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Corresponding author:

Shudian Cao

caoshudian0516@163.com

Author Affiliation:

Xihua University.

Cao, SD.

ADMINISTRATIVE INFORMATION

Support - No support.

Review Stage at time of this submission - Data extraction.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY2024100029

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 8 October 2024 and was last updated on 8 October 2024.

INTRODUCTION

Review question / Objective To investigate the effects of balance training on physical fitness and basketball performance of basketball players.

Condition being studied Trainers like to use balance training to train basketball players to help them improve the physical fitness and basketball performance. This study aims to investigate the effects of balance training on physical fitness and basketball performance of basketball players.

METHODS

Participant or population Basketball players.

Intervention Balance training.

Comparator Without balance training.

Study designs to be included RCT, nRCT.

Eligibility criteria Several inclusion criteria were adhered to according to the PICOS framework: (1) English articles with full text; (2) participants were basketball players; (3) the intervention was balance training (BT), with a minimum duration of four weeks; (4) control groups either did not undergo BT or without control groups; (5) outcomes related to the effects of HIIT on physical fitness (e.g., power, speed, balance) and basketball performance (e.g., passing, shooting, dribbling); (6) randomized controlled trials (RCTs). The exclusion criteria were: (1) reviews; (2) studies without BT as an intervention; (3) unpublished studies.

Information sources Web of Science, Scopus, PubMed, and SPORTDiscus databases were queried. Additionally, the references of studies and Google Scholar were screened.

Main outcome(s) We screened a total of 7313 studies. After removing duplicates, 5792 studies remained. In turn, 255 studies remained for full-text review after titles and abstracts were screened. Then, these studies were assessed according to

the inclusion and exclusion criteria and 17 studies remained. After the process of quality assessment, four studies were removed and 13 studies were finally remained.

Quality assessment / Risk of bias analysis The 14-item “Qualsyst”, with specific criteria (yes = 2, partial = 1, no = 0), was employed to assess the quality of the studies.

Strategy of data synthesis Meta-analyses of included studies were not able to be conducted given the requirement for comparable outcome measures taken at similar time points. In this regard, the included studies did not consistently provide three or more baseline and follow-up measurements for the same variables. Moreover, the included studies did not have sufficient homogeneity regarding the players recruited, interventions administered, and outcome measures taken. Consequently, extracted data from the included studies were analyzed according to the Centre for Reviews and Dissemination.

Subgroup analysis NA.

Sensitivity analysis NA.

Language restriction English.

Country(ies) involved China.

Keywords Balance training, basketball, sports, exercise, physical fitness.

Contributions of each author

Author 1 - Shudian Cao.

Email: caoshudian0516@163.com