

Review report

Final title: Artificial intelligence in unveiling herbal remedies for cancer: Advances and applications

Title at submission: The role of AI in unveiling herbal remedies for cancer: Advances and applications

Submission date: 17-Sep-24  
Revised submission: 25-Dec-24  
Accepted: 5-Jan-25

ROUND 1

Reviewer A: Anonymous

<b>Overview</b> Thank you for this idea. AI could be a valuable tool for uncovering herbal remedies for cancer. However, the concept is not clearly expressed in this review paper. Identifying some original research could have strengthened the work. Adding details on mechanisms, current examples, and limitations would further improve it. You may find the following articles helpful: <a href="https://www.frontiersin.org/journals/pharmacology/articles/10.3389/fphar.2024.1181183/full">https://www.frontiersin.org/journals/pharmacology/articles/10.3389/fphar.2024.1181183/full</a> <a href="https://pmc.ncbi.nlm.nih.gov/articles/PMC9386475/">https://pmc.ncbi.nlm.nih.gov/articles/PMC9386475/</a>	
1. <b>Comment</b>	Does the abstract provide a complete and accurate description of the content of the article? = <b>No</b> The abstract should be more specific, and the method section may not be relevant to this review.
<b>Response</b>	The abstract has been revised.
2. <b>Comment</b>	Are the study objective(s) clearly stated and logical? = <b>No</b> The objective of the review paper is not clearly expressed.
<b>Response</b>	The objective is prepared to provide clearly and logically.
3. <b>Comment</b>	Is the Discussion section critical and comprehensive about the main message of the manuscript? = <b>No</b> The discussion section needs a more critical analysis, with a clearer focus on the challenges, limitations of AI use, and specific ethical considerations.
<b>Response</b>	The Discussion section has been revised.
4. <b>Comment</b>	Is the overall length of the article appropriate? = <b>No</b> The length should be reduced.
<b>Response</b>	The length of the article has been reduced.
5. <b>Comment</b>	Is Line 82-83: Reference required Line 111-128: Reference and example required Line 142-143: Reference required Line 204: Discovering Novel Medications using Machine Learning Techniques - explanation required. Line 213: Utilising deep learning techniques to develop cutting-edge medical products - detail explanation required
<b>Response</b>	References have been given to the line numbers 82-83, 111-128, 142-143. Explanation have been given to the line numbers 204 and 213.

Reviewer B: Anonymous

<b>Overview</b> This is a well-executed review article. I agree that AI is revolutionizing cancer research, particularly by accelerating the discovery process with herbal remedies. Through advanced data analysis, AI can identify compounds in plants, predict their interactions with cancer cells, and select optimal herbal formulations for therapeutic use. Additionally, AI enhances virtual screenings, providing added safety and enabling the creation of specific, personalized treatments. However, a significant drawback of this article is that the rational/ research gaps and Methods section is narrowly organized, limiting its comprehensiveness of article selection for this review.	
6. <b>Comment</b>	Is the rationale/justification for conducting the study clear? = <b>No</b> Research gaps are missing largely and there are areas to improve the rationale.
<b>Response</b>	The article has been revised in such a way that the research gaps are fulfilled and improved the rationale.
7. <b>Comment</b>	Are the methods described in sufficient detail so that the study could be reproduced? = <b>No</b> The Methods section lacks sufficient detail about how the articles were selected, what databases were used and what was the timeline of the search. It should include a step-by-step description of the process, enabling other researchers to replicate the research if necessary.

	<b>Response</b>	The methods has been revised accordingly.
8.	<b>Comment</b>	Is the study design robust and appropriate to the stated objective(s)? = <b>No</b> As stated above, method section is not clear. What themes were considered or which framework was used to present results are missing as well.
	<b>Response</b>	The study design has been revised to make the method section clear.
9.	<b>Comment</b>	Are the table(s) and figure(s) clear and appropriate to address the objective(s)? = <b>No</b> The tables are related to the topic, but there is no clear link to the specific objectives. It feels like they are just there for information without references to sources.
	<b>Response</b>	The tables and figures have been updated.
10.	<b>Comment</b>	Are the conclusions drawn supported by the results/ data? = <b>No</b> The article is very optimistic about the future opportunities for AI to help develop herbal remedies for cancer treatment, however there is no research or data supporting their conclusion that this will be beneficial for future drug discovery. The Author only talks about how BIG this opportunity is and how AMAZING of a revelation this will be all while using no science backed research to show that this pathway will be of potential use or has been beneficial within cancer treatment. AI is an amazing tool to get quick information, however it is not always reliable. The author is more attuned to do research with the indigenous cultures they reference within the research, rather than use AI.
	<b>Response</b>	The Conclusion has been revised accordingly.
11.	<b>Comment</b>	Is the storytelling straightforward, clear (i.e., does not impede scientific meaning or cause confusion), and logical? = <b>No</b> The author's narrative is disjointed and lacks coherence, often jumping from one point to another. The introduction is overly brief, presenting bullet-point definitions that are not ideal for setting the context.
	<b>Response</b>	The storytelling is arranged as per the reviewer's comments.
12.	<b>Comment</b>	Is the standard of English acceptable for publication? = <b>No</b> The standard of English is not acceptable for publication because the manuscript could be clearer and more precise to allow the readers to fully understand the main points of the article. However, it sounds like there are chunks where there could be an AI-generated tone which will take away from the entire validity and reliability of the manuscript.
	<b>Response</b>	The standard of the English has been revised.
13.	<b>Comment</b>	Incorporating detailed information on data sources, databases, types of studies reviewed, and study timelines is essential for enhancing the rigor and transparency of a review article. Including these elements serves several key purposes:  Data Sources/ Databases: Listing specific databases (e.g., PubMed, Scopus) clarifies the comprehensiveness of the search and assures readers of the review's academic rigor. It also allows others to follow similar search protocols in future studies, promoting replicability.  Types of Studies Reviewed: Specifying study types (e.g., randomized controlled trials, observational studies) is critical for assessing the quality of evidence. Without this, readers lack insight into the study designs that underpin the review's conclusions, which can affect the perceived validity of the findings.  Inclusion and Exclusion Criteria: Clearly defined inclusion and exclusion criteria provide a transparent framework that illustrates the scope and limitations of the review. This helps prevent biases in study selection and ensures that only relevant literature informs the conclusions.  Timeline of Studies: Stating the date range of studies reviewed (e.g., 2010–2023) highlights the temporal relevance of the research. It allows readers to gauge the current applicability of the findings and understand the evolution of research on the topic.  Emphasizing these methodological details in a revision will enhance the article's reliability, clarity, and scientific value, providing a stronger foundation for future research replication and application. Also, references are required for information provided in the Table 1 and Table 2. I invite authors to make this correction and resubmit for further evaluation.
	<b>Response</b>	The article has been revised considering the mentioned points of the reviewer.

