

Peer-review Comments and Author Responses

Reviewer 1

1. *Dear author,*

Thank you for considering me to review the manuscript "The Utilization of Artificial Intelligence (AI) In Colonoscopy Screening In Detecting Colorectal Cancer". The main objective of the article is to provide data that encompasses the advantages and disadvantages of using artificial intelligence (AI) to detect pre-cancerous lesions. The background clearly explains the importance of detecting polyps to avoid cancer and it clearly explains the differences between the types of polyps. The text also highlights the limitations of using AI. However, my suggestions would be to clarify the knowledge gap in the introduction section in the end to catch the readers' attention and summarize the introduction. Information of patients included in the "patient consent section" should be added. The discussion section should include your findings (of the patients you included) and what's in the literature. It's highly encouraged to add the number of participants, baseline characteristics, study design, bias and or possible confounders, dates and location where the research took place and a conclusion.

Thank you for your brilliant manuscript, some modifications should be done.

Answer for Reviewer 1:

Dear Reviewer 1,

Thank you for your thoughtful comments and suggestions regarding our manuscript. We appreciate you taking the time to provide a detailed review.

Regarding your recommendation to include a "patient consent section" and provide information about the patients included in the study, we would like to clarify that our manuscript is a "letter to the editor" and does not involve any direct patient participation or data collection. As such, a patient consent section is not applicable in this context.

We understand the importance of including findings from the literature in the discussion section, and we will ensure that our manuscript effectively synthesizes the current state of knowledge on the topic. We will also make sure to highlight the potential implications of our work and suggest future research directions.

As our manuscript is a "letter to the editor," it does not follow the structure of a traditional research article. Therefore, sections such as the number of participants, baseline characteristics, study design, bias, confounders, dates, and location are not relevant in this case. However, we will make sure to provide a clear and concise conclusion that summarizes the main points of our letter.

Once again, we thank you for your valuable feedback and suggestions. We will carefully consider your comments and make the necessary revisions to improve the clarity and impact of our manuscript.

Sincerely,

Reviewer 2

2. *The contextualization about AI in Healthcare is well explained and detailed.*

I believe that current diagnosis limitation impact could be contextualized and pointing the consequences of later diagnosis, contrasting with the AI and earlier diagnosis.

Maybe early detection could improve not only the clinical outcome and the economical burden of the disease, for example, avoiding and/ or decreasing the need for surgery. As there might be necessary to think about access/ costs to this technology, the patient journey would change and provide positive impact in every aspect. So, reference regarding current healthcare costs, and maybe about the impact of AI could be exposed in the references.

Another information from the literature is about surgery, and there are a couple of aspects to be explored, for example related to the time of detection, patient journey, as well the current treatments (surgery, drugs and other types of therapy) and they would be optimized with the AI.

There is more information related to the disease, how is developed, type of disease, and some aspects, as treatments, are missing, also the impact in patient journey and how it would be optimized.

Answer for Reviewer 2:

Dear Reviewer,

Thank you for your valuable comments and suggestions regarding our manuscript. We are pleased to inform you that we have already incorporated the points you mentioned in the revised version of the manuscript that I shared with you earlier.

The updated manuscript now includes a more comprehensive contextualization of the impact of current diagnostic limitations and the consequences of later diagnosis. We have highlighted how early detection through AI can improve clinical outcomes and reduce the economic burden of the disease, such as decreasing the need for surgery. This addition emphasizes the potential benefits of AI in colorectal cancer management.

Furthermore, we have incorporated relevant references that explore the current healthcare costs and the potential impact of AI on these aspects, addressing the importance of considering access and costs associated with AI technology and its influence on the patient journey.

We have also expanded on the topics of surgery, patient journey optimization, detection time, and current treatments, discussing how AI can streamline the patient journey and enhance various aspects of colorectal cancer management, including surgery, drugs, and other therapies.

Lastly, we have included additional details on the disease itself, its development, and the types of colorectal cancer, ensuring that the manuscript provides a more comprehensive overview of the subject matter and its relevance to AI-assisted diagnosis and treatment.

We appreciate your thorough review and believe that the revised manuscript effectively addresses your concerns and suggestions. Thank you for your contributions to improving the quality and clarity of our work.

Sincerely,

Reviewer 3

3. Dear Author,

Thanks for sending in your article. It's an interesting topic with a lot to discuss.

You have done well introducing the theme, when talking about AI and Colorectal cancer. However, the article needs more in-depth analysis.

There is too much emphasis on introducing the topic, and the information is too vague. The details lack a clear connection, and I am also missing your opinion, which is crucial for an editorial.

I recommend making the introductory information shorter and telling us more about what you think and your analysis of the topic.

Answer for Reviewer 3:

Dear Reviewer,

Thank you for taking the time to review our manuscript and provide your valuable feedback. We appreciate your interest in the topic and your suggestions for improvement.

We understand your concern regarding the depth of analysis in the article. However, we would like to point out that the revised version of the manuscript, which I shared with you earlier, has been updated to address this issue. In the updated manuscript, we have condensed the introductory information to provide a more concise background on AI and colorectal cancer, allowing us to allocate more space for in-depth analysis and discussion.

