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Effects of unilateral vs. bilateral resistance training on strength, speed, agility, balance-related physical fitness and jumping performance - a systematic review

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ADMINISTRATIVE INFORMATION

Support - Personally.

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 26 September 2023 and was last updated on 26 September 2023.

INTRODUCTION

Review question / Objective This study aimed to provide a systematic review of the existing literature on the effects of unilateral and bilateral resistance training on athletes' strength, speed, agility, balance, and other related physical attributes as well as jumping performance. It also provides recommendations and suggests future research directions for coaches and researchers. The research method chosen was the RCT experiment.

Condition being studied Unilateral and bilateral resistance training improves strength, speed, and jumping performance. However, none of the studies reported significant changes in agility and balance. In addition, the researchers found that different forms of unilateral and bilateral resistance training were effective in influencing strength,

speed, and jumping performance. However, unilateral resistance training appeared to be more conducive to improving unilateral nature athletic performance, whereas bilateral resistance training was more conducive to improving bilaterally.

METHODS

Participant or population Age, gender, or number of years of training are not restrictions on the study population, which consists of healthy athletes.

Intervention Unilateral , bilateral resistance training.

Comparator Control group vs. experimental group or control group vs. experimental group 1 and experimental group 2 (Two-group or three-group.

Study designs to be included RCT.

Eligibility criteria Criteria for resistance training.

Information sources PubMed, Google Scholar, Web of Science, SCOPUS, Ebscohost.

Main outcome(s) Physical fitness and sports performance.

Quality assessment / Risk of bias analysis PEDro scale.

Strategy of data synthesis A systematic review using PICO principles; System Review.

Subgroup analysis Studies were conducted according to the comparison of resistance training in unilateral and bilateral groups.

Sensitivity analysis Double-blind methodology.

Country(ies) involved China.

Keywords unilateral resistance training, Bilateral resistance training, athletes, physical fitness, jump performance.

Contributions of each author

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