## Review Form 3

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| Journal Name: | **International Journal of Biochemistry Research & Review** |
| Manuscript Number: | **Ms_IJBCRR_130577** |
| Title of the Manuscript: | **Elucidating the ocular benefits of Haritaki: Phytochemical analysis of Terminalia chebula compounds for Myopia and other Therapeutic uses using in vitro and in silico approaches** |
| Type of the Article | |

**General guidelines for the Peer Review process:**

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty'**, provided the manuscript is scientifically robust and technically sound.
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**PART 1: Comments**

| | **Reviewer's comment** | **Author's Feedback** *(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)* |
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| **Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.** | | |
| **Is the title of the article suitable? (If not please suggest an alternative title)** | | |
| **Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.** | | |
| **Is the manuscript scientifically, correct? Please write here.** | | |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.** | | |

## Review Form 3

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| **Is the language/English quality of the article suitable for scholarly communications?** | | |
| **Optional/General** comments | **Reviewer Comments for the Manuscript**<br><br>Title: Elucidating the Ocular Benefits of Haritaki: Phytochemical Analysis of Terminalia chebula Compounds for Myopia and Other Therapeutic Uses Using In Vitro and In Silico Approaches<br><br>General Comments:<br>The manuscript presents a compelling investigation into the potential therapeutic effects of Terminalia chebula (Haritaki) for myopia, integrating phytochemical analysis, biological activity assays, and molecular docking studies. The work is well structured and grounded in the current understanding of myopia and oxidative stress. However, some areas need improvement to enhance the clarity, scientific rigor, and overall presentation. Below are detailed comments and suggestions for revision.<br><br>Title:<br>The title is clear and informative. However, consider streamlining it to reduce length without losing essential details. For example:<br>"Phytochemical Analysis and Ocular Benefits of Terminalia chebula Extracts for Myopia Treatment: In Vitro and In Silico Approaches"<br><br>Abstract:<br>1. Strengths: The abstract effectively summarizes the study's objectives, methodology, key findings, and implications. It emphasizes the novelty of using T. chebula for myopia treatment.<br>2. Suggestions:<br>➢ Avoid repeating phrases such as "methanolic preparations" and "significant potential". This redundancy could be streamlined for conciseness.<br>➢ Clarify whether "promising ligands" are novel compounds or previously known ones with new applications.<br>➢ Highlight any limitations or future directions briefly.<br><br>Introduction:<br>1. Strengths:<br>The introduction provides a comprehensive background on T. chebula , its phytochemical properties, and its relevance to myopia.<br>Table 1 is thorough and highlights the diverse pharmacological activities of T. chebula .<br>2. Suggestions:<br>➢ Avoid excessive repetition. For example, the historical and geographical distribution of T. chebula could be condensed.<br>➢ Clearly define the gap in current myopia treatments that this study aims to address. While oxidative stress and inflammation are discussed, specify why T. chebula is particularly promising compared to other natural or synthetic agents.<br>➢ Consider incorporating a hypothesis or research question to frame the study.<br><br>Materials and Methods:<br>1. Strengths:<br>The methodology is detailed, enabling reproducibility. The inclusion of Soxhlet extraction, GC MS, and molecular docking protocols adds rigor.<br>2. Suggestions:<br>➢ Clarify the rationale for choosing specific solvents (methanol, hexane, ethyl acetate) beyond polarity differences. Mention if these choices align with traditional usage or previous studies.<br>➢ For the DPPH and TCA assays, include additional details on statistical analyses or replicates performed to ensure robustness.<br>➢ In the docking study, provide a brief justification for selecting the four target proteins (7LBG, 5DSG, 5AER, 1BY4). Explain their relevance to myopia pathology.<br>➢ Define ADME parameters explicitly and state the thresholds used for "favorable" properties.<br><br>Results:<br>1. Strengths:<br>The results section is comprehensive and supported by tables, figures, and detailed descriptions. | |

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| | The discussion of ligand target interactions is insightful.<br>2. Suggestions:<br>➢ Provide error bars or standard deviations in antioxidant and anti inflammatory assays to depict data variability.<br>➢ Reformat Table 5 for clarity by aligning numerical values and using consistent units.<br>➢ In the GC MS section, elaborate on why certain compounds (e.g., Naratriptan N Oxide) were prioritized for docking over others.<br>➢ For the docking scores, explain their biological significance. For example, what score threshold indicates a “strong” interaction?<br><br>Discussion:<br>1. Strengths:<br>The discussion effectively contextualizes the findings within the broader scope of myopia research and natural product based therapies.<br>The potential applications of methanolic extracts are well articulated.<br>2. Suggestions:<br>➢ Acknowledge study limitations, such as the lack of in vivo or clinical validation.<br>➢ Highlight how the identified compounds compare to existing synthetic drugs for myopia treatment in terms of efficacy and safety.<br>➢ Discuss the possibility of synergistic effects among bioactive compounds in the extracts.<br><br>Conclusion:<br>The conclusion is concise but could be expanded to:<br>➢ Reiterate the novelty and importance of the findings.<br>➢ Emphasize the translational potential of this work for ophthalmological applications.<br>➢ Include a roadmap for future research, including in vivo studies and formulation development.<br><br>Figures and Tables:<br>1. Ensure all figures and tables are appropriately labeled and self explanatory. For example:<br>Add detailed captions that summarize the key findings.<br>In figures such as antioxidant and docking results, use consistent color schemes and scales.<br>2. Replace “Fig. 1” with a more descriptive title, such as “Color Changes During Soxhlet Extraction”.<br><br>References:<br>1. Ensure all references are formatted consistently according to the journal’s guidelines.<br>2. Verify the accuracy of citations, particularly those linked to specific phytochemical or pharmacological studies.<br>3. Include more recent references (e.g., post 2020) on oxidative stress and myopia to enhance the manuscript’s relevance.<br><br>Overall Assessment:<br>The manuscript provides valuable insights into the therapeutic potential of T. chebula for myopia. While the study is thorough, improving the clarity of the methodology, addressing data variability, and contextualizing the results within the field will strengthen its impact. A more critical discussion of limitations and future directions is also recommended. The manuscript is recommended for publication after addressing the above comments. | |

**PART 2:**

| | **Reviewer’s comment** | **Author’s comment** *(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)* |
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| **Are there ethical issues in this manuscript?** | *(If yes, Kindly please write down the ethical issues here in details)* | |

**Reviewer Details:**



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| Name: | **Prasad Yewale** |
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