INPLASY PROTOCOL

To cite: Qin. Standard cardiopulmonary resuscitation versus chest compressions only after out-of-hospital cardiac arrest: a protocol for systematic review and meta-analysis. Inplasy protocol 202130109. doi: 10.37766/inplasy2021.3.0109

Received: 30 March 2021

Published: 30 March 2021

Corresponding author:
Qin Qin

liuyiviolet@163.com

Author Affiliation:
Emergency Department, West China Hospital

Support: **None.**

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

Conflicts of interest:
None declared.

Standard cardiopulmonary resuscitation versus chest compressions only after out-of-hospital cardiac arrest: a protocol for systematic review and meta-analysis

Qin, Q[1].

Review question / Objective: **The goal of this study is to compare standard cardiopulmonary resuscitation with chest compressions only after out-of-hospital cardiac arrest.**
Condition being studied: **The 2020 American Heart Association (AHA) guidelines encourages that lay rescuers can provide chest compression-only cardiopulmonary resuscitation to simplify the process and encourage cardiopulmonary resuscitation initiation. But recent clinical trials had contradictory results about chest compression-only cardiopulmonary resuscitation.**
Information sources: **Only randomized controlled trials and quasi-randomized controlled trials will be included in CENTRAL, MEDLINE and Embase. Data on study design, participant characteristics, intervention details and outcomes will be extracted by a unified standard form.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 30 March 2021 and was last updated on 30 March 2021 (registration number INPLASY202130108).

INTRODUCTION

Review question / Objective: **The goal of this study is to compare standard cardiopulmonary resuscitation with chest compressions only after out-of-hospital cardiac arrest.**

Condition being studied: **The 2020 American Heart Association (AHA) guidelines encourages that lay rescuers can provide chest compression-only cardiopulmonary resuscitation to simplify the process and encourage**

cardiopulmonary resuscitation initiation. But recent clinical trials had contradictory results about chest compression-only cardiopulmonary resuscitation.

METHODS

Participant or population: We will include adults and children undergoing out-of-hospital CPR for any reason. All causes and ages will be included.

Intervention: Continuous chest compression CPR (with or without rescue breathing) will be considered as an intervention group.

Comparator: Standard CPR (alternating repeated chest compression and rescue breathing at a fixed rate) by the guidelines as a control group.

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

Eligibility criteria: Studies will be excluded if they met at least one of the following criteria :(1) observational studies, including case-control and cohort studies; (2) Case reports, comments, editorials and letters to the editor; (3) Repetitive studies, in vitro studies, or animal studies.

Information sources: Only randomized controlled trials and quasi-randomized controlled trials will be included in CENTRAL, MEDLINE and Embase. Data on study design, participant characteristics, intervention details and outcomes will be extracted by a unified standard form.

Main outcome(s): Primary outcomes to be assessed are survival at hospital admission, discharge, and 30-day, and return of spontaneous circulation.

Quality assessment / Risk of bias analysis: The Grading of Recommendations Assessment, Development and Evaluation framework will be used to evaluate the quality of evidence.

Strategy of data synthesis: The Cochrane's tool for assessing risk of bias to evaluate deviation risk. If the I2 statistic is less than 40%, fixed effect model will be used for meta-analysis. If the I2 statistic is greater than 40%, we will use random effects model for meta-analysis.

Subgroup analysis: If enough studies are included, we plan to divide participants into dispatcher-assisted chest compression-only bystander CPR and unassisted chest compression-only bystander CPR for subgroup analysis.

Sensitivity analysis: In order to confirm whether the results of the systematic review are affected by uncertain decisions, we will conduct a sensitivity analysis.

Country(ies) involved: China.

Keywords: S-CPR, CO-CPR, cardiac arrest.

Contributions of each author:
Author 1 - Qin Qin.