

# INPLASY

## Effects and safety of Ginkgo biloba on depression: a systematic review and meta-analysis

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### ADMINISTRATIVE INFORMATION

**Support** - NA.

**Review Stage at time of this submission** - Completed but not published.

**Conflicts of interest** - None declared.

**INPLASY registration number:** INPLASY2023100052

**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 16 October 2023 and was last updated on 16 October 2023.

### INTRODUCTION

**Review question / Objective** Since depression is one of the main factors contributing to the burden of disease throughout the world, we tried to analyze the effects and safety of Ginkgo biloba (GKB) on depression patients.

**Condition being studied** Depression patients and healthy people.

### METHODS

**Participant or population** Depression patients and healthy people.

**Intervention** Ginkgo biloba.

**Comparator** Hamilton Depression Scale; Hospital anxiety depression scale; Modified Edinburgh-Scandinavian stroke scale; Patient Health Questionnaire-9.

**Study designs to be included** RCT.

**Eligibility criteria** (1) Researches on comparison between GKB and control in depression;(2) The design of research should be randomized control trails;(3) Containing indicators evaluating the efficacy and safety of GKB on depression;(4) Available in full text.

**Information sources** PubMed, Embase, Scopus, Web of Sciences, Google Scholar, Cochrane Library, and China National Knowledge Infrastructure.

**Main outcome(s)** (1) HAMD. (2) MBI. (3) MESSS. (4) 5-HT. (5) BDNF. (6) clinical efficacy. (7) adverse events.

**Quality assessment / Risk of bias analysis** Using the ROB 2.0 scale (A revised Cochrane risk-of-bias instrument for randomized trials), two independent reviewers assessed the caliber of the included studies.

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**Strategy of data synthesis** We assessed heterogeneity using the Cochrane Q statistic and Higgins and Thompsons'  $I^2$ . Depending on its value,  $I^2$  was used to classify heterogeneity as low, moderate, or high: 25%, 50%, or 75%. When  $I^2$  was less than 50%, the fixed-effect model was used for the meta-analyses. If  $I^2$  was more than 50%, the random-effect model was used in all other cases. For effect sizes of continuous outcomes, the mean difference (MD) with 95% CI (confidential interval) was precisely recalculated. Odds ratios (ORs) were computed for outcomes that were categorical. Our statistical analyses were conducted using R software version 4.2.1 (R Core Team, Vienna, Austria) and the R package meta (version 6.2.0). Statistical significance was defined as a P value of 0.05 or less.

**Subgroup analysis** None.

**Sensitivity analysis** We ran a sensitivity analysis, deleting one included article at a time, to assess the robustness of the final results.

**Country(ies) involved** China (Tongren Hospital Affiliated to Shanghai Jiao Tong University School of Medicine).

**Keywords** Ginkgo biloba; GKB; depression; depressive symptoms; meta-analysis.

**Contributions of each author**

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