**Executive Editor:** M Mostafa Zaman, ORCID: [0000-0002-1736-1342](https://orcid.org/0000-0002-1736-1342)

14.	<b>Comment</b>	Abstract: The Background is lengthy. Results are missing.
	<b>Response</b>	Abstract: The Background is shortened and the Results has been mentioned

15. <b>Comment</b>	Highlights: The highlights should be written in descriptive terms. Each bullet should carry a message and be written in a full sentence.
<b>Response</b>	The Highlights has been revised accordingly.
16. <b>Comment</b>	The objective needs clarity in terms of its measurability. It should be addressed in the Methods and Results (tables, etc) sections and the Conclusion subsection. All these should be centered around the use of AI. It should not be something to justify the usefulness of herbal medicine.
<b>Response</b>	The objective has been clearly mentioned.
17. <b>Comment</b>	The message carried in the manuscript can very well be written briefly. I suggest the authors reduce the length to 3000 words, max.
<b>Response</b>	The length of the articles has been reduced.

## ROUND 2

**Handling Editor:** Md Atiqul Haque, ORCID: [0000-0002-7598-2550](https://orcid.org/0000-0002-7598-2550)

Abstract	
18. <b>Comment</b>	Please merge the background and introduction sections into one and express it with not more than two sentences. However, keep the objective of this study in a separate line.
<b>Response</b>	The Background and objective are merged and expressed within two sentences. The objective of this study is separated.
19. <b>Comment</b>	In the methodology, the author should mention the total number of finally selected papers, the databases used, and the search duration
<b>Response</b>	The methods has been revised accordingly.
20. <b>Comment</b>	The result section should come before the conclusion
<b>Response</b>	The Result section is put before conclusion.
21. <b>Comment</b>	Highlights: 100% AI generated. Please write it down in your own words.
<b>Response</b>	Highlights have been revised.
Introduction	
22. <b>Comment</b>	Kindly omit the background section. If necessary, incorporate its information into the introduction. Ensure the introduction section does not exceed one and a half pages.
<b>Response</b>	The background section has been omitted.
Methods	
23. <b>Comment</b>	The author should mention the exact search terms, keywords, or Boolean operators used in the database queries.
<b>Response</b>	The exact search terms and keywords are mentioned in the database queries.
24. <b>Comment</b>	What were the total numbers and names of the databases used?
<b>Response</b>	The total numbers and names of the databases used are mentioned in the article.
25. <b>Comment</b>	The author should include a PRISMA flow diagram or provide a detailed explanation of the study selection process.
<b>Response</b>	The detailed explanation of the study process is mentioned.
26. <b>Comment</b>	Was information provided about screening, the total number of final articles, quality assessment, the data extraction process, and the types of study designs included in the study?
<b>Response</b>	The information has been provided.
Results	
27. <b>Comment</b>	A structured results section is missing.
<b>Response</b>	The Result section has been revised structurally.

**Executive Editor:** M Mostafa Zaman, ORCID: [0000-0002-1736-1342](https://orcid.org/0000-0002-1736-1342)

28. <b>Comment</b>	There are many orphan lines in orphan paragraphs of one to two sentences. Kindly organize the texts into thematic paragraphs and reduce the number of subheadings and paragraphs.
<b>Response</b>	The article has been revised accordingly.
29. <b>Comment</b>	I do not see the figure linked to manuscript texts.

**Response** The manuscript texts have been revised.

### ROUND 3

**Executive Editor:** M Mostafa Zaman, ORCID: [0000-0002-1736-1342](https://orcid.org/0000-0002-1736-1342)

30. **Comment** We can accept it as a Commentary subject to satisfactory revision. Kindly follow the instructions for authors for submission requirements.

**Response** If the Editorial Team thinks it can be better published as a Commentary or Letter to the Editor, then that's fine. We have no objection to it. **We hereby submit the File as a Commentary.**

### ROUND 4

**Executive Editor:** M Mostafa Zaman, ORCID: [0000-0002-1736-1342](https://orcid.org/0000-0002-1736-1342)

31. **Comment** A paragraph on the key message not exceeding 60 words. Abstracts and Highlights will not be required.

**Response** Word count for Key messages has been reduced. Abstracts and Highlights have been omitted.

32. **Comment** Please try to reduce the references to six.

**Response** References have been reduced.

33. **Comment** The texts should have separate paragraphs for introduction, methods, results and discussion but without section headings.

**Response** The texts have been revised accordingly.