

INPLASY PROTOCOL

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Conflicts of interest:
None declared.

Physical activity and risk of sudden cardiac death in individuals at high risk for cardiovascular disease: A protocol for systematic review and meta-analysis

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Review question / Objective: This protocol aims to conduct a systematic review and meta-analysis to compare the effectiveness of different types of physical activity in sudden cardiac death.

Condition being studied: Physical activity acquired by regular physical exercise has long been advocated because of its beneficial effects on lowering the risk of coronary events and all-cause mortality. However, although there are a variety of exercise options, the relative effectiveness and hierarchical structure of exercise intervention have not been well established. Therefore, this protocol aims to conduct a systematic review and meta-analysis to compare the effectiveness of different types of physical activity in sudden cardiac death.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 07 April 2021 and was last updated on 20 April 2021 (registration number INPLASY202140033).

INTRODUCTION

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exercise options, the relative effectiveness and hierarchical structure of exercise intervention have not been well established. Therefore, this protocol aims to conduct a systematic review and meta-analysis to compare the effectiveness of different types of physical activity in sudden cardiac death.

METHODS

Participant or population: Adults (≥ 18 years old) with high risk for cardiovascular disease and physically inactive.

Intervention: The study included any exercise intervention that did not limit the type, frequency, intensity or duration of the exercise.

Comparator: The control group generally didn't do exercise.

Study designs to be included: Only randomized controlled trials (RCTs) and quasi-randomized controlled trials will be included in this study.

Eligibility criteria: Other types of research, such as observational studies, animal trials, research programs, ongoing trials, etc., will be excluded.

Information sources: Two independently reviewers will search the MEDLINE, Cochrane Library, CINAHL and PubMed databases. The search limited to the research published in English without time limited. We will use a snowball approach for literature retrieval (search for a reference list of retrieved articles and published comments on the subject).

Main outcome(s): Our primary outcomes are mortality (sudden cardiac death), hospitalization (heart disease-related hospitalization), and re-hospitalization.

Quality assessment / Risk of bias analysis: The certainty of evidence for main outcomes will be assessed using the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) system.

Strategy of data synthesis: We will independently screen the literature, extracted data, evaluate study quality and risk of bias, and performed meta-analysis. If there has statistical heterogeneity, a random effects model will be used for meta-analysis, otherwise fixed effect model will be used.

Subgroup analysis: If enough randomized controlled trials are included, or when there is significant heterogeneity in the trials.

Sensitivity analysis: Sensitivity analyses will be performed with the studies of low quality excluded.

Country(ies) involved: China.

Keywords: CVD, SCD, exercise.

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