INPLASY

To compare the efficacy of non-pharmacological interventions in reducing pain after chest tube removal: A systematic review and network meta-analysis

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ADMINISTRATIVE INFORMATION

Support - The National Cheng Kung University Hospital Center for Clinical Medicine Research.

Review Stage at time of this submission - Preliminary searches.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY2023110017

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 04 November 2023 and was last updated on 04 November 2023.

INTRODUCTION

Review question / Objective Participants - Adult patients (aged 18 years and over) who had at least one chest tube removed from the pleural or mediastinal spaces. Intervention(s) - This review will consider studies that will evaluate. (1) the experimental group received non-pharmacological application, and usual care. Comparator(s) - This review will consider studies that compare the intervention to the control group received usual care, placebo, or no treatment. Outcomes - This review will consider studies that include the following outcomes: pain scores before CTR, right after CTR, and less than 20 minutes after CTR. Since there may be significant difference of pain score before CTR between different interventions, we prefer to analyze the change of pain scores at different timing.

Condition being studied The chest tube removal cause pain after cardiothoracic surgery. Most study present Non-pharmacological interventions can relieve the pain caused by chest tube removal (CTR). However, there is not yet analysis comparing the effectiveness between different non-pharmacological application.

METHODS

Participant or population Adult patients (aged 18 years and over) who had at least one chest tube removed from the pleural or mediastinal spaces.

Intervention Non-pharmacological application, and usual care.

Comparator Usual care, placebo, or no treatment.

Study designs to be included Randomized controlled trials.

Eligibility criteria ParticipantsAdult patients (aged 18 years and over) who had at least one chest tube removed from the pleural or mediastinal

spaces.Intervention(s)This review will consider studies that will evaluate.(1) the experimental group received non-pharmacological application, and usual care.Comparator(s)This review will consider studies that compare the intervention to the control group received usual care, placebo, or no treatment.OutcomesThis review will consider studies that include the following outcomes: pain scores before CTR, right after CTR, and less than 20 minutes after CTR. Since there may be significant difference of pain score before CTR between different interventions, we prefer to analyze the change of pain scores at different timing.Types of studiesThis review will consider both experimental and quasi-experimental study designs including randomized controlled trials, non-randomized controlled trials, and before and after studies. Other study designs including analytical observational studies including prospective and retrospective cohort studies, case-control studies and analytical cross-sectional studies will not be considered for inclusion.

Information sources embase, ovid MEDLINE, Cochrane Library, Scopus and Airti.

Main outcome(s) measurement of pain level.

Quality assessment / Risk of bias analysis RoB 2.0.

Strategy of data synthesis Studies will, where possible be pooled in statistical meta-analysis using STATA 17.0. Effect sizes will be expressed as mean differences with standard deviation and their 95% confidence intervals (CI) for analysis.

Subgroup analysis Subgroup analyses will be conducted where there is sufficient data to investigate.

Sensitivity analysis Nil.

Country(ies) involved Taiwan.

Keywords chest tube removed, non-pharmacological application, cold, music, breathing exercise, pain.

Contributions of each author

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