INPLASY PROTOCOL

Corresponding author:
Hao Zhang

13028155710@163.com

Author Affiliation:
School of Physical Education and Sports, Sichuan University

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Effectiveness of different warm-up exercises on preventing sports injuries of juvenile soccer players - A systematic review and network meta-analysis

Zhang, H[1]; Chen, ZC[2]; Ni, YH[3].

Review question / Objective: Football warm-up exercises have been widely used in children's football training, but there is no comprehensive evaluation of the effectiveness of different warm-up exercises in injury prevention based on network meta-analysis. Therefore, the main purpose of this study is to evaluate the effectiveness of different warm-up exercises in injury prevention.

Condition being studied: The included articles determine the credibility of the study, so we only included common warm-up exercises, such as FIFA11+ comprehensive warm-up, FIFA11+kids comprehensive warm-up, neuromuscular training (NMT) warm-up, regular warm-up.

INTRODUCTION

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up exercises, such as FIFA11+ comprehensive warm-up, FIFA11+kids comprehensive warm-up, neuromuscular training (NMT) warm-up, regular warm-up.

METHODS

Search strategy: We searched PubMed, Embase, Web of Science and Cochrane Library databases according to the pre-established search strategy, and the search time is from the establishment of each database to April 5, 2021. The search terms include: soccer, injury prevention, warming-up exercises, randomized controlled trial, systematic review, injure, and the included references were manually searched to ensure the comprehensiveness of the search.

Participant or population: All the juvenile football players who use football warm-up exercises are about 6-18 years old.

Intervention: Warm-up exercises include FIFA11+ comprehensive warm-up, FIFA11+kids comprehensive warm-up, neuromuscular training (NMT) warm-up, warm-up program, regular warm-up.

Comparator: The control group mainly consisted of routine warm-up, in addition to FIFA11+ comprehensive warm-up, FIFA11+ Kids comprehensive warm-up and neuromuscular training (NMT) warm-up.

Study designs to be included: The included articles are mainly RCTS.

Eligibility criteria: The eligibility criteria will be the following: （1）. Types of study: Randomized controlled trials (RCTs). (2) The intervention measures of the experimental group are one or more of FIFA11+ comprehensive warm-up, FIFA11+kids comprehensive warm-up, neuromuscular training (NMT) warm-up program.(3) The intervention measures for the control group were one of the following warm-up programs: FIFA11+ comprehensive warm-up, FIFA11+ Kids comprehensive warm-up, neuromuscular training (NMT), and regular warm-up.

Information sources: We will search the relevant randomized controlled trials from the PubMed, Embase, Web of Science, Cochrane Library database and manually search the references included in the study to ensure the comprehensiveness of the retrieval.

Main outcome(s): Outcome indicators included: the overall injury of athletes.

Additional outcome(s): Athletes' knee joint injury, ankle joint injury.

Quality assessment / Risk of bias analysis: Two researchers conducted a comprehensive evaluation of the included study according to the Cochrane manual to assess the bias risk of the study. Any disagreements will be resolved by a third review author.

Strategy of data synthesis: Stata14.0 software and R software were used to analyze the included data. The network meta-analysis under Bayesian framework is mainly analyzed by OpenBUGS software. Since the outcome index is a binary variable, the odds ratio (OR) and 95% confidence interval are used to evaluate the effect size. The heterogeneity between the studies was judged by the size of I2, and the SUCRA value was used to compare the effectiveness of each intervention. The higher the Scra value, the better the effectiveness of the intervention, and vice versa. Since this study is a comparison between various interventions and routine training, there is no closed structure, so there is no need for consistency test; and the the publication side chair was tested by corrected funnel plot.

Subgroup analysis: If the analysis showed significant heterogeneity, We will use age, region or country, and intervention cycle as covariates for subgroup analysis.

Sensitivity analysis: We will use the exclusion method to conduct sensitivity analysis, and exclude low-quality studies to make sure the results are stable.

Language: English.

Country(ies) involved: China.

Keywords: soccer, Injury prevention, warm-up exercise, effectiveness, network meta-analysis, children.

Contributions of each author:
Author 1 - Hao Zhang - Completed the plan, search strategy, bias risk assessment, data extraction, date analysis.
Email: 13028155710@163.com
Author 2 - ZiChao Chen - Read, provided feedback and approved the final manuscript.
Email: 732595851@qq.com
Author 3 - YiHan Ni - Assisted the plan revision, data extraction, literature retrieval.
Email: 18428362707@163.com