

Date: February 13<sup>th</sup>, 2022

Editor,

Artificial Intelligence in Gastroenterology

Dear Editor,

Thanks a lot for reviewing our manuscript entitled, “**Application of Artificial Intelligence in Non-Alcoholic**” and asking to resubmit with changes.

In response to the comments of the reviewers, several changes are added to this revised version of the review article. Changes are **bolded** and **highlighted in yellow in the manuscript**.

**Please find attached pointwise answers to comments below:**

**Reviewer 1 comments:**

**Comment:** -No references are provided to support the data and statements reported in the Introduction and in other sections of the manuscript. Please provide and cite references as appropriate.

**Answer:** We have modified the introduction and included the details about global prevalence of NAFLD/NASH. Several relevant references are added to explain artificial intelligence and the subdiscipline of machine learning in simple terms to layman readers.

**Comment:** “Current methods of assessing liver fibrosis progression and mortality in both NAFLD and viral hepatitis have many limitations”. Please explain and elaborate discussing the current limitations.

**Answer:** As mentioned by reviewer there are limitations in assessment of liver fibrosis progression and mortality in both NAFLD and viral hepatitis. We added information on the limitations of current methods of assessing steatosis and fibrosis in order to pave the way for in-depth discussion of these topics in our review article. We also described regarding the ability of ML to provide opportunities for drug discovery in the article.

**Comment:** Is this a systematic review or a simple review of current evidences? Please clarify.

**Answer:** This is a review article addressing the current evidence in the area of AI in NAFLD and viral hepatitis.

**Comment:** Literature search and article screening should be more detailed and performed according to PRISMA guidelines for systematic reviews. It is unclear how the Authors selected and evaluated the articles.

**Answer:** This is a review article and therefore, we do not perform literature search according to PRISMA guideline. We elaborated in this in the methods section and modified it to specify that this is a review of current literature.

**Comment:** This review discussed several articles that have explored different AI applications but the discussion on clinical applications is poor. How this information can be translated in clinical practice?

**Answer:** Thanks for pointing to these limitations in our review article. In the conclusion section, we added the clinical applications of ML models, its translation in the clinical practice and future applications of AI in daily practice in depth.

**Comment:** Limitations and challenges of current AI studies should be discussed. The Authors can consider to discuss the advances needed for future application of AI in daily practice.

**Answer:** As a result of your very helpful comment, we added the limitations and challenges of current AI. We also discussed about the advances and the type of studies needed in order to be able to apply some of the ML models in clinical practice.

## **Reviewer 2 Comments**

The authors of this manuscript envisioned appraising the role of Artificial Intelligence in NAFLD and Viral Hepatitis. I read the manuscript; I found some areas in which I would have to appreciate greater clarity.

**Comment 1:** In the introduction, it would be useful if the author could explain a little more about machine learning and its classification and its correlation with deep learning to understand the concept of artificial intelligence in NAFLD and viral hepatitis to non-scientific readers.

**Answer:** Thanks for your comments. These are similar to the comments of reviewer 1. They are addressed above and added in the introduction section of review article.

**Comment 2:** In the introduction, it would be highly appreciable if the author can provide the global prevalence of non-alcoholic fatty liver disease (NAFLD) statistics.

**Answer:** We further elaborated as per the recommendation of reviewers

**Comment 3:** The author should comment on the role of artificial intelligence and drug pioneering also. It has been seen the rise of artificial intelligence presents a significant opportunity in the domain of drug discovery and also predicting both therapeutic and toxic drug effects.

**Answer:** We were unable to find any articles describing the role of AI in drug discovery. This is discussed as a limitation towards the end of the review article.

4. A thorough revision of English grammar, punctuation, hyphenation, syntax, and style is needed.

**Answer:** Thanks for your comments. We performed a thorough review of the manuscript and grammar, punctuation, hyphenation, syntax, and style has been improved.

We have addressed all the comments of reviewers and changes are added in the manuscript & highlighted. We are sure that quality of our manuscript is significantly improved with reviewers' comments and is ready for publication in "Artificial Intelligence in Gastroenterology".

Thanks

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