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Effects of Conventional Exercise versus Functional Training on Physical Performance in AJA Students during the Socialization Course: A Quasi-Experimental Study

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1. Round 1

1.1 Reviewer 1

Reviewer:

The paragraph beginning “The initial phase of training, commonly referred to as the socialization or basic training course…” would benefit from integrating recent regional or Iranian military training data to justify the contextual relevance of the AJA sample.

The authors mention “simple randomization using a random number table”; however, no detail is given about allocation concealment. It should be clarified whether assignment was sealed or if investigators had prior knowledge of group allocation.

The sentence “All participants provided written informed consent…” is appropriate, but the manuscript should specify the ethical approval number here as well for transparency, not only in the later “Ethical Considerations” section.

The definition of injury includes “absence from ≥1 training session.” This broad definition could inflate incidence rates. The authors should justify this threshold or cite literature supporting its sensitivity and specificity for military cohorts.

The description “All performance testing was conducted at baseline and post-intervention…” omits rest intervals between tests. The order and recovery time are essential for validity—especially when anaerobic and balance tests are combined.

In Table 1 and Table 2, exercise descriptions are extensive but intensity control is vague. The authors mention RPE 6–7; however, without heart-rate monitoring or load progression data, reproducibility is limited. Please clarify how training load was objectively verified.

When stating "Military academies place substantial emphasis on physical conditioning…", it would improve generalizability to discuss whether these findings apply to non-military tactical groups such as firefighters or police recruits.

Authors revised the manuscript and uploaded the updated document.

1.2 Reviewer 2

Reviewer:

The claim "In the U.S. Army… incidence can reach 42% in male recruits" is clear but would be more persuasive if contrasted with reported injury rates in comparable Iranian or regional military institutions, to underline why the local study is needed.

The final paragraph begins "Given the high incidence of injury…" yet does not explicitly state a hypothesis. The authors should end the paragraph with a directional hypothesis (e.g., "It was hypothesized that functional training would lead to greater improvements…").

The phrase "Sample size calculations using GPower software indicated a minimum of 30 participants…"* lacks specification of the assumed effect size (e.g., f or d). Please provide the effect size and reference for the power analysis to ensure reproducibility.

The sentence "Calisthenics included push-ups, sit-ups, pull-ups, and squats…" would be clearer if total weekly training volume (minutes/week or total work) were reported, to permit comparison of overall load between groups.

In Table 4, push-up values appear inconsistent: "3.26 ± 1.50" pre-test and "2.33 ± 2.80" post-test indicate a decrease, yet the text states improvement. These numbers likely represent a typographical or unit error and must be corrected.

The "Within-Group Comparisons" paragraph reports significant changes but lacks effect sizes (Cohen's d). Including them would enhance interpretation beyond p-values.

The sentence "Functional training group also reported a lower incidence of musculoskeletal injuries (12%) compared to 29%…" introduces an important finding, but injury data were not statistically analyzed. Authors should perform and report a chi-square or Fisher's exact test to confirm significance.

Authors revised the manuscript and uploaded the updated document.

2. Revised

Editor's decision after revisions: Accepted.

Editor in Chief's decision: Accepted.

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