INPLASY PROTOCOL

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None declared.

Effects of acupuncture on athletic performance: a systematic review and outlook

Leong, KS[1]; Mukherjee, S[2].

Review question / Objective: **This review aimed to systematically identify, consolidate and critically evaluate the literature, from 2000-2020, on the effectiveness of acupuncture in improving athletic performance.**
Eligibility criteria: **Studies lacking RCT design, as well as studies involving other form of therapies in addition to acupuncture, and single case studies were excluded. Studies that focused on sports injury and not on performance enhancement were also excluded as there has already been a fair number of studies and review on injury recovery. Studies which did not use TCM principles to guide the selection of acupoints, and studies that used points which are not recognised as classic acupoints and ashi points were also excluded. Additionally, the investigation of the recovery of DOMS was intentionally excluded for this review as there has already been a comprehensive systematic review and meta-analysis done by Huang et al. in 2020.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 24 May 2023 and was last updated on 24 May 2023 (registration number INPLASY202350091).

INTRODUCTION

Review question / Objective: **This review aimed to systematically identify, consolidate and critically evaluate the literature, from 2000-2020, on the effectiveness of acupuncture in improving athletic performance.**

Rationale: **The research interest on the effectiveness of acupuncture on human performance is growing. However, studies in this area are neither extensive nor comprehensive, and there has been a call for more studies with standardized protocols and better designs to further investigate the effect of acupuncture on athlete performance.**

Condition being studied: Two aspects of athletic performance were examined, aerobic endurance and muscular strength.

METHODS

Search strategy: Eligible studies were sourced from the following electronic databases- China Knowledge Resource Integrated Database (CNKI), PubMed, Web of Science, Google Scholar and Cochrane Library. Search keywords used were: "acupuncture", "sports performance", "athletic performance", "strength", "muscle strength", "power", "endurance", "aerobic capacity", and "time to exhaustion". The retrieval timeframe was set to the last two decades (Jan 2000 to Jun 2020). No language restrictions were imposed. Eligible studies included were in English, Chinese and German languages. Translation of the Chinese language studies was done by the main author while the translation of the two papers in German language was done using Google translate36, 37. Additionally, the reference lists of the identified papers were manually screened for studies which matched the eligibility criteria.

Participant or population: Athletes.

Intervention: Treatment includes various forms of acupuncture, namely, manual acupuncture, electroacupuncture, transcutaneous electrical acupoint stimulation, acupressure.

Comparator: Suitable control group such as sham acupuncture or no treatment.

Study designs to be included: Randomised control trials (RCTs).

Eligibility criteria: Studies lacking RCT design, as well as studies involving other form of therapies in addition to acupuncture, and single case studies were excluded. Studies that focused on sports injury and not on performance enhancement were also excluded as there has already been a fair number of studies and review on injury recovery. Studies which did not use TCM principles to guide the selection of acupoints, and studies that used points which are not recognised as classic acupoints and ashi points were also excluded. Additionally, the investigation of the recovery of DOMS was intentionally excluded for this review as there has already been a comprehensive systematic review and meta-analysis done by Huang et al. in 2020.

Information sources: Electronic databases and contact with authors.

Main outcome(s): Two aspects of athletic performance were examined, aerobic endurance and muscular strength.

Quality assessment / Risk of bias analysis: Physiotherapy Evidence Database Scale(PEDro).

Strategy of data synthesis: Studies will be consolidated and evaluated by authors.

Subgroup analysis: NA.

Sensitivity analysis: NA.

Language restriction: No.

Country(ies) involved: Singapore.

Keywords: acupuncture; athletic performance; muscle strength; aerobic endurance.

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