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Effect of Instability Resistance or Unstable Surface Training on Sports Performance Among Athletes: A Systematic Review

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ADMINISTRATIVE INFORMATION

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Review Stage at time of this submission - Completed but not published.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 13 October 2023 and was last updated on 13 October 2023.

INTRODUCTION

Review question / Objective This study aims to present a critical review of the existing literature on the effect of instability resistance or unstable surface training on athletes' sports performance, and to provide recommendations and suggest future research directions for both coaches, athletes, scholars and researchers.

Condition being studied No condition.

METHODS

Participant or population Healthy athletes or players, must be professional athletes, not include student and non-professional (amateur) athletes, irrespective of gender or age.

Intervention Instability resistance or unstable surface training (not less than 4 weeks), furthermore, each training programs, cycle and action must include < instability intervention and environment in EG.

Comparator Single-group trials, two groups, three groups and four groups or multiple-group trials.

Study designs to be included Single-group trials or randomized controlled trials.

Eligibility criteria The PICOS model was used for conducting the literature search methods. The acronym PICOS represents the following concepts: 1) population, 2) intervention, 3) comparison, 4) outcome ,5) study design. This study employed each PICOS factor as an inclusion criterion for the publications that were searched. Each of the following inclusion requirements must be met for a

study to be eligible: Table 1. 1)The study population must include healthy athletes, irrespective of gender or age. 2) Instability resistance or unstable surface training should be isolated and discussed explicitly, and the training during should be a minimum of 4 weeks. 3) The comparison in studies should be either single-group, two groups, three groups and four groups or multiple-group trials. 4) The study outcomes must comprise the impact of at least one or more whole instability resistance or unstable surface training on the sports performance of athletes. 5) Articles must be experimental studies including single-group trials or randomized controlled trials.

Information sources We collected studies in the literature using prominent academic and scientific databases, Web of Science, EBSCOhost (SPORT Discus), Scopus, PubMed, Google Scholar and References.

Main outcome(s) Outcome must comprise the impact of instability resistance or unstable surface training on at least one or more whole sports performance among athletes or players.

Quality assessment / Risk of bias analysis Table 2 provided detailed information for the PEDro scale score of each study. Data from all studies scored 2 to 6 on the PEDro scale. In the 11 items of this scale the concealed allocation, blinding participants, assessors, therapists, and intention to treat analysis were the items which all studies had points deducted relevantly. Conversely, in the 11 items of this scale the random allocation, eligibility criteria, baseline comparability, follow-up and point measure and variability were the items which all studies had points increased relevantly. Since the intervention is instability resistance or unstable surface training, accompanied by professionalism and the risk of sports injury in different sports event athletes and players, it is difficult to blind participants, assessors, and therapists.

Strategy of data synthesis We collected studies in the literature using prominent academic and scientific databases, Web of Science, EBSCOhost (SPORT Discus), Scopus, PubMed, Google Scholar and References.

Subgroup analysis No.

Sensitivity analysis No.
Country(ies) involved Malaysia.

Keywords Instability resistance training, Unstable surface, BOSU and Swiss balls, Sports performance, Athletes.

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