**Dear Reviewer**

Thank you very much for your constructive suggestions on my manuscript. Following your guidance and that of the editor, we have diligently reviewed all the feedback and made comprehensive improvements and revisions in accordance with the journal's publication requirements. The specific enhancements are outlined below:

1. Comprehensive Review and Revision: All authors have thoroughly reviewed the manuscript, incorporating your and the editor's suggestions. Modified sections were marked with different colors.

2. Language Polishing: The revised manuscript has undergone professional English editing for enhanced language quality. This ensures the resolution of any grammar, syntax, format, and other related errors. A proof of language polishing has been provided.

3. Words in the title were not abbreviated; Running Title Reduced to 6 Words. In each section, including abstract, keywords, highlights, main text, etc., words were not abbreviated upon their first occurrence.

4. Conflict of Interest Statement: The manuscript explicitly states no conflict of interest, with all authors declaring none within the document.

5. Improved Figures: Figures are now in PNG format, provided in their original form as created in the manuscript's PowerPoint file. Two figures are included, both being original images from the initial manuscript.

6. Citation of References: A total of 23 references have been cited, with

16 published within the last three years. All references list all authors, include PubMed identifiers, and provide DOIs.

7. Author Contributions: Specific contributions of each author have been detailed. For instance, Ling Wang contributed to research design, implementation, data management, statistical analysis, and manuscript writing, while Dengyan Long was involved in research conduct, data organization, execution, and review.

8. Addition of Core tip: A core highlights section (97 words) has been added: This study, utilizing machine learning, identified key risk factors for Intensive Care Unit-Acquired Weakness (ICU-AW). Findings emphasized the significant impact of length of ICU stay and the duration of mechanical ventilation. Other factors, including age, medication dosage, and specific disease states, were also implicated. The study employed a multilayer perceptron neural network model with an impressive AUC of 0.941, sensitivity of 92.2%, and specificity of 82.7%. The results underscore the importance of decreasing length of ICU stay and the duration of mechanical ventilation as a primary strategy in preventing ICU-AW, when feasible.

9. Three Highlights Added: Three highlights for the manuscript have been included:（1）Utilizing machine learning, we elucidated key risk factors contributing to ICU-AW.（2）We developed an exceptional multilayer perceptron neural network model for effective ICU-AW prediction.（3）

Emphasizing the reduction of ICU stay and mechanical ventilation duration as primary prevention strategies for ICU-AW, providing crucial insights for proactive clinical management.

10. Confirmation of Funding: We have provided all fund confirmations for the manuscript, primarily including the cover page and stamped pages. The research was supported by two funds: the Science and Technology Support Program of Qiandongnan Prefecture (Project No. Qiandongnan Sci-Tech Support [2021]12) and the Guizhou Province High-Level Innovative Talent Training Program (Qiannan Thousand Talents [2022]201701).

11. Absence of PRISMA 2009 Checklist: We did not include the PRISMA 2009 checklist since our manuscript is not a review or meta-analysis but rather a case-control study. Instead, we have provided the STROBE Statement.

12. Biostatistics Review Certificate: The certificate, scrutinized by a biostatistics specialist from the Critical Care Medicine Branch of the Qiandongnan Miao and Dong Autonomous Prefecture Medical Association, has been submitted.

13. Ethical Review Documentation: The PDF file for ethical review was from the Clinical Research Ethics Committee of the People's Hospital of Qiandongnan Miao and Dong Autonomous Prefecture. The document is in Chinese.

14. Informed Consent Documents: Multiple informed consent documents have been provided in PDF format as representatives. Since all participants are Chinese, the informed consent documents are in Chinese.

15. Integration of Latest Research Highlights: We have supplemented and refined the manuscript by highlighting recent research using the PubMed tool. References include studies from the past three years, enhancing the content.

16. Manuscript Modification Guidelines Adherence: Following the manuscript modification guidelines, we have made revisions and improvements.

17. Through the F6 release system, we have uploaded the following files:

(1) 89589-Answering Reviewers

(2) 89589-Audio Core Tip

(3) 89589-Biostatistics Review Certificate

(4) 89589-Conflict-of-Interest Disclosure Form

(5) 89589-Copyright License Agreement

(6) 89589-Approved Grant Application Form(s) or Funding Agency Copy of any Approval Document(s)

(7) 89589-Signed Informed Consent Form(s) or Document(s)

(8) 89589-Institutional Review Board Approval Form or Document

(9) 89589-Non-Native Speakers of English Editing Certificate

(11) 89589-Image File

(12) 89589-Table File

(13) 89589-STROBE Statement

Once again, we appreciate the guidance from the reviewers and editors. Wishing you a pleasant life.


Best Regards,


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