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OPEN PEER REVIEW

The Effect of High-intensity Aerobic-Resistance Training Combined with Cinnamon on the TLR4/MyD88/NF-κB Signaling Pathway in Women with Type 2 Diabetes

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SUBMITTED	ACCEPTED	DOI
7 Dec 2025	11 Feb 2026	10.69107/jamm-168716

About this report

This open peer review (OPR) report shows the public comments made on this article during peer review, by the reviewers, the associate editor and the editor-in-chief, for every revision round, together with the authors' replies. Comments appear only with the consent of the people who wrote them. Reviewers who chose to sign their report are named; the others are shown as "Referee". Comments are edited for language only, and confidential remarks to the editors are not included.

More about open peer review: brieflands.com/knowledgebase/opr

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1 Original submission

3 comments · 4 Jan 2026 – 11 Feb 2026

Referee 1 Reviewer

MINOR REVISION 4 Jan 2026

Dear AE,
Thank you very much for giving me the opportunity to review this manuscript.
Here are my comments:

The study described in the abstract is a randomized clinical trial. Accordingly, the CONSORT checklist for randomized trials provides the appropriate framework for conducting a structured peer review. The following evaluation is organized based on the key CONSORT items.

1. Title and Abstract

- Question: Identification as a randomized trial in the title.
- Peer Review: The title does not explicitly state that the study is a randomized trial. This is mentioned in the methods section of the abstract.

2. Abstract

- Question: Structured summary of trial design, methods, results, and conclusions.
- Peer Review: The abstract provides a structured summary including background, objectives, methods, results, and conclusions. It effectively outlines the trial design, methods, and key findings.

3. Introduction

- Question: Scientific background and explanation of rationale.
- Peer Review: The background section provides a clear rationale for the study, explaining the role of inflammation in T2DM and the potential impact of exercise and cinnamon supplementation.

4. Methods

- Question: Description of trial design (such as parallel, factorial), including allocation ratio.
- Peer Review: The trial is described as a double-blind, randomized clinical trial with participants allocated to four groups. However, the allocation ratio is not explicitly mentioned.

5. Participants

- Question: Eligibility criteria for participants.
- Peer Review: The abstract specifies that 134 women with T2DM aged 35–50 were recruited, indicating clear eligibility criteria.

6. Interventions

- Question: The experimental and control interventions for each group with sufficient details to allow replication.
- Peer Review: The interventions are well described, including the specifics of the exercise regimen and cinnamon supplementation.

7. Outcomes

- Question: Completely defined prespecified primary and secondary outcome measures, including how and when they were assessed.

- Peer Review: The primary outcomes (levels of TLR4, MyD88, and NF-κB) are defined, and it is mentioned that they were measured before and after the intervention.

8. Sample Size

- Question: How sample size was determined.
- Peer Review: The abstract does not provide information on how the sample size was determined.

9. Randomization

- Question: Method used to generate the random allocation sequence.
- Peer Review: The abstract does not specify the method used for generating the random allocation sequence.

10. Blinding

- Question: If done, who was blinded after assignment to interventions (for example, participants, care providers, those assessing outcomes) and how.
- Peer Review: The study is described as double-blind, but the abstract does not specify who was blinded.

11. Statistical Methods

- Question: Statistical methods used to compare groups for primary and secondary outcomes.
- Peer Review: Statistical analyses included paired t-tests and ANCOVA, which are appropriate for comparing group differences.

Major Comments:
The abstract does not specify the allocation ratio or the method used for generating the random allocation sequence.
Details on who was blinded in the double-blind design are missing.

Minor Comments:
The title does not explicitly identify the study as a randomized trial.
The method for determining the sample size is not mentioned.
These comments highlight areas where the abstract could be improved to align more closely with the CONSORT checklist requirements.

The manuscript presents an innovative approach to combining training and dietary elements in managing type 2 diabetes. Clarifying the methodology and discussing potential underlying mechanisms would significantly enhance its rigor and impact. As part of the review process, I would like to draw the authors' attention to several recent publications that may be relevant to their study. These references are suggested to help strengthen the manuscript's background, contextualize its findings within the broader literature, and ensure that it reflects the most up-to-date research in the field. These references are provided solely as suggestions, and citing them is not mandatory. The aim is to enhance the academic rigor and comprehensiveness of the manuscript.

These articles are listed below:

1. The Effectiveness of Combined Resistance and Breathing Exercise Education in Alleviating Dyspnea and Anxiety Among COVID-19 Patients: A Randomized Controlled Trial
* Reason: This article discusses the benefits of combined exercise modalities, which may have parallels with the aerobic-resistance training described in the manuscript.
** Link: https://doi.org/10.5812/mejrh-142098

2. Effects of Curcumin and Amla Co-supplementation on Lipid Profile, Glycemic Status, Antioxidant Indices, Inflammatory Factor, and Liver Enzymes in Type 2 Diabetes Patients: A Double-Blind, Randomized Controlled Trial Protocol

* Reason: This study focuses on dietary supplements' effects on glycemic control, which are relevant to the topic of dietary interventions in diabetes management.
** Link: https://doi.org/10.5812/jjnpp-151530

3. Effects of the Aquatic Extract of Cinnamon Zeylanicum on STZ-Induced Diabetic Rats: A Molecular and Histopathological Study
* Reason: This article explores the impacts of cinnamon, directly relating to the dietary element included in the manuscript's intervention.
** Link: https://doi.org/10.5812/semj-142296

Final Decision: Minor Revision
Kind Regards | Publishing Assistant

Associate Editor ACCEPT 11 Feb 2026

No comment based on the reviewer's consideration.

Editor-in-Chief ACCEPT 11 Feb 2026

No comment based on the AE's consideration.