INPLASY PROTOCOL

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None declared.

Effects of acupuncture for relieving preoperative anxiety in adolescents: A protocol for systematic review and meta-analysis

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Review question / Objective: **Preoperative anxiety is a major problem for adolescent patients undergoing surgery, does acupuncture could relieve the anxiety?**
Condition being studied: **Preoperative anxiety has negative consequences during the postoperative periods. It will be harder to control the pain if adolescent patients with anxiety, and it's also a risk factor for postoperative nausea and vomiting. Relieving preoperative anxiety is beneficial to postoperative rehabilitation for adolescents.**
Information sources: **All relevant articles will be searched by the following databases from the inception dates to November 1, 2021: PubMed, the Cochrane Central Register of Controlled Trials, EMBASE, China National Knowledge Infrastructure (CNKI), Wan Fang, VIP, China Biomedical Literature Database(CBM) and TCM Literature Analysis and Retrieval Database.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 26 November 2021 and was last updated on 26 November 2021 (registration number INPLASY2021110096).

INTRODUCTION

Review question / Objective: **Preoperative anxiety is a major problem for adolescent patients undergoing surgery, does acupuncture could relieve the anxiety?**

Condition being studied: **Preoperative anxiety has negative consequences during the postoperative periods. It will be harder to control the pain if adolescent patients with anxiety, and it's also a risk factor for postoperative nausea and vomiting. Relieving preoperative anxiety is beneficial**

to postoperative rehabilitation for adolescents.

METHODS

Participant or population: Inclusion: The patients who were aniety for the scheduled surgery without limited of gender, race and region. Exclusion: pregnant patients; with mental illness.

Intervention: We will consider acupuncture as the only intervention, including manual acupuncture, electroacupuncture, auricular acupuncture, transcutaneous electrical acupoint stimulation, acupressure and so on.

Comparator: Treatments in the control groups can be sham-acupuncture, pharmacotherapy, psychological sounseling or no additional intervention to usual care.

Study designs to be included: We performed a systematic review and meta-analysis that include all randomized controlled trials (RCTs) without any limitation of blinding or publication language, exclude cohort studies and case reports.

Eligibility criteria: The type of studies for us to perform a systematic review and meta-analysis is randomized controlled trials (RCTs) without any limitation of blinding or publication language, exclude cohort studies and case reports. We will include adolescent patients described as operative anxiety, without limitation on gender, race and region. Acupuncture will be the only intervention in the included studies, such as manual acupuncture, electro-acupuncture, auricular acupuncture, transcutaneous electrical acupoint stimulation, acupressure and so on. Control interventions can be Sham-acupuncture, pharmacotherapy, psychological counseling or no additional intervention to usual care . we will consider measures of anxiety included the State Anxiety Subscale (STAI-S) of the State-Trait Anxiety Inventory (STAI) as the main outcome.

Information sources: All relevant articles will be searched by the following databases from the inception dates to November 1, 2021: PubMed, the Cochrane Central Register of Controlled Trials, EMBASE, China National Knowledge Infrastructure (CNKI), Wan Fang, VIP, China Biomedical Literature Database(CBM) and TCM Literature Analysis and Retrieval Database.

Main outcome(s): Measures of anxiety include the State Anxiety Subscale (STAI-S) of the State-Trait Anxiety Inventory (STAI).

Quality assessment / Risk of bias analysis: We will use the Cochrane tool for assessing risk of bias in randomised trials (RoB 2.0) to assess the risk of bias .It include the following domains: bias arising from the randomisation process; bias owing to departures from the intended intervention; bias from missing outcome data; bias in measurement of the outcome; bias in selection of the reported results, including deviations from the registered protocol; and bias arising from early termination for benefit.

Strategy of data synthesis: We will conduct a meta-analysis if the studies can be combined, using a random-effects model, and will Standardized mean difference (SMD) with 95% CI will be calculated for the following continuous variables: State Anxiety Subscale (STAI-S) of the State-Trait Anxiety Inventory (STAI), visual analogue scale (VAS) scores, Self-Rating Anxiety Scale or Hamilton Anxiety Scale. We will synthesize the data using R version 3.6.3 (R Core Team, Vienna, Austria) with metafor package for statistical analyses.

Subgroup analysis: We will perform subgroup analysis to explore possible causes of heterogeneity if there are an adequate number of studies. The subgroup will be analysed based on the type of acupuncture. We will also remove studies with low and/or medium quality in order to examine the robustness of the results.

Sensitivity analysis: Post-hoc sensitivity analyses were performed to test the reliability of the overall effect.

Language: English.

Country(ies) involved: China.

Keywords: acupuncture, preoperative anxiety, adolescents, protocol, systematic review and meta-analysis.

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