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The Effect of Two Weeks of L-Carnitine Supplementation on Muscle Damage Markers Following Intense Aerobic Activity in Female Karate Players



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E d i t o r	R e v i e w e r s
Özgür Eken Associate Professor, Inonu University, Malatya, Turkey ozgureken86@gmail.com	Reviewer 1: Masoud Mirmoezi Department of Physical Education and Sport Sciences, Islamic Azad University, Central Tehran Branch, Tehran, Iran. Email: massoudmirmoezi@live.com Reviewer 2: Yaghob Badriazarin Associate Professor of Sport Sciences, Tabriz University, Tabriz, Iran

1. Round 1

1.1 Reviewer 1

Reviewer:

The sentence “Some researchers contend that dietary antioxidant Supplementation has no impact on oxidative stress...” lacks citation. A citation here would balance the presentation of the controversy with empirical grounding.

The rationale for focusing on female karate athletes could be expanded. Although hormonal and physiological differences are briefly noted, citing more targeted studies would strengthen the justification.

The phrase “to ensure homogeneity within the sample...” could be supported with a justification for how the criteria align with internal validity and generalizability in athletic populations.

The description “a standardized breakfast was provided...” would be more informative if the macronutrient composition of the breakfast were listed, as this can influence metabolic responses to exercise.

The method “using a spectrophotometer with a photometric method...” lacks a reference to the specific assay kits or protocols used. Include manufacturer details or kit validation to increase replicability.

The claim “No significant differences were observed between groups...” should be supported by actual p-values or a table reference for transparency.

The mechanism discussed “L-carnitine... mitigates exercise-induced lipid peroxidation” is stated with confidence. Clarify whether this is a proposed or observed effect in your study, as LDH/CK markers are indirect indicators.

Author revised the manuscript and uploaded the updated document.

1.2 Reviewer 2

Reviewer:

The line “L-carnitine is a potent antioxidant...” is potentially misleading. While L-carnitine may have antioxidant effects, it is not classified as a conventional antioxidant. Clarify by saying "has demonstrated antioxidant properties."

The sentence “L-carnitine exerts its antioxidant effects by reducing the activity of superoxide dismutase (SOD)...” is confusing, as SOD and CAT reduction may not necessarily imply antioxidative benefit. Reconsider or rephrase this mechanism with supporting evidence.

The test protocol of “two laps of a 7-kilometer course...” requires additional justification. Was this distance validated in prior research for eliciting muscle damage in karate athletes?

The explanation “The symbol denotes a significant increase...” is unclear without the symbol being defined. Please revise to include precise symbol descriptions or legends for clarity.

The sentence “significant differences were observed...” could be improved by reporting effect sizes (e.g., η^2 or Cohen's d) alongside p-values for a better understanding of practical significance.

The line “a significant elevation in blood CK levels...” could benefit from discussion about biological variability in CK responses and whether the sample size adequately captured this.

Author revised the manuscript and uploaded the updated document.

2. Revised

Editor's decision after revisions: Accepted.

Editor in Chief's decision: Accepted.