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REVIEWER'S REPORT

Manuscript No.: IJAR-50365 Date: 24-02-2025

Title: Neuromuscular training and its effect on quadriceps activation and ACL protection.

Recommendation:
Accept as it is.....**YES.....**
Accept after minor revision.....
Accept after major revision .....
Do not accept (*Reasons below*) .....

Rating	Excel.	Good	Fair	Poor
Originality	√			
Techn. Quality		√		
Clarity		√		
Significance			√	

Reviewer's Name: Dr Aamina

Reviewer's Decision about Paper: **Recommended for Publication.**

Comments (*Use additional pages, if required*)
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Reviewer's Comment / Report

The paper titled **"Neuromuscular Training and Its Effect on Quadriceps Activation and ACL Protection"** presents a well-structured and scientifically rigorous investigation into the impact of neuromuscular training (NMT) on quadriceps activation and anterior cruciate ligament (ACL) protection.

Strengths of the Study

1. Relevance and Importance
   The research addresses a critical concern in sports medicine—ACL injuries—which are highly prevalent among athletes. By evaluating the role of NMT in enhancing quadriceps activation and knee stability, the study contributes valuable insights to injury prevention strategies.

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2. Clear Research Objectives

   The study has well-defined aims and objectives, effectively outlining the rationale for investigating quadriceps activation and its relationship to ACL protection. The hypothesis is clearly articulated, providing a strong foundation for the research.

3. Robust Methodology
   - The experimental design, involving intervention and control groups, allows for a controlled assessment of NMT's impact.
   - The 12-week intervention duration is appropriate for observing neuromuscular adaptations.
   - The inclusion of strength measurements and functional movement tests ensures a comprehensive evaluation of outcomes.
   - Statistical analyses, including paired t-tests and correlational analyses, provide a rigorous framework for assessing the data.
4. Compelling Results
   - The study presents strong statistical evidence supporting the effectiveness of NMT.
   - Significant improvements in quadriceps activation, functional movement scores, and single-leg hop performance reinforce the study's claims.
   - The observed increase in peak torque and functional stability demonstrates the practical benefits of NMT in athletic populations.
5. Well-Structured Conclusion

   The conclusion effectively summarizes the findings and reinforces the importance of integrating NMT into sports training regimens. The discussion aligns well with the results and highlights the broader implications for injury prevention in athletes.

Final Remarks

This dissertation is a well-executed and scientifically rigorous study that contributes meaningfully to the field of sports medicine and injury prevention. The clear presentation of research objectives, strong methodological framework, and statistically supported findings make it a valuable resource for practitioners and researchers alike. The study convincingly underscores the role of NMT in reducing ACL injury risk and enhancing neuromuscular control, reinforcing its relevance for athletic training programs.