the latest **WHO or Global Burden of Disease reports**.
- Some cited studies **lack DOIs**—ensure accessibility.

Final Summary of Recommendations

1. ✓ **Improve logical flow in the Introduction**—highlight novelty and research gap.
 - ✓ **Clarify methodology**—justify statistical tests, explain data handling.
 - ✓ **Improve data presentation**—use **graphs instead of dense tables**.
 - ✓ **Expand Discussion**—compare with **recent studies**, explain **biological mechanisms**.
 - ✓ **Ensure citation consistency**—use **author-date referencing** throughout.
 - ✓ **Update references**—replace outdated studies with recent peer-reviewed research.

Declarations

Potential competing interests: No potential competing interests to declare.