Reviewer’s report

Title: The Effects of Isolated Ankle Strengthening and Functional Balance Training on Strength, Running Mechanics, Postural Control and Injury Prevention in Novice Runners: Design of a Randomized Controlled Trial

Version: 2
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Reviewer: Michael Ryan

Reviewer’s report:

This manuscript outlines a RCT that proposes to examine how two different strengthening protocols can improve strength, augment running mechanics, and alter running injury incidence. The authors have composed a very well written paper outlining an ambitious study that will be highly impactful to the field of running injuries as they attempt to not only examine the preventative effect of their training interventions, but also provide insights into the mechanisms behind these injury-rate effects. Overall my recommendation is for publication, however, I have a few minor comments for the authors to consider.

Minor Essential Revisions:

1. Hypotheses 2 and 4 could be clarified more if it was stated that isolated ankle strengthening and balance training respectively produce these changes specifically during running.

2. Sample size: This is a minor point as they authors have already clarified the injury incidence aspect of the study is exploratory; however, the stated 50% reduction in injury incidence stemming from the intervention seems highly optimistic. Do the authors have evidence to support this potential effect? If not, I would recommend simply omitting the power analysis for this secondary question likely because the actual effect of these training interventions on injury prevention is unknown.

3. Randomisation: the block size of 120 seems unusually high; in fact a single block encompasses the entire sample. Can the authors clarify why this approach is used?

4. Strength Group: Why have the authors chosen to have the participants only perform isometric exercises in this group (especially since strength is assessed during an isokinetic concentric movement task)? It is also not clear how the Theraband is used in these exercises; does a participant press against a wall with their foot, or against the resistance in the Theraband? A figure would help the reproducibility of this component of the study.

Level of interest: An article of outstanding merit and interest in its field
Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests: I declare that I have no competing interests