# INPLASY PROTOCOL

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**Review Stage at time of this submission:** **Preliminary searches.**

**Conflicts of interest:**
**None.**

# The role and effectiveness of self-management in a home-based cardiac rehabilitation program: a protocol for systematic review and meta analysis

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**Review question / Objective:** **The role and effectiveness of self-management in the HBCR program.**
**Condition being studied:** **Nowadays, home-based cardiac rehabilitation(HBCR) is a potential approach to help improve rates of CR participation and progressed rapidly in recent years. Effective self-management can help promote healthy behaviors, leading to an improvement in health outcomes, increased patient health-related quality of life (HRQoL), physical activity level and reduced hospitalizations. Various clinical centers designed differents self-management programs in helping specifying patients to recover at home had been widely documented in the literature.**

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 25 May 2020 and was last updated on 25 May 2020 (registration number INPLASY202050093).

## INTRODUCTION

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specifying patients to recover at home had been widely documented in the literature.

## METHODS

**Search strategy:** Self-management, self-efficacy, self-care, home-based cardiac rehabilitation, home-based exercise program.

**Participant or population:** We will include patients aged more than 18 years with chronic heart diseases including heart failure, myocardial infarction, et.al and willing to participate in home-based cardiac rehabilitation.

**Intervention:** Self-management interventions or programs.

**Comparator:** Usual care.

**Study designs to be included:** There are no restrictions on the types of study design eligible for inclusion.

**Eligibility criteria:** The object of study is about the self-management for patients in HBCR. Published in the English language ranging from January 2010 to December 2019.

**Information sources:** This review will be carried out using the following database: PubMed, web of science, CINAL, EMBASE, OVID/Medline, and google scholar.

**Main outcome(s):** The primary outcome was health-related quality of life (HRQoL), this may be done using SF-12, SF-36, Minnesota Living with Heart Failure Questionnaire (MLHFQ).

**Additional outcome(s):** Other outcomes include self-care behavioral outcomes, psychological well-being (Hospital Anxiety and Depression Scale Questionnaire, HADS), Self-care of Heart Failure Index Questionnaire (SCHFI), exercise capacity, self-efficacy, symptoms management, adherence, physician activity.

**Data management:** Data search was done in 2 steps. The first step included screening published studies based on the title and the abstracts of the studies, by 2 investigators independently and blindly screening the papers that meet the inclusion criteria. The selected studies then were further screened based on the full texts (the second step). The entire screening process was done independently and in duplicate. Disagreement between the investigators in each stage was resolved by discussion and consensus; if the agreement was not achievable, the third investigator was consulted until consensus was reached. Then these studies were included for data extraction and further analysis, which focused on the following information: general characteristics of the study (name of the first author, year of publication and country), study design (e.g. randomized trial, observational studies, cross-sectional studies, etc.), sample size, quality of the study, population of the self-management (e.g. heart failure, myocardial infarction, etc.), characteristics of the control group, number of participants in each group, follow up duration, outcomes.

**Quality assessment / Risk of bias analysis:** We use the Cochrane Collaboration Risk of Bias tool for randomized controlled studies. Domains evaluated include; Random sequence generation (selection bias); allocation concealment (selection bias); blinding of participants and personnel (performance bias); blinding of outcome assessment (detection bias); incomplete outcome data (attrition bias); Selective reporting (reporting bias) and other possible biases. Each section will be rated as having high, low, or unclear risk of bias.

**Strategy of data synthesis:** Meta-analysis was performed with Revman 5.3 software. Not all studies supplied the same questionnaire, standardized mean difference(SMD)is used as the effective index for continuous data. Study characteristics will be presented in narrative and table form, the same study data are merged in a forest plot.

**Subgroup analysis:** To the evaluation of health-related quality of life, the items

contained the global, physical and psychological levels. Psychological well-being contained anxiety and depression scale.

**Sensibility analysis:** Not applicable.

**Language:** English.

**Country(ies) involved:** China.

**Keywords:** Self-management, home-based cardiac rehabilitation, self-efficacy, quality of life, anxiety, depression.

**Contributions of each author:**
Author 1 - Sisi Zhang - The author conceived and designed this protocol.
Author 2 - Jingxian Zhang - The author provided statistical expertise.
Author 3 - Congying Liang - The author contributed to the development of the selection criteria, and the risk of bias assessment strategy.
Author 4 - Xue Yang - The author read, provided feedback and approved the final manuscript.
Author 5 - Xiaoping Meng - The author revised the protocol.