INPLASY

The Relationship between Training Load and Injury in Basketball

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ADMINISTRATIVE INFORMATION

INTRODUCTION

*R*eview question / Objective This systematic review aimed to examine the evidence of the relationship between training load and injury in basketball which is one of the most common sports worldwide.

Rationale The relationship between training load and injury in basketball is an important area in sports injury prevention and performance enhancement, however, there is limited conclusive evidence of their associations.

Condition being studied Studies that met the following criteria were included. Athletes who play basketball at all competition levels were the study population. Studies were limited to those that calculated at least one measure of training load, measured as external or internal, subjective, or objective, absolute, or relative, taken during training, competition, or strength and conditioning sessions. Training load was defined as the cumulative amount of stress placed on an individual from single or multiple training sessions (structured or unstructured) over a period of time. Studies were also limited to those that reported musculoskeletal injuries as an outcome, either self-reported or diagnosed by a physician, except illness and performance-related measures. Injury was defined as any physical complaint that results from competition or training, regardless of its consequence on sports participation or performance. There was no limitation in geographic location. Only English studies published before Mar 2024 were included in this study while incomplete studies such as abstracts, conference proceedings, commentaries, editorials, and letters were excluded. Studies that did not meet any one or more of these specific inclusion criteria were excluded.

METHODS

Search strategy This systematic review was conducted according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. PubMed, SCOPUS and Web

of Science databases were searched before Mar 2024 for relevant studies. Searches included terminology relevant to training load, musculoskeletal injury, and basketball.

Participant or population Basketball players.

Intervention NIL.

Comparator NIL.

Study designs to be included Studies shall be prospective or retrospective cohort design only, except case studies, case series, case-control studies, review papers or purely epidemiology. Cohort study, cross sectional study, randomized control trial.

Eligibility criteria NIL.

Information sources PubMed, SCOPUS and Web of Science databases were searched before Mar 2024 for relevant studies.

Main outcome(s) The main outcome is to provide an overview of the relationship between training load and injury in basketball. Moreover, it is to identify the critical risk factors of load and injury.

Quality assessment / Risk of bias analysis This systematic review was conducted according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. The quality of each study, including the potential for bias, was assessed using the Newcastle–Ottawa Quality Assessment Scale (NOS) for cohort studies.

Strategy of data synthesis A standardized data collection form was used to extract all data. A narrative synthesis of the data was completed by reporting the findings on the relationship between training load and musculoskeletal injury from each study. The number of articles using each type of training load was reported, along with comparisons within and between groups of studies using the same type of training load. The strength of evidence was evaluated based on the number of studies examining each type of load, the proportion with significant findings, and the methodological quality of the studies. Methodological quality (NOS) and level of evidence of each study were also reported separately for each study.

Subgroup analysis Injury definition, internal load, external load.

Sensitivity analysis The screening result must be agreed upon by two reviewers. Disagreements between the reviewers regarding the selection of studies, the assessment of methodological quality, and the data extraction were solved by consensus. Persisting disagreements were discussed in a consensus meeting of all coauthors to make the final decision.

Language restriction English.

Country(ies) involved Hong Kong SAR.

Keywords Injury prevention, strength and conditioning, sports medicine, sports coaching, sports injury.

Contributions of each author
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