

# INPLASY PROTOCOL

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**Support:** ZCMU.

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

**Conflicts of interest:**  
None declared.

## Effect of probiotics on improving sleep disturbances : a systematic review and meta-analysis of randomized controlled trials

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**Review question / Objective:** The search strategy was constructed around the PICOS tool:(P)Population:people with sleep disturbances;(I)Intervention: probiotics;(C) Comperator: control group with only placebo or another probiotic usage; (O)Outcomes:effects of probiotics on sleep disturbances; (S)Study type:RCTs.

**Condition being studied:** With the rapid pace of modern life and the change of life style, various sleep disorders have increasingly become a prominent medical and public health problem and received people's attention. Sleep disorder has become a hot research issue in the world.

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 16 December 2022 and was last updated on 16 December 2022 (registration number INPLASY2022120066).

### INTRODUCTION

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## **METHODS**

**Participant or population:** People with sleep disturbances.

**Intervention:** Probiotics.

**Comparator:** Control group with only placebo or another probiotic usage.

**Study designs to be included:** Randomized controlled trials.

**Eligibility criteria:** A review of the articles evaluating the effects of probiotics on sleep disorders. Randomized controlled experimental articles with clear data and opinions were included.

**Information sources:** Embase, Pubmed, Web of science, Cochrane.

**Main outcome(s):** Probiotics' effect on sleep disorders.

**Quality assessment / Risk of bias analysis:** Cochrane tool.

**Strategy of data synthesis:** When STATA software was selected for data analysis, heterogeneity was considered if  $I^2 > 50\%$  and  $P < 0$ . There was heterogeneity and random effects combined effect size, while there was no fixed effects combined effect size.

**Subgroup analysis:** If there is enough research, we will conduct a group analysis.

**Sensitivity analysis:** If there are confounding factors to adjust the study, we will conduct a sensitivity analysis. The sensitivity analysis was carried out by STATA software, and the sensitivity of the article was reflected by the change of the effect size after the deletion of one article.

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

**Keywords:** probiotics; sleep disturbances; randomized controlled trials.

## **Contributions of each author:**

Author 1 - Yu Bei.

Author 2 - Wang Keyi.

Author 3 - Li Hao.

Author 4 - Wang Ningrui.

Author 5 - Zhang Lu.