Furthermore, we have strengthened the connections between the various details presented in the article, ensuring a clearer and more cohesive narrative. We have also incorporated our opinions and insights throughout the manuscript, as we agree that this is crucial for an editorial piece.

The revised manuscript now includes a more balanced distribution of information, with a shorter introduction and a greater emphasis on our analysis and perspective on the topic. We believe that these changes have significantly improved the quality and clarity of the article, making it more engaging and informative for readers.

We appreciate your constructive feedback and hope that the revised manuscript addresses your concerns effectively. Thank you for your contribution to enhancing the quality of our work.

Sincerely,

Reviewer 4

4. *According to a recent systematic review (Lou et al, 2023), AI-aided colonoscopy significantly enhances the detection of colorectal cancer, likely by reducing the miss rate. Additionally, it comes with a particular reduction in the time of the procedure. AI-aided colonoscopy seems to be beneficial but future studies are needed to assess the long-term benefits by conducting a longitudinal follow-up to confirm the potential benefit of AI-aided colonoscopy for the morbidity and mortality of CRC. Likewise, studies to evaluate the cost-effectiveness of reducing colorectal cancer in different global areas to support their use in clinical practice are needed.*

Reference:

1. Lou S, Du F, Song W, et al. Artificial intelligence for colorectal neoplasia detection during colonoscopy: a systematic review and meta-analysis of randomized clinical trials. EClinicalMedicine. 2023;66:102341. Published 2023 Nov 30. doi:10.1016/j.eclinm.2023.102341

Answer for Reviewer 4:

Dear Reviewer,

Thank you for your valuable comments and for bringing the recent systematic review by Lou et al. (2023) to our attention. We are pleased to inform you that we have incorporated the key findings and recommendations from this study into our revised manuscript.

The updated manuscript now includes a discussion of the Lou et al. (2023) systematic review, highlighting the significant enhancement in colorectal cancer detection and the reduction in procedure time associated with AI-aided colonoscopy. We have also emphasized the need for future studies to assess the long-term benefits of AI-aided colonoscopy through longitudinal follow-up, as well as the importance of evaluating the cost-effectiveness of AI-based strategies for reducing colorectal cancer in different global regions.

Specifically, we have added the following text to our manuscript:

"Lou et al.'s (2023) systematic analysis found that AI-aided colonoscopy significantly enhanced colorectal neoplasia detection. It reduced adenoma and polyp miss rates by 50.5% and 52.5%, increased detection rates by 24.2% and 23.8%, and increased per-colonoscopy rates by 39% and 38.8%, respectively. AI-aided colonoscopy identified more patients with advanced adenomas and increased detection of diminutive and small adenomas, especially in the proximal colon.

Endoscopists with lower detection rates and shorter times, as well as younger patients with fair preparation, benefited the most."

We believe that incorporating these findings and recommendations strengthens our manuscript and provides a more comprehensive overview of the current state of AI in colorectal cancer detection and management, as well as the future directions for research in this field.

Thank you once again for your insightful comments and for bringing this relevant study to our attention. We appreciate your contribution to improving the quality and relevance of our manuscript.

Sincerely,

Reviewer 5

5. *This article has these criteria:*

Summarizes recent research related to the topic

Highlights gaps in current understanding or conflicts in current knowledge

Establishes the originality of the research aims by demonstrating the need for investigations in the topic area

Next steps:

The topic of AI is cutting-edge and research has a lot to contribute. It is very interesting that this article will be the prelude to a clinical trial on this topic.

Answer for Reviewer 5:

Dear Reviewer,

We greatly appreciate your positive feedback and recommendation to accept our manuscript. We are delighted to hear that our article meets the criteria of summarizing recent research, highlighting gaps in current understanding, and establishing the originality of our research aims.

Your recognition of the cutting-edge nature of AI research and its potential to contribute significantly to the field of gastroenterology is highly encouraging. We are excited about the prospect of our article serving as a prelude to a clinical trial on this topic, as it underscores the relevance and timeliness of our work.

We believe that our manuscript provides a comprehensive overview of the current state of AI in colorectal cancer detection and management, while also identifying areas for future research and clinical application. By incorporating the latest findings from the Lou et al. (2023) systematic

review, we have further strengthened the evidence base for the potential benefits of AI-aided colonoscopy in enhancing colorectal neoplasia detection and reducing procedure time.

Moving forward, we are committed to advancing this line of research through well-designed clinical trials that assess the long-term benefits and cost-effectiveness of AI-aided colonoscopy in reducing colorectal cancer incidence and mortality across different global regions. We hope that our work will contribute to the development of targeted implementation strategies for AI-aided colonoscopy in clinical practice, ultimately improving patient outcomes and advancing the field of gastroenterology.

Once again, we thank you for your support and valuable feedback. We look forward to the opportunity to share our findings with the scientific community and to continue pushing the boundaries of AI research in colorectal cancer detection and management.

Sincerely,