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INPLASY

Effects of High-intensity Interval Training on Technical Skills among Players: A Systematic Review

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ADMINISTRATIVE INFORMATION

Support - Own expence.

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 15 March 2024 and was last updated on 15 March 2024.

INTRODUCTION

Review question / Objective This systematic review comprehensively and critically reviews the research on the impact of HIIT on technical skills in the literature and provides valuable suggestions for coaches and researchers.

Condition being studied Effects of High-intensity Interval Training on Technical Skills among Players.

METHODS

Search strategy This systematic review uncovered a systematic search of the existing literature published between 2001 and December 2022 on the effects of racquets on athletes' strength and endurance. The study was designed and conducted in accordance with the PRISMA statement (Page, Moher, & McKenzie, 2022). The literature search used 3 well-known academic databases: PubMed, Scopus and SCIelo. All keywords were searched using Mesh of PubMed and previous studies. Each database search title uses predefined keywords ("HIIT-related table tennis players" or "tennis" or "badminton" or "squash") and ("HIIT-related strength" or "speed") and ("endurance" or " "table tennis player" or "tennis player" or "badminton player" or "squash player". The terms are combined with logical operators that can be used using a database search engine. In addition, the authors consulted experts in the field.The database search returned 27 records: 17 from PubMed, 9 from Scopus, and 1 from SCIelo. Filterby subject and abstract to remove duplicate.

Participant or population young athletes (≤14 years).

Intervention HIIT versus alternative training regimens.

Comparator HIIT versus alternative training regimens.

Study designs to be included We selected studies by PICOS and performed a systematic literature review according to PRISMA guidelines. Inclusion criteria were: (i) controlled trials (HIIT versus alternative training regimens) with a before-after design; (ii) young athletes (≤14 years); (iii) assessing variables related to endurance and athletic performance. Hedges' g effect sizes (ES) and associated 95% confidence intervals were calculated for comparing any results between the experimental (HIIT) and alternative training regimens. Research projects are sports such as tennis, squash, badminton and table tennis.

Eligibility criteria This review, including population, intervention, comparison, outcome and study design (PICOS). In addition to the above screening criteria, studies meeting the following criteria were also included: (1) HIIT articles for sports with a racket;(2) The selected articles must be related to the improvement of strength and endurance of racket athletes. (3) The selected articles must be articles about racquet athletes intervening through HIIT. Studies were limited to those involving young racket-sporting athletes defined as one of the following criteria: professional training, expert instruction, and early competition. Studies in other populations and studies of training for non-racquet sports were excluded. Excludes conference abstracts, theses, dissertations and articles published in non-peer-reviewed journals.

Information sources PubMed、EBSCOhost、Scopus、Web of Science.

Main outcome(s) In this study, the results were classified according to the performance of athletes in Technical Skills in the context of HIIT. The current level of measuring the impact of Technical Skills can be divided into four parts: strength, Psychological factor, and speed and agility. This classification allows each author to independently classify papers according to the specific topics explored in the components of the paper. Any disagreements that arose during this classification process were thoroughly discussed between all authors until a unanimous consensus was reached. Using this classification framework, the experimental results of the 11 included studies were systematically compiled and comprehensively summarized and analyzed.

Quality assessment / Risk of bias analysis PRISMA.

Strategy of data synthesis Not reported.

Subgroup analysis Not reported.

Sensitivity analysis Not reported.

Country(ies) involved Malaysia.

Keywords HIIT, Physical Training,Technical Skills, Strength, Speed.

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