INPLASY PROTOCOL

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None declared.

Effect of bright light therapy on perinatal depression: Systematic review and meta-analysis

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Review question / Objective: **What is the effect of bright light therapy on perinatal depression? This systematic review aims to evaluate whether bright light therapy is an effective measure to improve perinatal depression symptoms through a meta-analysis of related randomized controlled trials and cohort studies.**
Condition being studied: **Perinatal depression is a common perinatal disease, with an incidence of about 11%-13% in the population. Perinatal depression increases the risk of adverse birth outcomes, such as preterm birth and low birth weight. Although perinatal depression is very harmful, some pregnant women are still reluctant to accept drug treatment because of the teratogenic risk of antidepressants. In order to effectively improve perinatal depression, it is particularly important to find a non-drug treatment. A meta-analysis has shown that bright light therapy can effectively improve depression among patients with cancer. However, the effect of bright light therapy on perinatal depression is still controversial. The study of Melike Donmez et al. in 2022 showed that bright light therapy had a significant effect on perinatal depression , while the study of Babette Bais et al. in 2020 showed that bright light therapy had no significant effect on perinatal depression.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 02 November 2022 and was last updated on 02 November 2022 (registration number INPLASY2022110007).

INTRODUCTION

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population. Perinatal depression increases the risk of adverse birth outcomes, such as preterm birth and low birth weight. Although perinatal depression is very harmful, some pregnant women are still reluctant to accept drug treatment because of the teratogenic risk of antidepressants. In order to effectively improve perinatal depression, it is particularly important to find a non-drug treatment. A meta-analysis has shown that bright light therapy can effectively improve depression among patients with cancer. However, the effect of bright light therapy on perinatal depression is still controversial. The study of Melike Donmez et al. in 2022 showed that bright light therapy had a significant effect on perinatal depression , while the study of Babette Bais et al. in 2020 showed that bright light therapy had no significant effect on perinatal depression.

METHODS

Participant or population: Women with perinatal depression.

Intervention: Bright light therapy.

Comparator: Dim light irradiation.

Study designs to be included: Randomized controlled study or cohort study.

Eligibility criteria: Inclusion criteria: (1)Participants are women with perinatal depression;(2)Bright light therapy was used as the intervention and dim light irradiation was used as the control group; (3)The outcome measures include depression scores.(4)The articles are randomized controlled trials or cohort studies.Exclusion criteria: Abstracts, review articles, conferences and articles published in non-English or non-Chinese were excluded.

Information sources: We searched CINAHL, PubMed, Embase,Web of Science, Cochrane Library,ClinicalTrials, China National Knowledge Infrastructure, VIP Database ,Wanfang Database and Sinomed.

Main outcome(s): Depression score as assessed by a professional scale.

Quality assessment / Risk of bias analysis: The risk of bias in the included studies is assessed using the Cochrane handbook for systematic reviews of randomized controlled trials and cohort studies. We will evaluate it from these seven aspects: selection bias(random sequence generation and allocation concealment), performance bias, detection bias, attrition bias, reporting bias and other bias.

Strategy of data synthesis: The cochrane systematic software Revman version 5.4 was used for statistical analysis.

Subgroup analysis: 1.Subgroup analysis will be performed on the effect of phototherapy on antenatal depression and postnatal depression; 2. Subgroup analysis will be performed for different light intensities; 3. Subgroup analysis will be performed for different treatment times.

Sensitivity analysis: Articles are deleted one at a time, and the meta-analysis is performed again to compare the new outcomes with the previse outcomes before article be excluded. If there is no significant difference between the two results, the sensitivity is low and the results are credible. Otherwise, it indicates that the sensitivity is high, as well as that the results are unstable.

Country(ies) involved: China.

Keywords: bright light therapy; Perinatal depression; Systematic review; Meta-analysis.

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