

International Journal of Sport Studies for Health

Journal Homepage



The Impact of Aerobic Exercise Intensity on the Expression of Pro-inflammatory Genes IL-1 β , TNF- α , and IL-8 in the Intestinal Lymphocytes of Aged Mice

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| E d i t o r | R e v i e w e r s |
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| Karim Chamari Tunisian Research Laboratory “Sports Performance Optimization”National Center of Medicine and Sciences in Sports (CNMSS) ,Tunis , Tunisia pademil@hotmail.com | Reviewer 1: Yaghob Badriazarin Associate Professor of Sport Sciences, Tabriz University, Tabriz, Iran. Email: badriazarin@tbzmed.ac.ir Reviewer 2: Masoud Mirmoezi Department of Physical Education and Sport Sciences, Islamic Azad University, Central Tehran Branch, Tehran, Iran. Email: massoudmirmoezi@live.com |

1. Round 1

1.1 Reviewer 1

Reviewer:

This paragraph cites prevalence statistics but does not mention geographic or demographic context. Specify if the “over 60%” figure refers to global or regional data.

The hypothesis states high-intensity will be “more effective” but does not operationally define “more effective.” Define whether this refers to absolute gene expression reduction, effect size, or statistical significance.

Specify the reference gene validation results (why GAPDH was chosen and whether its expression was stable across groups) to improve reproducibility.

Add p-values for the weight loss differences across groups in Table 1 to quantitatively confirm successful induction of inflammation.

Add effect sizes (e.g., Cohen’s d) alongside p-values to give readers a sense of the magnitude of differences, not just their significance.

Proposed human training prescriptions (85–100% VO₂max) are ambitious. Include a cautionary statement about cardiovascular screening before prescribing high-intensity exercise to older adults.

Author revised the manuscript and uploaded the updated document.

1.2 Reviewer 2

Reviewer:

Expand the mechanistic explanation with citations describing the downstream effects of NF- κ B activation to strengthen the biological rationale.

This section lists studies but does not distinguish which used aged models versus young ones. Add a comparison table or a sentence highlighting differences in sample age to support your stated knowledge gap.

Legends do not specify whether values are mean \pm SD or SEM. This should be clarified for correct interpretation of variability.

Interpretation focuses solely on p-values; include discussion on biological relevance and the potential functional impact of 50% reductions in IL-1 β /TNF- α on gut health.

This proposed mechanism is speculative. State that these pathways (e.g., NF- κ B, SCFA production) were not measured and frame them explicitly as hypotheses for future research.

Author revised the manuscript and uploaded the updated document.

2. Revised

Editor's decision after revisions: Accepted.

Editor in Chief's decision: Accepted.