INPLASY PROTOCOL


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Corresponding author: Yanmei Xu
760645092@qq.com

Author Affiliation: West China Hospital, Sichuan University

Support: No.

Review Stage at time of this submission: The review has not yet started.

Conflicts of interest: None declared.

INTRODUCTION

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).
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**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.

**Contributions of each author:**
Author 1 - Qinqin Wu.
Email: 760645092@qq.com
Author 2 - Yanmei Xu.
Email: 704081499@qq.com