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The Effects of Periodized Traditional and Circuit-Based Resistance Training on Branched-Chain and Aromatic Amino Acid Metabolism and Ceramide Levels in Overweight and Obese Men

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1. Round 1

1.1 Reviewer 1

Reviewer:

The introduction refers to “excess adiposity” and “visceral depots” but does not define these terms for a non-specialist audience. A brief clarification would improve accessibility.

The sentence “...consume the same meal with identical composition...” should include whether diet was monitored or recorded for compliance, and how meal uniformity was verified.

Table 1 is complex and difficult to interpret due to inconsistent labeling (e.g., "Post" and "Pre" are not clearly associated with groups). Please improve formatting for reader clarity.

The statement “CRT and TRT decreasing HOMA-IR scores by 23% and 26.7%, respectively” contradicts the earlier statement that CRT led to greater changes. Please resolve this inconsistency.

The sentence “...substrate metabolism regulation in mediating the beneficial effects...” is vague. Consider specifying the substrates (amino acids, fatty acids) and their pathways.

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Author revised the manuscript and uploaded the updated document.

1.2 Reviewer 2

Reviewer:

The sentence “Although BCAAs are essential for muscle protein synthesis…” is a sentence fragment. Consider rephrasing for grammatical completeness.

The sentence listing five studies (“In the study of Deberzan and Koriski…”) lacks consistency in referencing format and integration. Instead, synthesize the results thematically rather than listing by name and year.

In the intervention section, more detail is needed about how progression in resistance load was determined week-by-week, particularly regarding overload principles in both CRT and TRT.

Later in the discussion, the manuscript says “CRT was associated with greater reductions in BCAA concentrations,” yet the earlier paragraph claims TRT had a higher percentage HOMA-IR improvement. Please reconcile this.

The sentence “If supported by future research, the observed reduction in ceramides…might enhance amino acid transport...” should be revised to emphasize the speculative nature of this claim, possibly starting with “It is hypothesized that…”

Although the paper discusses ceramide metabolism, it would benefit from citing studies that directly compare CRT and TRT effects on lipid metabolites (not just general exercise effects).

Author revised the manuscript and uploaded the updated document.

2. Revised

Editor’s decision after revisions: Accepted.

Editor in Chief’s decision: Accepted.