

THE START-TO-RUN DISTANCE AND RUNNING-RELATED INJURY AMONG OBESE NOVICE RUNNERS: A RANDOMIZED TRIAL

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ABSTRACT

Background/Purpose: High body mass index is associated with an increased risk of running-related injury among novice runners. However, the amount of running participation plays a fundamental explanatory role in regards to running-related injury development. Therefore, the purpose of the present study was to investigate if the risk of running-related injury among obese novice runners (BMI 30-35) was different when the start-to-run distance was 3km per week instead of 6km per week.

Hypothesis: A start-to-run distance of 3km per week is associated with 20% fewer running-related injuries and significantly fewer symptoms of overuse injury than a start-to-run distance of 6km per week among obese novice runners.

Study design: Randomized trial

Methods: Fifty-six obese novice runners with a body mass index between 30-35 were enrolled and randomized to receive one of the two following Interventions: (i) a 4-week running program with a start-to-run distance of 3km per week including three sessions with 1km running per session (n=29), or (ii) a 4-week running program with a start-to-run distance of 6km per week including three sessions with 2km running per session (reference group, n=27). In both programs, the weekly running distance was increased by 10% each week throughout the follow-up.

Results: The intention-to-treat analysis revealed a protective cumulative risk difference of -16.3% (95%CI: -43.8%; 11.3%, p=0.25) after four weeks. Importantly, some participants completed much more running than prescribed (n=5) and some never uploaded any training (n=15). Therefore, a supplementary per-protocol analysis was performed revealing a cumulative risk difference of -31.2% (95%CI: -57.0%; -5.2%, p=0.02) after four weeks. Furthermore, in the per-protocol analysis, the cumulative risk difference of overuse-injury symptoms was -47.8% (95%CI: -81.0%; -14.6%, p=0.01) after four weeks of running

Conclusions: A 3km reduction from 6km per week to 3km per week in the start-to-run distance appears to be associated with fewer running-related injuries and significantly fewer symptoms of overuse injury.

Key words: Movement System, Novice runner, Obese, Running, Running-related injury, Training dose

Level of evidence: 2b

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Conflict of interest

The authors declare no conflict of interest.